OHIO DEPARTMENT OF TRANSPORTATION
Mike DeWine, *Governor*
Jack Marchbanks, Ph.D., *Director*

1980 W. Broad Street, Columbus, OH 43223
614-466-7170
transportation.ohio.gov

October 27, 2023

Peter Clingan
U.S. Army Corps of Engineers
Ohio Regulatory Transportation Office
DSCC Building 10, Section 10
PO Box 3990
Columbus, OH 43218-3990

Re: **Lawrence County, Ohio**
LAW-7-2.17, PID 75923
Individual 404/401

Plan File Date:	08/12/24
Sale Date:	12/19/24
Funding type	Federally Funded

Dear Mr. Clingan:

Enclosed for your review is an Individual 404 permit application for the subject project. One copy has been provided for your review and approval. Concurrently, the Ohio EPA is reviewing the 401 Water Quality Certification application for the subject project.

The Ohio Department of Transportation (ODOT) is proposing to construct Phase 2 of the Chesapeake Bypass (LAW-7-2.17, PID 75923) in Lawrence County, Ohio. The Chesapeake Bypass (all phases) relocates approximately nine miles of SR 7 through the villages of Chesapeake and Proctorville, and Rome and Union Townships, Ohio. Construction of the Chesapeake Bypass is being completed in phases.

Phase 1 was completed in 2006 and included 4.7 miles of new freeway from SR 775 in the Village of Proctorville to existing SR 7 in Rome Township. Phase 2 (the proposed project) will construct the west half of the Chesapeake Bypass from the SR 527/SR 7 interchange in the Village of Chesapeake east to the previously completed Phase 1 portion of the project at SR 775 in the Village of Proctorville. Phase 2A work includes tree clearing, earthwork, and drainage installation. Phase 2B work includes construction of two lanes of roadway pavement and bridges. The proposed project also includes the purchase of the right-of-way needed to construct the remaining two lanes of the planned four-lane freeway (future Phases 3 and 4). Phase 2A construction is tentatively scheduled to begin in January 2025 and be completed by October 2026. Phase 2B is expected to occur within five years of completion of Phase 2A.

The proposed project is expected to permanently impact 19,387 feet of stream and 5.5 acres of wetland. Mitigation for stream and wetland impacts is proposed through a combination of in-lieu fee credit purchase and permittee-responsible mitigation. Additional details are provided in the enclosed application.

No work in jurisdictional waters will occur before this activity is authorized. Please contact Katie Dunlap at (614) 466-6983 or Adrienne Earley at (614) 466-2159 with any questions or concerns.

Preliminary - Not for Construction
07/29/2024

Respectfully,

Timothy M. Hill

Timothy M. Hill
Administrator
Office of Environmental Services

TMH:MKP:AEE:kad
Enclosures: 1

OHIO DEPARTMENT OF TRANSPORTATION
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1980 W. Broad Street, Columbus, OH 43223
614-466-7170
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October 27, 2023

Ohio Environmental Protection Agency
Division of Surface Water
401 Section
50 West Town Street, Ste 700
Columbus, OH 43215

Re: **Lawrence County, Ohio**
LAW-7-2.17, PID 75923
Individual 404/401

Plan File Date:	08/12/24
Sale Date:	12/19/24
Funding type	Federally Funded

Dear Ms. Kamnyev:

Enclosed for your review is an Individual 401 Water Quality Certification application for the subject project. One copy has been provided for your review and approval. Concurrently, the USACE is reviewing the 404 permit application for the subject project.

The Ohio Department of Transportation (ODOT) is proposing to construct Phase 2 of the Chesapeake Bypass (LAW-7-2.17, PID 75923) in Lawrence County, Ohio. The Chesapeake Bypass (all phases) relocates approximately nine miles of SR 7 through the villages of Chesapeake and Proctorville, and Rome and Union Townships, Ohio. Construction of the Chesapeake Bypass is being completed in phases.

Phase 1 was completed in 2006 and included 4.7 miles of new freeway from SR 775 in the Village of Proctorville to existing SR 7 in Rome Township. Phase 2 (the proposed project) will construct the west half of the Chesapeake Bypass from the SR 527/SR 7 interchange in the Village of Chesapeake east to the previously completed Phase 1 portion of the project at SR 775 in the Village of Proctorville. Phase 2A work includes tree clearing, earthwork, and drainage installation. Phase 2B work includes construction of two lanes of roadway pavement and bridges. The proposed project also includes the purchase of the right-of-way needed to construct the remaining two lanes of the planned four-lane freeway (future Phases 3 and 4). Phase 2A construction is tentatively scheduled to begin in January 2025 and be completed by October 2026. Phase 2B is expected to occur within five years of completion of Phase 2A.

The proposed project is expected to permanently impact 19,387 feet of stream and 5.5 acres of wetland. Mitigation for stream and wetland impacts is proposed through a combination of in-lieu fee credit purchase and permittee-responsible mitigation. Additional details are provided in the enclosed application.

No work in jurisdictional waters will occur before this activity is authorized. Please contact Katie Dunlap at (614) 466-6983 or Adrienne Earley at (614) 466-2159 with any questions or concerns.

Respectfully,

Timothy M. Hill

Timothy M. Hill
Administrator
Office of Environmental Services

TMH:MKP:AEE:kad
Enclosures: 1

Section 404 Application for
Department of the Army Permit
and
Section 401 Application for
Ohio EPA Water Quality Certification

LAW-7-2.17 (Phases 2A and 2B)
PID 75923/113211

Prepared By:
Clune Consulting Services, LLC
P.O. Box 103
Minster, Ohio 45865
419.305.0144

Prepared for:
Ohio Department of Transportation
1980 West Broad Street
Columbus, Ohio 43223

Date: October 27, 2023

OHIO DEPARTMENT OF TRANSPORTATION

Preliminary - Not for Construction 07/29/2024

Section 404 Application for Department of the Army Permit and Section 401 Application for Ohio EPA Water Quality Certification

LAW-7-2.17 (Phases 2A and 2B), PID 75923/113211
Lawrence County, Ohio

Table of Contents

Item 1 – Application Forms

U.S. Army Corps of Engineers (USACE)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

For use of this form, see 33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 08-31-2023

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Jack Middle - Last - Marchbanks, PhD	First - Adrienne Middle - Last - Earley
Company - Ohio Department of Transportation	Company - Ohio Department of Transportation
E-mail Address - Tim.Hill@dot.ohio.gov	E-mail Address - Adrienne.Earley@dot.ohio.gov
6. APPLICANT'S ADDRESS:	9. AGENT'S ADDRESS:
Address- 1980 West Broad Street, Mail Stop #4170	Address- 1980 West Broad Street, Mail Stop #4170
City - Columbus State - Ohio Zip - 43223 Country - USA	City - Columbus State - Ohio Zip - 43223 Country - USA
7. APPLICANT'S PHONE NOs. w/AREA CODE	10. AGENTS PHONE NOs. w/AREA CODE
a. Residence b. Business 614-644-0377 c. Fax	a. Residence b. Business 614-466-2159 c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Adrienne Earley to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

Jack Marchbanks-TMH 10/30/2023
SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)
LAW-7-2.17 (Phases 2A and 2B), PID 75923/113121

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Multiple, see attached list in Item 2	Address N/A
15. LOCATION OF PROJECT	City - N/A State- Ohio Zip- 45619
Latitude: ◦N 38.4576 Longitude: ◦W -82.4156	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID Various Municipality - Village of Chesapeake, Village of Proctorville

Section - 13-15, 21-24, 28, 29 (Union), 34 (Rome) Township - Rome, Union Range - R15W, R16W

Preliminary - Not for Construction 07/29/2024

17. DIRECTIONS TO THE SITE

From Columbus, take U.S. Route 23 south (80 miles); east on SR 823 (16 miles); east/south on U.S. Route 52 (34 miles); and east on State Route 7 (5 miles) to the SR 7/SR 527 interchange, which is the western terminus of the Project.

18. Nature of Activity (Description of project, include all features)

See attached Block 18.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

See attached Block 19.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

See attached Block 20.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
See attached Impact Tables in Item 2	See attached Impact Tables in Item 2	See attached Impact Tables in Item 2

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres See attached Impact Tables in Item 2.

or

Linear Feet See attached Impact Tables in Item 2.

23. Description of Avoidance, Minimization, and Compensation (see instructions)

See attached Item 5 and Item 7.

Preliminary - Not for Construction 07/29/2024

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- See attached Block 25

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
See attached Block 26					

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Jack Marchbanks-TMH — SIGNATURE OF APPLICANT — 10/30/2023 — DATE

Adrienne Earley — SIGNATURE OF AGENT — 10-27-2023 — DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

07/29/2024

Block 18 – Nature of Activity

The Ohio Department of Transportation (ODOT) is proposing to construct Phase 2 (LAW-7-2.17) of the Chesapeake Bypass, located in Lawrence County, Ohio. The entirety of the Chesapeake Bypass (all phases) would relocate approximately 9 miles of State Route (SR) 7 that currently traverses through the villages of Chesapeake and Proctorville and Rome Township, Ohio. Phase 2 would complete the western half of the Chesapeake Bypass project as a 2-lane "Super 2" freeway. See Project Mapping under **Item 6**, including the Chesapeake Bypass Project Phasing Map.

Phase 2 (the proposed Project) would construct 6.1 miles of the two eastbound lanes of the proposed SR 7 freeway, from the existing SR 527 interchange in the village of Chesapeake through a proposed interchange at SR 775 in the village of Proctorville. The Project would provide one lane of travel in each direction on a limited access freeway while acquiring sufficient right-of-way to eventually construct the additional lanes when the 4-lane freeway capacity is needed. The Project also includes the following improvements:

- Complete the partial grade-separated interchange at SR 527 (STA 114+00 – STA 150+50).
- Construct a full interchange at SR 607/ SR 775 (STA 370+00 – STA 400+00).
- Construct the full 4-lane divided highway (STA 315+00 – STA 405+00) to accommodate the SR 607/SR 775 interchange and the need for climbing lanes.
- Construct a roundabout at the intersection of SR 7 and SR 243 (STA 245+50 – STA 255+50).

Phase 2 is scheduled to be constructed in two subphases:

- Phase 2A, scheduled to begin in early 2025 and be completed in 2026, generally involves clearing, grading, and draining the majority of the Project. It will construct the roadway embankment and necessary drainage items for 3.26 miles of SR 7. The following improvements are also included:
    - Construct proposed roadway improvements along 0.5 mile of County Road (CR) 104 and CR 32.
    - Relocate 0.08 mile of Lynn Lane.
    - Construct six turnarounds, two detention ponds, and permanent traffic control.
- Phase 2B generally involves constructing the remaining embankment fills, drainage structures, and local road connections not constructed in Phase 2A, as well as the highway pavement and bridges, and the SR 775 and SR 527 interchanges. The Project also involves the following improvements:
    - Relocate 1.91 miles of state, county, and township roads.
    - Construct 1.25 miles of access ramps and 12 cul-de-sacs.
    - Install drives, roadway drainage, and traffic control.
    - Construct 10 bridge structures.

The Project includes the purchase of right-of-way that would be needed to build the planned 4-lane roadway.

Block 20 provides a detailed discussion of the Project's proposed fills and activities within aquatic resources.

Block 19 – Project Purpose

The Chesapeake Bypass project (LAW-7-3.669) has been planned since the 1960s, when it was conceived to address traffic congestion along the SR 7 corridor between the village of Chesapeake and Rome Township in Lawrence County. The purpose and need for the project is to improve system linkage, improve access, and improve traffic movement through the Villages of Chesapeake and Proctorville and Rome Township areas. The project will also benefit these communities by providing a highway that will support future commercial, industrial, and residential growth in the area. The Chesapeake Bypass Environmental Impact Statement (EIS) was approved by the Federal Highway Administration (FHWA) on April 16, 2001, and a Record of Decision (ROD) was issued on June 15, 2001.

The Chesapeake Bypass project is proposed to construct a four-lane, limited access, divided freeway on a new alignment from the SR 527 interchange (western terminus) to existing SR 7 near Fairland East Elementary School in Rome Township (eastern terminus), a total distance of approximately 9 miles. It was divided into four independently functional phases. Phases 1 and 2 would construct the limited access freeway as a 'Super 2', meaning that, generally, 2 lanes are constructed. When needed sometime in the future, Phases 3 and 4 would construct the additional 2 lanes to create the full four-lane facility. See Project Mapping under **Item 6**, including the Chesapeake Bypass Project Phasing Map.

Phase 1 of the Chesapeake Bypass project was completed in 2006 and is now open to traffic. It included a connection between the 31st Street Bridge (East Huntington Bridge) and existing SR 775 in Proctorville (Phase 1A), as well as one eastbound and one westbound lane of the proposed four-lane facility from SR 775 in Proctorville east to existing SR 7 in Rome Township (Phase 1B).

The proposed Project is Phase 2 (LAW-7-2.17, PID 75923) of the Chesapeake Bypass project. It would construct the west half of the Chesapeake Bypass from the SR 527/SR 7 interchange in the village of Chesapeake east to the previously completed Phase 1 portion of the project at SR 775 in the village of Proctorville. LAW-SR 7-2.17 (Phases 2A and 2B) (the proposed "Project") would construct 6.1 miles of the two eastbound lanes of the proposed freeway, from the existing SR 527 interchange in the village of Chesapeake through a proposed interchange at SR 775. Phase 2A would perform the earthwork and tree clearing and install drainage. Phase 2B would complete the Project by constructing the roadway pavement and bridges. The Project also includes purchase of the right-of-way that would be needed to build the planned four-lane freeway.

Phase 2A construction is tentatively scheduled to begin in January 2025 and be completed by October 2026. Phase 2B is expected to occur within five years of completion of Phase 2A.

Two future phases (Phases 3 and 4) are not funded and are not under design. These phases would construct the additional two lanes of SR 7 to complete the ultimate buildout of the four-lane freeway. Phase 3 would construct the remaining westbound lanes to complete the four-lane freeway between the SR 527/SR 7 interchange in the village of Chesapeake east to SR 775 in the village of Proctorville. Phase 4 would construct two westbound lanes between SR 775 in the village of Proctorville east to exiting SR 7 in Rome Township.

Block 20 – Reasons for Discharge

A Level 2 Ecological Survey Report (ESR) (see ODOT EnviroNet) was originally submitted for Phases 2A and 2B in August 2021. After discussion and field visits by ODOT, and staff from the Ohio Environmental Protection Agency (OEPA), and the U.S. Army Corps of Engineers (USACE), the ESR was amended in January 2023. A Preliminary Jurisdictional Determination was issued by the USACE on March 24, 2023 (letter under **Item 4**) and the ESR was accepted by ODOT on March 2, 2023.

LAW-7-2.17 Phases 2A and 2B will discharge temporary and/or permanent fill into 38 streams (41 crossing locations), 18 wetlands, and 2 ponds, as summarized in the impact tables in **Item 2**. Supporting impact information and assumptions are provided below. Plan sheet excerpts for Phases 2A and 2B are provided under **Item 7**.

Streams

- LAW-7-2.17 (Phase 2A/2B) will impact 38 streams at 41 crossing/impact locations (20,314 feet) - primarily as a result of embankment grading/fill (and relocation of flow to roadside ditches), culvert installation, bridge construction, and temporary access fills to facilitate construction activities.
  - Stream impacts will primarily occur in Phase 2A, as the project corridor is cleared and graded, and drainage structures (culverts, ditches, and stormwater BMPs) are installed.
  - Stream impacts in Phase 2B will be generally limited to bridge construction and construction activities in the SR 527 and SR 775 interchange areas, and the Bent Creek/Indian Guyan Creek areas.
- General Temporary Access Fill (TAF) Overview:
  - The contractor will utilize the SR 527 interchange area and the SR 775 interchange area for construction staging and/or access in Phase 2A and Phase 2B.
  - The contractor will utilize the proposed highway alignment as a Phase 2A haul-road (approximately 50 feet in width) from the SR 527 interchange area to the SR 775 interchange area.
    - 50 feet of TAF is included for all streams that are crossed by the haul road. The TAF will be removed at the end of Phase 2A. *Note: For all impacted streams, this 50-foot haul road TAF is overlapped by other permanent or temporary fills in Phase 2A or 2B.*
  - TAF (causeways/work pads) is included for bridge construction/equipment crossings at Symmes Creek (two locations), Indian Guyan Creek, and Little Paddy Creek in Phase 2B – on the same general alignment as the Phase 2A haul road crossing.
  - TAF (dewatering) is included for all new culvert installations at the upstream and downstream end of each culvert (20 feet each).
  - TAF (dewatering) is included where a second (other) 20 foot stream crossing is anticipated for construction access.
  - For streams requiring long culverts, additional TAF is included to facilitate phased dewatering, if necessary.
  - TAF is included for dewatering/flow diversions to facilitate ditch construction and tie-ins to perennial or intermittent streams (20 feet each, unless otherwise noted).
  - All TAF overlaps permanent fill, unless otherwise noted.

- Stream Construction/Impact Summaries:

Stream 1 (Ephemeral)

- Phase 2A: 90 feet of TAF is included for 3 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 126) to access the SR 527 interchange construction staging area and 40 feet for two additional access crossings.
- Phase 2B: A new 36" culvert (STA 128+00) will be installed offline from the existing channel to redirect flow to Symmes Creek. Stream 1 will be graded and filled downstream of the new 36" culvert. 50 feet of TAF is included for a haul road/equipment crossing.

Stream 2 (Ephemeral)

- Phase 2A: 50 feet of TAF is included for a haul road/equipment crossing on the proposed highway alignment (STA 158). Stream 2 flow will be redirected into a new roadside ditch. Stream 2 downstream of the new roadside ditch will be graded and filled.
- Phase 2B: No activity/impact.

Stream 3 (Intermittent)

- Phase 2A: 90 feet of TAF is included for 3 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 162+50) and 40 feet for two additional access crossings. This 40 feet of TAF does not overlap with permanent fill.

  A new 66" culvert will be installed adjacent to the existing Stream 3 channel. Rock channel protection (RCP) will be installed at the new culvert inlet and outlet. 40 feet of dewatering TAF is included to facilitate the new culvert installation (2 locations assumed). The existing channel of Stream 3, adjacent to the new culvert, will be graded and filled.
- Phase 2B: No activity/impact.

Stream 3a (Intermittent)

- Phase 2A: 50 feet of TAF is included for a haul road/equipment crossing on the proposed highway alignment (STA 164+50). Stream 3a will be graded and filled with flow redirected to a new roadside ditch.
- Phase 2B: No activity/ impact.

Stream 4 (Ephemeral)

- *Note: Stream 4 begins at the outlet of an existing 24" storm pipe carrying roadway ditch flow under SR 7/SR 527 (there is no jurisdictional water at the upstream pipe inlet).*
- Phase 2A: No activity/impact.
- Phase 2B: The existing 24" storm pipe will be replaced with a new 30" pipe (with grading and RCP around the pipe outlet). 30 feet of TAF is included for a haul road/equipment crossing. 10 feet of the TAF does not overlap with permanent fill.

Stream 5 (Intermittent)

- Phase 2A: 90 feet of TAF is included for 3 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 184+50) and 40 feet for two additional access crossings.

  The Stream 5 channel will be graded and filled, with flow redirected to a new roadside ditch. 40 additional feet of dewatering TAF is included to facilitate the diversion (two locations assumed).

- Phase 2B: No activity/impact.

Stream 6 (Ephemeral)

- Phase 2A: 70 feet of TAF is included for 2 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 189+50) and 20 feet for one additional access crossing which does not overlap with permanent fill.

  Stream 6 will be graded and filled, with flow redirected to a new roadside ditch.

- Phase 2B: No activity/impact.

Stream 7 (Intermittent)

- Phase 2A: 70 feet of TAF is included for 2 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 194) and 20 feet for one additional access crossing.

  Stream 7 will be graded and filled through STA 194, with flow redirected to a new roadside ditch. 20 feet of dewatering TAF is included to facilitate ditch construction and tie-in to Stream 7.

- Phase 2B: No activity/impact.

Stream 8 (Intermittent)

- Phase 2A: 58 feet of TAF, which includes 20 feet of TAF for an access crossing; 18 feet of TAF for tie-in from detention pond drain; and 20 feet of dewatering TAF is included to facilitate ditch construction and tie-in to Stream 8. The TAF does not overlap permanent fill.

  Stream 8 will be graded and filled through STA 202+20 with flow directed along proposed roadway embankment to Symmes Creek.

- Phase 2B: No activity/impact.

Stream 9 (Perennial)

- *Note: Stream 9 is a Class IIIA PHWH.*
- Phase 2A: 70 feet of TAF is included for 2 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 229+50) and 20 feet for an additional access crossing.

  A new 60” culvert will be installed adjacent to the existing channel with RCP at the new culvert inlet. The entire length of Stream 9 channel that parallels CR 68 from STA 219+50 to STA 229 will be graded and filled, with flow redirected from the new Stream 9 culvert outlet to a new roadside ditch that connects back to existing Stream 9 at STA 219+50. 40 feet of dewatering TAF is included to facilitate ditch construction and tie-in to existing Stream 9 at STA 219+50. 30 feet of this TAF does not overlap permanent fill.

- Phase 2B: No activity/impact.

Stream 9a (Ephemeral)

- Phase 2A: 20 feet of TAF is included for a haul road/equipment crossing.

  Stream 9a will be graded and filled with flow redirected into the new roadside ditch that will convey flow from the 60" culvert outlet for Stream 9 (see the Stream 9 discussion above).

- Phase 2B: No activity/impact.

Stream 10 (Intermittent)

- Phase 2A: 70 feet of TAF is included for 2 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 241+50) and 20 feet for an additional access crossing.

  Stream 10 flow will be redirected into a new roadside ditch that crosses Stream 10 at STA 239+50. Stream 10 upstream of the new roadside ditch will be reconstructed as needed to outlet into the new roadside ditch. Stream 10 downstream of the new roadside ditch will be graded and filled to STA 252. At STA 252, the new roadside ditch (with Stream 10 flow) will reconnect with existing Stream 10. 20 feet of dewatering TAF is included to facilitate ditch construction and tie-in to existing Stream 10.

- Phase 2B: 60 feet of TAF is included for 3 haul road/equipment crossings.

  Beginning at STA 252, the new roadside ditch constructed in Phase 2A will be extended east to Bent Creek. The remainder of Stream 10 will be graded and filled for construction of SR 7, CR 69 and various roadside ditches. An additional 20 feet of dewatering TAF is included to facilitate the ditch construction.

Stream 10a (Ephemeral)

- Phase 2A: Stream 10a flow will be redirected into a new roadside ditch that crosses Stream 10a at STA 242. Stream 10a upstream of the new roadside ditch will be reconstructed as needed to outlet into the new roadside ditch. 20 feet of TAF is included for dewatering and does not overlap permanent fill. Stream 10a downstream of the new roadside ditch will be graded and filled.

- Phase 2B: No activity/impact.

Stream 10b (Ephemeral)

- Phase 2A: 70 feet of TAF is included for 2 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 248+50) and 20 feet for an additional crossing (which does not overlap permanent fill).

  Stream 10b flow will be redirected into a new roadside ditch. Stream 10b upstream of the new roadside ditch will be reconstructed as needed to outlet into the new roadside ditch. Stream 10b downstream of the new roadside ditch will be graded and filled.

- Phase 2B: No activity/impact.

Stream 10c (Ephemeral)

- Phase 2A: No activity/impact.

- Phase 2B: Stream 10c flow will be redirected into a new roadside ditch that crosses Stream 10c at CR 69 STA 21+50. Stream 10c upstream of the new roadside ditch will be reconstructed as

needed to outlet into the new roadside ditch. 20 feet of TAF is included for dewatering. Stream 10c downstream of the new roadside ditch will be graded and filled.

Stream 11 (Ephemeral)

- Phase 2A: 50 feet of TAF is included for a haul road/equipment crossing on the proposed highway alignment (STA 270+50).
- Phase 2B: 20 feet of TAF is included for an additional crossing location.

  Stream 11 flow will be redirected into a new roadside ditch that crosses Stream 11 along CR 243. Stream 11 upstream of the new roadside ditch will be reconstructed as needed to outlet into the new roadside ditch. Stream 11 downstream of the new roadside ditch will be graded and filled.

Stream 12 (Perennial)

- *Note: Stream 12 is a small headwater stream with perennial flow supported by persistent groundwater seepage.*
- Phase 2A: 50 feet of TAF is included for a haul road/equipment crossing on the proposed highway alignment (STA 278+50).
- Phase 2B: Stream 12 flow will be redirected into a new roadside ditch. Stream 12 upstream of the new roadside ditch will be reconstructed as needed to outlet into the new roadside ditch (since Stream 12 exhibits perennial flow characteristics, 20 feet of dewatering TAF is included to facilitate ditch construction and tie-in to existing Stream 12). Stream 12 downstream of the new roadside ditch will be graded and filled.

Stream 13 (Intermittent)

- Phase 2A: 90 feet of TAF is included for 3 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 321) and 40 feet for two additional crossings.

  A new 60" culvert will be installed adjacent to the existing Stream 13 channel. RCP will be installed at the new culvert inlet and outlet. 40 feet of dewatering TAF is included to facilitate new culvert installation (two locations assumed). The existing Stream 13 channel adjacent to the new culvert will be graded and filled.
- Phase 2B: No activity/impact.

Stream 13a (Ephemeral)

- Phase 2A: 70 feet of TAF is included for 2 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 320) and 20 feet for one additional crossing (which does not overlap permanent fill).

  Stream 13a flow will be redirected into a new roadside ditch. Stream 13a upstream of the new roadside ditch will be reconstructed as needed to outlet into the new roadside ditch. Stream 13a downstream of the new roadside ditch will be graded and filled.
- Phase 2B: No activity/impact.

Stream 13a1 (Ephemeral)

- Phase 2A: 70 feet of TAF is included for 2 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 320) and 20 feet for one additional crossing (which does not overlap permanent fill).

  Stream 13a1 flow will be redirected into a new roadside ditch with RCP. Stream 13a1 upstream of the new roadside ditch will be reconstructed as needed to outlet into the new roadside. Stream 13a1 downstream of the new roadside ditch will be graded and filled.

- Phase 2B: No activity/impact.

Stream 13a2 (Ephemeral)

- Phase 2A: 20 feet of TAF is included for one haul road/equipment crossing (which does not overlap permanent fill).

  Stream 13a2 flow will be redirected into a new roadside ditch with RCP. Stream 13a2 upstream of the new roadside ditch will be reconstructed as needed to outlet into the new roadside ditch. Stream 13a2 downstream of the new roadside ditch will be graded and filled.

- Phase 2B: No activity/impact.

Stream 13a3 (Ephemeral)

- Phase 2A: 20 feet of TAF is included for one haul road/equipment crossing (which does not overlap permanent fill).

  Stream 13a3 will be redirected into a new roadside ditch with RCP at discharge into Stream 13a.

- Phase 2B: No activity/impact.

Stream 14 (Intermittent)

- Phase 2A: 90 feet of TAF is included for 3 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 339) and 40 feet for two additional crossings (of which 20 feet does not overlap with permanent fill).

  A new 60” culvert will be installed adjacent to the existing Stream 14 channel. RCP will be installed at the new culvert inlet and outlet. 60 feet of dewatering TAF is included to facilitate new culvert installation (three locations assumed). The existing Stream 14 channel adjacent to the new culvert will be graded and filled.

- Phase 2B: No activity/impact.

Stream 14a (Ephemeral)

- Phase 2A: Stream 14a will be filled by the proposed roadway embankment. The existing channel will be eliminated, and embankment runoff will flow toward Indian Guyan Creek.

- Phase 2B: No activity/impact.

Stream 14b (Ephemeral)

- Phase 2A: Stream 14b flow will be redirected into a new roadside ditch. Stream 14b downstream of the new roadside ditch will be graded and filled.

- Phase 2B: No activity/impact.

Stream 15 (Ephemeral)

- Phase 2A: 20 feet of TAF is included for a haul road/equipment crossing (which does not overlap with permanent fill).

  Stream 15 is located in an extensive excavation area and the existing channel will be eliminated within the work limits.

- Phase 2B: No activity/impact.

Stream 15a (Ephemeral)

- Phase 2A: 20 feet of TAF is included for an access/equipment crossing. No permanent impact.

Stream 15b (Ephemeral)

- Phase 2A: 20 feet of TAF is included for an access/equipment crossing. No permanent impact.

Stream 16 (Intermittent)

- Phase 2A: 90 feet of TAF is included for 3 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 374+50) and 40 feet for two additional crossings.

  Stream 16 flow will be redirected into a new roadside ditch from STA 366+50 to STA 371+00. The stream in this location will be graded and filled. 20 feet of dewatering TAF (which does not overlap permanent fill) is included for the installation.

- Phase 2B: 50 feet of TAF is included for an access/equipment crossing at the proposed highway alignment (374+50). 20 feet does not overlap permanent fill.

  Stream 16 will be redirected (beginning at STA 371+00) into proposed Detention Basin #4, which will outlet into Wetland N at STA 378+00. Stream 16 downstream of STA 371+00 will be graded and filled.

Stream 16a (Intermittent)

- Phase 2A: 70 feet of TAF is included for 2 haul road/equipment crossings: 50 feet for a crossing on the proposed highway alignment (STA 365+50) and 20 feet for an additional crossing.

  Drainage into Stream 16a will be captured in a new roadside ditch. Stream 16a downstream of the new roadside ditch will be graded and filled (no dewatering TAF is included since the new ditch will capture Stream 16a drainage at/above its headwaters).

- Phase 2B: No activity/impact.

Stream 16a1 (Ephemeral)

- Phase 2A: Stream 16a1 drainage will be captured in a new roadside ditch (at approximately the same location as Stream 16a). Stream 16a1 downstream of the new roadside ditch will be graded and filled (no dewatering TAF is included since the new ditch will capture Stream 16a1 drainage at/above its headwaters).

- Phase 2B: No activity/impact.

Stream 17 (Ephemeral)

- *Note: Stream 17 begins at the outlet of an existing 48" storm pipe carrying roadway ditch flow under SR 775 (there is no jurisdictional water at the pipe inlet)*

- Phase 2A: 50 feet of TAF is included for a haul road/equipment crossing on the proposed highway alignment (STA 385) for access to the SR 775 interchange construction staging area.
- Phase 2B: Stream 17 will be graded and filled for construction of the SR 775 interchange, with flow captured by a new roadside ditch and redirected to a new 42" culvert that will be constructed adjacent to the existing Stream 17 channel.

Stream 18 (Ephemeral)

- *Note: Stream 18 begins at the outlet of an existing storm pipe carrying roadway ditch flow under SR 775 (there is no jurisdictional water at the upstream pipe inlet).*
- Phase 2A: No activity/impact.
- Phase 2B: RCP will be placed within Stream 18 immediately downstream of the existing pipe outlet.

Symmes Creek 2 (Perennial)

- Phase 2A: 50 feet of TAF is included for a haul road/equipment crossing on the proposed highway alignment (STA 134).
- Phase 2B: A new bridge will be constructed over Symmes Creek (eastbound two-lane bridge only). Concrete piers will be installed within/below the Symmes Creek OHWM along the west bank.

  100 feet of TAF is included for a temporary cofferdam to dewater the pier construction area. A temporary 100 foot causeway/work pad is also included to facilitate bridge construction. The Phase 2B causeway/work pad is expected to be installed at the same general location as the Phase 2A causeway and extend approximately 25 feet upstream to 25 feet downstream of the proposed bridge (the 50 feet does not overlap permanent fill), though it may be constructed in different configurations or in multiple phases.

Symmes Creek 3 (Perennial)

- Phase 2A: 50 feet of TAF is included for a haul road/equipment crossing on the proposed highway alignment (STA 200).
- Phase 2B: A new bridge will be constructed over Symmes Creek in Phase 2B (eastbound two-lane bridge only). Concrete piers will be installed within/below the Symmes Creek OHWM along the west bank. Earthen grading and fill may be needed below the OWHM.

  100 feet of TAF is included for a temporary cofferdam to dewater the pier construction area. A temporary 100 foot causeway/work pad is also included to facilitate bridge construction. The Phase 2B causeway/work pad is expected to be installed at the same general location as the Phase 2A causeway and extend approximately 25 feet upstream to 25 feet downstream of the proposed bridge (65 feet of this TAF does not overlap with permanent fill), though it may be constructed in different configurations or in multiple phases.

Bear Creek (Perennial)

- Phase 2A: No activity/impact.
- Phase 2B: A new roadside ditch with RCP scour protection will outlet into Bear Creek at approximately 298+50. Minor grading work along the Bear Creek OHWM is anticipated within the work limits. 20 feet of dewatering TAF is included to facilitate the ditch installation.

Bent Creek (Perennial)

- Phase 2A: 150 feet of TAF is included for three (3) 50-foot haul road/equipment crossings along the proposed highway alignment (STA 271 to STA 273), due to the highly sinuous nature of Bent Creek in the project area.
- Phase 2B: A new 20' x 20' concrete box culvert (bridge) will be installed, generally following the existing Bent Creek channel alignment. Adjacent sections of Bent Creek will be graded and filled. Bent Creek will be realigned at the upstream and downstream ends of the new culvert to reconnect with the existing channel. New roadside ditches will connect to the realigned Bent Creek channel segments. 60 feet of dewatering TAF (three locations assumed) is included to facilitate culvert installation.

Indian Guyan Creek (Perennial)

- Phase 2A: 50 feet of TAF is included for a haul road/equipment crossing on the proposed highway alignment (STA 299+50).
- Phase 2B: A new bridge will be constructed over Indian Guyan Creek in Phase 2B (eastbound two-lane bridge only). Concrete piers will be installed with spread footers extending within/below the Indian Guyan Creek OHWM along the east bank (requiring bank excavation and grading). RCP will also be installed along the east and west banks.

  100 feet of TAF is included for a temporary cofferdam to dewater the pier construction area. A temporary 100 foot causeway/work pad is also included to facilitate bridge construction. The Phase 2B causeway/work pad is expected to be installed at the same general location as the Phase 2A causeway. The Phase 2B causeway/work pad is assumed to extend approximately 25 feet upstream to 25 feet downstream of the proposed bridge (42 feet of this TAF does not overlap with permanent fill), though it may be constructed in different configurations or in multiple phases.

Little Paddy Creek – Mainline (Perennial)

- *Note: Little Paddy Creek will be crossed by three bridges which will be constructed in Phase 2B (twin SR 7 mainline bridges and the Ramp I bridge). Currently, Little Paddy Creek is submerged within an open water area of Wetland N at these bridge locations (backwater flooding from beaver dam construction). ODOT's Little Paddy Creek stream mitigation site (from Phase 1A/1B) is located within the currently flooded/open water portion of Wetland N. As discussed under the Wetland N impact assumptions, the beaver dam will be removed in Phase 2A, the Wetland N backwater area will be drained, and the Little Paddy Creek channel (including the portion within ODOT's Phase 1A/1B stream mitigation area) will eventually become re-established.*
- Phase 2A: 50 feet of TAF is included for a haul road/equipment crossing on the proposed highway alignment (STA 378+50).

- Phase 2B: Two new bridges will be constructed over Little Paddy Creek. No piers or other permanent fills will be placed below the Little Paddy Creek OHWM.

  180 feet of TAF is included for a temporary causeway/work pad to facilitate bridge construction. The Phase 2B causeway/work pad for the SR 7 mainline bridges is expected to be installed at the same general location as the Phase 2A causeway. The Phase 2B causeway/work pads are assumed to extend approximately 25 feet upstream to 25 feet downstream of the proposed bridges, though they may be constructed in different configurations or in multiple phases.

Little Paddy Creek – Ramp I (Perennial)

- Phase 2A: No activity/impact.
- Phase 2B: One new bridge will be constructed over Little Paddy Creek. No piers or other permanent fills will be placed below the Little Paddy Creek OHWM.

  85 feet of TAF is included for a temporary causeway/work pad for the Ramp I bridge construction. The Phase 2B causeway/work pads are assumed to extend approximately 25 feet upstream to 25 feet downstream of the proposed bridges, though they may be constructed in different configurations or in multiple phases.

Wetlands

- LAW-7-2.17 (Phase 2A/2B) will impact 18 wetlands (5.50 acres), primarily as a result of excavation, grading, and embankment/ditch construction and construction access.
- 17 of the 18 impacted wetlands are emergent (as the primary wetland type). Wetland F is a scrub-shrub wetland.
- All 18 impacted wetlands are jurisdictional. The USACE issued a Preliminary Jurisdictional Determination on 3/24/2023.
- All wetland impacts are permanent.
- Wetland impacts will primarily occur in Phase 2A, with the following exceptions:
  - Wetland I is within the Indian Guyan Creek floodplain at a location where roadway embankment construction will occur in Phase 2B in conjunction with construction of the new SR 7 bridge over Indian Guyan Creek.
  - Wetlands Q, R, and S are located along SR 7 east of the proposed SR 775 interchange, which will be constructed in Phase 2B.
  - Impacts to Wetlands A, B, N, and P will likely occur in Phase 2A. These wetlands are located in the SR 527 and SR 775 interchange areas, which are likely to be used by the contractor for construction access and staging. If impacts to these wetlands are avoided in Phase 2A, the impacts will occur in Phase 2B to construct the interchanges, per Phase 2B plans.

- Wetland N impacts:
  - ODOT has a Little Paddy Creek stream mitigation site that was developed as part of the Phase 1A/1B project. It is currently submerged within the flooded/open water portion of Wetland N. Wetland N is a Modified Category 2 wetland, 4.78 acres in size, located in the Little Paddy Creek floodplain at approximately STA 378+50. It is formed by backwater flooding from a beaver dam, located at the southern end of Wetland N and south of Ramp I.
  - Phase 2A: The beaver dam will be removed by the contractor in Phase 2A and the Wetland N backwater area within the construction limits will likely be permanently drained for eventual construction of SR 7 and the SR 775 interchange. Construction activities within the drained Wetland N area include ditch connections to Little Paddy Creek and the placement of Temporary Access Fill (TAF) in Little Paddy Creek for haul road/equipment access from the SR 775 interchange area. 2.54 acres of Wetland N will be functionally eliminated (drained and/or graded and filled), and the Little Paddy Creek channel (including the portion within ODOT's Phase 1A/1B stream mitigation area) will eventually become re-established.
  - Phase 2B: Construction activities in the drained Wetland N area include new bridge construction, installation of two new 42" culverts, and placement of TAF for a Little Paddy Creek causeway/work pad. The remaining 2.24 acres of Wetland N along Little Paddy Creek outside the work limits (north of SR 7 and west of SR 775) will likely persist, as much of this area was wetland prior to beaver dam construction (as documented in the Project's 2012 Level 2 ESR).

Other Waters

- LAW-7-2.17 (Phase 2A/2B) project will impact two ponds.
  - Pond 1 is located in the Symmes Creek floodplain at STA 187+50. The pond is 0.08 acre in size and will be filled with clean earthen fill. Pond 2 is not an impoundment of a jurisdictional water.
  - Pond 2 is located in the Symmes Creek floodplain at STA 197+50. The pond is 0.03 acre in size and will be filled with clean earthen fill, RCP, and ditch erosion protection matting. Pond 2 is not an impoundment of a jurisdictional water.

Block 25 – Addresses of Adjoining Property Owners, Lessees, Etc. Whose Property Adjoins the Waterbody

RICKY BLACK
11017 CO. RD. 1
CHESAPEAKE, OH 45619

BILL A BROWN
97 NO JONES ST
PROCTORVILLE, OH 45669

PAMELA S ELLIS
1441 CO. RD. 32
CHESAPEAKE, OH 45619

ERNEST W BONZO REVOCABLE TRUST
12028 US ROUTE 23 HWY
GREENUP, KY 41144

SARAH A GILLESPIE
52 TWP RD 388
CHESAPEAKE, OH 45619

DARRELL HARDY
17039 ST RT 243
CHESAPEAKE, OH 45619

HARLAN WADE PROPERTIES LLC
716 TWP RD 1379
CHESAPEAKE, OH 45619

ROGER & HELEN HENSON
9772 ST. RT. 243
SOUTH POINT, OH 45680

ANDREW AND RACHEL W HUTCHISON
1599 TWP RD 158
CHESAPEAKE, OH 45619

J & P HOME CONSULTING AND REMODELING LLC
57 N PRINCETON AVE
COLUMBUS, OH 43222

PAUL L AND STACY JOHNSON
99 TWP RD 1079
CHESSAPEAKE, OH 45619

KETTLE INVESTMENTS LLC
PO BOX 91
PROCTORVILLE, OH 45669

MANFORD KING
1686 ST RT 775
PROCTORVILLE, OH 45669

RONNIE & LYNN M KINGERY
2 TWP RD 1302
CHESAPEAKE, OH 45619

DALE L & CAROLYN C MANNS
P.O. BOX 519
SOUTH POINT, OH 45680

DENNIS A AND MICHELLE L NEWTON
422 CO. RD. 104
CHESAPEAKE, OH 45619

HOWARD W & RUTH R PERDUE
100 TOP ST
SOUTH POINT, OH 45680

MARY-JOAN PITRE'
P.O. BOX 58
CHESAPEAKE, OH 45619-0058

DWIGHT A RANDOLPH
P.O. BOX 481
CHESAPEAKE, OH 45619

RILEY DEVELOPMENT COMPANY INC AN OHIO CORP
9069 ST RT 7
PROCTORVILLE, OH 45669

MICHAEL J RILEY
5943 THISTLE COURT P.O. BOX 648
MILFORD, OH 45150

JERRY SHOCKLEY
465 CO. RD. 104
CHESAPEAKE, OH 45619

LARRY J SITES II ETAL
16591 ST RT 243
CHESAPEAKE, OH 45619

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 9
650 EASTERN AVE
CHILLICOTHE, OH 45601

Block 26 – Certificates or Approvals/Denials Received from Other Federal, State, or Local Agencies

AGENCY	TYPE OF APPROVAL	ID NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
U.S. Army Corps of Engineers	Preliminary Jurisdictional Determination	LRH-2022-00165-OHR	February 8, 2023	March 24, 2023	N/A
Ohio Department of Natural Resources (ODNR) Dev. Of Wildlife	State Threatened & Endangered Species Coordination (herpetological species)		June 1, 2023	June 5, 2023	N/A
ODNR Dev. Of Wildlife	State Threatened & Endangered Species Coordination (mussel species)		October 6, 2021	October 7, 2021	N/A
U.S. Fish & Wildlife Service (USFWS)	Federal Threatened & Endangered Species Coord. (mussel species)		October 15, 2021	October 18, 2021	N/A
USFWS	Biological Assessment/Opinion (bat species)		Ongoing	Ongoing	
Miami Tribe of Oklahoma	Tribal Consultation		January 27, 2022	February 7, 2022	N/A
Seneca Nation of Indians - Tribal Historic Preservation Office	Tribal Consultation		February 11, 2022	March 19, 2022	N/A
Ohio Historic Preservation Office	Section 106 Effect Determination		February 1, 2022	February 14, 2022	N/A
Ohio EPA	Section 401 Water Quality Certification		Pending	Pending	

Application for Section 401 Water Quality Certification

Division of Surface Water 401 Water Quality Certification and Isolated Wetland Permitting Unit

Section 1: Applicant and Agent Information		
	Applicant (Project Proponent):	**Agent:**
Company/ Agency Name:	Ohio Department of Transportation	Ohio Department of Transportation
Name of Contact:	Jack Marchbanks, PhD	Adrienne Earley
Title:	Director	Waterway Permits Program Manager
Technical Point of Contact:	Tim Hill	Adrienne Earley
Address:	1980 West Broad Street, Mail Stop #4170	1980 West Broad Street, Mail Stop #4170
City, State, Zip:	Columbus, Ohio 43223	Columbus, Ohio 43223
Phone Number(s):	(614) 644-0377	(614) 466-2159
Email Address:	Tim.Hill@dot.ohio.gov	Adrienne.Earley@dot.ohio.gov

Section 2: Project Information

A. Project Name: LAW-SR 7-2.17 (Phases 2A and 2B), PID 75923/113211

B. Pre-filing Meeting Request Submitted (40 CFR Part 121.4 requires submittal at least 30 days prior to the 401 certification request)
☒**YES** ☐ **NO** **Indicate the 401 reviewer:** Other **DATE:** 3/3/2023

C. Brief Project Description/Purpose: The Chesapeake Bypass project (LAW-7-3.669) has been planned since the 1960s, when it was conceived to address traffic congestion along the SR 7 corridor between the village of Chesapeake and Rome Township in Lawrence County. The purpose and need for the project is to improve system linkage, improve access, and improve traffic movement through the Villages of Chesapeake and Proctorville and Rome Township areas. The project will also benefit these communities by providing a highway that will support future commercial, industrial, and residential growth in the area. The Chesapeake Bypass proposed to construct a four-lane, limited access, divided freeway on new alignment from the SR 527 interchange (western terminus) to existing SR 7 near Fairland East Elementary School in Rome Township (eastern terminus), a total distance of approximately 9 miles. It was divided into four independently functional phases. Phases 1 and 2 would construct the limited access freeway as a 'Super 2', meaning that, generally, 2 lanes are constructed. When needed sometime in the future, Phases 3 and 4 would construct the additional 2 lanes to create the full four-lane facility. Phase 1 was completed in 2006 and constructed 4.7 miles of 2-lane facility from SR 775 to the eastern SR 7 terminus in Rome Township as well as a SR 7 connection into the village of Proctorville. LAW-SR 7-2.17 (Phases 2A and 2B) (the proposed "Project") would construct 6.1 miles of the two eastbound lanes of the proposed freeway, from the existing SR 527 interchange in the village of Chesapeake through a proposed interchange at SR 775. Phase 2A would perform the earthwork and tree clearing and install drainage. Phase 2B would complete the Project by constructing the roadway pavement and bridges. The Project also includes purchase of the right-of-way that would be needed to build the planned four-lane freeway.Phase 2A construction is tentatively scheduled to begin in January 2025 and be completed by October 2026. Phase 2B is expected to occur within five years of completion of Phase 2A. See Block 19 of Item 1 for further detail on the Project Purpose.

D. Construction Timeframe (Provide ~start and end dates): January 2025 October 2030

E. Is any portion of the activity complete now? ☐ **YES** ☒ **NO** **Is this an "After-The-Fact" permit application?** ☐ **YES** ☒ **NO**
If YES to either, describe the extent of completed portion of the activity below and the unauthorized impacts on waters of the state:
Click here to enter text.

F. Coordinates (degree, minutes, seconds): 38°27' 27.36" **N** - 82° 24' 56.16" **W**

G. Project Address: **Street:** Click here to enter text. **City or Town:** Chesapeake
Zip Code: 45619 **Township:** Rome and Union **County:** Lawerence

H. 12 Digit HUC No.: 050901011005 and 050901010708	**I. Watershed Name:** McKinney Creek-Symmes Creek and Wolf Creek-Indian Guyan Creek	**J. Corps District:** Huntington

K. Proposed impacts to "waters of the state":
☐ **Beach Nourish** ☐ **Levees/Berms**

L. Other water quality permits issued or required in Ohio:
☒ **Individual 404 Permit** – Public Notice # TBD

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☐ **Blasting**	☐ **Mine Through**	☐ **Nationwide Permit #** Choose an item. Choose an item.Click here to enter a date.
☐ **Breakwater**	☐ **Revetment**	☐ **Section 10 Permit** - Choose an item. Click here to enter a date.
☐ **Bulkhead**	☐ **Bank Stabilization**	☐ **Section 9 Permit** - Click here to enter text.
☒ **Bridge/Culvert**	☒ **Stream Channeliz.**	☐ **Iso. Wetland Permit** Choose an item. Click here to enter a date. Choose an item.
☐ **Dam**	☒ **Stream Relocation**	☒ **NPDES Permit** – General Will be Submitted by Contractor
☐ **Dredge**	☒ **Water Body Crossing**	☐ **Oil & Gas Storm Water General Permit** –Choose an item. Click here to enter a date.
☒ **Fill**	☐ **Weirs**	☐ **Permit to Install** – Choose an item. : Click here to enter a date.
☐ **Groin/Jetty**	☐ **Other**	☐ **ODNR** Choose an item. **Permit** - Choose an item. Click here to enter a date.
		☐ **ODNR Coastal Permit** - Choose an item. Click here to enter a date.
		☐ **Regional Permit -** Choose an item. Click here to enter a date.

Section 3: Fees

Are you exempt from fees? ☒ **YES** ☐ **NO** **(If YES, leave fee section blank)**

Application Fee = $ 200.00

Review Fee

Wetland	Acres Impacted	x $500 =	$ 0.00
Intermittent Stream	Linear Feet Impacted	x $10.00 =	$ 0.00 ($200.00 minimum)
Perennial Stream	Linear Feet Impacted	x $15.00 =	$ 0.00 ($200.00 minimum)
Lake	Cubic Yards	x $3.00 =	$ 0.00

Total Review Fees = $ 0.00

Total Fees ($200 Application Fee + Total Review Fees) = $ 200.00

Standard Applicant - Is the fee cap ($25,000) exceeded? ☐ YES ☐ NO

If YES, $12,600 is due with application and $12,400 is due at time of 401 WQC issuance

County, Township or Municipal Corp. – Is the fee cap ($5,000) exceeded? ☐ YES ☐ NO

If YES, $2,600 is due with application and $2,400 is due at time of 401 WQC issuance

If fee cap is not exceeded:

DUE AT TIME OF 401 WQC APP. SUBMITTAL – APPLICATION FEE AND ½ OF REVIEW FEE = $ 200.00

DUE AT TIME OF 401 WQC ISSUANCE – ½ OF REVIEW FEE (Invoice will be sent) = $ 0.00

PLEASE MAKE FEE CHECK PAYABLE TO: "TREASURER, STATE OF OHIO"

Section 4: Submitted Documentation

Check all documents/items that have been submitted which must be included for a complete application:

☒ **Investigation report of waters of the U.S.**	☒ **Site photographs**	☒ **10 page ORAM forms - impacted wetlands**
☒ **Data supporting existing aquatic life use for each undesignated stream** [1]	☒ **U.S. ACOE JD letter**	☒ **US ACOE 404 Permit Public Notice or Provisional NWP**
☒ **USFWS & ODNR T&E coordination**	☒ **Antidegradation alternatives analysis**[2]	☒ **A specific & detailed mitigation plan**
☐ **Applicable fees**	☒ **Documentation of submitted pre-filing meeting request**[3]	

[1] See pages 6 and 10 in the instructions [2] See page 12 in the instructions [3] See pages 3 and 10 in the instructions

Section 5: Applicant and Agent Signature

I hereby designate and authorize the agent/consultant identified in Section 1 to act on my behalf in the processing of this application, and to furnish, upon request, supplemental information in support of the application.

Applicant Name	*Jack Marchbanks, PhD*	**Applicant Signature**	*Jack Marchbanks PhD*

Application is hereby made for a Section 401 Water Quality Certification. The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. The project proponent hereby requests that the certifying authority review and take action on the CWA 401 certfication request within the applicable reasonable period of time.			
Applicant Name	*Jack Marchbanks, PhD*	**Applicant Signature**	Jack Marchbanks-TMH
Agent Name	*Adrienne Earley*	**Agent Signature**	Adrienne Earley

Please submit the completed application package and fees to:

Ohio EPA
Division of Surface Water
Attn: 401/IWP/Mitigation Section Manager
P.O. Box 1049
Columbus, OH 43216-1049

For Internal Ohio EPA Use	
Reviewer:	
Project ID #	
Date Received:	
CR Due:	

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Item 2 – Impact Tables

- Table A: Streams Within the Project Area
- Table B: Wetlands within the Project Area
- Table C: Other Waters Within the Project Area
- Table D: Stream Discharge and Fill Quantities
- Table E: Wetland Discharge and Fill Quantities
- Table F: Stream Mitigation
- Table G: Wetland Mitigation

TABLE A. STREAMS WITHIN THE PROJECT AREA

Stream	Station	Length (LF)	Drainage Area (AC)	Hydrologic Unit Code (HUC)	Drainage Basin	Receiving Stream	QHEI or HHEI Score	OEPA Use Designation	Flow Regime	Does The Stream Continue Outside of Project?
Stream 1	STA 124+50 to 128+00	526	0.02	05090101	Raccoon - Symmes	Symmes Creek	34	Small Drainage Warmwater (Class II)	E	Yes
Stream 2	STA 158+00	445	0.01	05090101	Raccoon - Symmes	Symmes Creek	39	Small Drainage Warmwater (Class II)	E	Yes
Stream 3	STA 161+00 to 164+25	741	0.15	05090101	Raccoon - Symmes	Symmes Creek	77	Small Drainage Warmwater (Class II)	I	Yes
Stream 3a	STA 161+50 to 164.75	343	0.01	05090101	Raccoon - Symmes	Symmes Creek	63	Small Drainage Warmwater (Class II)	I	No
Stream 4	STA 1416+60	110	0.01	05090101	Raccoon - Symmes	Symmes Creek	35	Small Drainage Warmwater (Class II)	E	Yes
Stream 5	STA 183+60 to 184+90	528	0.07	05090101	Raccoon - Symmes	Symmes Creek	47	Small Drainage Warmwater (Class II)	I	Yes
Stream 6	STA 189+00 to 192+50	458	0.02	05090101	Raccoon - Symmes	Symmes Creek	14	Ephemeral Stream (Class I)	E	Yes
Stream 7	STA 193+00 to 200+00	916	0.05	05090101	Raccoon - Symmes	Symmes Creek	57	Small Drainage Warmwater (Class II)	I	Yes
Stream 8	STA 200+75 to 202+00	261	0.03	05090101	Raccoon - Symmes	Symmes Creek	36	Small Drainage Warmwater (Class II)	I	Yes
Stream 9	STA 218+50 to 230+20	1688	0.28	05090101	Raccoon - Symmes	Symmes Creek	78	Spring Water A (Class IIIA) No Fish	P	Yes
Stream 9a	STA 228+80 to 229+70	400	0.07	05090101	Raccoon - Symmes	Stream 9	38	Small Drainage Warmwater (Class II)	E	Yes
Stream 10	STA 238+00 to 270+50	4092	0.27	05090101	Raccoon - Symmes	Bent Creek	65	Small Drainage Warmwater (Class II)	I	Yes
Stream 10a	STA 241+45 to 242+00	194	0.02	05090101	Raccoon - Symmes	Stream 10	50	Small Drainage Warmwater (Class II)	E	Yes
Stream 10b	STA 247+90 to 248+45	233	0.02	05090101	Raccoon - Symmes	Stream 10	42	Small Drainage Warmwater (Class II)	E	Yes
Stream 10c	STA 261+75	300	0.01	05090101	Raccoon - Symmes	Stream 10	40	Small Drainage Warmwater (Class II)	E	Yes
Stream 11	STA 270+00 to 270+75	287	0.05	05090101	Raccoon - Symmes	Bent Creek	55	Small Drainage Warmwater (Class II)	E	Yes
Stream 12	STA 227+80 to 278+40	313	0.01	05090101	Raccoon - Symmes	Indian Guyan Creek	51	Small Drainage Warmwater (Class II)	P	Yes
Stream 13	STA 320+50 to 323+25	913	0.12	05090101	Raccoon - Symmes	Indian Guyan Creek	78	Small Drainage Warmwater (Class II)	I	Yes
Stream 13a	STA 319+90 to 322+25	703	0.04	05090101	Raccoon - Symmes	Stream 13	51	Small Drainage Warmwater (Class II)	E	Yes
Stream 13a1	STA 317+75 to 319+90	346	0.01	05090101	Raccoon - Symmes	Stream 13a	38	Small Drainage Warmwater (Class II)	E	Yes
Stream 13a2	STA. 319+50 to 320+10	162	0.01	05090101	Raccoon - Symmes	Stream 13a1	13	Ephemeral Stream (Class I)	E	Yes
Stream 13a3	STA 321+00	56	0.01	05090101	Raccoon - Symmes	Stream 13a2	13	Ephemeral Stream (Class I)	E	Yes
Stream 14	STA 337+00 to 339+80	1199	0.10	05090101	Raccoon - Symmes	Indian Guyan Creek	62	Small Drainage Warmwater (Class II)	I	Yes
Stream 14a	STA 338+65 to 340+25	160	0.01	05090101	Raccoon - Symmes	Stream 14	36	Small Drainage Warmwater (Class II)	E	No
Stream 14b	STA 339+90 to 340+60	109	0.01	05090101	Raccoon - Symmes	Stream 14	41	Small Drainage Warmwater (Class II)	E	No
Stream 15	STA 355+00 to 356+50	392	0.01	05090101	Raccoon - Symmes	Indian Guyan Creek	37	Small Drainage Warmwater (Class II)	E	Yes
Stream 15a	STA 353+00	74	0.01	05090101	Raccoon - Symmes	Stream 15	31	Small Drainage Warmwater (Class II)	E	Yes
Stream 15b	STA 349+00	31	0.01	05090101	Raccoon - Symmes	Stream 15	26	Ephemeral Stream (Class I)	E	Yes
Stream 16	STA 366+50 to 377+00	1876	0.17	05090101	Raccoon - Symmes	Little Paddy Creek	66	Small Drainage Warmwater (Class II)	I	Yes
Stream 16a	STA 364+80 to 374+00	1075	0.03	05090101	Raccoon - Symmes	Stream 16	49	Small Drainage Warmwater (Class II)	I	No
Stream 16a1	STA 363+25 to 365+25	229	0.01	05090101	Raccoon - Symmes	Stream 16a	20	Ephemeral Stream (Class I)	E	No
Stream 17	STA 379+75 to 385.75	776	0.05	05090101	Raccoon - Symmes	Little Paddy Creek	46	Small Drainage Warmwater (Class II)	E	No
Stream 18	STA 0+00	244	0.01	05090101	Raccoon - Symmes	Little Paddy Creek	23	Ephemeral Stream (Class I)	E	Yes
Symmes Creek2	STA 134+00	400	351	05090101	Raccoon - Symmes	Ohio River	N/A	EWH*	P	Yes

TABLE A. STREAMS WITHIN THE PROJECT AREA

Stream	Station	Length (LF)	Drainage Area (AC)	Hydrologic Unit Code (HUC)	Drainage Basin	Receiving Stream	QHEI or HHEI Score	OEPA Use Designation	Flow Regime	Does The Stream Continue Outside of Project?
Symmes Creek3	STA 200+50	475	350	05090101	Raccoon - Symmes	Ohio River	N/A	EWH*	P	Yes
Bear Creek	STA 299+00	147	2.95	05090101	Raccoon - Symmes	Bent Creek	50.5	WWH	P	Yes
Bent Creek	STA 270+00 to 274+75	1421	1.81	05090101	Raccoon - Symmes	Ohio River	67.5	WWH	P	Yes
Indian Guyan Creek	STA 299+40	368	73.3	05090101	Raccoon - Symmes	Ohio River	62	EWH*	P	Yes
Little Paddy Creek	STA 378+50	1996	1.97	05090101	Raccoon - Symmes	Paddy Creek	51.5	WWH**	P	Yes
Little Paddy Creek – Ramp I	STA 378+00	1996	1.97	05090101	Raccoon - Symmes	Paddy Creek	51.5	WWH**	P	Yes

LF = linear feet; AC = acres; EWH = Exceptional Warmwater Habitat; WWH = Warmwater Habitat; P = Perennial; I = Intermittent; E = Ephemeral

*Recommended EWH per the *EPA Biological and Water Quality Study of Symmes Creek, Indian Guyan Creek and Direct Ohio River Tributaries, 2016* , dated June 2020.
**Recommended WWH per the *EPA Biological and Water Quality Study of Symmes Creek, Indian Guyan Creek and Direct Ohio River Tributaries, 2016* , dated June 2020.

TABLE B. WETLANDS WITHIN THE PROJECT AREA

Wetland	Station	Acreage	Hydrologic Unit Code (HUC)	Drainage Basin	Cowardin et al Classification	ORAM Score	OEPA Wetland Category	Connectivity to Other Waters	Jurisdictional Status	Does the Wetland Continue Outside of Project?
Wetland A	STA 117+90 to 120+40	0.79	5090101	Racoon - Symmes	EM/FO	24	Cat. 1	Adjacent	Jurisdictional	No
Wetland B	STA 125+25 to 126+60	0.12	5090101	Racoon - Symmes	EM	48	Cat. 2	Adjacent	Jurisdictional	No
Wetland C	STA 141+75	0.03	5090101	Racoon - Symmes	EM	39	Mod.Cat. 2	Adjacent	Jurisdictional	No
Wetland D	STA 145+90 to 149+50	1.77	5090101	Racoon - Symmes	EM	42	Mod.Cat. 2	Adjacent	Jurisdictional	Yes
Wetland E	STA 146+00 to 154+40	0.71	5090101	Racoon - Symmes	EM/SS	41	Mod.Cat. 2	Adjacent	Jurisdictional	No
Wetland F	STA 203+50 to 204+50	0.55	5090101	Racoon - Symmes	SS/EM	52	Cat. 2	Adjacent	Jurisdictional	No
Wetland G	STA 216+50 to 217+15	0.01	5090101	Racoon - Symmes	EM	26	Cat. 1	Adjacent	Jurisdictional	No
Wetland H	STA 229+25	0.1	5090101	Racoon - Symmes	EM	42	Mod.Cat. 2	Adjacent	Jurisdictional	No
Wetland I	STA 288+50 to 292+50	0.6	5090101	Racoon - Symmes	EM	48	Cat. 2	Adjacent	Jurisdictional	No
Wetland K	STA 316+50	0.02	5090101	Racoon - Symmes	EM	43	Mod.Cat. 2	Adjacent	Jurisdictional	No
Wetland L	STA 324+25 to 325+50	0.13	5090101	Racoon - Symmes	EM	46	Cat. 2	Adjacent	Jurisdictional	No
Wetland M	STA 326+50 to 328+50	0.26	5090101	Racoon - Symmes	EM	44	Mod.Cat. 2	Adjacent	Jurisdictional	Yes
Wetland N	STA 377+75 to 381+25	4.78	5090101	Racoon - Symmes	EM/OW	63	Mod.Cat. 2	Adjacent	Jurisdictional	Yes
Wetland P	SR 775 STA 62+00	0.06	5090101	Racoon - Symmes	EM	49	Cat. 2	Adjacent	Jurisdictional	No
Wetland Q	STA 389+25 to 396+40	0.27	5090101	Racoon - Symmes	EM	17	Cat. 1	Adjacent	Jurisdictional	No
Wetland R	STA 395+50	0.02	5090101	Racoon - Symmes	EM	14	Cat. 1	Adjacent	Jurisdictional	No
Wetland S	STA 397+50	0.03	5090101	Racoon - Symmes	EM	14	Cat. 1	Adjacent	Jurisdictional	No
Wetland T	STA 318+50 to 319+50	0.34	5090101	Racoon - Symmes	EM	46	Cat. 2	Adjacent	Jurisdictional	No

LF = linear feet; AC = acres; EM = Palustrine Emergent; FO = Palustrine Forested; SS = Palustrine Scrub-Shrub; OW = Open Water

TABLE C. OTHER WATERS WITHIN THE PROJECT AREA

Resource	Station	Length/Acreage	Hydrologic Unit Code (HUC)	Drainage Basin	Jurisdictional Connection	Connectivity to Other Waters	Does the Aquatic Resource Continue Outside of Project?
Pond 1	STA 187+50	0.08 AC	05090101	Raccoon - Symmes	Yes	Adajcent to Symmes Creek	No
Pond 2	STA 197+50	0.03 AC	05090101	Raccoon - Symmes	Yes	Adajcent to Symmes Creek	No

LF = linear feet; AC = acres; CY = cubic yards; SM = square miles; NA = Not Applicable

TABLE D. STREAM DISCHARGE AND FILL QUANTITIES

Stream	Station	Description of Impacts	Length (LF)	Width (LF)	Depth (LF)	Permanent Fill Below OHWM												Total Permanent Fill			Total Temporary Fill			Total Impact Length
						Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP or DEP			Proposed Earthen, Granular, or Embankment Fill			Proposed Other (Steel, Etc.)									
						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)	Area (AC)	Volume (CY)	Length (LF)
Stream 1	STA 124+50 to 128+00	Embankment/grading + TAF	526	3	0.5	0	0.000	0.00	0	0.000	0.00	478	0.033	26.56	0	0.000	0.00	478	0.033	26.56	140	0.010	7.78	478
Stream 2	STA 158+00	Embankment/grading + TAF	445	2	0.5	0	0.000	0.00	0	0.000	0.00	224	0.011	8.30	0	0.000	0.00	224	0.011	8.30	50	0.002	1.85	224
Stream 3	STA 161+00 to 164+25	New culvert, embankment/grading, scour protection + TAF	741	9	1	6	0.001	2.00	38	0.008	12.67	487	0.101	162.33	46	0.010	15.33	577	0.119	192.33	130	0.027	43.33	617
Stream 3a	STA 161+50 to 164.75	Embankment/grading + TAF	343	5.5	1	0	0.000	0.00	0	0.000	0.00	343	0.043	69.87	0	0.000	0.00	343	0.043	69.87	50	0.006	10.19	343
Stream 4	STA 1416+60	Grading, scour protection, (culvert replacement) + TAF	110	3.5	1	0	0.000	0.00	10	0.001	1.30	10	0.001	1.30	0	0.000	0.00	20	0.002	2.59	30	0.002	3.89	30
Stream 5	STA 183+60 to 184+90	Embankment/grading, + TAF	528	4	1	0	0.000	0.00	0	0.000	0.00	527	0.048	78.07	0	0.000	0.00	527	0.048	78.07	130	0.012	19.26	527
Stream 6	STA 189+00 to 192+50	Embankment/grading, scour protection + TAF	458	2	0.5	0	0.000	0.00	30	0.001	1.11	402	0.018	14.89	0	0.000	0.00	432	0.020	16.00	70	0.003	2.59	452
Stream 7	STA 193+00 to 200+00	Embankment/grading, scour protection + TAF	916	3.5	0.5	0	0.000	0.00	16	0.001	1.04	806	0.065	52.24	0	0.000	0.00	822	0.066	53.28	90	0.008	5.84	822
Stream 8	STA 200+75 to 202+00	Embankment/grading, + TAF	261	2	1	0	0.000	0.00	0	0.000	0.00	192	0.009	14.22	0	0.000	0.00	192	0.009	14.22	58	0.003	4.30	250
Stream 9	STA 218+50 to 230+20	New culvert, embankment/grading, scour protection + TAF	1688	7.5	1	14	0.003	3.89	36	0.006	10.00	1,456	0.251	404.44	8	0.001	2.22	1,514	0.261	420.56	110	0.019	30.56	1,544
Stream 9a	STA 228+80 to 229+70	Embankment/grading, scour protection + TAF	400	3	0.5	40	0.003	2.22	0	0.000	0.00	321	0.022	17.83	0	0.000	0.00	361	0.025	20.06	20	0.001	1.11	361
Stream 10	STA 238+00 to 270+50	Embankment/grading, scour protection + TAF	4092	5.5	0.5	15	0.002	1.60	91	0.012	9.20	3,979	0.502	405.27	0	0.000	0.00	4,085	0.516	416.06	170	0.021	17.31	4,085
Stream 10a	STA 241+45 to 242+00	Embankment/grading, scour protection + TAF	194	2.5	0.5	0	0.000	0.00	16	0.001	0.74	48	0.003	2.22	0	0.000	0.00	64	0.004	2.96	20	0.001	0.93	84
Stream 10b	STA 247+90 to 248+45	Embankment/grading, scour protection + TAF	233	2.5	0.5	0	0.000	0.00	25	0.001	1.16	132	0.008	6.11	0	0.000	0.00	157	0.009	7.27	70	0.004	3.24	177
Stream 10c	STA 261+75	Embankment/grading, scour protection + TAF	300	3	0.5	0	0.000	0.00	15	0.001	0.83	233	0.016	12.94	0	0.000	0.00	248	0.017	13.78	20	0.001	1.11	248
Stream 11	STA 270+00 to 270+75	Embankment/grading, scour protection + TAF	287	3	0.5	0	0.000	0.00	20	0.001	1.11	256	0.018	14.22	0	0.000	0.00	276	0.019	15.33	70	0.005	3.89	276
Stream 12	STA 227+80 to 278+40	Embankment/grading + TAF	349	2.5	0.5	0	0.000	0.00	0	0.000	0.00	337	0.019	16.00	0	0.000	0.00	337	0.019	16.00	70	0.004	3.24	337
Stream 13	STA 320+50 to 323+25	New culvert, embankment/grading, scour protection + TAF	913	6	0.5	0	0.000	0.00	47	0.006	5.22	720	0.099	80.00	0	0.000	0.00	767	0.106	85.22	130	0.018	14.44	787
Stream 13a	STA 319+90 to 322+25	Embankment/grading, + TAF	703	5.5	0.5	0	0.000	0.00	0	0.000	0.00	654	0.083	66.61	0	0.000	0.00	654	0.083	66.61	70	0.009	7.13	674
Stream 13a1	STA 317+75 to 319+90	Embankment/grading scour protection + TAF	346	5	1	0	0.000	0.00	5	0.001	0.93	297	0.034	55.00	0	0.000	0.00	303	0.035	56.11	70	0.008	12.96	323
Stream 13a2	STA. 319+50 to 320+10	Embankment/grading, scour protection + TAF	162	1.5	0.5	0	0.000	0.00	5	0.001	0.02	114	0.004	3.39	0	0.000	0.00	119	0.005	3.41	20	0.001	0.56	139
Stream 13a3	STA 321+00	Embankment/grading, scour protection + TAF	56	1.5	1	0	0.000	0.00	5	0.001	0.28	32	0.001	1.18	0	0.000	0.00	37	0.002	2.47	20	0.001	1.11	57

TABLE D. STREAM DISCHARGE AND FILL QUANTITIES

Stream	Station	Description of Impacts	Length (LF)	Width (LF)	Depth (LF)	Permanent Fill Below OHWM												Total Permanent Fill			Total Temporary Fill			Total Impact Length
						Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP or DEP			Proposed Earthen, Granular, or Embankment Fill			Proposed Other (Steel, Etc.)									
						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)	Area (AC)	Volume (CY)	Length (LF)
Stream 14	STA 337+00 to 339+80	New culvert, embankment/grading, scour protection + TAF	1199	4.5	1	12	0.001	2.00	27	0.003	4.50	968	0.100	161.33	168	0.017	28.00	1,175	0.121	195.83	150	0.015	25.00	1,195
Stream 14a	STA 338+65 to 340+25	Embankment/grading	160	2.5	0.5	0	0.000	0.00	0	0.000	0.00	160	0.009	7.41	0	0.000	0.00	160	0.009	7.41	0	0.000	0.00	160
Stream 14b	STA 339+90 to 340+60	Embankment/grading	109	2.5	0.5	0	0.000	0.00	0	0.000	0.00	85	0.005	3.94	0	0.000	0.00	85	0.005	3.94	0	0.000	0.00	85
Stream 15	STA 355+00 to 356+50	Excavation +TAF	392	2.5	0.5	0	0.000	0.00	0	0.000	0.00	209	0.012	9.68	0	0.000	0.00	209	0.012	9.68	20	0.001	0.93	229
Stream 15a	STA 353+00	TAF	74	2	0.5	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	20	0.001	1.48	20
Stream 15b	STA 349+00	TAF	31	2	0.5	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	20	0.001	1.48	20
Stream 16	STA 366+50 to 377+00	Embankment/grading, scour protection + TAF	1876	6	0.5	60	0.008	6.67	0	0.000	0.00	1,646	0.227	182.89	0	0.000	0.00	1,706	0.235	189.56	160	0.022	17.78	1,746
Stream 16a	STA 364+80 to 374+00	Embankment/grading + TAF	1075	4	0.5	0	0.000	0.00	0	0.000	0.00	1,075	0.099	79.63	0	0.000	0.00	1,075	0.099	79.63	70	0.006	5.19	1,075
Stream 16a1	STA 363+25 to 365+25	Embankment/grading	230	3	0.5	0	0.000	0.00	0	0.000	0.00	230	0.016	12.78	0	0.000	0.00	230	0.016	12.78	0	0.000	0.00	230
Stream 17	STA 379+75 to 385.75	Embankment/grading, scour protection + TAF	776	2	0.5	0	0.000	0.00	10	0.000	0.37	766	0.035	28.37	0	0.000	0.00	776	0.036	28.74	50	0.002	1.85	776
Stream 18	STA 69+69L of SR 775	scour protection	244	2	0.5	0	0.000	0.00	5	0.001	0.19	0	0.000	0.00	0	0.000	0.00	5	0.001	0.19	0	0.000	0.00	5
Symmes Creek 2	STA 134+00	Piers (new bridge) + TAF	400	90	10	50	0.002	360.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	50	0.002	360.00	100	0.200	1,807.41	100
Symmes Creek 3	STA 200+50	Piers (new bridge), grading + TAF	475	75	8	35	0.004	185.00	0	0.000	0.00	35	0.004	35.00	0	0.000	0.00	35	0.008	220.00	100	0.220	1,444.44	100
Bear Creek	STA 299+00	Embankment/grading, scour protection + TAF	147	14	2.5	0	0.000	0.00	16	0.001	3.00	25	0.008	33.00	0	0.000	0.00	41	0.009	36.00	20	0.001	3.70	41
Bent Creek	STA 270+00 to 274+75	New culvert, embankment/ grading, scour protection + TAF	1421	13	2	45	0.013	44.00	10	0.002	10.00	1,140	0.340	1097.00	50	0.013	48.00	1,245	0.368	1199.00	210	0.062	202.00	1,245
Indian Guyan Creek	STA 299+40	Piers (new bridge), scour protection, grading + TAF	368	44	4	50	0.005	74.00	58	0.004	20.30	58	0.002	8.70	0	0.000	0.00	58	0.011	103.00	100	0.111	488.00	100
Little Paddy Creek	STA 378+50	TAF	1996	13	3	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	180	0.049	260.00	180
Little Paddy Creek – Ramp I	STA 378+00	TAF	1996	13	3	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	85	0.025	122.00	85
					SUM:	327	0.043	681.38	485	0.054	83.95	18,445	2.245	3,173.23	272	0.041	93.56	19,387	2.382	4,032.29	2,893	0.885	4,577.88	20,227

LF = linear feet; AC = acres; CY = cubic yards; TAF= Temporary Access Fill; RCP = rock channel protection or the like; DEP = Ditch Erosion Protection; NA = Not Applicable

TABLE E. 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 or DEP		Proposed Earthen, Granular, or Embankment Fill		Proposed Other (Steel, Etc.)				
					Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)
Wetland A	STA 117+90 to 120+40	Embankment/grading, scour protection, new culvert	0.79	1	0.001	1.61	0.026	41.95	0.082	132.29	0.001	1.61	0.11	177.47	0.11
Wetland B	STA 125+25 to 126+60	Embankment/grading	0.12	1	0.000	0.00	0.000	0.00	0.120	193.60	0.000	0.00	0.12	193.60	0.12
Wetland C	STA 141+75	Embankment/grading	0.03	1	0.000	0.00	0.000	0.00	0.030	48.40	0.000	0.00	0.03	48.40	0.03
Wetland D	STA 145+90 to 149+50	Embankment/grading	1.77	1	0.000	0.00	0.000	0.00	0.070	112.93	0.000	0.00	0.07	112.93	0.07
Wetland E	STA 146+00 to 154+40	Embankment/grading, scour protection	0.71	1	0.000	0.00	0.032	51.63	0.558	900.24	0.000	0.00	0.59	951.87	0.59
Wetland F	STA 203+50 to 204+50	Embankment/grading, scour protection	0.55	1	0.000	0.00	0.020	32.26	0.530	855.07	0.000	0.00	0.55	887.33	0.55
Wetland G	STA 216+50 to 217+15	Excavation/grading	0.01	1	0.000	0.00	0.000	0.00	0.010	16.13	0.000	0.00	0.01	16.13	0.01
Wetland H	STA 229+25	Embankment/grading, scour protection	0.1	1	0.001	1.61	0.000	0.00	0.099	159.72	0.000	0.00	0.10	161.33	0.10
Wetland I	STA 288+50 to 292+50	Embankment/grading	0.6	1	0.000	0.00	0.000	0.00	0.600	968.00	0.000	0.00	0.60	968.00	0.60
Wetland K	STA 316+50	Embankment/grading	0.02	1	0.000	0.00	0.000	0.00	0.020	32.27	0.000	0.00	0.02	32.27	0.02
Wetland L	STA 324+25 to 325+50	Embankment/grading	0.13	1	0.000	0.00	0.000	0.00	0.130	209.73	0.000	0.00	0.13	209.73	0.13
Wetland M	STA 326+50 to 328+50	Embankment/grading	0.26	1	0.000	0.00	0.000	0.00	0.210	338.80	0.000	0.00	0.21	338.80	0.21
Wetland N	STA 377+75 to 381+25	Embankment/grading, bridge constructon, culverts	4.78	1	0.120	183.00	0.640	1033.00	1.780	2882.00	0.000	0.00	2.54	4,098.00	2.54
Wetland P	SR 775 STA 62+00	Embankment/grading	0.06	1	0.000	0.00	0.000	0.00	0.060	96.80	0.000	0.00	0.06	96.80	0.06
Wetland Q	STA 389+25 to 396+40	Excavation/grading	0.27	1	0.000	0.00	0.000	0.00	0.130	209.73	0.000	0.00	0.13	209.73	0.13
Wetland R	STA 395+50	Embankment/grading	0.02	1	0.000	0.00	0.000	0.00	0.020	32.27	0.000	0.00	0.02	32.27	0.02
Wetland S	STA 397+50	Embankment/grading, scour protection	0.03	1	0.000	0.00	0.007	11.29	0.023	37.11	0.000	0.00	0.03	48.40	0.03
Wetland T	STA 318+50 to 319+50	Embankment/grading	0.34	1	0.000	0.00	0.000	0.00	0.180	290.40	0.000	0.00	0.18	290.40	0.18
				SUM:	0.122	186.23	0.725	1,170.13	4.652	7,515.50	0.001	1.61	5.50	8,873.47	5.50

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like; DEP = Ditch Erosion Protection; NA = Not Applicable

TABLE F. STREAM MITIGATION

Stream	Impacted Length (LF)	QHEI/HHEI Score	Flow Regime	Type of Mitigation	Hydrologic Unit Code (HUC) & Watershed		Mitigation Ratio	Mitigated Amount (LF)
					Impacted	Mitigated		
Stream 1	478	34	E	Restoration	05090101	05090101	1	478
Stream 2	224	39	E	Restoration	05090101	05090101	1.5	336
Stream 3	577	77	I	Restoration	05090101	05090101	2	1154
Stream 3a	343	63	I	Restoration	05090101	05090101	2	686
Stream 4	20	35	E	Restoration	05090101	05090101	1.5	30
Stream 5	527	62	I	Restoration	05090101	05090101	2	1054
Stream 6	432	14	E	Restoration	05090101	05090101	1	432
Stream 7	822	57	I	Restoration	05090101	05090101	2	1644
Stream 8	192	36	I	Restoration	05090101	05090101	1.5	288
Stream 9	1514	78	P	Restoration	05090101	05090101	3	4542
Stream 9a	361	38	E	Restoration	05090101	05090101	1.5	541.5
Stream 10	4085	65	I	Restoration	05090101	05090101	2	8170
Stream 10a	64	50	E	Restoration	05090101	05090101	1.5	96
Stream 10b	157	52	E	Restoration	05090101	05090101	1.5	235.5
Stream 10c	248	40	E	Restoration	05090101	05090101	1.5	372
Stream 11	276	55	E	Restoration	05090101	05090101	1.5	414
Stream 12	337	51	P	Restoration	05090101	05090101	2	674
Stream 13	767	78	I	Restoration	05090101	05090101	2	1534
Stream 13a	654	51	E	Restoration	05090101	05090101	1.5	981
Stream 13a1	303	38	E	Restoration	05090101	05090101	1.5	454.5
Stream 13a2	119	13	E	Restoration	05090101	05090101	1	119
Stream 13a3	37	13	E	Restoration	05090101	05090101	1	37
Stream 14	1175	62	I	Restoration	05090101	05090101	2	2350
Stream 14a	160	36	E	Restoration	05090101	05090101	1.5	240
Stream 14b	85	41	E	Restoration	05090101	05090101	1.5	127.5
Stream 15	209	37	E	Restoration	05090101	05090101	1.5	313.5
Stream 15a	0	31	E	Restoration	05090101	05090101	0	0
Stream 15b	0	26	E	Restoration	05090101	05090101	0	0
Stream 16	1706	66	I	Restoration	05090101	05090101	2	3412
Stream 16a	1075	49	I	Restoration	05090101	05090101	2	2150
Stream 16a1	230	20	E	Restoration	05090101	05090101	1.5	345
Stream 17	776	46	E	Restoration	05090101	05090101	1	776
Stream 18	5	23	E	Restoration	05090101	05090101	1	5
Symmes Creek 2	50	N/A	P	Restoration	05090101	05090101	3	150
Symmes Creek 3	35	N/A	P	Restoration	05090101	05090101	3	105
Bear Creek	41	50.5	P	Restoration	05090101	05090101	2	82
Bent Creek	1245	67.5	P	Restoration	05090101	05090101	2	2490
Indian Guyan Creek	58	62	P	Restoration	05090101	05090101	3	174
Little Paddy Creek	0	51.5	P	Restoration	05090101	05090101	2	0
Little Paddy Creek – Ramp I	0	51.5	P	Restoration	05090101	05090101	2	0
SUM:	19,387							36,993

LF = linear feet; AC = acres; CY = cubic yards; SM = square miles; NA = Not Applicable; P = Perennial; I = Intermittent; E = Ephemeral

TABLE G. WETLAND MITIGATION

Wetland	Impacted Acreage (AC)	ORAM Category	Cowardin et al Classification	Jurisdictional Status	Method of Mitigation	Type of Mitigation	Hydrologic Unit Code (HUC) & Watershed		Mitigation Ratio	Mitigated Amount
							Impacted	Mitigated		
A	0.11	1	EM/FO	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	1.5	0.165
B	0.12	2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.24
C	0.03	Mod 2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.06
D	0.07	Mod 2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.14
E	0.59	Mod 2	EM/SS	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	1.18
F	0.55	2	SS/EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	1.1
G	0.01	1	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.02
H	0.1	Mod 2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.2
I	0.6	2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	1.2
K	0.02	Mod 2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.04
L	0.13	2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.26
M	0.21	Mod 2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.42
N	2.54	Mod 2	EM/OW	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	5.08
P	0.06	2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.12
Q	0.13	1	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	1.5	0.195
R	0.02	1	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	1.5	0.03
S	0.03	1	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	1.5	0.045
T	0.18	2	EM	Jurisdictional	In-Lieu Fee/Permitee Responsible	Restoration	05090101	05090101	2	0.36
SUM:	5.5									10.86

LF = linear feet; AC = acres; EM = Palustrine Emergent; FO = Palustrine Forested; SS = Palustrine Scrub-Shrub; OW = Open Water

Item 3 – Level 2 Ecological Survey Report

A complete copy of the Level 2 Ecological Survey report (accepted March 2, 2023) is available in the Ecological Section of the Project File on the ODOT EnviroNet.

Item 4 – Correspondence

- 4a. US Army Corps of Engineers Jurisdictional Determination
- 4b. Ohio Department of Natural Resources Coordination
- 4c. United States Fish and Wildlife Service Threatened and Endangered Species Coordination
- 4d. Ohio State Historic Preservation Office and Tribal Coordination
- 4e. Ohio Environmental Protection Agency Coordination

4a. US Army Corps of Engineers Jurisdictional Determination

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HUNTINGTON DISTRICT
502 8TH STREET
HUNTINGTON, WV 25701-2018

March 24, 2023

Regulatory Division
South/Transportation Branch
LRH-2022-00165-OHR – Symmes Creek
LAW-SR 7-2.17 Phase 2A, PID 75923

Mr. Timothy M. Hill
Ohio Department of Transportation
Office of Environmental Services, Mail Stop 4170
1980 West Broad Street
Columbus, Ohio 43223

Dear Mr. Hill:

I refer to the Amended Level 1 Ecological Survey Report (ESR) received by this office via email on February 8, 2023. The ESR was prepared for the proposed LAW-SR 7-2.17 Phase 2A, PID 75923 project located in Union and Rome Townships, Lawrence County, Ohio. Waters within the review area drain to the Ohio River.

The United States (U.S.) Army Corps of Engineers' (Corps) authority to regulate waters of the U.S. is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires that a Department of the Army (DA) permit be obtained prior to discharging dredged and/or fill material into waters of the U.S., including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires that a DA permit be obtained for any work in, on, over or under a navigable water.

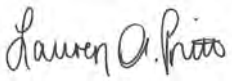
You have requested a preliminary jurisdictional determination (PJD) for the aquatic resources within the review area for the proposed project. The amended ESR describes 6,915 linear feet of seven (7) perennial streams, 11,944 linear feet of ten (10) intermittent streams, 6,235 linear feet of twenty-one (21) ephemeral streams, 3.48 acres of fourteen (14) palustrine emergent (PEM) wetlands, 1.26 acre of two (2) PEM and palustrine scrub/shrub (PSS) wetlands, 0.84 acres of two (2) PEM and palustrine forested (PFO) wetlands, 4.52 acre of one (1) PEM and palustrine open water (POW) wetland, and 1.12 acres of one (1) PFO wetland within the review area. Based on the information provided, a field review of the site on March 8, 2022, and other information available to us, this office has determined that the waters described in the enclosed PJD Form and described on the attached maps **may** be jurisdictional waters of the U.S. This determination has been made in accordance with the Regulatory Guidance Letter (RGL) for Jurisdictional Determinations issued by the Corps on October 31, 2016 (RGL No. 16-01). As indicated in the guidance, this PJD is non-binding and cannot be appealed (33 CFR

331.2), and only provides a written indication that waters of the U.S., including wetlands, may be present on-site.

You have declined to exercise the option to obtain an approved jurisdictional determination in this instance and at this time. For the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the aquatic resources described in the attached PJD will be evaluated as if they are waters of the U.S.

If you agree with the findings of this PJD and understand your options regarding the same, please sign and date one (1) copy of the form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy to Ms. Rachel A. McCarty at rachel.a.klug@usace.army.mil.

Sincerely,



Lauren A. Pritt
Regulatory Project Manager
South/Transportation Branch

Enclosures

cc w/ enclosures via e-mail:

Mr. J. Brent Glover
The Ohio Environmental Protection Agency
Division of Surface Water
P.O. Box 1049
Columbus, Ohio 43216-1049
James.Glover@epa.ohio.gov

Mr. Jeffrey Boyles
Ohio Environmental Protection Agency
Division of Surface Water
P.O. Box 1049
Columbus, Ohio 43216-1049
Jeffrey.Boyles@epa.ohio.gov

Mr. Matt Raymond
Ohio Department of Transportation
1980 West Broad Street, Mail Stop 4170
Columbus, Ohio 43223
Matt.Raymond@dot.ohio.gov

Ms. Adrienne Earley
Ohio Department of Transportation
1980 West Broad Street, Mail Stop 4170
Columbus, Ohio 43223
Adrienne.Earley@dot.ohio.gov

PRELIMINARY JURISDICTIONAL DETERMINATION

(PJD) FORM BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 23 March 2023

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:
Ohio Department of Transportation
Office of Environmental Services
1980 West Broad Street, Mail Stop 4170
Columbus, Ohio 43223

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:
Huntington District, LAW-7-2.17, PID 75923_LRH-2022-00165-OHR

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Ohio County/parish/borough: Lawrence

City: Union and Rome Townships

Center coordinates of site (lat/long in degree decimal format):
Lat.: 38.45734 Long.: -84.41351
Universal Transverse Mercator:
Name of nearest waterbody: Ohio River

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

■ Office (Desk) Determination. Date: 23 March 2023
■ Field Determination. Date: 8 March 2022

See the enclosed table for a list and description of each aquatic resource.

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

■ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: ODOT ESR for LAW-7-2.17, PID 75923 received 17 December 2021 and revisions received 8 February 2023.

■ Data sheets prepared/submitted by or on behalf of the PJD requestor.
  ■ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report. Rationale:_____.

☐ Data sheets prepared by the Corps:_____.

☐ Corps navigable waters' study:_____.

☐ U.S. Geological Survey Hydrologic Atlas:_____.
  ☐ USGS NHD data.
  ☐ USGS 8 and 12 digit HUC maps.

■ U.S. Geological Survey map(s). Cite scale & quad name: Retrieved from ORM database.

■ Natural Resources Conservation Service Soil Survey. Citation: Retrieved from ORM database.

■ National wetlands inventory map(s). Cite name: Retrieved from ORM database.

☐ State/local wetland inventory map(s):_____.

■ FEMA/FIRM maps: Retrieved from ORM database.

☐ 100-year Floodplain Elevation is:_____.(National Geodetic Vertical Datum of 1929)

■ Photographs: ☒ Aerial (Name & Date): See ESR for LAW-7-2.17, PID 75923.
  or ☒ Other (Name & Date): See ESR for LAW-7-2.17, PID 75923.

☐ Previous determination(s). File no. and date of response letter:_____.

☐ Other information (please specify):_____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Rachel McCarty March 24, 2023
Signature and date of Regulatory staff member completing PJD

Matt Raymond 03/29/2023
Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Stream 1	38.43714	-82.45629	526 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 2	38.44271	-82.44763	445 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 3	38.44319	-82.44600	741 linear feet	Non-Wetland – Intermittent	Section 404
Stream 3a	38.44321	-82.44536	343 linear feet	Non-Wetland – Intermittent	Section 404
Stream 4	38.43392	-82.45822	110 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 5	38.44531	-82.43898	528 linear feet	Non-Wetland – Intermittent	Section 404
Stream 6	38.44620	-82.43786	458 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 7	38.44740	-82.43601	916 linear feet	Non-Wetland – Intermittent	Section 404
Stream 8	38.44869	-82.43471	261 linear feet	Non-Wetland – Intermittent	Section 404
Stream 9a	38.45056	-82.42548	400 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 10	38.45642	-82.41943	4092 linear feet	Non-Wetland – Intermittent	Section 404
Stream 11	38.45718	-82.41429	287 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 12	38.45706	-82.41152	313 linear feet	Non-Wetland – Perennial	Section 404
Stream 13	38.45570	-82.39675	913 linear feet	Non-Wetland – Intermittent	Section 404
Stream 14	38.45419	-82.39091	1199 linear feet	Non-Wetland – Intermittent	Section 404
Stream 15	38.45142	-82.38601	392 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 16	38.45060	-82.38163	1876 linear feet	Non-Wetland – Intermittent	Section 404
Stream 17	38.44907	-82.37752	776 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 18	38.45178	-82.37572	244 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 10a	38.45353	-82.42252	194 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 10b	38.45475	-82.42085	233 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 10c	38.45743	-82.41746	300 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 13a	38.45634	-82.39701	703 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 13a1	38.45626	-82.39721	346 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 13a2	38.45651	-82.39700	162 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 13a3	38.45681	-82.39661	56 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 14a	38.45384	-82.39130	160 linear feet	Non-Wetland – Ephemeral	Section 404

Stream 15a	38.45148	-82.38739	74 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 15b	38.45193	-82.38883	31 linear feet	Non-Wetland – Ephemeral	Section 404
Stream 16a1	38.45043	-82.38332	229 linear feet	Non-Wetland – Ephemeral	Section 404
Bear Creek	38.45690	-82.40450	147 linear feet	Non-Wetland – Perennial	Section 404
Bent Creek	38.45700	-82.41390	1421 linear feet	Non-Wetland – Perennial	Section 404
Symmes Creek 3	38.44831	-82.43492	475 linear feet	Non-Wetland – Perennial	Section 404
Little Paddy Creek	38.44820	-82.37960	1996 linear feet	Non-Wetland – Perennial	Section 404
Indian Guyan Creek	38.45660	-82.40430	368 linear feet	Non-Wetland – Perennial	Section 404
Stream 16a	38.45039	-82.38224	1075 linear feet	Non-Wetland – Intermittent	Section 404
Stream 9	38.45005	-82.42743	1688 linear feet	Non-Wetland – Perennial	Section 404
Stream 14b	38.45492	-82.38999	109 linear feet	Non-Wetland – Ephemeral	Section 404
Symmes Creek 2	38.43972	-82.45499	400 linear feet	Non-Wetland – Perennial	Section 404
Symmes Creek 1	38.43773	-82.45683	107 linear feet	Non-Wetland – Perennial	Section 404
Wetland A	38.43626	-82.45634	0.79 acre	Wetland – PEM/PFO	Section 404
Wetland B	38.43535	-82.45677	0.12 acre	Wetland – PEM	Section 404
Wetland C	38.44066	-82.45260	0.03 acre	Wetland – PEM	Section 404
Wetland D	38.44114	-82.45103	1.77 acre	Wetland – PEM	Section 404
Wetland E	38.44199	-82.44992	0.71 acre	Wetland – PEM/PSS	Section 404
Wetland F	38.44892	-82.43397	0.55 acre	Wetland – PSS/PEM	Section 404
Wetland G	38.45048	-82.42992	0.01 acre	Wetland – PEM	Section 404
Wetland H	38.45056	-82.42527	0.01 acre	Wetland – PEM	Section 404
Wetland K	38.45597	-82.39831	0.02 acre	Wetland – PEM	Section 404
Wetland L	38.45523	-82.39572	0.13 acre	Wetland – PEM	Section 404
Wetland M	38.45483	-82.39487	0.22 acre	Wetland – PEM	Section 404
Wetland N	38.44933	-82.37857	4.52 acre	Wetland – PEM/POW	Section 404
Wetland O	38.44781	-82.38017	1.12 acre	Wetland – PFO	Section 404
Wetland P	38.45001	-82.37733	0.06 acre	Wetland – PEM	Section 404
Wetland Q	38.44989	-82.37385	0.27 acre	Wetland – PEM	Section 404

Wetland R	38.44904	-82.37328	0.02 acre	Wetland – PEM	Section 404
Wetland S	38.44930	-82.37266	0.03 acre	Wetland – PEM	Section 404
Wetland I	38.45628	-82.40719	0.60 acre	Wetland – PEM	Section 404
Wetland T	38.45547	-82.39754	0.19 acre	Wetland – PEM	Section 404
Wetland U	38.44590	-82.37958	0.05 acre	Wetland – PFO/PEM	Section 404

4b. Ohio Department of Natural Resources Coordination

Vonderwell, Stephanie

From: Maunz, Kyla
Sent: Friday, October 8, 2021 9:15 AM
To: Staron, Christopher
Cc: Pettegrew, Mike; Hallberg, Karen I; Korfel, Lindsey M; Manson, Gregory; Hatton, Curtis; Raymond, Matthew; Vonderwell, Stephanie; Robbins, Samantha
Subject: FW: LAW-7-2.17 (PID 75923) Group 1 and 2 Mussel Survey Report

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Chris,

Please see DOW's response below.

Thanks!
Kyla

From: Navarro, John <John.Navarro@dnr.ohio.gov>
Sent: Thursday, October 7, 2021 1:16 PM
To: Maunz, Kyla <Kyla.Maunz@dnr.ohio.gov>
Cc: Pettegrew, Mike <Mike.Pettegrew@dnr.ohio.gov>
Subject: RE: LAW-7-2.17 (PID 75923) Group 1 and 2 Mussel Survey Report

Report accepted, project can proceed.

John Navarro
Aquatic Stewardship Program Administrator
Ohio Department of Natural Resources
Division of Wildlife
2045 Morse Rd, Columbus, Ohio 43229
614-265-6346
John.navarro@dnr.state.oh.us

From: Maunz, Kyla <Kyla.Maunz@dnr.ohio.gov>
Sent: Wednesday, October 6, 2021 4:43 PM

To: Navarro, John <John.Navarro@dnr.ohio.gov>
Cc: Pettegrew, Mike <Mike.Pettegrew@dnr.ohio.gov>
Subject: FW: LAW-7-2.17 (PID 75923) Group 1 and 2 Mussel Survey Report

Hi John,

Please see information below and attached report for surveys completed at three sites (see "additional information" below) for your review and comment or approval. As noted in the report, Symmes Creek is designated as a Group 1 stream, however, it was surveyed as a Group 2 stream due to the proposed listing of the potentially present Round Hickorynut.

Thanks!

Kyla Maunz, PWS
Natural Resources Administrator, ODOT Program
Ohio Department of Natural Resources
Office of Real Estate and Land Management, Environmental Review Services Section
2045 Morse Road, Bldg. E2
Columbus, Ohio 43229
Office: (614) 265-6386
Mobile: (614) 636-8635
Kyla.Maunz@dnr.ohio.gov

From: Staron, Christopher <Chris.Staron@dot.ohio.gov>
Sent: Wednesday, October 6, 2021 1:18 PM
To: Maunz, Kyla <Kyla.Maunz@dnr.ohio.gov>; Pettegrew, Mike <Mike.Pettegrew@dnr.ohio.gov>; 'Karen_Hallberg@fws.gov' <Karen_Hallberg@fws.gov>; Korfel, Lindsey M <lindsey_korfel@fws.gov>
Cc: Manson, Gregory <Greg.Manson@dot.ohio.gov>; Hatton, Curtis <Curt.Hatton@dot.ohio.gov>; Raymond, Matthew <Matt.Raymond@dot.ohio.gov>; Vonderwell, Stephanie <Stephanie.Vonderwell@dot.ohio.gov>
Subject: LAW-7-2.17 (PID 75923) Group 1 and 2 Mussel Survey Report

Project CRS: LAW-7-2.17			**PID:** 75923			
Document Type(s): Group 1 and 2 Mussel Survey Reports						
Requested Timeframe for Review: 30 days						
Agency:	**Requested Review/Action:**					
☒ **ODNR:**	Project Comments ☐	Scenic Rivers Comments ☐	Tier V Scenic River Approval ☐	Coastal Consistency ☐	Species Specific Survey ☐	Other (list): Group 1 Salvage ☒
☒ **USFWS:**	Project Comments ☐	Informal Consultation ☐	Tier II OHPBO Concurrence ☐	Formal Consultation ☐	Species Specific Survey ☐	Other (list): ☒
☐ **USACE:**	JD Request ☐		Pre-application Comments ☐		Other (list): ☐	
☐ **OEPA:**	Resource Rating Verification ☐		Pre-application Comments ☐		Other (list): ☐	
☐ **NPS:**	Project Comments ☐		Preliminary Section 7(a) Determination ☐		Other (list): ☐	
☐ **US EPA:**	Project Comments ☐				Other (list): ☐	
☐ **Other** (List agency and requested review/action)**:**						

Additional Information:

The proposed project is on new alignment. It will cross Symmes Creek, a Group 2 stream, twice on new alignment and Indian Guyan Creek, a Group 1 stream, on new alignment once.

Live mussels were found in Symmes Creek. No mussels were found in Indian Guyan Creek.

Please review the report which can be found on the EnviroNet.

If you have any questions or comments, please contact me.

Your agency's concurrence and/or comments on this submission would be appreciated as soon as possible. If comments or notification of when comments will be furnished are not received within the requested timeframe, ODOT will continue to proceed with project development and preparation of the NEPA document. Should ODOT receive project specific comments prior to approval of the NEPA document, they will be addressed accordingly. Comments received following approval of the NEPA document will be addressed through other regulatory processes.

Christopher Staron
Environmental Specialist
Office on Environmental Services
1980 W. Broad Street, Columbus, Ohio 43223
(614) 466-5112
transportation.ohio.gov

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ODOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 11, 2015, and executed by FHWA and ODOT.

From:	Maunz, Kyla
To:	Raymond, Matthew
Cc:	Schweitzer, Ann; Pettegrew, Mike; Staron, Christopher; Beck, Brandon; Barnitz, Thomas
Subject:	FW: LAW-7-2.17 PID 75923: Mud Salamander & Eastern Spadefoot Habitat Assessment Reports
Date:	Monday, June 5, 2023 1:49:08 PM
Attachments:	

Hi Matt,

Please see DOW's response below.

Thanks!

Kyla Maunz, PWS
Natural Resources Administrator, ODOT Program Manager
Ohio Department of Natural Resources
Office of Real Estate and Land Management, Environmental Review Services Section
2045 Morse Road, Bldg. E2
Columbus, Ohio 43229
Office: (614) 265-6386
Mobile: (614) 636-8635
Kyla.Maunz@dnr.ohio.gov

From: Reardon, Nathan <Nathan.Reardon@dnr.ohio.gov>
Sent: Monday, June 5, 2023 11:11 AM
To: Maunz, Kyla <Kyla.Maunz@dnr.ohio.gov>
Cc: Schweitzer, Ann <Ann.Schweitzer@dnr.ohio.gov>
Subject: RE: LAW-7-2.17 PID 75923: Mud Salamander & Eastern Spadefoot Habitat Assessment Reports

Hi Kyla,

The DOW concurs with Mr. Davis's assessments the suitable habitat for the mud salamander, and the eastern spadefoot does not exist within the project area. No further action is necessary.

Thank you,
Nathan

Nathan Reardon
Compliance Coordinator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6741
Email: nathan.reardon@dnr.ohio.gov

From: Maunz, Kyla <Kyla.Maunz@dnr.ohio.gov>
Sent: Thursday, June 1, 2023 11:08 AM
To: Reardon, Nathan <Nathan.Reardon@dnr.ohio.gov>
Cc: Schweitzer, Ann <Ann.Schweitzer@dnr.ohio.gov>
Subject: FW: LAW-7-2.17 PID 75923: Mud Salamander & Eastern Spadefoot Habitat Assessment Reports

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From: Raymond, Matthew <Matt.Raymond@dot.ohio.gov>
Sent: Wednesday, May 31, 2023 12:11 PM
To: Maunz, Kyla <Kyla.Maunz@dnr.ohio.gov>; Schweitzer, Ann <Ann.Schweitzer@dnr.ohio.gov>
Cc: Pettegrew, Mike <Mike.Pettegrew@dnr.ohio.gov>; Staron, Christopher <Chris.Staron@dot.ohio.gov>; Beck, Brandon <Brandon.Beck@dot.ohio.gov>; Barnitz, Thomas <Tom.Barnitz@dot.ohio.gov>
Subject: LAW-7-2.17 PID 75923: Mud Salamander & Eastern Spadefoot Habitat Assessment Reports

Hello Kyla and Ann.
ODNR DOW provided comments on the LAW-7-2.17 project on 1/25/22 requesting habitat suitability surveys for the state endangered eastern spadefoot (*Scaphiopus holbrookii*) and the state threatened mud salamander (*Pseudotriton montanus diastictus*). ODOT hired a qualified herpetologist, Jeff Davis, to conduct these surveys within the proposed project area. Reports outlining the results of these surveys are attached for your review and have been uploaded to the EnviroNet project file.

The herpetologist determined that the proposed project area did not provide suitable habitat for either the mud salamander or the eastern spadefoot and no recommendation was made to conduct

a presence-absence survey for either species.

Please review the attached reports and provide ODNR's concurrence or comments on the findings of the surveys.

Thank you and please let me know if you have any questions or require any additional information.

Respectfully,

Matt Raymond
Ecological Program Manager
ODOT Office of Environmental Services
1980 West Broad Street, Mail Stop 4170
Columbus, Ohio 43223
(614) 466-5129
transportation.ohio.gov

4c. United States Fish and Wildlife Service Threatened and Endangered Species Coordination

Vonderwell, Stephanie

From: Staron, Christopher
Sent: Monday, October 18, 2021 10:34 AM
To: Manson, Gregory; Hatton, Curtis
Cc: Vonderwell, Stephanie; Raymond, Matthew
Subject: FW: [EXTERNAL] LAW-7-2.17 (PID 75923) Group 1 and 2 Mussel Survey Report

USFWS has no further comments on the Group 1 and 2 mussel survey, see below.

Please remember the mussels will need to be relocated before the start of construction.

Let me know if you have any comments or questions.

Christopher Staron
Environmental Specialist
Office on Environmental Services
1980 W. Broad Street, Columbus, Ohio 43223
(614) 466-5112
transportation.ohio.gov

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ODOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 11, 2015, and executed by FHWA and ODOT.

From: Korfel, Lindsey M <lindsey_korfel@fws.gov>
Sent: Friday, October 15, 2021 8:32 AM
To: Staron, Christopher <Chris.Staron@dot.ohio.gov>
Subject: Fw: [EXTERNAL] LAW-7-2.17 (PID 75923) Group 1 and 2 Mussel Survey Report

Chris,

Please see Angela Boyer's response below.

Thanks!

Lindsey Korfel (She/her)

Wildlife Biologist
Transportation Liaison
U.S. Fish and Wildlife Service
Ohio Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230
office: 614.416.8993 ext. *129*

Please note I am currently on a full-time telework schedule due to the Covid-19 pandemic and am not checking my office voicemail daily. Therefore, please contact me via email to ensure your questions and/or concerns are brought to my immediate attention.

From: Boyer, Angela <angela_boyer@fws.gov>
Sent: Thursday, October 14, 2021 8:48 AM
To: Korfel, Lindsey M <lindsey_korfel@fws.gov>
Subject: Re: [EXTERNAL] LAW-7-2.17 (PID 75923) Group 1 and 2 Mussel Survey Report

The report looks good. No evidence of round hickorynut. There is a typo on p. 5-15 in the Conclusions section where they reference the wrong stream.

Angie

From: Korfel, Lindsey M <lindsey_korfel@fws.gov>
Sent: Friday, October 8, 2021 9:51 AM
To: Boyer, Angela <angela_boyer@fws.gov>
Cc: Hallberg, Karen I <Karen_Hallberg@fws.gov>
Subject: Fw: [EXTERNAL] LAW-7-2.17 (PID 75923) Group 1 and 2 Mussel Survey Report

Hi Angie,

Please see information below and attached report for surveys completed at three sites (see “additional information” below) for your review and comment or approval. As noted in the report, Symmes Creek is designated as a Group 1 stream, however, it was surveyed as a Group 2 stream due to the proposed listing of the potentially present Round Hickorynut.

Thanks!

Lindsey Korfel (She/her)

Wildlife Biologist
Transportation Liaison
U.S. Fish and Wildlife Service
Ohio Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230
office: 614.416.8993 ext. *129*

Please note I am currently on a full-time telework schedule due to the Covid-19 pandemic and am not checking my office voicemail daily. Therefore, please contact me via email to ensure your questions and/or concerns are brought to my immediate attention.

From: Chris.Staron@dot.ohio.gov <Chris.Staron@dot.ohio.gov>
Sent: Wednesday, October 6, 2021 1:17 PM
To: Kyla.Maunz@dnr.ohio.gov <Kyla.Maunz@dnr.ohio.gov>; Mike.Pettegrew@dnr.ohio.gov <Mike.Pettegrew@dnr.ohio.gov>; Hallberg, Karen I <Karen_Hallberg@fws.gov>; Korfel, Lindsey M <lindsey_korfel@fws.gov>
Cc: Greg.Manson@dot.ohio.gov <Greg.Manson@dot.ohio.gov>; Curt.Hatton@dot.ohio.gov <Curt.Hatton@dot.ohio.gov>; Matt.Raymond@dot.ohio.gov <Matt.Raymond@dot.ohio.gov>; Stephanie.Vonderwell@dot.ohio.gov <Stephanie.Vonderwell@dot.ohio.gov>
Subject: [EXTERNAL] LAW-7-2.17 (PID 75923) Group 1 and 2 Mussel Survey Report

Project CRS: LAW-7-2.17			**PID:** 75923			
Document Type(s): Group 1 and 2 Mussel Survey Reports						
Requested Timeframe for Review: 30 days						
Agency:	**Requested Review/Action:**					
☒ **ODNR:**	Project Comments ☐	Scenic Rivers Comments ☐	Tier V Scenic River Approval ☐	Coastal Consistency ☐	Species Specific Survey ☐	Other (list): Group 1 Salvage ☒
☒ **USFWS:**	Project Comments ☐	Informal Consultation ☐	Tier II OHPBO Concurrence ☐	Formal Consultation ☐	Species Specific Survey ☐	Other (list): ☒
☐ **USACE:**	JD Request ☐		Pre-application Comments ☐		Other (list): ☐	
☐ **OEPA:**	Resource Rating Verification ☐		Pre-application Comments ☐		Other (list): ☐	
☐ **NPS:**	Project Comments ☐		Preliminary Section 7(a) Determination ☐		Other (list): ☐	
☐ **US EPA:**	Project Comments ☐				Other (list): ☐	
☐ **Other** (List agency and requested review/action)**:**						

Additional Information:

The proposed project is on new alignment. It will cross Symmes Creek, a Group 2 stream, twice on new alignment and Indian Guyan Creek, a Group 1 stream, on new alignment once.

Live mussels were found in Symmes Creek. No mussels were found in Indian Guyan Creek.

Please review the report which can be found on the EnviroNet.

If you have any questions or comments, please contact me.

Your agency's concurrence and/or comments on this submission would be appreciated as soon as possible. If comments or notification of when comments will be furnished are not received within the requested timeframe, ODOT will continue to proceed with project development and preparation of the NEPA document. Should ODOT receive project specific comments prior to approval of the NEPA document, they will be addressed accordingly. Comments received following approval of the NEPA document will be addressed through other regulatory processes.

Christopher Staron
Environmental Specialist
Office on Environmental Services
1980 W. Broad Street, Columbus, Ohio 43223
(614) 466-5112
transportation.ohio.gov

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ODOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 11, 2015, and executed by FHWA and ODOT.

Preliminary - Not for Construction 07/29/2024

4d. Ohio State Historic Preservation Office and Tribal Coordination

OHIO DEPARTMENT OF TRANSPORTATION

INTER-OFFICE COMMUNICATION
Office of Environmental Services

To: District 9 Deputy Director
Attn: District Environmental Coordinator

Date: 7/2/2021

From: Administrator
Office of Environmental Services

Subject: History Architecture Evaluation

Project: LAW-7-2.17 Phase 2A (PID 75923)

Project Description:

The proposed SR 7 Relocation Project, LAW-SR 7 2.17 Phase 2A PID 75923, is located in Union and Rome Townships of Lawrence County, Ohio. The project proposes to construct new eastbound lanes on SR 7 from SR 527 approximately 5.2 miles on a new alignment to a new interchange at SR 775.

Literature Review:

The study area for the history architecture survey consists of a worst case outer boundary of the proposed right-of-way and construction limits for an ultimate four-lane build-out and interchange. The *Phase I History/Architecture Survey LAW-7-2.17; PID 75923 Union and Rome Townships, Lawrence County, Ohio, Submitted to ODOT-D09 June 2021 (ASC Group, Inc.)* includes the results of the Section 106 literature review (Project File>Cultural Resources>Reports). In summary, no history/architecture resources listed on or determined eligible for inclusion on the National Register of Historic Places (NRHP) were identified within or adjacent to the study area. The study area had been previously subject to Phase I history/architecture survey in 1994-1996 for a previous iteration of this project. The literature review identified 46 properties recorded in the Ohio Historic Inventory within or adjacent to the study area, twenty of which proved to be no longer extant.

Summary of Cultural Resource Investigations:

The 2021 Phase I history/architecture survey identified 71 resources 50 years of age or older within or adjacent to the study area, including resources previously recorded in the Ohio Historic Inventory. The resources were evaluated for their eligibility for listing in the NRHP. None of the 71 resources are recommended eligible for inclusion for listing on the NRHP. No potential historic districts were identified within or adjacent to the study area. No bridges or culverts listed on or eligible for listing on the NRHP were identified. No further history/architecture investigations are warranted.

Conclusion:

In accordance with 36 CFR Section 800.4 and the Section 106 Programmatic Agreement (*Agreement No. 19319*) executed November 8, 2017, and amended July 11, 2019, ODOT-OES has determined:

- No history/architecture resources listed on or eligible for listing on the National Register of Historic Places are located with the study area of the subject undertaking.
- The effect of the undertaking will be determined upon identification of the area of potential effects and the completion of the archaeological review.

Questions may be addressed to Susan Gasbarro, ODOT-OES, at susan.gasbarro@dot.ohio.gov.

Electronic Signatures:

OES Signature:	Signature Date:
Erica Schneider	7/2/2021

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ODOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 14, 2020, and executed by FHWA and ODOT.

Miami Tribe of Oklahoma
3410 P St. NW, Miami, OK 74354 ● P.O. Box 1326, Miami, OK 74355
Ph: (918) 541-1300 ● Fax: (918) 542-7260
www.miamination.com

Via email: jason.watkins@dot.ohio.gov

February 7, 2022

Jason Watkins
Staff Archaeologist & Tribal Liaison
ODOT Office of Environmental Services
1980 West Broad Street, Mail Stop 4170
Columbus, OH 43223

Re: PID 75923, LAW SR 7 2.17 Phase 2A, Lawrence County, Ohio – Comments of the Miami Tribe of Oklahoma

Dear Mr. Watkins,

Aya, kikwehsitoole – I show you respect. The Miami Tribe of Oklahoma, a federally recognized Indian tribe with a Constitution ratified in 1939 under the Oklahoma Indian Welfare Act of 1936, respectfully submits the following comments regarding PID 75923, LAW SR 7 2.17 Phase 2A in Lawrence County, Ohio.

The Miami Tribe offers no objection to the above-referenced project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However, given the Miami Tribe's deep and enduring relationship to its historic lands and cultural property within present-day Ohio, if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery. In such a case, please contact me at 918-541-8966 or by email at dhunter@miamination.com to initiate consultation.

The Miami Tribe accepts the invitation to serve as a consulting party to the proposed project. In my capacity as Tribal Historic Preservation Officer I am the point of contact for consultation.

Respectfully,

Diane Hunter

Diane Hunter
Tribal Historic Preservation Officer

From: Joe Stahlman
To: Watkins, Jason
Subject: RE: External: Ohio DOT Project Coordination: LAW-7-2.17 (PID 75923) & DEL-315-5.66 (PID 113662)
Date: Saturday, March 19, 2022 8:53:52 AM
Attachments: image001.png

Hi Jason,

How are you? I'm well. At this time, SNI THPO has determined a "No Adverse Effect" on the following project: LAW-7-2.17 – Chesapeake Bypass Phase 2 Construction (PID 75923). Please contact our office if this determination changes.

Thank you,

Joe

From: Jason.Watkins@dot.ohio.gov [mailto:Jason.Watkins@dot.ohio.gov]
Sent: Friday, February 11, 2022 10:54 AM
To: Joe Stahlman <Joe.Stahlman@sni.org>
Subject: External: Ohio DOT Project Coordination: LAW-7-2.17 (PID 75923) & DEL-315-5.66 (PID 113662)

Hello Joe.

Hope the longer days are bringing more sunshine than gray…but gray is needed too sometimes, I guess.

Attached are two projects we recently processed (a two-for-one deal this week).

A project synopsis of both is below – a little longer this time because of the nature of one of the projects.

If you have any questions, concerns or comments, just let me know.

Take care!

Jason

LAW-7-2.17 – Chesapeake Bypass Phase 2 Construction (PID 75923)

The LAW-7 Chesapeake Bypass project is a multiphase project that will construct a four-lane divided highway travelling north of the towns of Chesapeake and Proctorville in southcentral Ohio (located across the Ohio River from Huntington, West Virginia). Section 106 project coordination was completed in 2000 and the eastern half of the project has since been constructed (Phase 1). The Phase 2 portion of the project will construct only the two eastbound lanes, which will be used for both east and westbound traffic. The westbound lanes will be constructed when future increased traffic volumes justify the added capacity.

Field studies were completed for the entire Chesapeake Bypass corridor in the mid-1990s. Section 106 coordination for the project was completed in 2000. As a result of these previous investigations, Ohio DOT made the commitment to perform data recovery on four archaeological sites if impacted by the construction of the western segment of the bypass (the current Phase 2 portion of the project). The four sites are:

- 33LE404: A precontact American Indian site that has since been destroyed by modern commercial development over the past 20 years. Specifically, a funeral home and parking lot now occupy the former site location.

- 33LE405: A precontact American Indian site occurring at the juncture of the eastern and western segments. The site was partially mitigated in 2003 (data recovery performed on portions of the site that were affected by the construction of the now built eastern segment). The remainder of the site lies outside of the construction footprint for the western segment and will be avoided by the project.

- 33LE415: A mid to late-19th Century residential refuse scatter. This site lies outside of the construction footprint and will be avoided by the project.

- 33LE417: An early 20th Century rural non-farm residence that lies wholly within the construction footprint.

In January 2022, Ohio DOT archaeological staff along with staff from the Ohio State Historic Preservation Office conducted a field review to assess the current condition of site 33LE417 and re-evaluate the need for further archaeological investigations. The three successive archaeological investigation efforts at the site produced redundant data that the site was exclusively an early 20th Century refuse scatter and residential foundation remnant. Further testing would not provide any new and useful or important information.

Local informants indicated that there was a partially destroyed precontact American Indian mound along the ridge, excavated with heavy machinery approximately 30 years ago. The three previous archaeological surveys found no evidence of a mound or any precontact activity on the ridge and no

evidence of the mound was observed during the January 2022 field review. A mound is depicted north of this area on Mills' (1914) *Archaeological Atlas of Ohio* in the next section to the north (see attached). Therefore, all evidence suggests the informants' reports were mistaken and there is no mound in the project area.

Based on this information, no Phase III data recovery is recommended at site 33LE417. Since the other three sites are either avoided or have been destroyed, no further archaeological investigations are recommended. Attached is a copy of the Section 106 determination and the archaeological field review summary including locational maps, schematic plans and photos.

DEL-315-5.66 (PID 113662)

This is an intersection safety improvement project that will construct a single-lane roundabout to replace the conventional intersection at State Route 315 and Hyatts Road. The project is located in Delaware County, central Ohio (approximately 5 miles south of the city of Delaware). Review of the Ohio SHPO's database indicated that no known archaeological sites are located within or adjacent to the proposed project area, although several surveys for housing developments were performed just southeast of the project area. These investigations resulted in a number of archaeological sites, but all are east of the Olentangy River and well beyond the project limits. The project setting is generally residential with one commercial property in the northwest quadrant. Modern residential development and landscaping have altered much of the study area and roadway development has disturbed other portions of the work area. Prior to the 1950s, State Route 315 was an offset intersection with the north leg of the intersection closer to the river and the southern leg approximately 500 feet further west. In the 1950s, State Route 315 was realigned to create the current cross intersection (see aerial photos and topo maps in attached field review summary). During this earlier realignment project, associated grading and cut-and-fill activities altered the area and was demonstrated by disturbed soil profiles in soil cores taken during the field review. Based on this information, no significant archaeological sites will be affected by the proposed intersection improvement project and no further archaeological investigations are recommended. Ohio DOT made a "no historic properties affected" Section 106 determination for the project. Attached is a copy of the determination as well as the archaeological field review summary, which includes locational maps, preliminary plans and photos.

Jason Watkins
Staff Archaeologist & Tribal Liaison
ODOT Office of Environmental Services
1980 West Broad Street, Mail Stop 4170
Columbus, OH 43223
(614) 466-5105
Transportation.ohio.gov

Preliminary - Not for Construction 07/29/2024

OHIO DEPARTMENT OF TRANSPORTATION
Mike DeWine, *Governor*
Jack Marchbanks, Ph.D., *Director*

1980 W. Broad Street, Columbus, OH 43223
614-466-7170
transportation.ohio.gov

February 01, 2022

Resource Protection and Review

Ohio Historic Preservation Office

Ohio History Connection

800 East 17th Avenue

Columbus, Ohio 43211

Attn: ODOT Review Manager(s)

Re: LAW-7-2.17 Phase 2A(PID 75923)

Effect Determination Re-evaluation

Dear Department Head:

Project Description:

The current project is the Phase 2 construction stage for the western half of the SR 7 Chesapeake bypass originally coordinated under PID 12069 with the State Historic Preservation Office in 2000. The 6.11 mile long new highway falls within the previously coordinated project corridor, between the existing SR 7/SR 527 interchange and the SR 7/SR 607 & 775 interchange. The roadway will be prepared for a four lane divided highway with only the two east bound lanes constructed at this time. West bound lanes will be constructed as future increased traffic volume justifies the added capacity.

The original Section 106 finding of adverse effects was partially mitigated by the data recovery of several pre-contact American Indian sites in the eastern half of the the bypass. Four additional archaeological sites, two pre-contact American Indian sites (33LE0404 and 0405) and two historic period (33LE0415 and 0417) archaeological sites occurred in the broad project corridor and would need to be addressed if impacted by the design and/or construction of the western half of the bypass. Both 33LE0404 and 0405 occurred where the two road segments over lap at the SR 7/SR 607 & 775 interchange. 33LE0404 lied outside of the designed interchange and private development over the past 20 years destroyed the site. 33LE0405 occurred within the interchange design and was mitigated in 2003. 33LE0415 lies outside of the construction footprint for the western segment. Only 33LE0417, a rural non-farm residence, lies within the construction footprint. For the original Section 106 coordination, one National Register eligible history/architecture property (LAW0003114) was identified within the western half of the project corridor.

Literature Review:

The literature review tabulated the 45 previously identified historical/architectural properties within and immediately adjacent to the construction footprint, twenty of which were removed in the past 20 years (see Phase I history/architecture report for details). LAW0003114 lies well south of the construction footprint and is in no way impacted.

The literature review reexamined the results of the archaeological investigations at 33LE0417 during 1997, 1998 and 2000. The previous work lead to the conclusion that the site represented a rare site type, specifically a rural cabin periodically occupied over a long period during the early part of the 20th century and could provide new and useful information on the range of living conditions and subsistence strategies practiced in southern Ohio. The fieldwork of continual increasingly intensive archaeological fieldwork was intended to identify subsurface features associated with stone foundation that would reflect the structure and organization of the site. However, the intensive testing resulted in no additional features and the redundant sampling of domestic debris scattered in the open area (yard) north of the foundation with architectural debris indicative of a frame structure clustered around and within the stone foundation. The limited features and the redundant artifact assemblage and its distribution pattern suggests the information potential of the site is exhausted. As such the previous finding for data recovery if the site is impacted seems no longer valid (see the archaeology field summary report for more details).

Summary of Cultural Resource Investigations:

The historical/architectural field review reexamined the 25 previously inventoried properties and identified 46 structures which became 50+ years old since the earlier surveys between 1994 and 1998. All 71 properties were evaluated as not eligible for listing in the National Register of Historic Places. No potential historic district nor National Register bridge or culvert were present. The lack of National Register historical/architectural resources in the construction footprint was coordinated with SHPO on July 02, 2021 and accepted without comment (see Phase I history/architecture survey report for details and transmittal 1 for coordination).

The archaeology field review noted additional push piles, presumably from mechanical maintenance of the dirt road, extending over the southern half of the area containing the stone foundation. Although no stone occurred on the surface, the area of the foundation was evident by a rectangular area devoid of saplings and heavily overgrown with dense grasses. Except for the new push piles and a deep cut in the curve of the road, the site appears little changed north and west of foundation from when it was intensively tested. A small area roughly less than 0.5 acre at the western tip of the ridge spur is the only portion of the site not previously tested. Coupled with the reassessment of the previous archaeological testing, little area remains to be examined with no to minimal expectation of encountering any new and useful information on site organization and function.

Conclusion:

Based upon the literature and field reviews the original finding of an adverse effect to 33LE0417, if impacted by the final design of the western segment of the SR 7 Chesapeake bypass is no longer valid. The importance of the site is not in question, only it's integrity. The reexamination of the previous archaeological testing indicates the site retains no potential for additional information pertinent to the stated research objectives and thus is no longer a significant archaeological resource. Data recovery of the remaining portion of the site is not necessary. The updated historical/architectural review identified no new significant historical/architectural property amongst the 46 properties which reached 50+ years in the past 20 years.

The Section 106 re-evaluation for the construction phase of the western half of the SR 7 Chesapeake bypass finds no impact to any known National Register eligible property within the construction footprint. The original finding of 'an adverse effect' remains valid. However the commitments to avoid or implement data recovery for sites 33LE0404. 0405 and 0417 are no longer valid as their potentials to provide additional important information are gone. 33LE0415 lies well outside of the construction footprint and is still avoided.

This completes the Section 106 reevaluation and no further cultural resource investigation is required pending completion of a 30 day review and comment period at the State Historic Preservation Office. No further cultural resource investigation is required, unless the project scope changes. Any questions concerning the reevaluation can be addressed to Dr. Bruce W. Aument, staff archaeologist at Bruce.Aument@dot.oh.gov .

Electronic Signatures:

OES Signature:	Signature Date:
Erica Schneider	2/1/2022

OSHPO Concurrence:	Concurrence Date:
Diana Welling	2/14/2022

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ODOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 14, 2020, and executed by FHWA and ODOT.

4e. Ohio Environmental Protection Agency Coordination

From:	Beck, Brandon
To:	Staron, Christopher
Cc:	Raymond, Matthew; Earley, Adrienne; Peter Clingan - USACE Transportation (Peter.M.Clingan@usace.army.mil)
Subject:	RE: ENVIRONET System Alert - ESR Status Change Notification
Date:	Tuesday, January 25, 2022 8:57:39 AM

Chris,

Thanks for the opportunity to review the ESR. This one will require an Individual 401. I will wait until after the site visit to provide resource assessment verification.

Brandon Beck
Ohio EPA – Division of Surface Water
401/Isolated Wetland Permitting Section
614-644-2259

From: EnviroNet-DoNotReply@dot.ohio.gov <EnviroNet-DoNotReply@dot.ohio.gov>
Sent: Friday, December 17, 2021 2:17 PM
To: Beck, Brandon <Brandon.Beck@epa.ohio.gov>
Subject: ENVIRONET System Alert - ESR Status Change Notification

This is an auto generated email notification. The ESR status of the following project has changed:

PROJECT NAME: LAW SR 7 2.17 Phase 2A
PID(S): 75923

ESR NAME: Ecological Survey LAW-SR 7-2.17 - Phase 2A
RESPONSIBLE PARTY: Primary Agency Reviewer(s)
ACTION REQUIRED: Ohio EPA's pre-application comments and a verification of the assessments completed on waters of the State would be appreciated as soon as possible. If comments or notification of when comments will be furnished are not received within 30 days, ODOT will continue to proceed with project development and preparation of the NEPA document. Should ODOT receive project specific comments prior to approval of the NEPA document, the comments will be addressed accordingly. Comments received following approval of the NEPA document will be addressed through other regulatory processes and included in the project file.

PREVIOUS STATUS: Submitted for Coordination
NEW STATUS: Submitted for Coordination
DATE OF CHANGE: 12/17/2021

STATUS CHANGE MADE BY: Christopher Staron

RECIPIENT(S):

Brandon Beck brandon.beck@epa.ohio.gov

Link to the ENVIRONET system: https://environet.dot.state.oh.us
This is a system generated message. Please do not reply to this message. If you require EnviroNet assistance, please email DOT-Environet@dot.ohio.gov describing your issue.

From:	Beck, Brandon
To:	Staron, Christopher; Dunlap, Kathleen
Cc:	Peter Clingan - USACE Transportation (Peter.M.Clingan@usace.army.mil); Raymond, Matthew; Earley, Adrienne
Subject:	LAW-7-2.17 Phase 2A PID 75923 Wetland N
Date:	Thursday, May 19, 2022 4:09:45 PM
Attachments:	Wetland N ORAM.pdf

Chris and Katie,

Thank you for scheduling the additional field visit to assess the ORAM score for Wetland N. The wetland ended up scoring a 63, which puts it in the Category 2-3 gray zone. Wetlands that score within the Category 2-3 gray zone are regulated as Category 3 wetlands. ODOT has the right to perform a Level 3 assessment, such as a VIBI, to determine the Category.

Impacts to Category 3 wetlands require Category 3 compensatory mitigation. This area also contains a stream that was relocated and functions as mitigation for a previous project. It's my understanding that an easement was not placed on this stream. It sounds like this mitigation stream will not be impacted by the project. If that changes, we will need to discuss the replacement of the mitigation services that the stream is providing.

Brandon Beck
Ohio EPA – Division of Surface Water
401/Isolated Wetland Permitting Section
614-644-2259

From:	Raymond, Matthew
To:	Kamnyev, Anna; Boyles, Jeffrey
Cc:	Peter Clingan - USACE Transportation (Peter.M.Clingan@usace.army.mil); Earley, Adrienne; Staron, Christopher; Dunlap, Kathleen; Beck, Brandon
Subject:	LAW-7-2.17 Phase 2A (PID 75923) VIBI Assessment of Wetland N
Date:	Thursday, August 11, 2022 5:05:00 PM
Attachments:	image001.png LAW-7-2.17 Phase 2A PID 75923 Wetland N.msg RE ENVIRONET System Alert - ESR Status Change Notification.msg Summary Report for Wetland N VIBI Reduced.pdf LAW-7 Wetland N VIBI .xlsm

See Summary Report and Calculation Spreadsheet in ODOT EnviroNet Project File

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Hello Anna and Jeff.
As I believe you are aware, we had coordinated the LAW-7-2.17 Phase 2A project with Brandon Beck as pre-application coordination on 12/17/21. Brandon provided comments on the Ecological Survey Report (ESR) noting that it would require an Individual 401 on 1/25/22 (attached), attended the JD field review with the USACE on 3/8/22, and revisited Wetland N on the project to complete a follow up ORAM re-assessment on 05/12/22 (attached).

At question was the category of Wetland N. The 2021 (ESR) assessment of Wetland N determined it to be a Category 2 Wetland using the ORAM, with a score of 59. The subsequent field review by Brandon determined that the ORAM score was slightly miscalculated. The ORAM assessment completed by Brandon on 5/12/22 determined the wetland to have a score of 63, placing it in the Category 2-3 gray zone.

As Wetland N scored in the gray zone, and as assigning the wetland to be Category 3 based on the gray zone ORAM score would have substantial implications for the waterway permitting process and associated wetland compensatory mitigation required for the project, ODOT decided to assess the quality of the wetland using the VIBI, a nonrapid method.

The attached pdf summarizes the results of the VIBI assessment of Wetland N, which determined the wetland to be Category 2 in the "best" area of the wetland. I have also attached the VIBI calculation spreadsheet. Based on the results of the VIBI, ODOT intends to proceed through the Individual 401 process with the understanding that Wetland N is a Category 2 wetland. Please review the attached summary report and provide comments, questions, or concurrence on this assessment.

Thank you and have a good evening.

Respectfully,

Matt Raymond
Ecological Program Manager
ODOT Office of Environmental Services
1980 West Broad Street, Mail Stop 4170
Columbus, Ohio 43223
(614) 466-5129
transportation.ohio.gov

5.1 Project Purpose and Description

The Ohio Department of Transportation (ODOT) is proposing to construct Phase 2 of the Chesapeake Bypass (LAW-7-2.17 PID 75923/113211) located in Lawrence County, Ohio. The entirety of the Chesapeake Bypass (all phases) relocates approximately 9 miles of State Route (SR) 7 that currently traverses through the villages of Chesapeake and Proctorville, and Rome Township, Ohio. The relocated section of SR 7 would ultimately be constructed as a four-lane, limited access rural freeway. Due to limited available funding, construction of the Chesapeake Bypass is being completed in phases. Phase 1 was completed in 2006 and included 4.7 miles of 2-lane limited access freeway on new alignment, from SR 775 in the village of Proctorville to existing SR 7 in Rome Township.

Phase 2 (the proposed Project) would construct 6.1 miles of the two eastbound lanes of the proposed freeway, from the existing SR 527 interchange in the village of Chesapeake through a proposed interchange at SR 775 in the village of Proctorville. Called a "Super 2 freeway", the Project would provide one lane of travel in each direction on a limited access roadway while acquiring sufficient right-of-way to eventually construct the additional lanes when the 4-lane freeway capacity is needed. The Project also includes the following improvements:

- Complete the partial grade-separated interchange at SR 527 from STA 114+00 to STA 150+50.
- Construct a full interchange at SR 607/ SR 775 from STA 370+00 to STA 400+00.
- Construct the full 4-lane divided highway from STA 315+00 – STA 405+00 to accommodate the SR 607/SR 775 interchange and the need for climbing lanes.
- Construct a roundabout at the intersection of SR 7 and SR 243 from STA 245+50 to STA 255+50.

The Project would relocate 1.91 miles of state, county, and township roads, construct 1.25 miles of access ramps and 12 cul-de-sacs, and install drives, roadway drainage, and traffic control. A total of ten (10) bridge structures would be developed.

Phase 2 is scheduled to be constructed in two subphases:

- Phase 2A: This phase includes tree clearing, earthwork, and installation of drainage to establish the roadway grade. To accomplish these actions, the contractor is expected to construct a temporary haul road through the project area. It is scheduled to begin in early 2025 and be completed in 2026.
- Phase 2B: This phase would complete the Project by constructing the roadway pavement and bridges.

The Project includes the purchase of right-of-way that would be needed to build the planned 4-lane roadway.

The Project is located approximately 110 miles southeast of Columbus, Ohio and 1 mile north of Huntington, West Virginia. Existing transportation facilities in the region include SR 7, United States Route (US) 52, Interstate (I) 64, CSX Railway, Amtrak service, Huntington Tri-State Airport, and Ohio River barge shipping.

5.1.1 Project Background

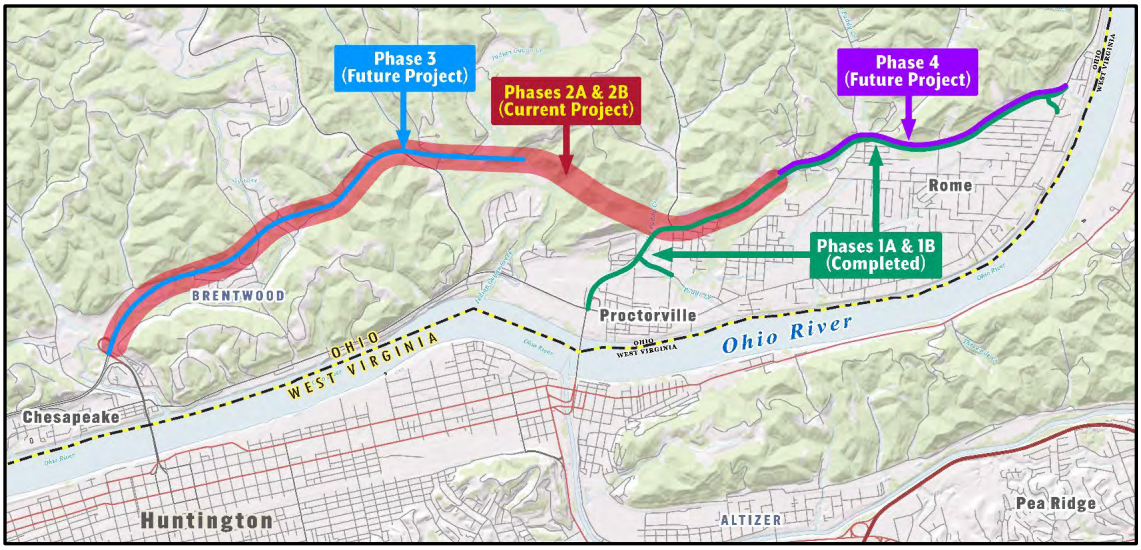
The Chesapeake Bypass project (LAW-7-3.669) has been planned since the 1960s, when it was conceived to address traffic congestion along the SR 7 corridor between the village of Chesapeake and Rome Township in Lawrence County. An Environmental Impact Statement (EIS) was prepared and finalized in February of 1974. The approved preferred alternative presented in the EIS was the basis for a journalized alignment which is still under consideration today. This journalized alignment was then reevaluated as a part of the 2001 EIS.

The EIS was approved by the Federal Highway Administration (FHWA) on April 16, 2001, and a Record of Decision (ROD) was issued on June 15, 2001.

The purpose and need for the project, as documented in the 2001 EIS/ROD, is to improve system linkage, improve access, and improve traffic movement through the Villages of Chesapeake and Proctorville and Rome Township areas. The project will also benefit these communities by providing a highway that will support future commercial, industrial, and residential growth in the area.

The Chesapeake Bypass project proposed to construct a four-lane, limited access, divided freeway on a new alignment from the SR 527 interchange (western terminus) to existing SR 7 near Fairland East Elementary School in Rome Township (eastern terminus), a total distance of approximately 9 miles.

Figure 1: Chesapeake Bypass Project Phasing Map



The Chesapeake Bypass project construction phasing strategy was developed to address critical transportation needs in the eastern half of the study area. The proposed construction phasing is shown in the Chesapeake Bypass Project Phasing Map (**Figure 1** and under **Item 6**).

Phase 1: Phase 1 of the Chesapeake Bypass project constructed a new 4.7 miles, 2-lane limited access freeway from SR 775 in the village of Proctorville to existing SR 7 in Rome Township, as well as a connection between the 31st Street Bridge (East Huntington Bridge) and existing SR 775 in the village of Proctorville. It was divided into the following two sub-phases: Phases 1A and 1B.

- Phase 1A connected East Huntington Bridge and SR 775 in the village of Proctorville. Completed in 2002, it was constructed first to address traffic congestion through the village of Proctorville.
- Phase 1B was then constructed from SR 775 in the village of Proctorville east to existing SR 7 in Rome Township and completed in 2006.

Landslides occurred during Phase 1B construction because the designed slopes were too steep for soil types within the area. Costly corrections were required to stabilize slopes along the roadway. Due to costs associated with the landslide repairs and design modifications, the design of Phase 2 was suspended in 2004.

Phase 2 (the Proposed Project): The challenges encountered during the construction of Phase 1B influenced design modifications for the Project, prompting a re-evaluation of the 2001 EIS, initiated in 2011 and currently

in progress. An updated Noise Analysis and Level 2 Ecological Survey Report (ESR) were developed.

A right-of-way plan was approved for the planned four-lane facility in 2015, and acquisition is ongoing.

Phases 3 and 4: Two future phases (Phases 3 and 4) are not funded and are not under design. These phases would construct the additional two lanes of SR 7 to complete the ultimate buildout of the four-lane freeway.

- Phase 3 would construct the remaining westbound lanes to complete the four-lane freeway between the SR 527/SR 7 interchange in the village of Chesapeake east to SR 775 in the village of Proctorville.
- Phase 4 includes construction of two westbound lanes between SR 775 in the village of Proctorville east to exiting SR 7 in Rome Township.

5.2 Analysis of Practicable Alternatives and Demonstration of Avoidance, Minimization, and Mitigation

Throughout the project's long history, multiple iterations of alternatives analyses have occurred, including evaluation of on-site and off-site alignments. Over twenty years have elapsed since the development of alternatives for the 2001 EIS/ROD. Naturally, many changes occurred within the Project area during this time, including the development and/or expansion of streams and wetlands. Changes in regulatory definitions for jurisdictional waterways make the difference between present surface water impacts and past calculations even more stark. Additionally, project phasing, ongoing right-of-way acquisition, and design changes make it impossible to compare the alternatives from 2001 to a present-day alternative.

The alternatives analysis discussion below will explain alternative development over the many iterations of the project. Comparisons are separated by geographical area and time period. Initial studies and alternatives development and analysis were performed for the entire Chesapeake Bypass project Corridor, including Phases 1 through 4 as shown on **Figure 1** (Chesapeake Bypass Project Phasing Map) and described in Section 5.1. Alternatives specific to Phase 2 were developed later using a combination of up-to-date studies and data from the original 2001 EIS/ROD. Finally, a Least Environmentally Damaging Practicable Alternative (LEDPA) analysis was completed using up-to-date calculations based on the Level 2 Ecological Survey Report completed in March of 2023 and data from the Final Environmental Impact Statement (FEIS) Re-Evaluation initiated in 2021 (in progress). This analysis is presented in Section 5.2.5. Figures which illustrate the streams, wetlands, suitable wooded habitat, and floodplains for each of the two updated alternatives are included in **Item 6**.

A combination of steep terrain, soils prone to slippage, and regional rainfall make construction in this area particularly challenging. As described in the 2001 EIS/ROD, the red shales and claystones which are common in the area are highly susceptible to slope movement and failure. Throughout this process, and particularly for Phase 2, it was essential to prioritize geotechnical stability. The need for 3:1 or 4:1 slopes created a large footprint and significant earthwork requirements, making relocations, right-of-way acquisition, and construction costs important factors in decision making. The project corridor also includes close to 40 streams, over 20 wetlands, and 3 ponds. Greater than 50% of the corridor is forested. Throughout alternative development and design, every effort was made to balance impacts to water resources and the natural environment, the human environment, and still address public need.

Water Dependency

This proposed roadway construction project is not specifically dependent on a water crossing and therefore does not require access to a special aquatic site to fulfill its primary purpose. However, the project cannot be constructed without surface water impacts. Avoidance of all water resources would not be feasible for a new roadway alignment, regardless of location, through this region.

5.2.1 No-Build Alternative

The No-Build Alternative would continue to use the existing alignment and roadway network to meet the traffic needs of the project area. No improvements are proposed except for routine maintenance and selected upgrading of the existing roadway and intersections. The No-Build Alternative was considered in the preliminary traffic studies. This alternative was dismissed because it does not meet the project's purpose and need.

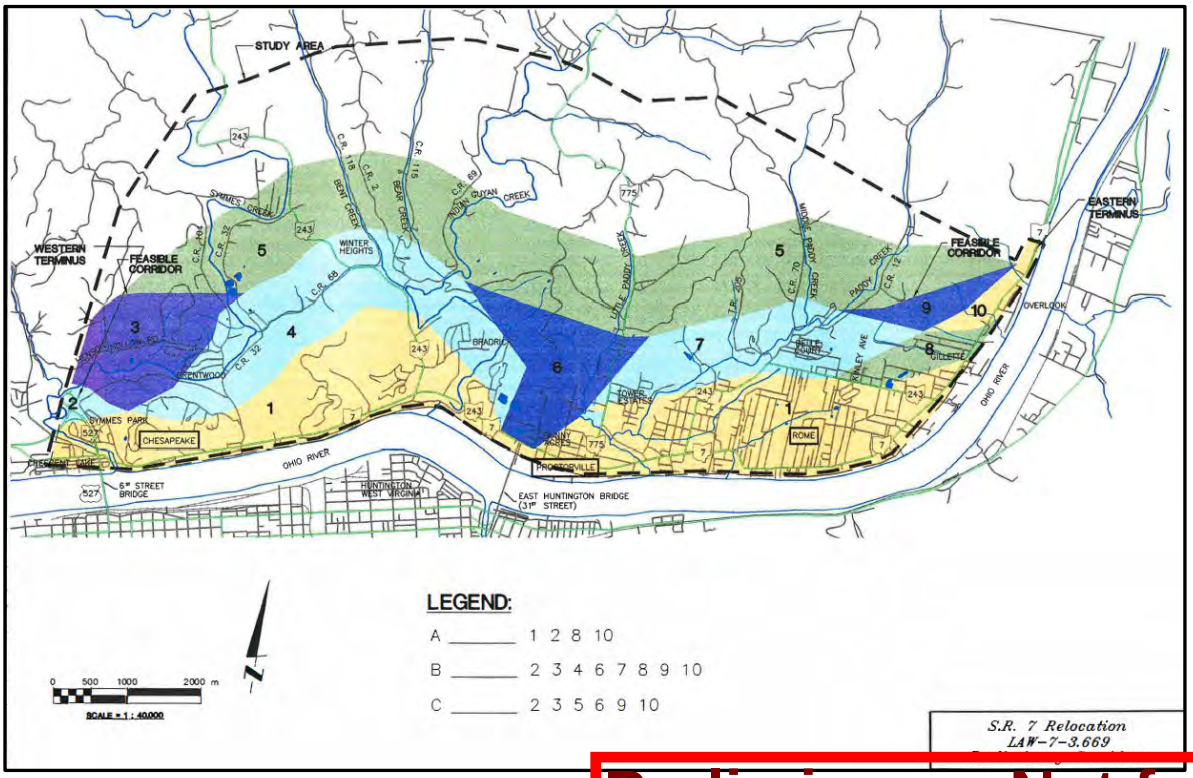
5.2.2 Preliminary Corridor Alternatives

Alternatives that could potentially meet the transportation needs of the proposed project were considered and evaluated through investigations conducted for the 2000 Draft Environmental Impact Statement (DEIS) completed for this project (LAW-7-3. 669, SR 7 Relocation Draft Environmental Impact Statement, November 2000).

First, a project Study Area was defined, and preliminary information from the Study Area was used to develop three Preliminary Corridors (A, B, and C). See **Figure 2**.

- Preliminary Corridor A was located within the southern portion of the Study Area and included existing SR 7. Within Preliminary Corridor A, Transportation Demand Management (TDM) alternatives from a Major Investment Study and upgrading existing SR 7 were considered.
- Preliminary Corridor B traverses the central portion of the Study Area and includes the alignment journalized based on the FEIS completed in 1974.
- Preliminary Corridor C was located within the northern portion of the study area. This corridor was the farthest from existing SR 7.

Figure 2: Preliminary Corridors (A, B, and C) Map



EIS Corridor A: Transportation Demand Modeling (TDM) Strategies on the Existing Alignment

In 1998, a Major Investment Study (MIS) was developed by ODOT, which identified a wide range of strategies to address congestion on the existing SR 7. These strategies, which are briefly summarized below, were considered by representatives from KYOVA Interstate Planning Commission, the Tri-State Transit Authority, FHWA, and R. D. Zande and Associates, Inc., as well as ODOT District and Central Office staff.

- Carpooling/Vanpooling and High Occupancy Vehicle (HOV) Lanes - The existing facility is two lanes and does not have bus service or adequate carpooling opportunities, therefore this alternative was determined not feasible.
- Alternative Work Hours/Telecommuting - As an employer sponsored strategy, this was determined to be beyond the scope of ODOT alternatives.
- Non-Traditional Transportation Modes (bicycle/pedestrian facilities) - Trips within this corridor are often more than ten miles and sidewalks are limited, therefore bicycle and pedestrian travel were determined not to be feasible alternatives.
- Access Management - The existing facility has frequent driveways, intersecting streets, and traffic signals, and serves local, as well as commuter, needs. For this project access management would best be achieved by constructing a four-lane, divided, limited access facility.
- Congestion Pricing - Fees are targeted at vehicles causing congestion to encourage drivers to travel outside peak periods, use alternative routes or modes of transportation, or to consolidate some trips. Past attempts at implementing this strategy in Ohio have met strong public opposition. Therefore, congestion pricing was determined not to be feasible.
- Public transportation - This strategy would not relieve congestion and was determined as not cost effective for this part of Lawrence County.

Based on the review of the transportation needs of the region, and a review of the strategies listed above, it was determined that TDM efforts would not meet the project's purpose and need. Therefore, **TDM was dismissed from further consideration.**

EIS Corridor A: Upgrade State Route 7 on the Existing Alignment

To increase the capacity of existing SR 7, two additional lanes would need to be added and the roadway would have to be raised above the 100-year flood of the Ohio River. As part of the National Highway System, SR 7 is classified as a major thoroughfare requiring full limited access. In order to meet that requirement, roads that terminate at existing SR 7 would need interchanges or frontage roads to maintain access. The numerous frontage roads and interchanges, in addition to the width of right-of-way required to raise the roadway that could result in up to 534 relocations, would have a devastating effect on the local community.

In summary, upgrading existing SR 7 to meet the project's purpose and need would eliminate most of the community it would be intended to serve. **Therefore, it was eliminated from further consideration.**

EIS Corridor B: Feasible Alternative A

Preliminary Corridor B traverses the central portion of the Study Area and incorporates business and residential areas and some hills, mostly the foothills rather than the ridge tops. It includes the general

alignment journalized based on the FEIS approved on February 21, 1974.

Based on the journalized alignment, it was determined that other alignments in Corridor B would be able to meet the project's purpose and need, including regional and state transportation goals, while minimizing encroachments in the design year floodplain. Impacts to residential and business areas, although inevitable, could be minimized, as could impacts to the environment and cultural resources.

EIS Feasible Alternative A is a modified version of the alignment journalized based on the 1974 FEIS.

EIS Corridor B: Feasible Alternative B

EIS Feasible Alternative B was introduced in the Environmental Assessment of Feasible Alternatives (EAFA) and was designed to reduce the environmental and residential impacts, and better meet current design criteria and standards. Since the time the EAFA was submitted, additional environmental studies have been performed, and this alignment was modified to avoid additional potential and actual environmental impacts.

EIS Corridor C: Hilltop Alternative

This alternative, also referred to as Alternative Corridor C in the 2001 EIS completed for this project, developed a corridor that followed the ridgelines, or hilltops, of the area. An initial assessment determined that the project's purpose and need would not be met because alignments in the corridor would be removed from the population the project is intended to serve. Additionally, hilltop construction would result in a large footprint, based on maximum allowable vertical grades and side slope construction. This would require large volumes of excavation, increasing construction costs and ecological impacts. **Therefore, this alternative was dismissed from further study.**

Table 1 provides a summary of the five alternatives considered and evaluated through investigations conducted for the 2001 EIS. **Information in the evaluation matrix below includes the entire Chesapeake Bypass Project Corridor (Phases 1 through 4).** Three of the five alternatives were immediately recognized as not practicable and were dismissed from further study. Detailed information on logistics, cost, and environmental impacts was not developed for these alternatives. Two alternatives within EIS Corridor B (EIS Alternative A and EIS Alternative B) were studied further and were both determined to be practicable alternatives. These alternatives are described in further detail in Section 5.2.3. **EIS Alternative B was selected as the preferred alternative.**

Table 1. EIS Alternatives Practicability Matrix for Phases 1 through 4

Category/Factor		Corridor A		Corridor B		Corridor C
		EIS TDM	EIS Upgrade Ex SR 7	EIS Alt A	EIS Alt B	EIS Hilltop
Location	On-Site/Off-Site	On	On	Off	Off	Off
Logistics/Cost	Earthwork	Based on the review of the transportation needs of the region, and a review of the proposed strategies, it was determined that TDM efforts would not meet the project's purpose and need. Therefore, this alternative was dismissed.	Upgrading existing SR 7 to meet the project's purpose and need would eliminate most of the community it would be intended to serve. Therefore, this alternative was dismissed.	7.1 mil CY cut 3.8 mil CY fill	7.6 mil CY cut 7.7 mil CY fill	The alignments in the corridor would be removed from the population the project is intended to serve. Construction would also result in a large footprint. Therefore, this alternative was dismissed.
Logistics/Cost	Utilities			6267 LF (power) 1214 LF (water)	1760 LF (power) 942 LF (water)	
Acreage	Right-of-Way			435 AC	430 AC	
Cost	Construction			$145,454,600	$155,148,900 *	
Social/ Environmental	Relocations			282 High	109 Med	
	Streams			13 streams	19 streams	
	Wetlands			10.11 AC	0.2 AC	
	Forest			171 AC	190 AC	
	Longitudinal Floodplain Encroachment			17,651 LF	4,160 LF	
	Cultural Resources			6 archaeological sites	5 archaeological sites	
Meets Purpose & Need?		**No**	**No**	**Yes**	**Yes**	**No**
Practicable Alternative?		**No**	**No**	**Yes**	**Yes**	**No**

*Cost of preferred alternative at the public hearing.
CY = cubic yard; AC = acre(s); LF = linear feet

5.2.3 EIS Corridor B Feasible Alternatives

Corridor B had two initial alignments (Alternatives A and B, listed on **Table 1**) that were developed to meet the project's purpose and need while minimizing effects on the environment and communities. These alternatives were studied and described in the 2001 EIS. The feasible alternatives were designed using preliminary alignments, profiles, and typical sections with 2:1 backslopes. As preliminary studies went forward, EIS Feasible Alternative B was refined to further reduce impacts and the proposed backslopes were revised from 2:1 to 3:1. Those revisions are presented below as EIS Feasible Alternative B (3:1).

EIS Feasible Alternative A

EIS Feasible Alternative A would begin at the existing SR 7/SR 527 Interchange and proceed in an easterly direction, crossing Symmes Creek (**Figure 3**) twice. Between stream crossings, it would pass directly through the Brentwood subdivision. After the second crossing of Symmes Creek, it generally follows a valley moving from the Symmes Creek watershed to the Indian Guyan watershed.

Continuing east, a diamond interchange would be proposed at SR 243. This would necessitate relocation of existing SR 243 and part of Shafertown Road. Access to Bent Creek Road and CR 2 would be maintained via

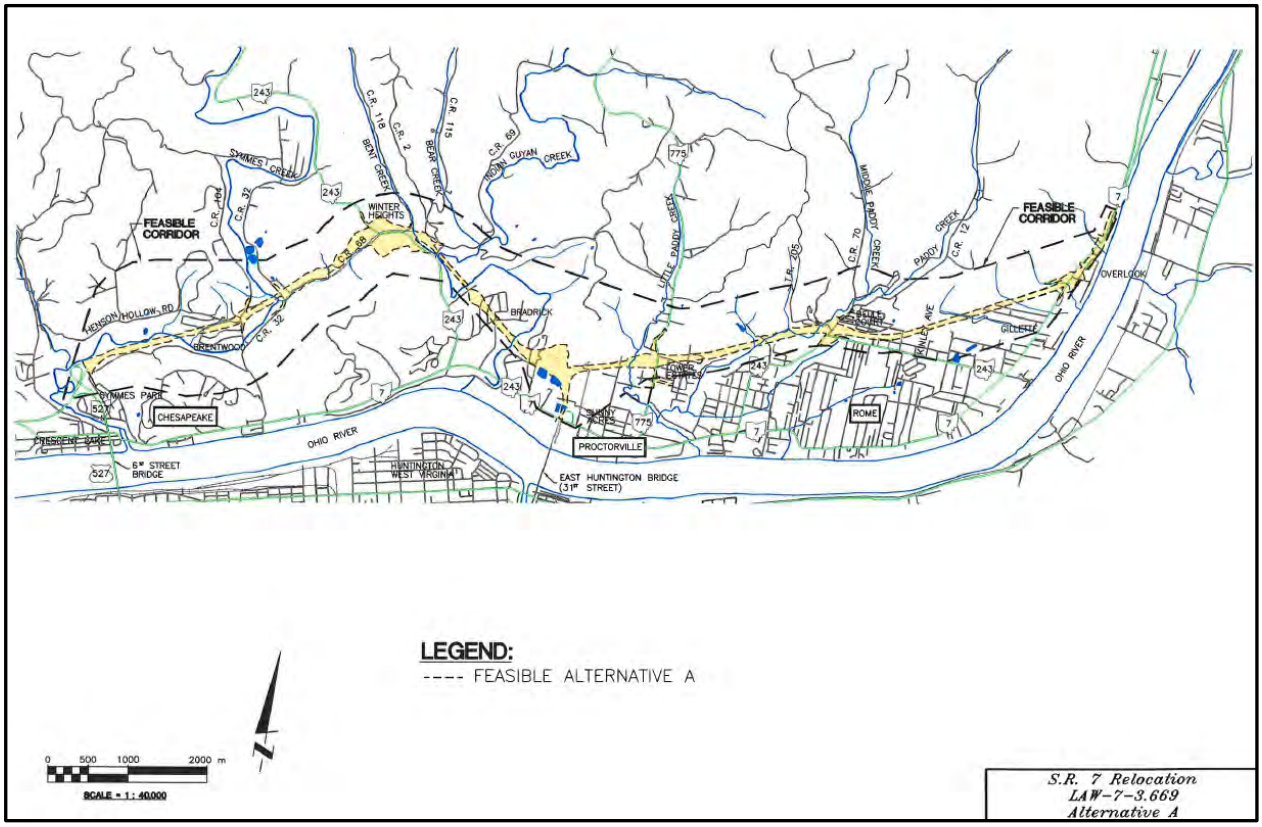
an access road. EIS Feasible Alternative A would bridge Indian Guyan Creek in two places directly east of the SR 243 interchange.

EIS Feasible Alternative A would pass through a medium to low density residential area in Bradrick, then cross Indian Guyan Creek a third time. A trumpet interchange with SR 775 would lead to the East Huntington Bridge and include loops serving eastbound-southbound and westbound-southbound movements. Direct ramps would serve the other movements. The temporary loop ramp at the north end of the bridge would be removed. The existing ramp consists of one lane in each direction, which follows a 180° turn to meet existing SR 7 at a signalized intersection.

Approximately 0.71 mile from the SR 607 interchange, a diamond interchange would be located at SR 775. Due to the proximity of a large hill that would restrict ramp geometry, relocation of SR 775 would be necessary. EIS Feasible Alternative A would then follow the hills at the edge of the Ohio River floodplain. It would form another diamond interchange at the intersection of SR 243 and CR 12 in Rome Township. This interchange would intersect Paddy Creek three times and would require 3,000 feet of channel relocation.

Finally, it would meet with existing SR 7 at a partial interchange located north of Riverside Terrace and Fairland Elementary School. Northbound entrance-ramps and southbound exit-ramps would intersect with the existing road at right angles. Jewell Road would be relocated to intersect with existing SR 7, 300 feet south of the northbound entrance-ramp. Just beyond this partial interchange, the project merges into the existing two-lane roadway.

Figure 3: EIS Feasible Alternative A Map



EIS Feasible Alternative B (2:1 Slopes)

EIS Feasible Alternative B would begin at the existing SR 7/SR 527 Interchange and proceed in an easterly direction, running parallel to Symmes Creek for approximately 2,800 feet, as shown in **Figure 4**. It would then cross Symmes Creek at the west end of Forest Hills Golf Course. The alternative would follow the base of the hillsides, before crossing Symmes Creek again, where the creek runs between CR 104 and CR 32. The proposed bridge would span both county roads in addition to the creek.

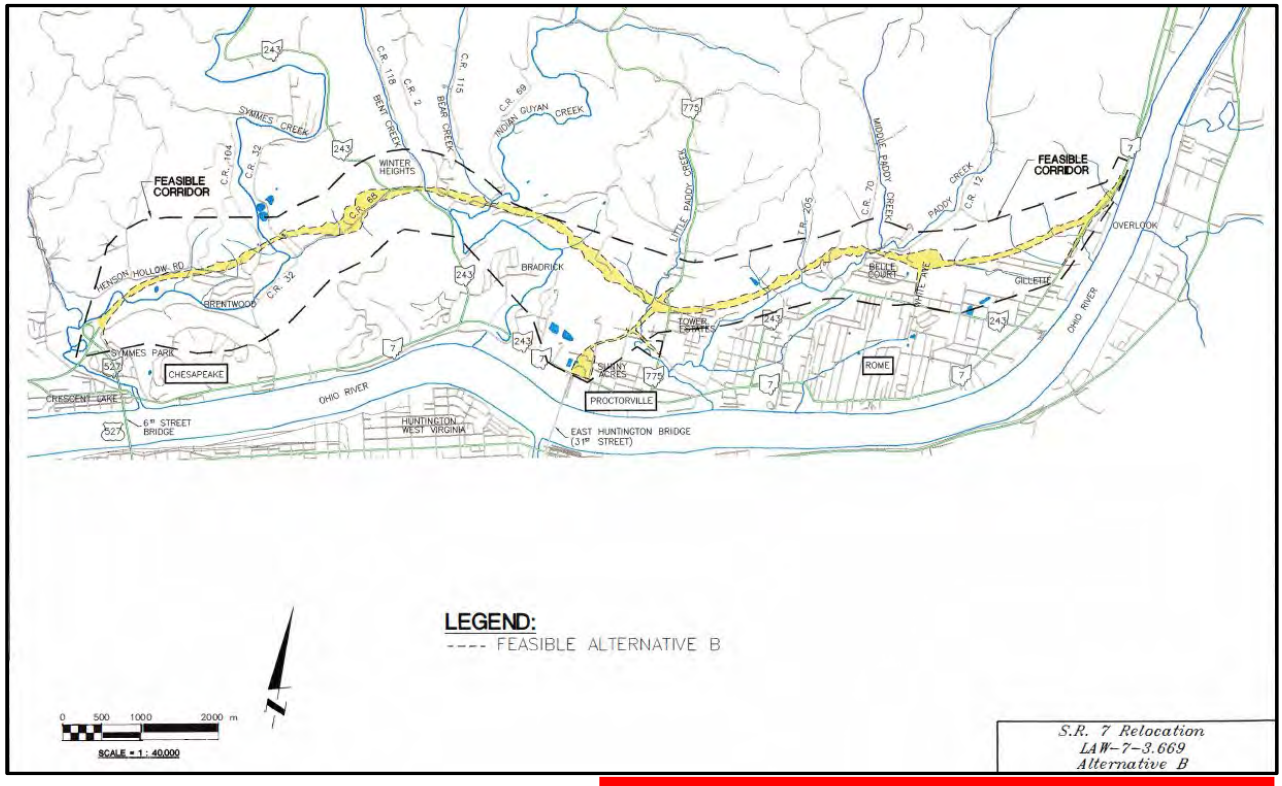
The alignment proposes a diamond interchange at CR 68 (Shafertown Road). This would require re-aligning CR 68 to cross over SR 7 and terminate at the existing intersection with SR 243. A bridge would carry SR 7 over SR 243, and a retaining wall would enable SR 243 to remain open without any realignment.

Where the alignment crosses Bent Creek, Indian Guyan Creek, CR 2, and CR 69, the alignment was shifted north to avoid the floodplain of Indian Guyan Creek. Access to the county roads would be maintained via access roads.

After traversing steep hills north of Proctorville, the alternative would approach a crossing of Little Paddy Creek. A diamond interchange at SR 775 east of the stream would be located here. It would include a bridge over Little Paddy Creek, as well as two additional bridges to carry entrance and exit ramps.

From the proposed interchange, a connector road would link SR 7 with the East Huntington Bridge (SR 607). This road would be an urban arterial roadway, designated SR 775, with a design speed of 50 miles per hour. A connection between the new arterial road and existing SR 775 would be constructed to permit motorists traveling west from Rome Township and the village of Proctorville to use Irene Road as a more direct route to the new highway, the East Huntington Bridge, or northbound SR 775. The SR 775 Connector and Irene Road Extension would include bridges over Little Paddy Creek.

Figure 4: EIS Feasible Alternative B (2:1) Map



An extension of the existing Shade Drive would serve as a replacement for the ramp that was built when the East Huntington Bridge was constructed in 1986.

Proceeding east from the SR 775 interchange, EIS Feasible Alternative B would follow the base of the hills at the edge of the Ohio River floodplain, then head north into a steep hilly area before crossing Paddy Creek, avoiding the Belle Court area. The location of the Paddy Creek crossing would require the relocation of CR 12 to limit the bridge length needed to carry SR 7 over the stream. CR 12 would be relocated to move its alignment as close as practicable to SR 7, crossing Paddy Creek with a bridge of its own.

East of the Paddy Creek crossing a diamond interchange is proposed with White Avenue, which would be extended to the proposed highway from SR 243. Residents of Rome Township would be the main users, traveling primarily to and from their jobs in Huntington, Ironton, and South Point.

The last segment of EIS Feasible Alternative B would continue to follow the base of the hillsides until meeting existing SR 7 north of Fairland Elementary School. The junction with the existing road would include a partial interchange to carry existing northbound SR 7 traffic onto the proposed highway via a diamond entrance ramp, just prior to merging into a two-lane roadway section. Southbound traffic would have access to existing SR 7 via an exit ramp that would cross the mainline with a crossover bridge before rejoining the existing road.

EIS Feasible Alternative B (3:1 Slopes)

This alternative is a revised version of Feasible Alternative B based on preliminary studies to further reduce project impacts and to improve stability, as shown in **Figure 5**. This revised version of EIS Feasible Alternative B incorporates the following changes:

- The proposed backslopes were revised from 2:1 to 3:1, to improve geotechnical stability.
- The alignment was altered to utilize the existing loop ramp at SR 67 and SR 7, instead of a new alignment along Shade Drive. This reduced both the number of relocations and construction costs.
- A diamond interchange was shifted from White Avenue to Kinley Avenue to address sight distance issues, reduce relocations, and minimize excavation and embankment.

Table 2 compares EIS Feasible Alternative A, EIS Feasible Alternative B (2:1), and EIS Feasible Alternative B (3:1) and includes the entire Chesapeake Bypass Project Corridor (Phases 1 through 4). The information included in the table is based on the most recent information available at the time of the analysis. Compared to EIS Feasible Alternative A, EIS Feasible Alternative B (3:1) minimizes impacts to streams, wetlands, floodplains, and ponds. Additionally, the number of relocations required, including residential and commercial relocations, is reduced by nearly 50%. Alternative B (2:1 and 3:1) also avoids the need to relocate a cemetery. EIS Feasible Alternative B (3:1) shows increased impacts in several categories, including cut and fill volumes, right-of-way needs, relocations, and floodplain encroachments, as compared to Alternative B (2:1). However, due to a combination of lithology, topography, and regional rainfall, the use of 3:1 backslopes was determined to be necessary to prevent slippage and to build a safe, geotechnically stable facility.

Based on the information presented in the 2001 EIS and detailed in **Table 2**, **EIS Feasible Alternative B with 3:1 slopes was selected as the preferred alternative for the project.** On June 15, 2001, a Record of Decision (ROD) was issued by the Federal Highway Administration accepting this alternative and approving the project for further development and design.

As project development continued and detailed design moved forward, it was determined that construction of EIS Feasible Alternative B using 3:1 slopes was cost prohibitive. As such, ODOT advanced EIS Feasible

Alternative B with 2:1 slopes to construction, with the understanding that some additional long-term maintenance would be required to address slippage along the corridor after construction. As described in Section 5.1.1, Phase 1A and Phase 1B of EIS Feasible Alternative B (2:1) were constructed. Construction was completed in 2006.

Figure 5: EIS Feasible Alternative B (3:1) Map

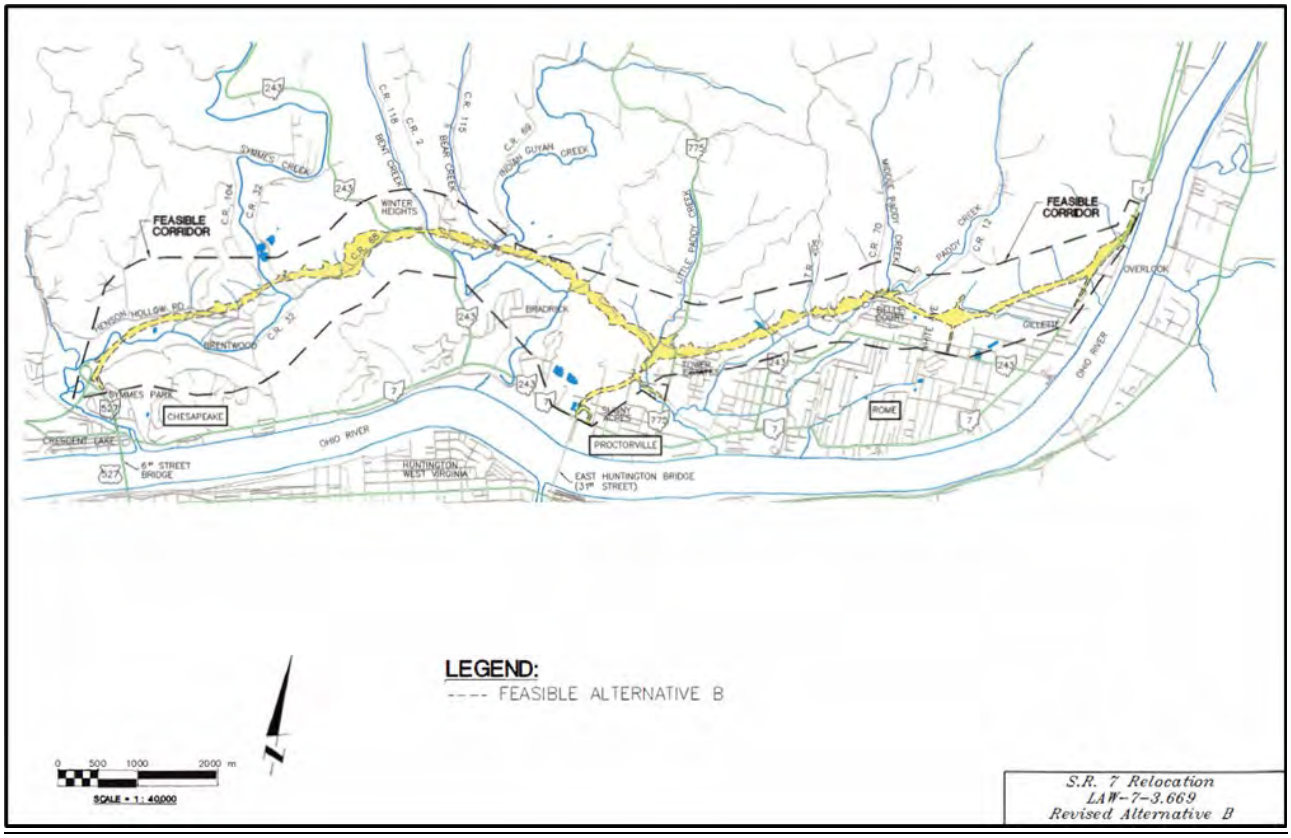


Table 2. EIS Feasible Alternatives LEDPA Analysis for Phases 1 through 4

Category/Impact Type	EIS Feasible Alternative A	EIS Feasible Alternative B (2:1)	EIS Feasible Alternative B (3:1)
Earthwork (CY)	7.1 mil cut 3.8 mil fill	7.6 mil cut 7.7 mil fill	14.6 mil cut 12.6 mil fill
Geotechnical stability	2:1 slopes Less stable	2:1 slopes Less stable	3:1 slopes More stable
Right-of-Way (AC)	435	430	606
Relocations (#)	282	109	143
Streams (LF)	8,672	< 7,889	7,889
Wetlands (AC)	10.11	0.2	1.66
Floodplain (LF)	17,651	4,160	13,500
Ponds (#)	4	3	3
Forest (AC)	171	190	195
LEDPA	**No**	**Yes**	**Yes** (Compared to Alt. A)

CY = cubic yards; AC = acre(s); LF = linear feet

5.2.4 EIS Feasible Alternative B – Phase 2 Alignment Revisions

During construction of Phase 1B, several landslides occurred, which caused environmental damage and created safety concerns for the traveling public if a landslide were to occur when open to traffic. The occurrence of these landslides prompted a reevaluation of the Selected Alternative (EIS Feasible Alternative B with 2:1 slopes) design to address similar slope-stability issues. ODOT recognized that Phase 1B and Phase 2 had similar geotechnical conditions and a similar design, and that slope instability could be a concern for Phase 2.

It was clear that EIS Feasible Alternative B (2:1) was no longer practicable, and as such, design work was suspended, and studies were initiated to identify alternatives that would be geotechnically stable. The Phase 2 alignment was divided into five sections as listed below to be studied further to generate alternatives with geotechnically stable slopes.

- Section 1 – STA 136+00 to 195+00
- Section 2 – STA 206+00 to 255+00
- Section 3 – STA 255+00 to 288+00
- Section 4 – STA 288+00 to 323+00
- Section 5 – STA 323+00 to 360+00

Each of these sections were analyzed for engineering issues, construction and right-of-way costs, and environmental impacts to determine practicability.

Phase 2: Section 1 – STA 136+00 to 195+00

Section 1 begins at the west end of the Phase 2 project corridor near the SR 527 bridge over the Ohio River and extends approximately one mile to just west of Symmes Creek. In this section, several new options were considered that included profile changes, adjustments to vertical curves, alignment shifts, bifurcating a section of the roadway, and revisions to Township Road (TR) 158. Four revised alternatives were compared with the original EIS Feasible Alternative B (2:1). Options A and B included raising the profile along the original alignment. Option D included raising the profile along the original alignment with a narrow median. Option G included raising the profile and shifting the alignment away from the hillside. These options included 3:1 or 4:1 backslopes for geotechnical stability. Other options (e.g. C, E, and F) were deemed infeasible and dropped earlier in the analysis. **Table 3** compares key factors considered in selecting an option for Section 1. The information included in the table includes impacts for Phase 2, Section 1, and was based on the information available at the time of the analysis.

As shown in **Table 3**, **Option G was selected as the preferred alternative for Section 1**. While the impacts to streams and floodplains and the required relocations were slightly higher than Option A, Option G was the most geotechnically stable option. Since landslides were a known issue in Phase 1B, alternatives that did not meet the geotechnical requirements were deemed not practicable. Landslides create an array of problems related to construction, maintenance, safety, and costs. Additionally, unstable slopes create environmental issues that are difficult to quantify, such as erosion and sedimentation into adjacent waterways, and vegetation and habitat loss. Geotechnical stability was measured using the Factor of Safety (FoS), a measurement of the probability of slope failure, where a number less than 1.0 is considered unstable. ODOT requires a FoS of 1.3 or higher. By shifting the alignment to reduce sidehill cuts, the FoS for Alternative G increased significantly, resulting in a more stable design overall.

Table 3: Phase 2 Alignment Revisions LEDPA Analysis for Section 1

Category/Impact Type	EIS Feasible Alternative B	Option A	Option B	Option D	Option G
	2:1	3:1	3:1	3:1/4:1	3:1/4:1
Earthwork (CY)	345,097 in cuts 536,705 in fills	551,558 in cuts 693,320 in fills	354,865 in cuts 1,135,138 in fills	376,966 in cuts 2,002,247 in fills	177,334 in cuts 849,465 in fills
Geotechnical Stability (Factor of Safety)	<1.3 Poor	1.45 Marginal	1.47 Marginal	1.28 Marginal	5.0 Good
Cost	$24 mil	$25 mil	$27 mil	$37 mil	$23 mil
Relocations	17	22	25	30	33
Streams (LF)	830	1,394	1,756	2,075	1,488
Wetlands (AC)	0	0	0	0	0
Floodplain (LF)	2,300	2,300	2,300	2,350	2,350
LEDPA	No	No	No	No	**Yes**
Preferred	No	No	No	No	**Yes**

CY = cubic yards; AC = acre(s); LF = linear feet

Phase 2: Revised Section 1 (Option G) plus Ridgetop Alternative

After the development and revisions to Section 1, the Ridgetop Alternative was introduced which shifted the alignment of the remaining sections to the south, away from the valley and into steeper topography. This new alternative includes Section 1 using the selected Option G as described in **Table 3** and continues for approximately 4.4 miles through Section 5. The alignment was shifted approximately 2,000 feet south between STA 230+00 to STA 350+00, past Indian Guyan Creek, where it reconnects to the EIS Feasible Alternative B.

Table 4 lists the key factors considered in comparing EIS Feasible Alternative B with the revised Section 1 (Option G) to the new Ridgetop Alternative. The information included in the table includes impacts for Phase 2, Sections 1 through 5, and was based on the information available at the time of the analysis.

Table 4: Phase 2 Alignment Revisions LEDPA Analysis for Sections 1 through 5 - Ridgetop Alternative

Category/Impact Type	EIS Feasible Alternative B + Revised Section 1 with 3:1/4:1	Ridgetop Alternative + Revised Section 1 with 3:1/4:1
Earthwork (CY)	10.0 mil cut 3.1 mil fill	9.1 mil cut 7.0 mil fill
Right-of-Way (AC)	350	315
Cost	$115 mil	$124 mil
Relocations	-	-
Streams (LF)	5,167	11,628
Wetlands (AC)	0	0
Floodplain (LF)	6,391	4,866
LEDPA	**Yes**	No
Preferred	**Yes**	No

CY = cubic yards; AC = acre(s); LF = linear feet

As shown in **Table 4**, **the Ridgetop Alternative did not prove to be a substantially better option than EIS Feasible Alternative B (3:1).** The Ridgetop Alternative proved to be more expensive and stream impacts were

increased by more than double, making this a more environmentally damaging alternative. **The Ridgetop Alternative was dismissed from further consideration**. Studies continued on Sections 2 through 5 of EIS Feasible Alternative B (3:1).

Phase 2: Sections 2, 3, and 4 – STA 206+00 to 323+00, Shafertown Road, and CR 2

After the selection for Section 1 (Option G), Sections 2, 3, and 4 were concurrently evaluated . The changes considered for each section are detailed below.

- Section 2 – STA 206+00 to 255+00, Shafertown Road: Adjustments considered in this area included raising the profile, adjusting vertical curves, and shifting the alignment away from the hillside. The Shafertown Road interchange was evaluated for potential relocation to SR 243, including the addition of a service road connection between Shafertown Road and SR 243.
- Section 3 – STA 255+00 to 288+00: Revisions in this area included raising the mainline profile and replacing bridge LAW-7-0502 with a large culvert type drainage structure.
- Section 4 – STA 288+00 to 323+00, CR 2: In this section, raising the mainline profile was evaluated. The realignment of CR 2 to cross the mainline was also considered. This would shorten bridge LAW-7-0559, reducing stream impacts. A service road connection would be required on the north side of SR 7.

Four new options (Options A, B, C, and D) were developed for Sections 2, 3, and 4. All options would connect to Section 1 (Option G). These new options were then compared to the original EIS Feasible Alternative B using 3:1 and 4:1 slopes. Options A and B used the alignment from EIS Feasible Alternative B and raised the mainline profile, whereas Options C and D proposed a revised alignment and profile that further minimized cuts. All four options proposed 3:1 and 4:1 slopes for geotechnical stability. **Table 5** compares key factors considered in selecting an option for Sections 2, 3, and 4. The information in the table includes impacts for Phase 2, Sections 2, 3, and 4, and was based on the information available at the time of the analysis.

Table 5: Phase 2 Alignment Revisions LEDPA Analysis for Sections 2 through 4

Category/Impact Type	EIS Feasible Alternative B	Option A	Option B	Option C	Option D
	3:1/4:1	3:1/4:1	3:1/4:1	3:1/4:1	3:1/4:1
Earthwork (CY)	7.3 mil cut 0.8 mil fill	6.1 mil cut 3.7 mil fill	4.1 mil cut 2.8 mil fill	5.1 mil cut 2.4 mil fill	1.1 mil cut 2.1 mil fill
Right-of-Way (AC)	202	277	222	241	186
Cost	$102 mil	$79 mil	$69 mil	$71 mil	$45 mil
Relocations	45	58	54	53	55
Streams (LF)	5,240	10,553	6,986	8,282	8,248
Wetlands (AC)	0	0	0	0	0
Floodplain (LF)	1,875	1,995	1,995	2,110	2,200
LEDPA	No	No	No	No	**Yes**
Preferred	No	No	No	No	**Yes**

CY = cubic yards; AC = acre(s); LF = linear feet

As shown in **Table 5**, **Option D was selected as the preferred alternative for Sections 2, 3, and 4**. While the impacts to streams and floodplains and the required relocations were slightly higher than the original EIS Feasible Alternative B (3:1), Option D balanced cut and fill earthwork, reducing the need for substantial

hillside cuts and promoting geotechnical stability. Compared to EIS Feasible Alternative B (3:1), Option D eliminates over six million cubic yards of soil cuts, which are also detrimental to the environment. Large quantities of excess soils must be temporarily stored, stabilized, and eventually transported off site for disposal or reuse. Decreasing hillside cuts may also minimize blasting during construction. It is certainly a factor in construction cost, which is less than half the cost of EIS Feasible Alternative B (3:1). The preferred alignment for Section 1 (Option G) and Sections 2, 3, and 4 (Option D) then connects to Section 5, which was revised as described below.

Phase 2: Section 5 – STA 323+00 to 360+00

Section 5 connects to Section 4 at Station 323+00 and continues generally east for approximately 0.75 mile to the proposed SR 775 interchange. Revisions along this portion included adjusting vertical and horizontal curves. The SR 775 Interchange was also evaluated, including ramp relocation and adjustment to facilitate tie-in to Phase 1B. Changes that occurred in Section 5 were incorporated into the alternative analysis for the entire Phase 2 corridor.

Phase 2 Alignment Revisions: Alternative "D"

Alternative D is the combination of the revisions described above for Sections 1 through 5. This new alternative was then compared "end to end" with the original EIS Feasible Alternative B (3:1) to identify a preferred alternative. **Table 6** compares the two alternatives based on the information available at the time of the analysis.

Table 6: Phase 2 Alignment Revisions LEDPA Analysis for Sections 1 through 5

Category/Impact Type	EIS Feasible Alternative B 3:1/4:1	Alternative D 3:1/4:1
Earthwork (CY)	18.7 mil cut 5.3 mil fill	7.8 mil cut 6.7 mil fill
Right-of-Way (AC)	449	371
Cost	$205 mil	$154 mil
Relocations	81	81
Streams (LF)	9,030	13,445
Wetlands (AC)	0	0
Floodplain (LF)	5,175	5,680
LEDPA	**No**	**Yes**
Preferred	**No**	**Yes**

CY = cubic yards; AC = acre(s); LF = linear feet

Alternative D was selected as the preferred alternative for the entire Phase 2 corridor. This alternative significantly reduced earthwork, right-of-way acquisition, and cost. Impacts to streams and floodplains were slightly higher, but the result is a practicable and geotechnically stable alternative. As described previously, eliminating large quantities of excess soil waste provides environmental benefits that are difficult to quantify.

Additionally, geotechnical stability was incredibly important for decision making because of landsliding that occurred during construction of Phase 1. The shallower slopes create a more geotechnically stable design that will diminish the potential for landslides that cause environmental damage and create safety concerns for the traveling public.

5.2.5 2023 Update - Phase 2 Alignment Alternatives Analysis: Alternative B (3:1) and Alternative D

The result of the many iterations of analysis and design described above is two potential alternatives for the entire Phase 2 Corridor, Alternative B (3:1) and Alternative D. Further design changes for Alternative D were made to reduce project costs, accommodate changes in traffic demand, and refine access connections from local roadways to the new SR 7. These changes are summarized below. Alternative B (3:1) and Alternative D are shown in **Item 6**. Alternative D is also shown in the Phase 2A and 2B design plans in **Item 6**.

- The SR 775 interchange was modified from a full diamond to a loop ramp for the westbound on-ramp. This minimized the interchange footprint in the northwest quadrant, reducing the length of impact to Little Paddy Creek by eliminating the westbound on-ramp bridge crossing.
- The interchange at CR 68 (Shafertown Road) and SR 243 was eliminated in favor of a roundabout with SR 243 on the north side of new SR 7. SR 243, CR 2 (Greasy Ridge Road), Bent Creek Road, and Indian Guyan Road would be closed on the south side of new SR 7. CR 69 would be extended west along the north side of new SR 7 to SR 243. CR 118 (Bent Creek Road) and CR 2 would have minor realignments to connect to the CR 69 extension on the north side of the new SR 7.
- Three gated emergency access roads were added to SR 7 to provide access to SR 7 during 100-year flood events.
- The location of new SR 7 was shifted slightly east and west of SR 243. In addition, the east and west bound lanes were split for approximately 3,000 feet near the east project terminus.
- Truck climbing lanes were provided in both directions in sections of new SR 7.
- Shafertown Road was dead ended and a turnaround was provided south of new SR 7.
- Mainline overpass bridges were provided over CR 32 (Eaton Road) and CR 104 (Booth-Eaton Road).
- Guyan-McKinley School Road has been dead ended and a turnaround provided north of new SR 7.

Due to the design changes and the time that has elapsed since the 2001 EIS/ROD, a re-evaluation of the FEIS is currently underway. A Level 2 ESR was completed in March of 2023 to update environmental impacts for the project. These updated studies were used to confirm that Alternative D is still the least environmentally damaging practicable alternative. **Table 7** includes a comparison of the two alternatives for the entire Phase 2 corridor using the most recent data available for each category. Alternative Analysis Mapping in **Item 6** shows the project footprint for EIS Feasible Alternative B (3:1) and Alternative D with the current location and extent of streams, wetlands, ponds, forest, and floodplains. The impact calculations for streams, wetlands, floodplains, ponds, and forest included in **Table 7** assume impacts within the proposed ROW for each alternative.

As shown in **Table 7**, environmental impacts associated with Alternative D are greatly reduced across a variety of categories. Notably, Alternative D minimizes impacts to forest by over 100 acres. Mature woods provide important habitat for a variety of species, including the northern long-eared bat, the Indiana bat, and the tricolored bat. The elimination of 100 acres of clear-cutting will reduce negative impacts to these species.

Alternative D also significantly minimizes hillside cuts compared to EIS Feasible Alternative B (3:1). This is beneficial in many ways. First, it eliminates the need for off-site disposal of excess soils. It also reduces short-term adverse impacts to water quality related to erosion and sedimentation run-off. Finally, it may reduce the amount of rock blasting needed, limiting noise impacts to resident species populations. By shifting the alignment to avoid hillside cuts, floodplain encroachment has increased slightly, but has been minimized to the greatest extent possible.

Table 7: Phase 2A/2B LEDPA Analysis – 2023 Updates

Category/Impact Type	EIS Feasible Alternative B	Alternative D
	3:1/4:1	3:1/4:1
Earthwork (CY)	18.7 mil cut* 5.3 mil fill*	5.2 mil cut 6.4 mil fill
Right-of-Way (AC)	449*	343
Cost	$245 mil	$187 mil
Relocations	81*	70
Streams (LF)	30,832	25,094
Wetlands (AC)	8.29	9.87
Floodplain (AC)	92.12	98.05
Ponds (AC)	0.13	0.13
Forest	377	265
LEDPA	**No**	**Yes**
Preferred	**No**	**Yes**

*Data from 2009 Alternatives Analysis
CY = cubic yards; AC = acre(s); LF = linear feet

While wetland impacts are slightly higher for this alternative, Alternative D eliminates close to 6,000 linear feet of permanent impacts to streams, reducing permanent and temporary water quality degradation. As described in detail in Section 5.2.8, the impacts included in the table above have been even further reduced.

Finally, Alternative D provides decreased right-of-way acquisition and relocations. Not only does this minimize disruption to people and property, but it results in reduced construction costs. After considering all the major factors involved with this project, **Alternative D was confirmed as the least environmentally damaging practicable alternative.**

5.2.6 Analysis of Practicable Alternatives Summary

In summary, the alternatives analysis for this project, which included on-site and off-site alternatives, occurred in several stages over the course of more than twenty years. Various factors such as project phasing, regulatory changes, and resource development over time made a comparison between past and present alternatives unfeasible.

The alternatives analysis was an iterative process that occurred in steps. First, five alternatives within three preliminary corridors were conceived that covered the entire Chesapeake Bypass Project Corridor, including Phases 1 through 4. The landslides that occurred during construction of Phase 1 caused environmental damage and required costly corrections. Safety concerns and traffic delays due to a landslide's material deposition on the roadway are also concerns. Therefore, Phase 2 was reassessed and redesigned to be more geotechnically stable. The Phase 2 corridor was split into five sections, and the alternatives analysis was completed section by section. Finally, the Phase 2 portion of the original preferred alternative as conceived and presented in the 2001 EIS/ROD (EIS Feasible Alternative B with 3:1 slopes) was compared end to end with Alternative D, the result of updated Phase 2 studies.

A LEDPA analysis was completed using up-to-date calculations based on the Level 2 Ecological Survey Report completed in March of 2023 and data from the FEIS Re-Evaluation initiated in 2021 (in progress). **This analysis confirmed that Alternative D is the LEDPA using present day information.**

The preferred alternative for this project had to balance impacts to the natural and human environment with geotechnical stability, project costs, and the project's purpose and need. Steep topography, large scale

grading requirements, and challenging equipment access made this particularly difficult. Alternative D represents decades of design development to meet those challenges, minimize environmental impacts, and create an alternative that is feasible, constructible, and cost effective. The following sections further describe efforts to avoid, minimize, and mitigate environmental impacts related to the construction of Phase 2.

5.2.7 Avoidance

As illustrated within the project's Ecological Survey Report (see **Item 3** or the ODOT EnviroNet Project File), this hilly region is lined with water resources. The 6.1 mile project corridor includes over 40 streams, 3 ponds, and over 20 wetlands. Avoidance of all water resources would not be feasible for a new roadway alignment, regardless of location, through this region.

Implementation of the project without affecting water resources would require consideration of the "No-Build" alternative. The No-Build Alternative would continue to use the existing alignment and roadway network to meet the traffic needs of the project area. Under this alternative, no improvements are proposed except for routine maintenance and selected upgrading of the existing roadway and intersections. The No-Build Alternative was considered in the preliminary traffic studies. This alternative was dismissed based on criteria from the project's purpose and need as discussed below.

- The existing alignment was designed to accommodate up to 12,000 vehicles per day. Traffic studies predict the future daily volume for a no build alternative will be approximately 35,800 vehicles per day.
- The existing alignment has elevations that are below the 100-year flood of the Ohio River; thereby making it unsafe and less efficient during times of flooding.
- The no build alternative will not meet the demands of industrial, commercial, or residential growth.

The proposed alignment completely avoids 5.32 acres of Category 2 wetlands (J, O, U) and Pond 3. Section 5.2.8 details the efforts made to minimize the impacts to water resources.

5.2.8 Minimization

The LAW-7-2.17 Phase 2A (PID 75923) Level 2 Ecological Survey Report (ESR) dated March 2, 2023, accounts for the Project's potential to impact 25,095 feet of streams, 3 ponds, and 9.87 acres of wetlands within the study area. The Level 2 ESR was coordinated with the Ohio Department of Natural Resources, U.S. Fish and Wildlife Services, Ohio EPA, and the U.S. Army Corps of Engineers (see **Item 4**). These impacts have been evaluated and reduced through the design process and as described below. The LEDPA will permanently impact 19,387 feet of stream (reduced by 5,708 feet), 2 ponds, and 5.50 acres of wetlands (reduced by 4.37 acres).

Bridges are proposed for crossings of Paddy Creek, Symmes Creek, Indian Guyan Creek, Bent Creek, and Little Paddy Creek. The structures have been designed to meet current design and safety standards. The location, orientation, and proposed structure types were heavily considered to minimize impacts to affected streams and wetlands. During detailed design development, proposed causeway lengths were reduced to the minimum necessary to allow for the maneuverability of the heavy machinery necessary for construction of the proposed structure.

Culverts are more economically feasible than bridges and are being utilized primarily on ephemeral and intermittent streams. In an effort to minimize impacts, culvert pipe diameters have been increased where practical by 10% to allow for accumulation of natural substrates. Plan views of proposed stream impacts

showing culvert layout and design may be found within **Item 6**.

In order to attain the LEDPA, the project also focused on minimizing impacts on specific water resources, described as follows:

- Symmes Creek (recommended EWH)
    - Crossing 1 at STA 128+00: A new drainage ditch will outlet into Symmes Creek at this location. The design initially included 45 feet of permanent and temporary fills for this outlet; however, designers determined that the ditch could be constructed without these impacts. A "Do Not Disturb" is noted on the plans for Symmes Creek at this location.
    - Crossing 2 at STA 134+00: A 3-span prestressed concrete bridge will be installed. The 3 spans enable the stream to flow unimpeded under the bridge during normal water conditions. One pier will be installed at the edge of the OWHM.
    - Crossing 3 at STA 200+50: A 3-span prestressed concrete bridge will be installed. The 3 spans enable the stream to flow unimpeded under the bridge during normal and ordinary high water conditions. One pier will be installed at the edge of the OWHM.
- Bent Creek (WWH) from STA 270+00 to STA 274+75: ODOT selected an oversized 22 foot diameter structural plate pipe culvert for this site so that the invert can be buried approximately 4 feet to permit a natural stream substrate to re-establish through the culvert.
- Indian Guyan Creek (recommended EWH) at STA 299+40: A 3 span prestressed concrete bridge is proposed for this crossing, with pier placements intended to remain outside of the stream bed to enable the stream to flow unimpeded during normal and ordinary high water conditions.
- Little Paddy Creek (recommended WWH) and Wetland N (Modified Cat 2) at the Mainline crossing (STA 378+50) and Ramp I (STA 378+00):
    - Interchange location and design: The proposed SR 775 interchange is located immediately east of Little Paddy Creek. A standard diamond interchange configuration would require four separate stream crossings to accommodate the interchange. Design alternatives were evaluated and an alternative was selected that would move the westbound on-ramp into the northeast quadrant of the interchange, thus eliminating one crossing of Little Paddy Creek.
    - Culvert versus bridge crossings: The drainage area of Little Paddy Creek at the project site is 1.74 square miles, for which a culvert (approximately 102-inch diameter) would be sufficiently sized to carry. ODOT recognized the environmental implications of a culvert installation within the Little Paddy Creek (potentially 700 feet in length) and chose to utilize bridge structures to span the creek.
    - Bridge design: Two 3-span structures will be constructed for the SR 7 mainline and one additional 3-span structure will be constructed for Ramp I. All piers are designed to be placed outside of the stream, which will enable the stream to flow unimpeded during normal and ordinary high water conditions. No permanent fill will occur for any of the three crossings.
    - Impacts to Wetland N (modified Cat 2): Work limits were reconfigured to further reduce impacts to Wetland N by reducing construction access to the minimum necessary to allow for the maneuverability of the heavy machinery necessary for construction of the proposed structures. This reduced the impacts of Wetland N from 3.16 acres to 2.54 acres.

- Stream 9 (Spring Water A Class IIIA – no fish) from STA 218+50 to STA 230+20 and Stream 10 (Small Drainage Warmwater Class II) from STA 238+00 to STA 270+50: The majority of Streams 9 and 10 flow parallel to the proposed SR 7 alignment, which will result in unavoidable permanent fills to 1,544 feet of Stream 9 and 4,085 feet of Stream 10. The streams will be incorporated into the drainage ditch in several locations. Where possible, the proposed ditches are designed with 10 foot wide benches (at 10:1 slopes) and a 10 foot wide bottom. This design reflects natural channel design features, in which the benches provide floodplain benefits and promote filtration, and the over-wide channel bottom will permit the stream to develop a natural aquatic habitat regime, with meanders and depositions. The creation of benches and a wider ditch are expected to enable the relocated stream sections to recover more quickly.

The demarcation of avoided areas will help protect undisturbed wetlands. Natural buffers to wetlands and streams shall be left intact to the greatest extent possible. Areas where vegetation is removed will be re-vegetated. Additional Best Management Practices (BMPs) to minimize impacts to water quality have been incorporated into the design of the project and will be incorporated into the contractor's Stormwater Pollution Prevention Plan (SWP3) and post-construction stormwater management plan (Section 5.8.). Post construction BMPs are required for this project as the project's earth disturbing activities are greater than 1.0 acres. The post construction treatment for water quality and water quantity will be through the use of Vegetated Biofilters as shown on the project site plan provided in **Item 6**.

The aforementioned project, should it be authorized, has been designed to avoid and minimize impacts to the aquatic environment to the maximum extent practicable at the proposed location.

5.2.9 Mitigation

The proposed project location evolved through the National Environmental Policy Act (NEPA) process, which identified and evaluated the potential impacts upon threatened and endangered species, cultural resources, hazardous materials, and several other human and environmental resources. The Final Environmental Impact Statement (FEIS), which was approved on June 15, 2001 and is currently under re-evaluation, documented the measures to minimize harm to humans and the effected environment through the use of best management practices and mitigative measures.

ODOT intends to mitigate for anticipated Project impacts to streams and wetlands. ODOT proposes to utilize a combination of an In-Lieu Fee (ILF) program and an existing permittee-responsible mitigation credits developed as part of the Chesapeake Bypass Phase 1; and is letting a Full-Delivery Mitigation Contract to fulfill the remaining mitigation needed to offset the unavoidable permanent impacts to 19,387 linear feet of stream and 5.50 acres of wetlands. A detailed mitigation discussion and justification are provided in **Item 7**.

5.3 Magnitude of the Proposed Lowering of Water Quality

5.3.1 Aquatic Resources

Thirty-eight (38) streams are located in the construction limits and are expected to be impacted by the project. A total of 20,314 ft (19,387 ft of permanent impact and 2,940 ft of temporary impact) of stream is expected to be impacted.

Twenty one (21) of the 38 streams exhibit ephemeral flow characteristics and do not support fish, mussel, or robust macroinvertebrate populations. These streams are common across the terrain in the project vicinity. One additional stream (Stream 12) has a small drainage area (0.01 acre) and is supported by consistent groundwater flow. However, no fish, mussels or macroinvertebrates were observed in Stream 12. These 21

streams are expected to be primarily graded and filled within the construction limits with flow routed to highway ditches (as needed) for drainage purposes. These construction activities will not impact fish or mussels and will have minimal impact on macroinvertebrates.

Ten (10) of the 38 streams exhibit intermittent flow characteristics. With drainage areas typically between 0.05 and 0.2 square miles, these streams do not have sufficient hydrology to support mussels and are unlikely to support fish populations. No mussels or fish were observed in these streams during field surveys.

Macroinvertebrate surveys were conducted in Streams 3, 9, 13, and 16. Streams 3, 13, and 16 were found to support Class II macroinvertebrate populations, while Stream 9 (which exhibits perennial flow characteristics based on observed aquatic fauna) was found to support Class IIIA macroinvertebrate populations. Stream 9 was also found to support Class IIIA salamander species. Stream 9 (Class IIIA) and Stream 13 (high Class II) provide high quality aquatic habitat and support notable aquatic biota communities compared to the others. Streams 3, 13, 14 and a portion of Stream 9 will be graded/filled with flow routed into culverts that follow the existing stream alignments. Streams 3a, 5, 7, 8, 16a and lengthy segments of Streams 9, 10 and 16 are expected to be graded/filled with flow routed into adjacent highway ditches. These construction activities are not expected to impact fish or mussels. Macroinvertebrates inhabiting these streams during construction will be eliminated, however adjacent sections of these streams (and other streams in the project vicinity) will continue to provide macroinvertebrate habitat and refuge from which macroinvertebrates can re-colonize the impacted lengths of stream after construction.

The remaining five (5) streams within the study area are perennial (Symmes Creek, Bent Creek, Bear Creek, Indian Guyan Creek, and Little Paddy Creek). OEPA recently completed a biological assessment of these streams with sample points located within or near the project area. Healthy fish and macroinvertebrate communities were encountered in each of these streams, and OEPA has recommended Symmes Creek and Indian Guyan Creek be upgraded from Warm Water Habitat to Exceptional Water Habitat designations. The Exceptional Water Habitat designation would require in-water work restrictions beginning April 15th and ending July 1st which would reduce impacts to fish populations. Mussel presence/absence surveys were also conducted in Symmes Creek and Indian Guyan Creek in the project area and mussels were encountered in Symmes Creek. Due to small drainage area size, mussel presence/absence surveys were not performed in Bear Creek, Bent Creek, or Little Paddy Creek. No mussels were observed in those streams during field surveys. The proposed project will utilize bridges to cross Symmes Creek (at two locations), Indian Guyan Creek (at Bear Creek) and Little Paddy Creek. Construction of these bridges is not likely to result in substantive fish or macroinvertebrates impacts, and mussels will be relocated prior to the start of construction. Bent Creek is expected to be graded/filled within the construction limits, with flow routed into a culvert that follows the existing stream alignment. Bent Creek does not provide suitable habitat for mussels, and fish will likely vacate the area at start of construction and then return soon after construction activities are completed. Macroinvertebrates present during construction will be eliminated, though adjacent sections of stream (and other intermittent and perennial streams in the project area) will continue to provide macroinvertebrate habitat and refuge from which macroinvertebrates can re-colonize the impacted lengths of stream after construction.

Eighteen (18) wetlands (5.50 acres) are located in the construction limits and are expected to be impacted by the project. These wetlands are primarily comprised of small areas of emergent marsh habitat that are of low to moderate quality (Category 1 and 2 wetlands). This type of wetland appears to be relatively common across the local landscape. Wetlands N, O, and U are larger, higher-quality wetlands located along Little Paddy Creek. Wetlands N and U are large, multi-community, modified Category 2-Category 2 wetlands that are supported by backwater flooding from beaver dam construction in Little Paddy Creek. Wetland O is a

Category 2 forested floodplain wetland positioned along Little Paddy Creek between Wetland N and Wetland U. This wetland complex is considered to be unique in the context of the local environment. These wetlands provide habitat for amphibians, birds and mammals. Section 5.2.8 describes the measures taken to reduce impacts along the Little Paddy Creek stream and wetland area.

Two small constructed ponds (Ponds 1 and 2) will be impacted by the project. Both have a recreation/aesthetic function, and none involve an impoundment of jurisdictional water. Total pond area within the construction limits is 0.11 acre.

5.3.2 Threatened and Endangered Species

There are three (3) Threatened and Endangered freshwater mussel species that have suitable habitat present within the Construction Limits; Round Hickorynut (federally threatened), Threehorn Wartyback (state threatened) and Black Sandshell (state threatened). A freshwater mussel presence/absence survey was conducted in Indian Guyan Creek and Symmes Creek. The only listed freshwater mussel species encountered during the survey was Threehorn Wartyback in Symmes Creek. No mussels were found in Indian Guyan Creek. A mussel survey and relocation will occur prior to construction activities occurring below the ordinary high water mark of the stream, so mussels are unlikely to be impacted by the project.

Listed fish species with suitable habitat within the construction limits are Shoal Chub and River Darter (state endangered), and Channel Darter (state threatened). The only potentially suitable habitat for these species within the construction limits is Symmes Creek, and these species were not encountered during fish sampling conducted by OEPA in 2016. The nearest records for these species to the project area is within the Ohio River.

5.3.3 Water Quality Impacts

Short-term, temporary impacts and some long-term, permanent impacts to water quality will likely occur as a result of this project. Minor short-term, temporary increases in turbidity, dissolved solids, nutrients, settleable solids, and suspended solids are expected due to construction activities and stormwater runoff from disturbed areas during construction. It should be noted that due to the planned phased construction of LAW-7-2.17 (initially for a two-lane facility, with future build-out to a four-lane facility) short-term, temporary water quality impacts will occur as part of each construction phase, though these impacts are expected to be proportionally smaller during each construction phase (compared to the short-term, temporary water quality impacts that would be expected if construction of the full four-lane facility was performed all at one time). Long-term, permanent impacts include the loss of riparian habitat that provides runoff moderation and thermal controls, as well as an increase in the amount of typical highway corridor pollutants (such as oil, roadway deicing salts, heavy metals from automobile emissions, and excessive nutrients) entering streams via stormwater runoff. Once mobilized in surface water, these pollutants can harm aquatic life and bioaccumulate in plant tissue.

Short term water quality impacts resulting from runoff from disturbed areas during construction will be minimized through the use of sediment and erosion controls in accordance with the ODOT Construction and Materials Specifications. Longer duration water quality impacts associated with roadway runoff will be minimized through the implementation of post-construction best management practices in accordance with the ODOT Location and Design Manual. All waterway impacts associated with the construction of the proposed bridge replacement project will be permitted and constructed in accordance with all federal, state and local regulations intended to protect water quality.

5.3.4 Economic Impacts for Human Use and Enjoyment

Two streams within the study area support recreational activity, Symmes Creek and Indian Guyan Creek. No stream in the project area supports commercial activity. Symmes Creek and Indian Guyan Creek support sport fish species such as Largemouth Bass, Spotted Bass, Green Sunfish, Bluegill, Channel and Flathead Catfish, and Freshwater Drum. Symmes Creek within Lawrence County can be accessed by 6 launch sites and is the location of the Art S. Ferguson Canoe Trail, which follows 32 miles of Symmes Creek from Arabia, Ohio to the Ohio River, and goes through the project site. Indian Guyan Creek does not have any public boat launches. Proposed construction activities involve two bridge crossings over Symmes Creek, one scour protection segment along Symmes Creek, and one bridge crossing over Indian Guyan Creek. After the construction of these crossings, no impacts to recreation are anticipated. During construction, the contractor will be required to provide a portage if the channel will be closed to boating traffic. The aesthetic value of Symmes Creek and Indian Guyan Creek will be decreased in the immediate vicinity of the bridges, however the permanent impacts represent a small distance relative to the length of the stream in the project area. 307 ft of stream is expected to be temporarily impacted by the bridge installation and scour protection on Symmes Creek, and 85 ft is expected to be permanently impacted.

Coordination with the USFWS and the ODNR is provided in **Item 4**.

5.4 Technical Feasibility and Cost Effectiveness

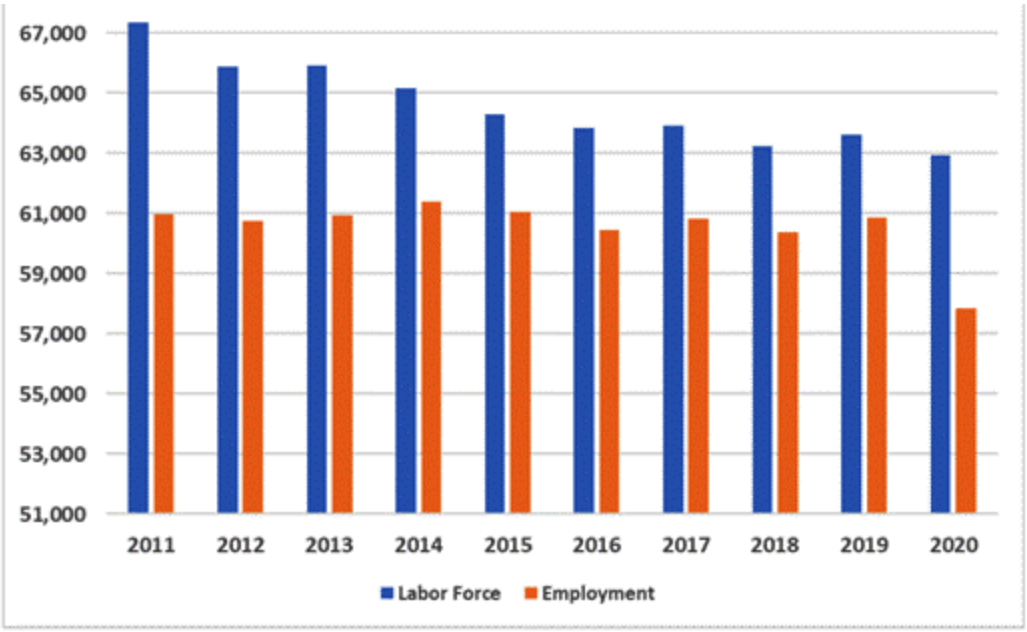
The proposed project is technically feasible and cost effective. The construction techniques and associated BMPs proposed for the construction of the proposed project have been used on numerous ODOT projects, including large bridge replacement projects. There are no foreseeable operational or maintenance difficulties that would have a detrimental impact to water quality within the project area. The estimated cost to construct the proposed project is approximately $187 million and the anticipated life span of the new facility is upwards of 100 years with proper maintenance. A detailed analysis of preliminary cost comparisons is provided in Section 5.2.

5.5 Social and Economic Considerations

Social and economic benefits for Phase 2 of the Chesapeake Bypass project are positive. Improvements to transportation facilities within the project area will result in economic development opportunities, which outweigh the potential loss of property tax revenue that may result from land used for highway development.

Per the Ohio Economic Profile report for Lawrence County, prepared by the Ohio Department of Jobs and Family Services in July 2021, Lawrence County has a deficit of job opportunities. The report illustrates the high availability of labor within Lawrence County versus the number employed within the county (see **Figure 6**) and reports that over 70% of workers who live in Lawrence County work in another county. It also reports a high population-to-jobs ratio of 2.85 in 2019 (whereas the Ohio average ratio is below 1.5) which further indicates that residents are more likely to commute to other counties for work. While employment opportunities in Health Care and Social Assistance have increased from 2010 to 2019, jobs with educational services and retail trade have declined. In Lawrence County, 5,643 were employed within these top three industries in 2010 and decreased to 5,504 in 2019.

Figure 6: Lawrence County Civilian Labor Force and Number Employed



Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics.

The proposed project is expected to support and spur business growth within Lawrence County and the region. When complete, Phase 2a and 2b of the Chesapeake Bypass will provide immediate and long-term access within the County, the State, and the entire Tri-State community. All of Lawrence County east of Chesapeake and SR 243, along with southern Gallia County, currently must access major employers, multi-modal transportation and retail centers via the congested SR 7 through the Village of Chesapeake and the Bradrick neighborhood areas. Reduced speed limits, frequent driveways and many active geohazards (landslides, rockfalls) currently characterize this essential corridor. Upon completion of Phase 2, all these restrictions in traffic will be removed, thereby shortening travel time and providing all the associated benefits such as reduced fuel consumption, air emissions, etc., that come with unrestricted traffic flow.

The current condition of SR 7 also forces truck traffic to seek an alternate route as evidenced by extremely low truck volumes. Direct access does not exist to key local industrial centers such as The Point Intermodal Logistics Port, where US 52, railroad, and a deep-water port of the Ohio River all converge. Similarly, the current route hampers freight access to the Tri-State Airport commercial and air cargo facilities.

Major organizations that represent economic interests in the Chesapeake/Proctorville area are strongly supportive of the proposed project. These interests include the KYOVA Interstate Planning Commission, Greater Lawrence County Chamber of Commerce, Lawrence County Board of Commissioners, Ohio Valley Regional Development Commission, and the respective village administrations. It is anticipated that the SR 7 Relocation will support economic growth already started in the area and facilitate future growth.

- The KYOVA Interstate Planning Commission passed Resolution #2020-001 in 2019, stating, “the Chesapeake Bypass Phase 2 is in line with KYOVA 's transportation focus areas for regional growth including: Goods Movement, Barriers to Mobility, Congestion Mitigation, Multimodal Integration, Economic Vitality as well as safety and sustainability by decreasing crash rates and improving energy efficiency; and… is expected to promote economic growth and mobility and improve access to jobs by providing alternative transportation choices and enhanced access to transportation services..”

and resolved “that KYOVA Interstate Planning Commission strongly supports the Chesapeake Bypass Phase 2 by committing $500,000 of Ohio suballocated funds in Lawrence County, Ohio for the Ohio Department of Transportation TRAC funding to promote regionalism and improve the efficiency of the transportation system in southeastern Ohio.”

- The Lawrence County Transportation Improvement District provided a letter of support dated May 16, 2017, which states that the State Route 7 project “is vital to the economic future and transportation system of southern Ohio. It will open opportunities for job creation and economic development by connecting infrastructure and available land along the Ohio River with the transportation network of the state of Ohio and the surrounding region.

Regional and state transportation goals tend to overlap for this project. For example, Lawrence County is part of the Appalachian region. In 1965, the Appalachian Highway system was conceived to help alleviate Appalachia's economic and social isolation. One of the five major goals set forth by Appalachian Regional Commission (ARC) and the State of Ohio's Governor's Office of Appalachia (GOA) 2022-2026 Strategic Plan is to Build Appalachia’s Infrastructure to “Ensure that the residents and businesses of Appalachia have access to reliable, affordable, resilient, and energy efficient utilities and infrastructure in order to successfully live and work in the Region”. The objectives of this goal include the following.

- Objective 3.1: Ensure the availability of quality, affordable basic infrastructure to meet the needs of the residents and businesses of Appalachia.
- Objective 3.2: Ensure that all Appalachians have access to quality and affordable telecommunications and broadband services.
- Objective 3.3: Support proactive efforts to adopt alternative energy strategies and bolster energy infrastructure.
- Objective 3.4: Complete the Appalachian Development Highway System and invest in innovative intermodal transportation systems to connect businesses and residents within the Region with global opportunities.
- Objective 3.5: Support construction of business development sites and public facilities and the adaptive reuse of obsolete and/or unsafe properties to stimulate economic and community development.

Secondary effects on economic vitality in the project vicinity are also anticipated to be positive. Proposed roadway improvements will provide safer, more efficient travel to commercial and residential destinations within the project vicinity. Current traffic congestion and delays have a negative influence on economic vitality by discouraging area visitors from traveling along existing routes where most of the businesses are located. The proposed roadway will reduce congestion in the area as a whole and make it a more desirable place to visit, shop, work, and live.

One potential business is being affected by the Project. An existing radio tower and transmitter building, owned by WMEJ-FM Radio Station, will be acquired. Negative impacts to the area's economy are not anticipated because businesses affected by roadway construction are able and willing to relocate within the project area.

Right-of-way acquisition may result in an initial loss in local tax revenues. This loss is offset, however, by economic development that will result from local transportation improvements. Future increases in tax revenues, generated by business and residential development, will exceed the initial loss.

Any increases in public expenditure for emergency services (police, fire, EMTs) will develop proportionally with economic growth. As business and residential districts develop, increases in public expenditures for emergency services will be offset by the development of the tax base operating revenues.

The proposed project will have a positive impact on the local economy. The construction contractor for the proposed projects will have employees and subcontractors working at the site for multiple construction seasons. In addition, the contractor will need to purchase construction materials from various suppliers and manufacturers and pay the applicable taxes associated with these purchases. Throughout the duration of the construction, the contractor and their subcontractors will stimulate the local economy by purchasing goods and services from local businesses, including hotels, restaurants, gas stations and other retail establishments. The construction of the project will likely have a positive effect on the local economy and the unemployment rate within Muskingum County, as well as the surrounding counties.

5.6 Cumulative Impact

The 2001 EIS/ROD concluded that the project is compatible with planned growth for the area, and land adjacent to access points will be subject to development pressure. This conclusion remains valid, as the overall scope and design plan for the Chesapeake Bypass project have not substantively changed since the 2001 EIS/ROD. The revised Selected Alternative for Chesapeake Bypass – Phase 2 remains as a planned four-lane, divided, limited access facility with access points at four locations – SR 775 in Proctorville, SR 243, TR 158, and SR 527/SR 7 in Chesapeake. The Chesapeake Bypass project is listed in the KYOVA Interstate Planning Commission's 2021-2024 TIP and 2040 Integrated Metropolitan Transportation Plan. Projects listed in these plans are compatible with KYOVA and SAFETEA-LU transportation planning goals, which include such factors/elements as consistency with state and local planned growth, economic development patterns, and environmental protection.

Land uses in the project area are also little changed since the 2001 EIS/ROD. There has been some new residential and commercial development along the new SR 775/SR 7 corridor (in the Phase 1A portion of the project) and along SR 7 in Proctorville. The SR 775 interchange area in Proctorville has seen residential and commercial development in its southwest and southeast quadrants, some of which has occurred since construction of Phase 1 of the Chesapeake Bypass project. There is additional vacant land in this area, particularly between existing SR 7 and the proposed relocated SR 7, that could be developed in the future. However, given its proximity to the existing SR 7 corridor and the Village of Proctorville, it is conceivable that this area would eventually develop without the Chesapeake Bypass project. The SR 527/SR 7 interchange in Chesapeake has experienced residential development in its southeast quadrant since the construction of Phase 1, though steep terrain to the east and an ODOT mitigation area to the north may limit the amount of future development in this area. The remainder of the Chesapeake Bypass – Phase 2 corridor, including the SR 243 access point area, is generally rural in nature with pockets of residential development/subdivisions connected by a network of low volume local roads, and bordered by steep, wooded terrain and broad areas of floodplain. Given the few access points along the five-mile-long planned corridor excluding the two endpoints and the adjacent terrain, it is unlikely that the central portion of the Chesapeake Bypass – Phase 2 corridor will experience substantial secondary impacts from future development-driven land use changes.

Cumulative effects on endangered and threatened species from the proposed project are expected to be minimal, as explained below and noted under Section 5.3.2.

- Mussel Species: the only listed freshwater mussel species encountered during the ecological survey was Threehorn Wartyback in Symmes Creek. No mussels were found in Indian Guyan Creek. A mussel survey and relocation will occur prior to construction activities occurring below the ordinary high

water mark of the stream, so mussels are unlikely to be impacted by the project.

- Fish Species: Listed fish species with suitable habitat within the construction limits are Shoal Chub and River Darter (state endangered), and Channel Darter (state threatened). The only potentially suitable habitat for these species within the construction limits is Symmes Creek, and these species were not encountered during fish sampling conducted by OEPA in 2016. The nearest records for these species to the project area is within the Ohio River.
- Bat Species: Potentially suitable habitat for the Indiana bat and the Northern Long eared bat, as well as the Tricolored bat (a species proposed for federal listing as endangered) occur in the project area. Based on the analysis of a Biological Assessment, ODOT has determined that the Project may affect the Northern Long-eared Bat and the Indiana Bat, and is likely to adversely affect the species. In the likely event that the Tricolored bat becomes listed prior to completion of the project, a provisional effects determination has been made that the Project may affect the Tricolored bat, and is likely to adversely affect the species. The Biological Assessment is being coordinated with the USFWS with an expected outcome of a Biological Opinion. The avoidance, minimization, and mitigation strategies that have been outlined in the Biological Assessment will be implemented in an effort to offset potential adverse impacts to the species.

The proposed roadway improvements will have a minimal impact on loss of wildlife habitat, but it will contribute to the incremental loss of habitat. The majority of the wildlife using the project area, however, adapts readily to development and is not expected to be significantly affected by the cumulative loss of habitat.

The cumulative impact of the proposed project on water quality is expected to be minimal. Impacts to water quality are primarily from the placement and extension of culverts. Instream habitats will be lost as a result of the culverts which will add to the losses from previous culverts. These culverts do not pose barriers to fish or invertebrate movement, however. Streams in the project area may lose additional habitat as upstream and downstream portions are developed. The proposed roadway project, while contributing to the cumulative loss of instream habitat, will not result in future development projects.

5.7 Indirect Impacts

Secondary impacts on water quality are expected to be minimal. The proposed culverts are anticipated to have minimal effects on stream habitats because some stream segments have already been disturbed and the culverts do not impact significant portions of the stream lengths. Proposed culverts for road crossings will not result in an inability of fish, amphibians, or aquatic invertebrates to pass through them.

Secondary impacts on offsite or unaffected wetlands are anticipated to be minimal. For example, 0.21 acre of Wetland M will be impacted, but the proposed roadway embankment will feed surface water runoff into the remainder of Wetland M located outside of the construction limits. Therefore, the remaining 0.05 acre of Wetland M is expected to continue functioning as a wetland. The proposed roadway improvements do not significantly alter drainage patterns or affect groundwater hydrology. No indirect impacts on wetlands are anticipated from the proposed project.

No secondary impacts to endangered or threatened species are anticipated from the proposed project. While land development in Lawrence County has the potential to affect these species or their habitats, there are no foreseeable effects due to the proposed highway because the proposed action will not create the need for additional land development.

5.8 Construction and Post-Construction Stormwater Management Plans

BMPs to control run-off and erosion are included within design plans and will be implemented during construction in accordance with the ODOT Construction Materials and Specifications. More than $4.3 million will be spent on protection of water quality during construction of the Project. These water pollution controls include but are not limited to diversion structures (Phase 2A plan sheets 285-291 and Phase 2B plan sheets 571-574), silt fence, and detention structures (Phase 2A plan sheets 292-294 and Phase 2B plan sheets 575-578). Additional water pollution controls may be implemented on an as needed basis during the construction of the project. These BMPs are generally temporary in nature and will be used during the construction phases of the project. **Table 8** provides a breakdown of the estimated costs for water pollution control during construction of the Project.

Table 8. Cost Estimate for Water Pollution Controls for Phase 2 of the Chesapeake Bypass

Item	Quantity	Unit	Unit Cost	Total Cost
Sediment Basins	4,201	Cubic Yard	$13.50	$56,714
Sediment Removal	2,101	Cubic Yard	$10.00	$21,010
Construction Seeding & Mulching	1,419,322	Square Yard	$2.72	$3,860,556
Filter Fabric Ditch Check	2,376	Linear Foot	$11.00	$26,136
Perimeter Filter Fabric Fence	49,489	Linear Foot	$3.45	$170,738
Rock Channel Protection with Filter	88	Cubic Yard	$118.00	$10,384
Existing Stream Protection	7	Each	$1,538.60	$10,770
Inlet Protection Catch Basins	976	Linear Foot	$11.25	$10,980
Construction Entrance	28	Each	$5,811.11	$162,711
			TOTAL COST:	$4,329,998

Post Construction Stormwater BMPs are provided for the perpetual management of stormwater runoff quality and quantity so that a receiving stream's physical, chemical, and biological characteristics are protected, and stream functions are maintained. Post Construction BMPs remove pollutants from runoff (water quality treatment) and protect streams by attempting to maintain existing stream conditions or by reducing runoff volumes through structural BMP (water quantity treatment). These Extended Detention Basins capture the first 0.75 inch of stormwater during rain events and slowly meter the captured volume over minimum 48-hour period, with no more than 50 percent of the volume released during the first 16 hours.

Additional BMPs incorporated into the design of the project to protect water quality include vegetated filter strips and vegetated bio-filters. Vegetated filter strips and vegetated bio-filters are two different methods used to passively treat runoff for the improvement of water quality. Vegetated filter strips and bio-filters are essentially vegetated surfaces designed to initially treat stormwater by slowing runoff, which allows for the settling and filtering out of sediment and pollutants prior to entering adjacent waterways. In addition, these practices provide some infiltration of runoff into underlying soils, which further reduces impacts to adjacent waters.

Item 6 – Project Mapping

Existing Conditions Maps

- County Map
- Chesapeake Bypass Project Phasing Map
- Topographic Map
- FEMA Flood Hazard map
- Water Resource Map

Project Mapping

- Proposed Project Mapping
- Alternative Analysis Mapping
- Project Plan Sheets (Phase 2A)
- Project Plan Sheets (Phase 2B)

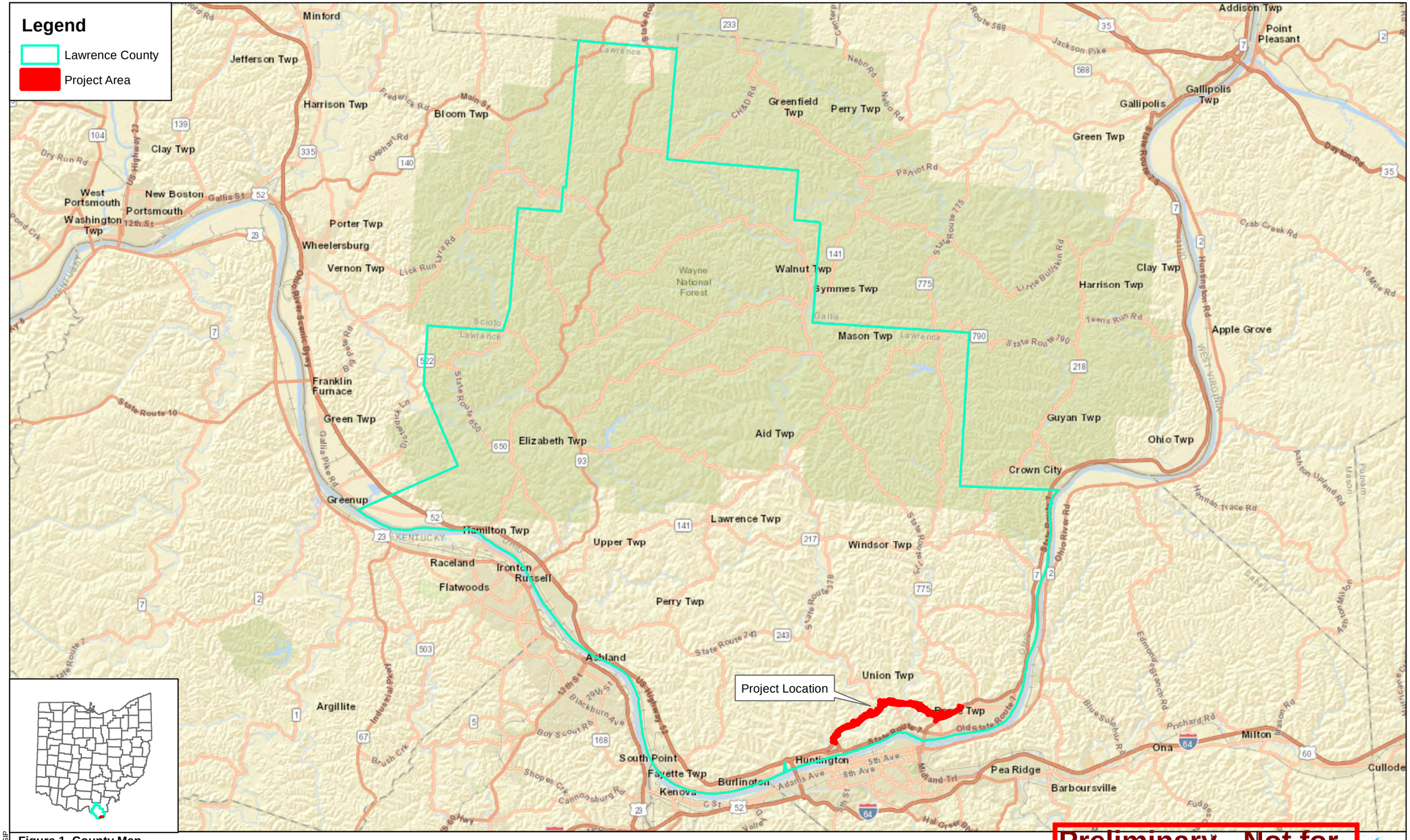


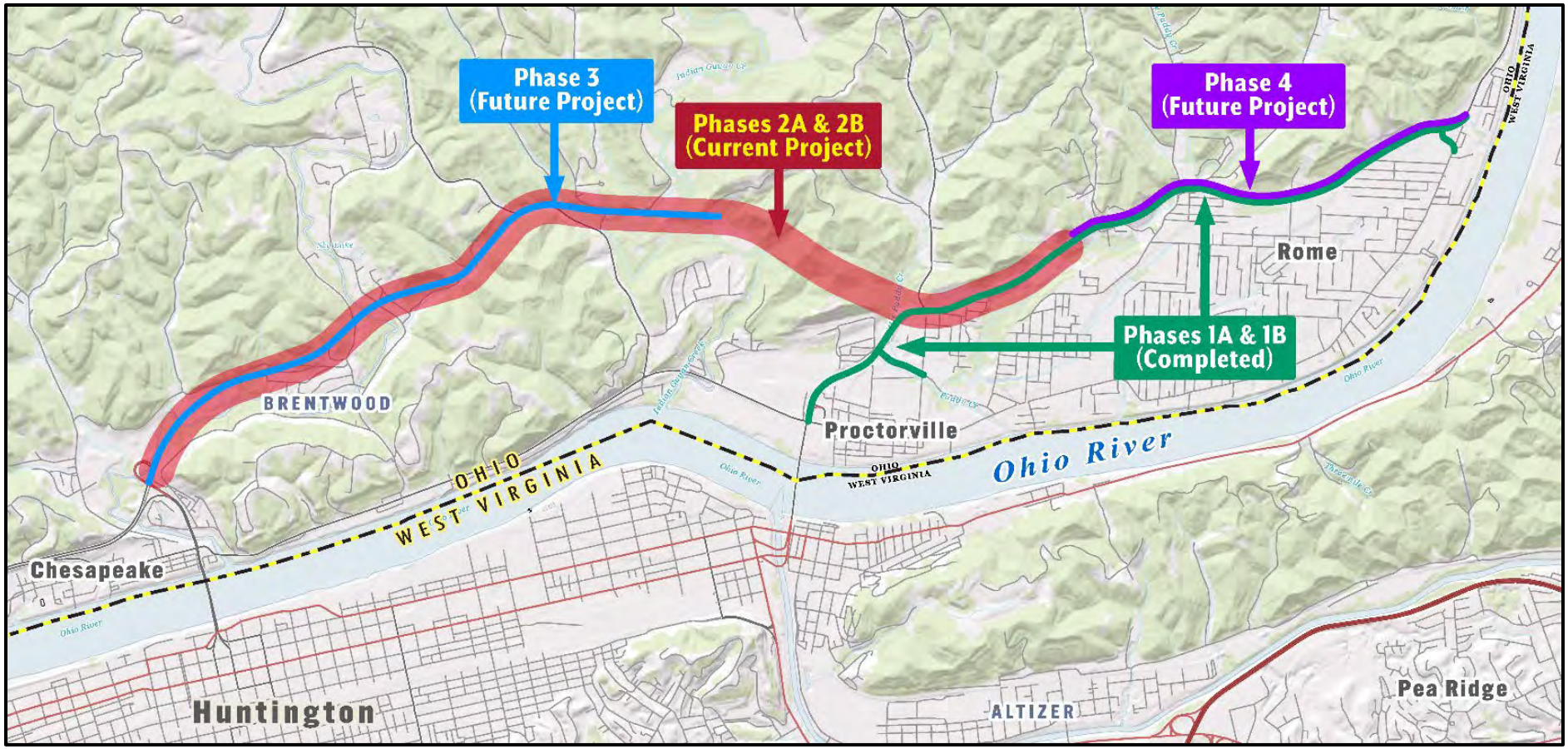
Figure 1. County Map
LAW-7-2.17 PID 75923/113211
Lawrence County, Ohio

Source: OSIP

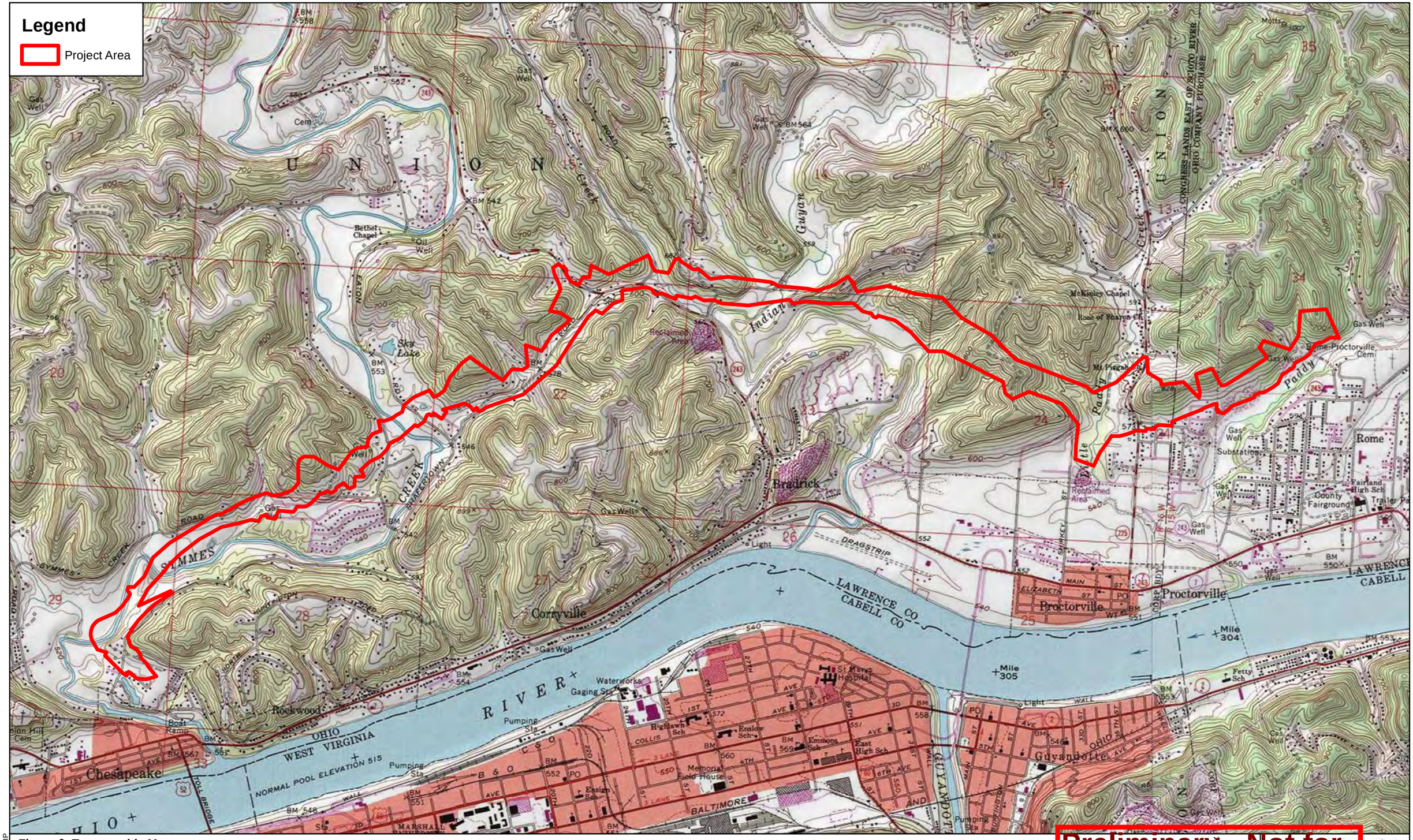
Preliminary - Not for Construction

07/29/2024

Figure 2: Chesapeake Bypass Project Phasing Map



Preliminary - Not for Construction 07/29/2024



Source: OSIP

Figure 3. Topographic Map
LAW-7-2.17 PID 75923/113211
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

Legend

Study Area

Flood Hazard Zones

Zone Type

1% Annual Chance Flood Hazard

Regulatory Floodway

Special Floodway

Area of Undetermined Flood Hazard

0.2% Annual Chance Flood Hazard

Future Conditions 1% Annual Chance Flood Hazard

Area with Reduced Risk Due to Levee

Area with Risk Due to Levee

SR 243

SR 775

SR 7

SR 7

Ohio River

Proctorville

Huntington

Chesapeake

SR 527

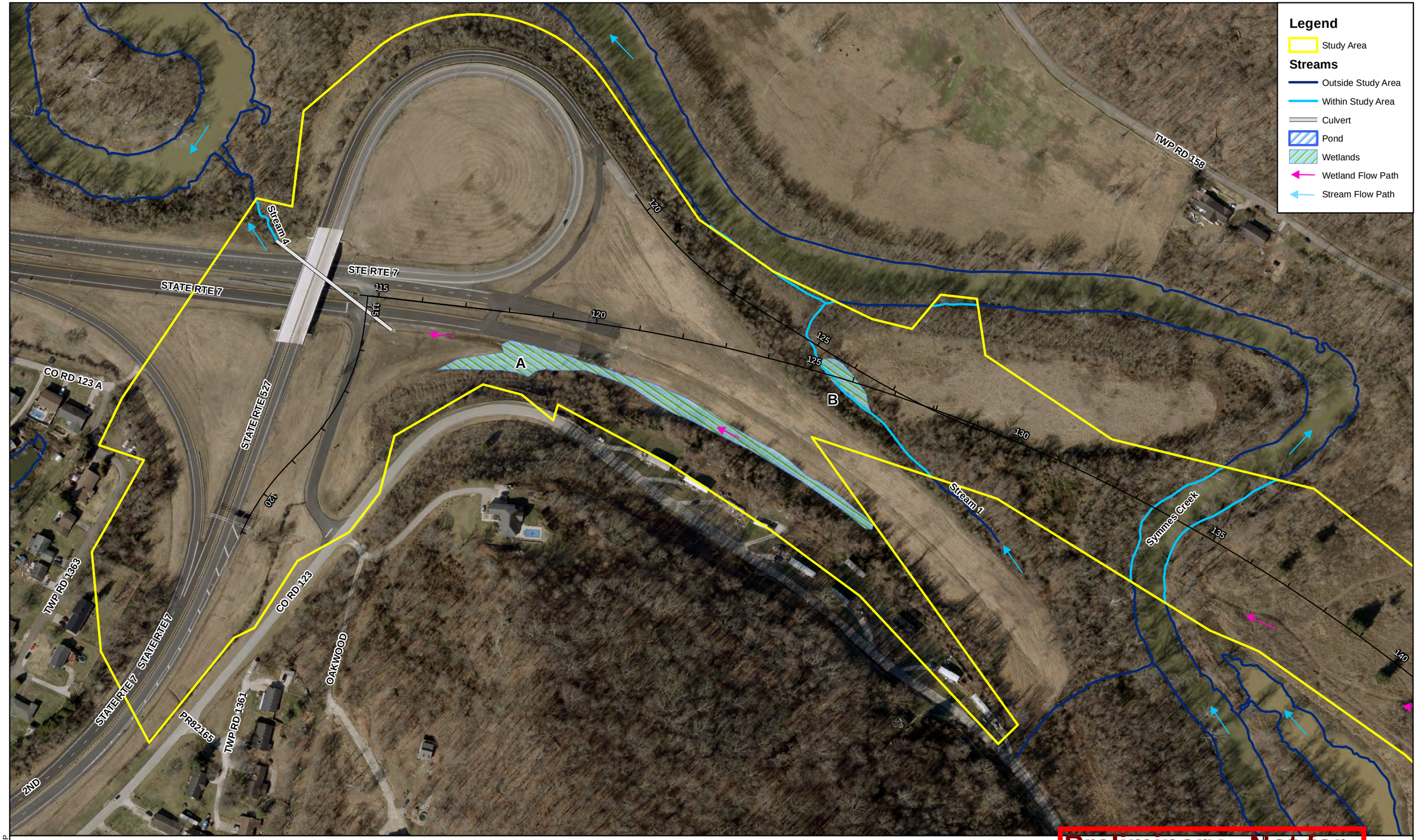
Source: OSIP

FEMA Flood Hazard Map
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

0 0.12 0.25 0.5 Miles

Preliminary - Not for Construction

07/29/2024



Source: OSIP

Figure 6. Water Resource Map-Page 1 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

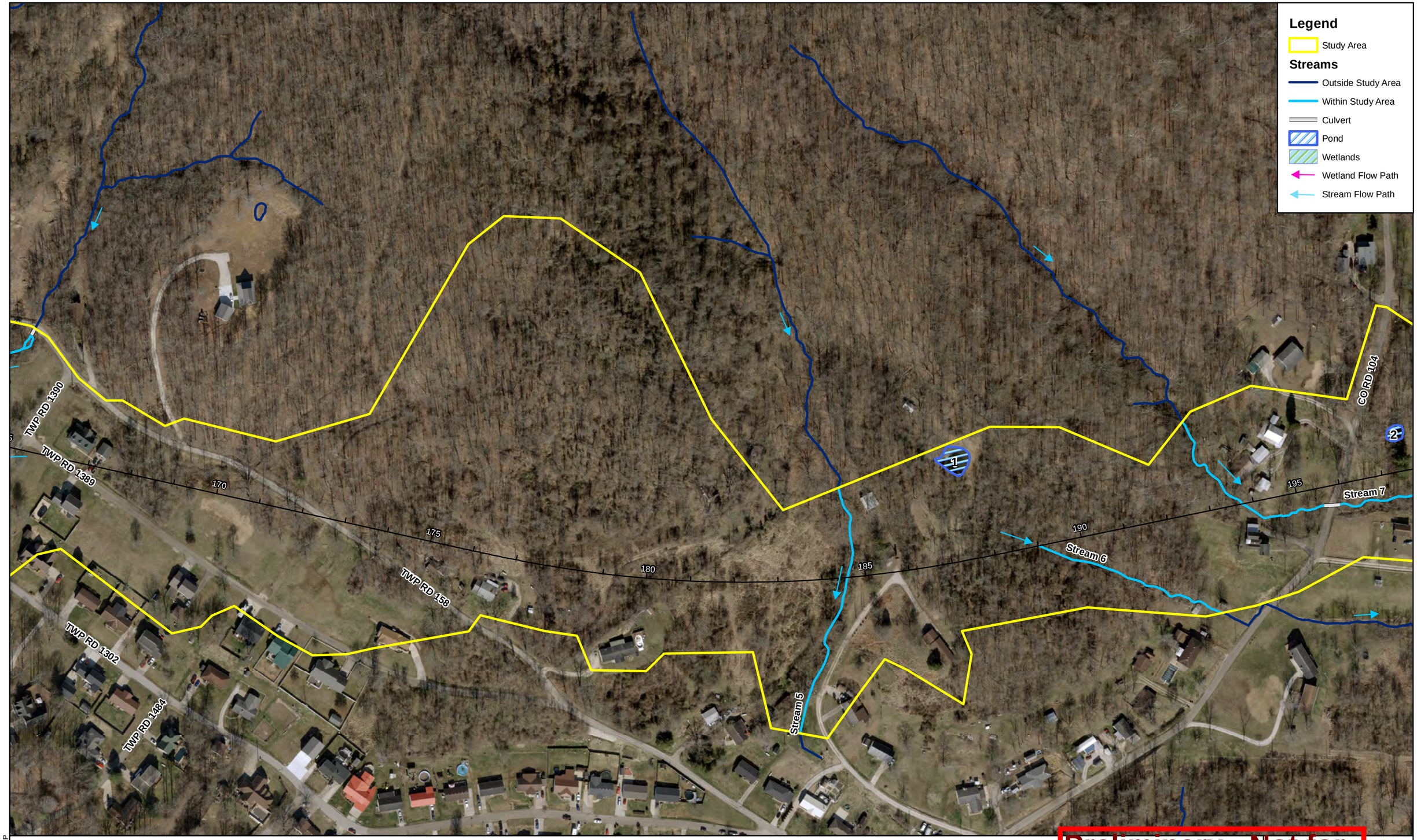
Source: OSIP

Figure 6. Water Resource Map- Page 2 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

0 75 150 300 Feet

Preliminary - Not for Construction

07/29/2024



Source: OSIP

Figure 6. Water Resource Map- Page 3 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

0 75 150 300 Feet

Preliminary - Not for Construction

07/29/2024

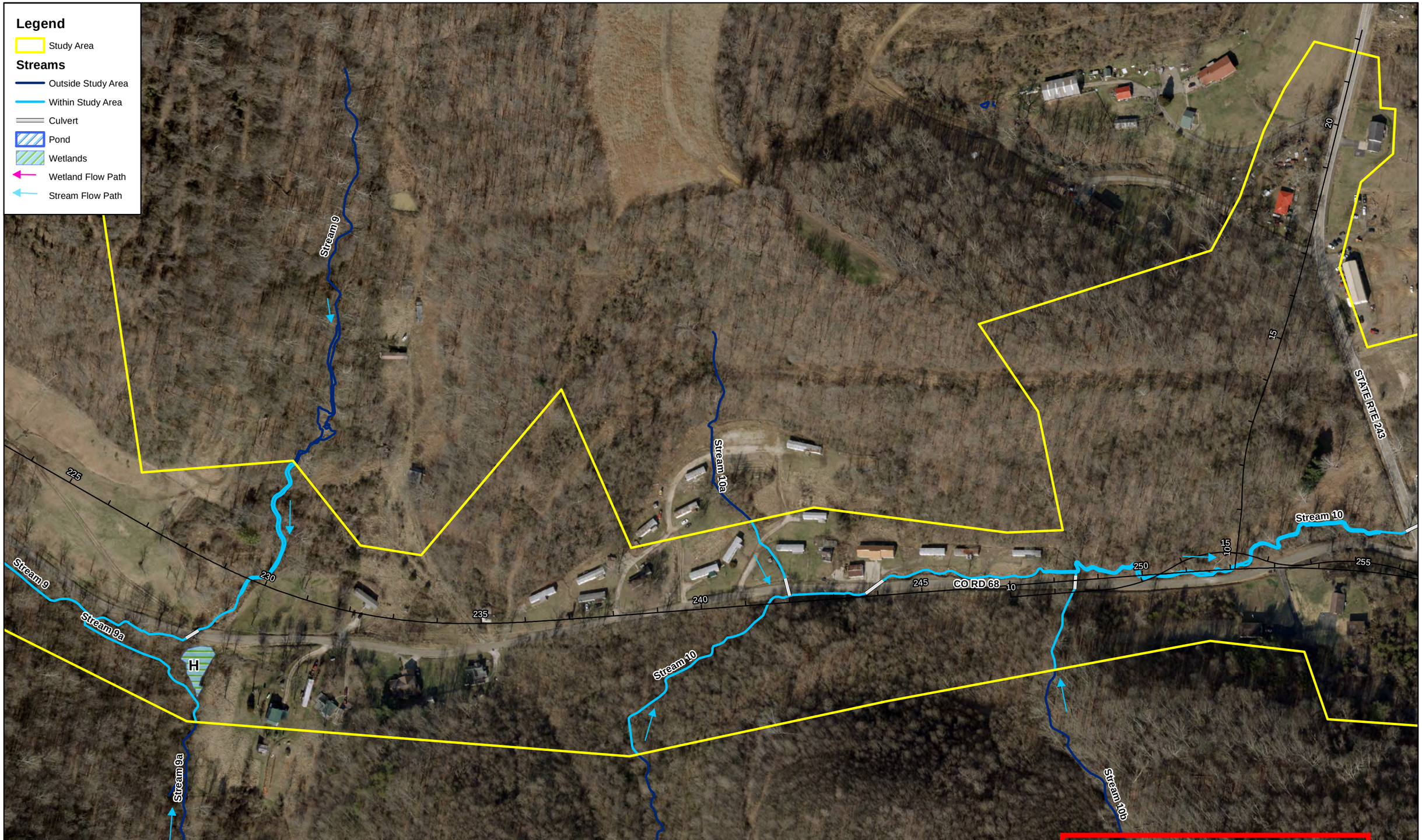
Source: OSIP

Figure 6. Water Resource Map- Page 4 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

0 75 150 300 Feet

Preliminary - Not for Construction

07/29/2024



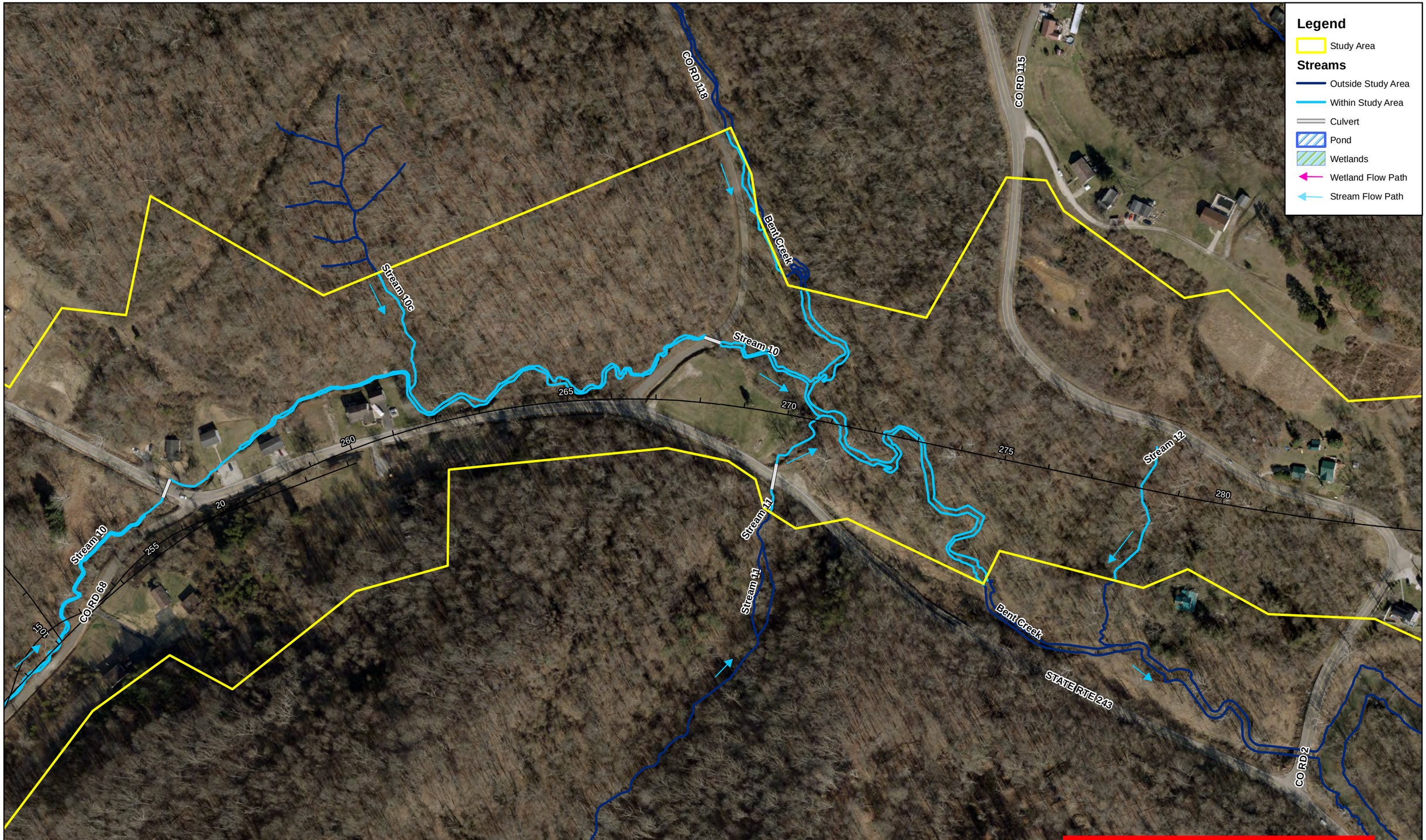
Source: OSIP

Figure 6. Water Resource Map- Page 5 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

0 75 150 300 Feet

Preliminary - Not for Construction

07/29/2024

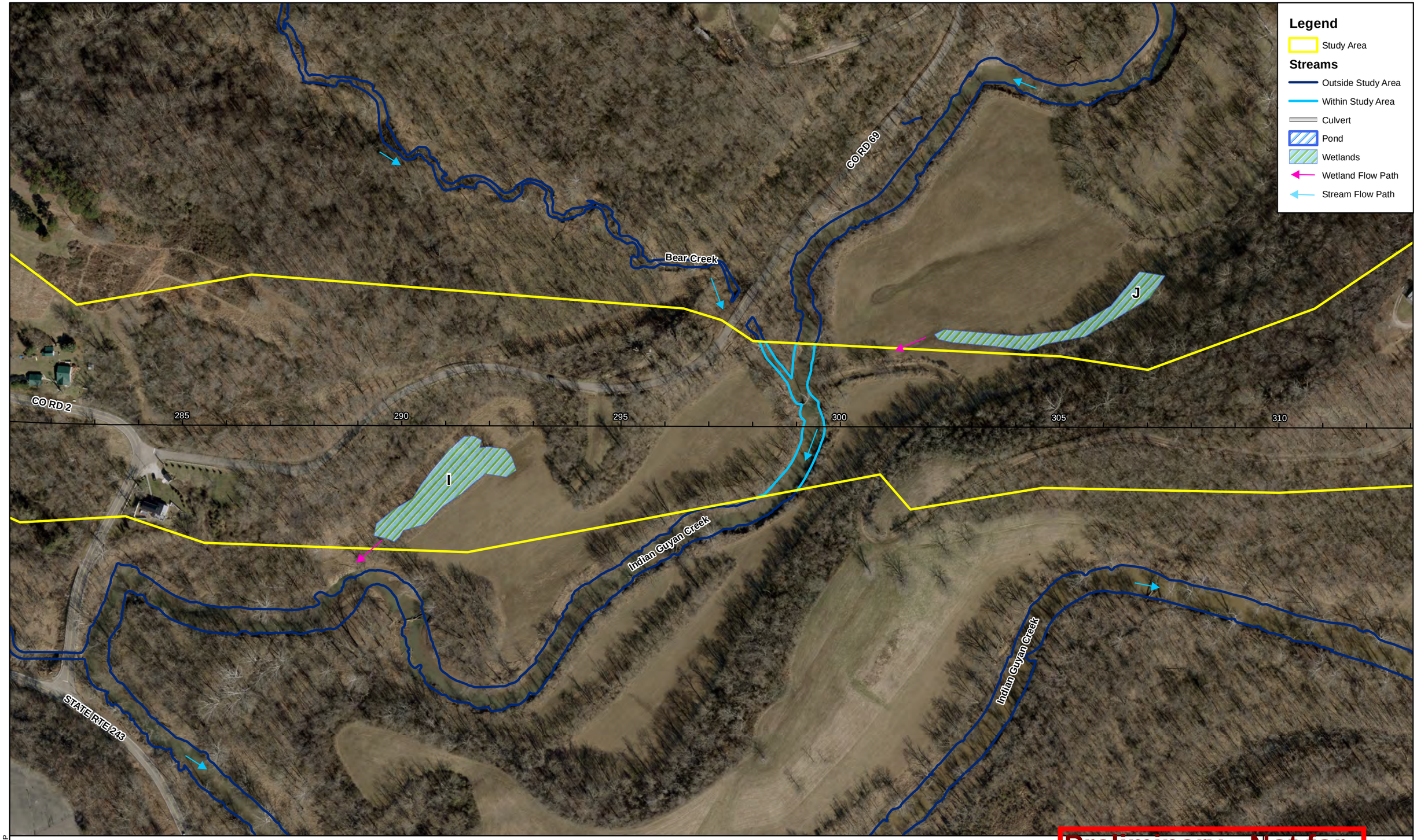


Source: OSIP

Figure 6. Water Resource Map- Page 6 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

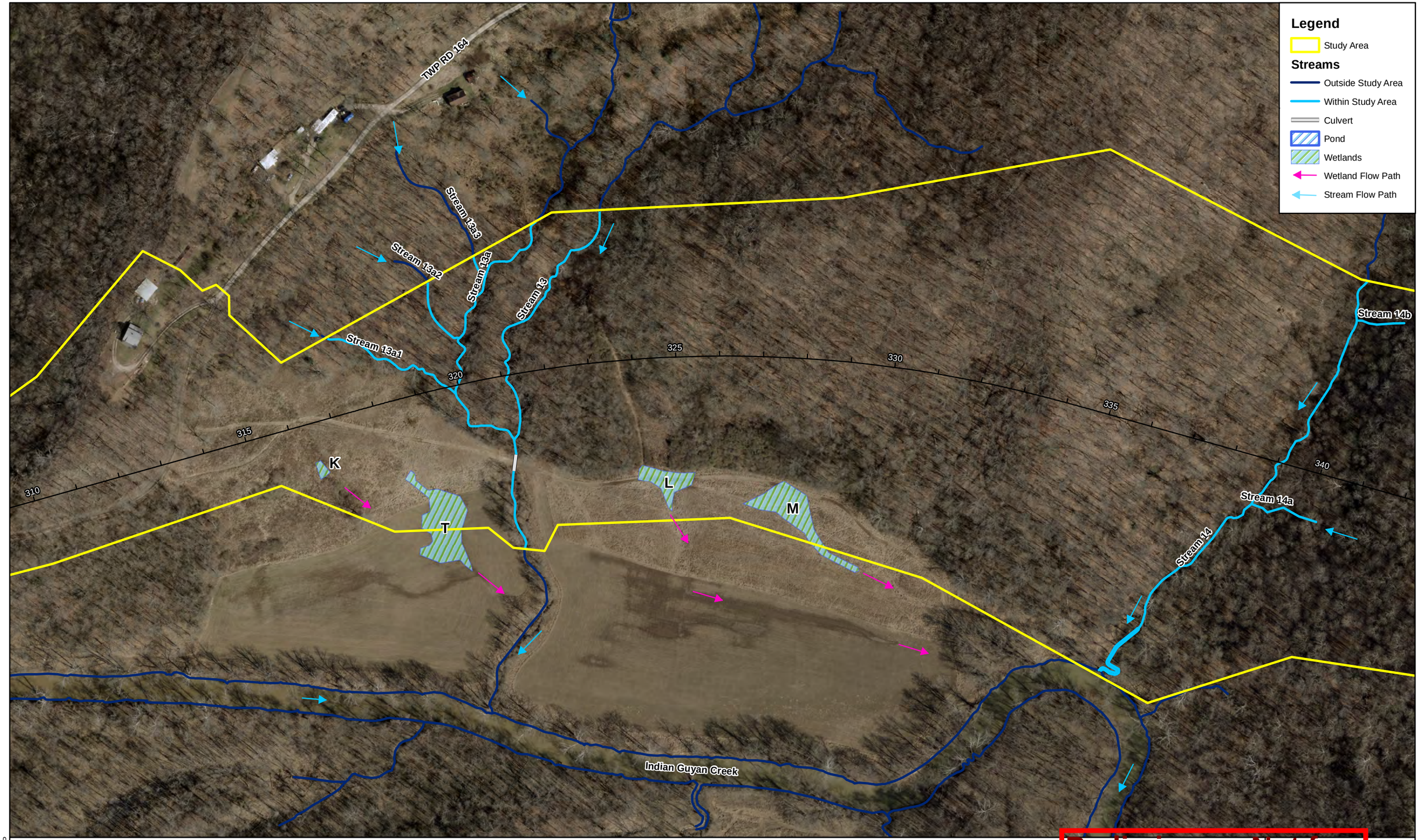


Source: OSIP

Figure 6. Water Resource Map-Page 7 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024



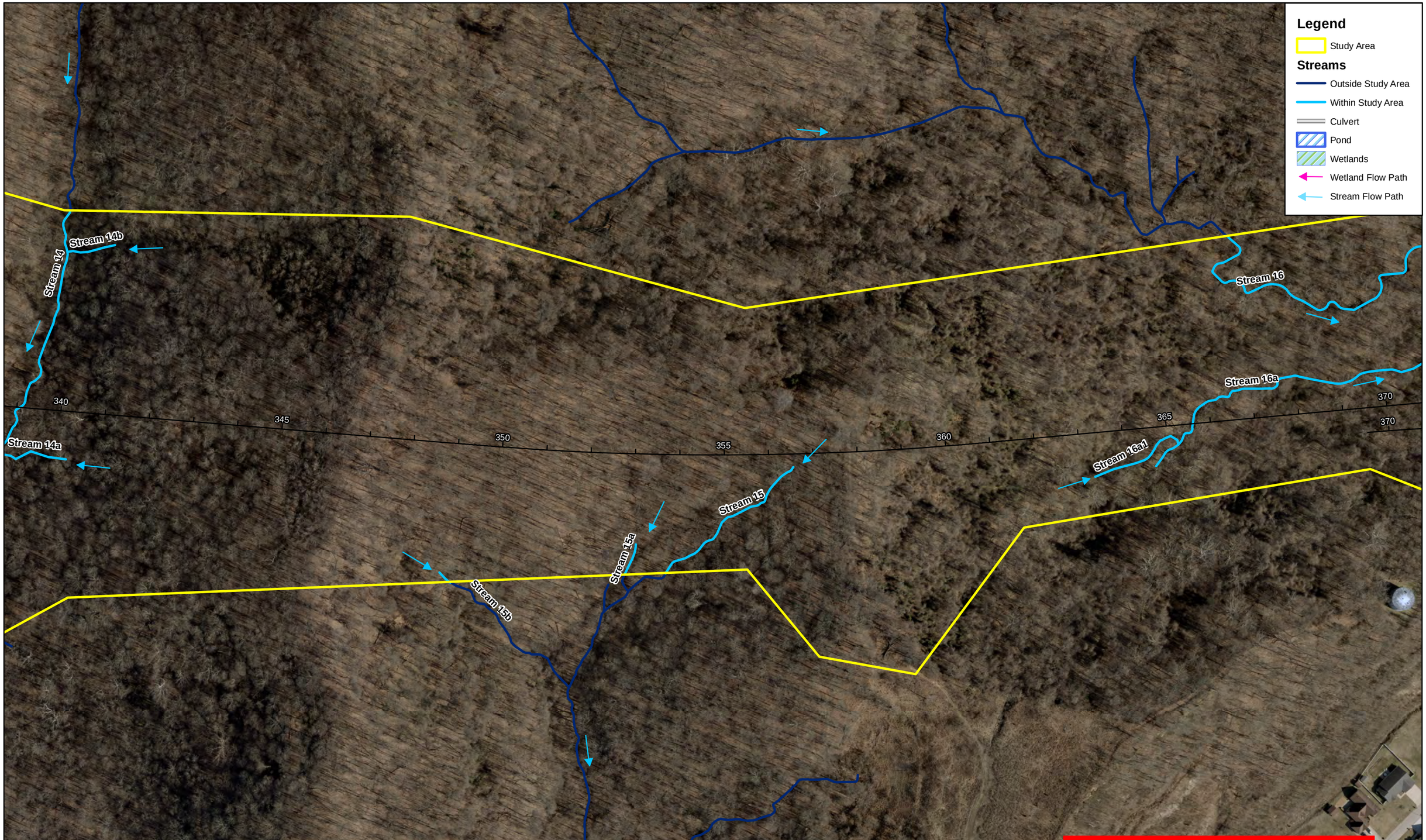
Source: OSIP

Figure 6. Water Resource Map-Page 8 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

0 75 150 300 Feet

Preliminary - Not for Construction

07/29/2024

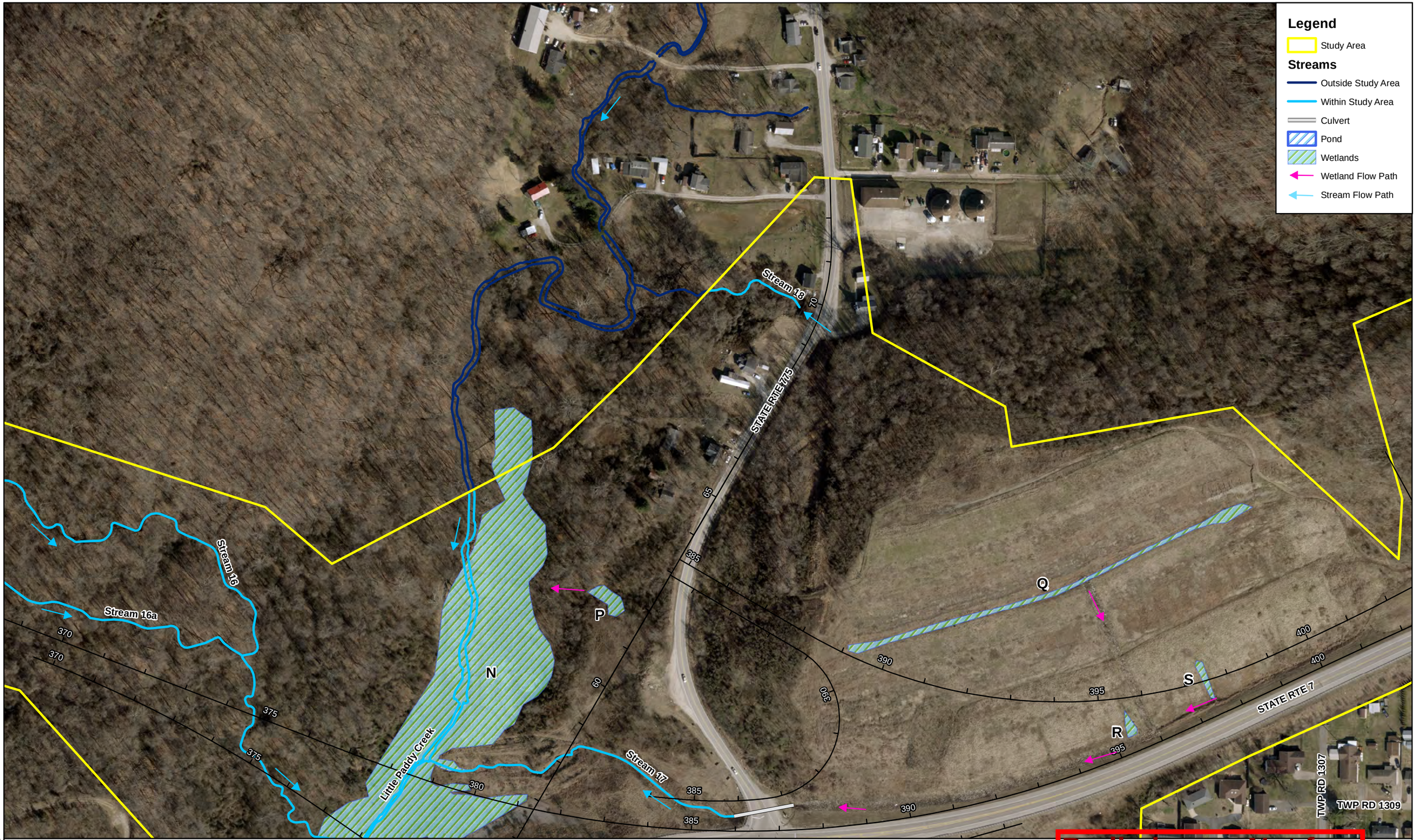


Source: OSIP

Figure 6. Water Resource Map-Page 9 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024



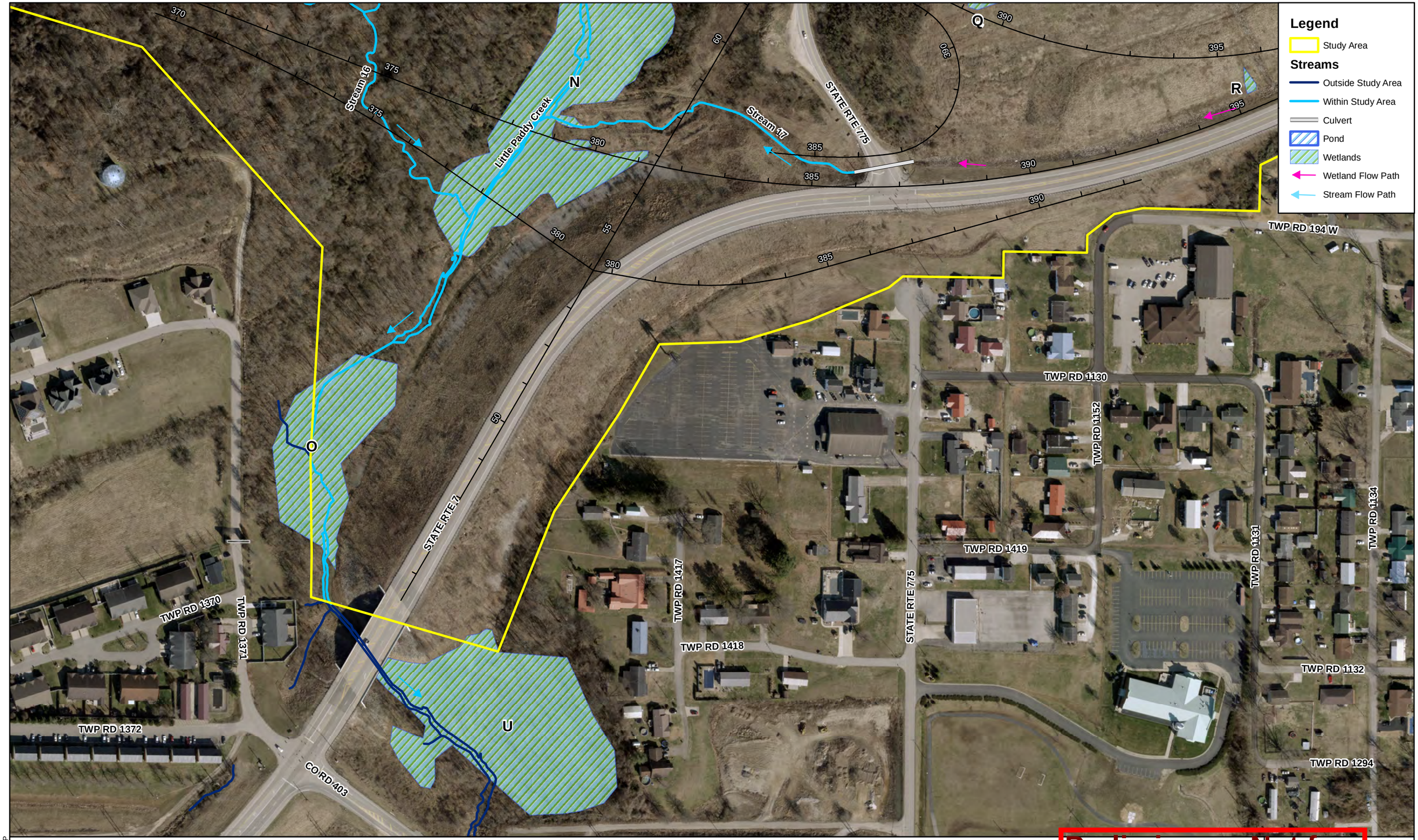
Source: OSIP

Figure 6. Water Resource Map- Page 10 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

0 75 150 300 Feet

Preliminary - Not for Construction

07/29/2024

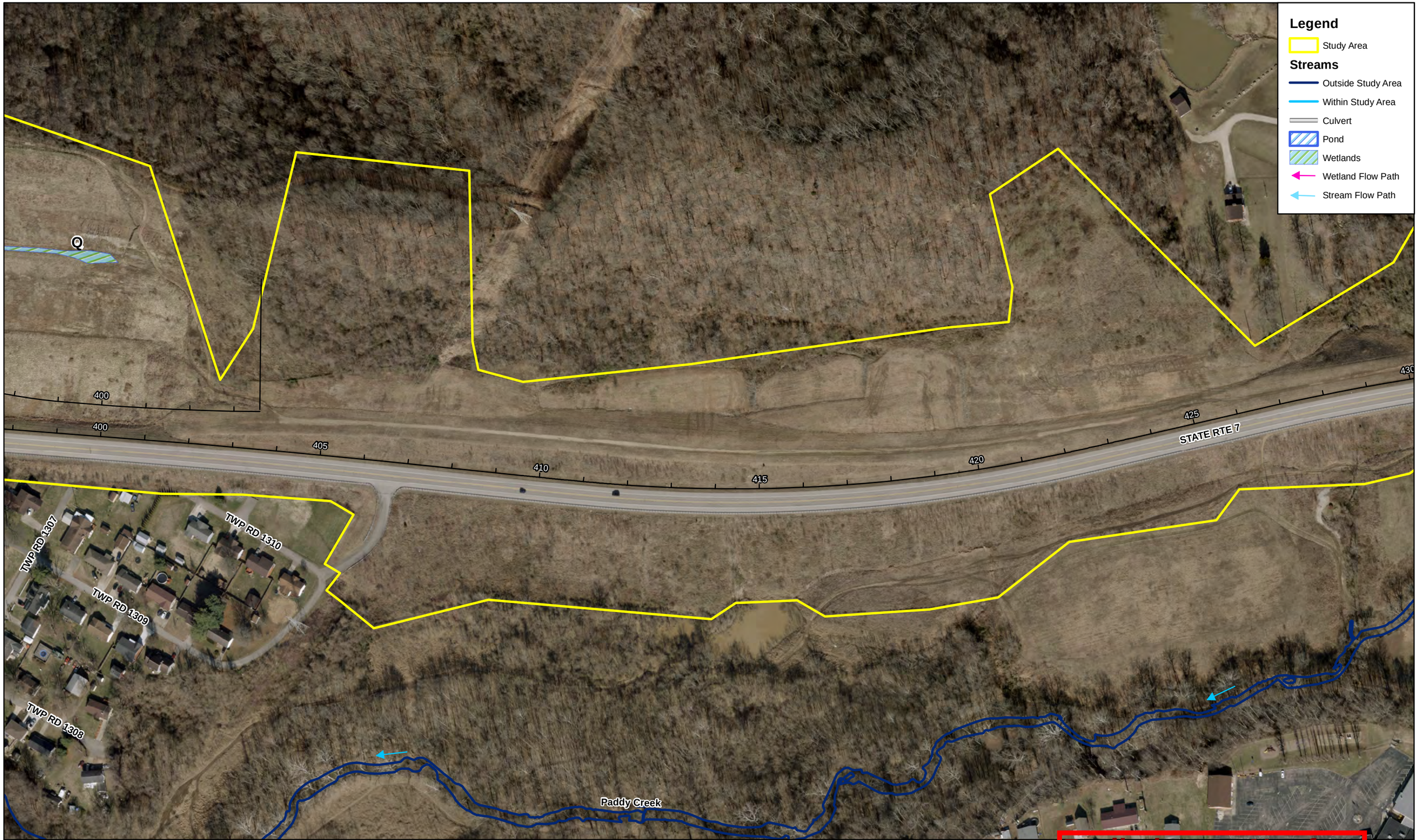


Source: OSIP

Figure 6. Water Resource Map-Page 11 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

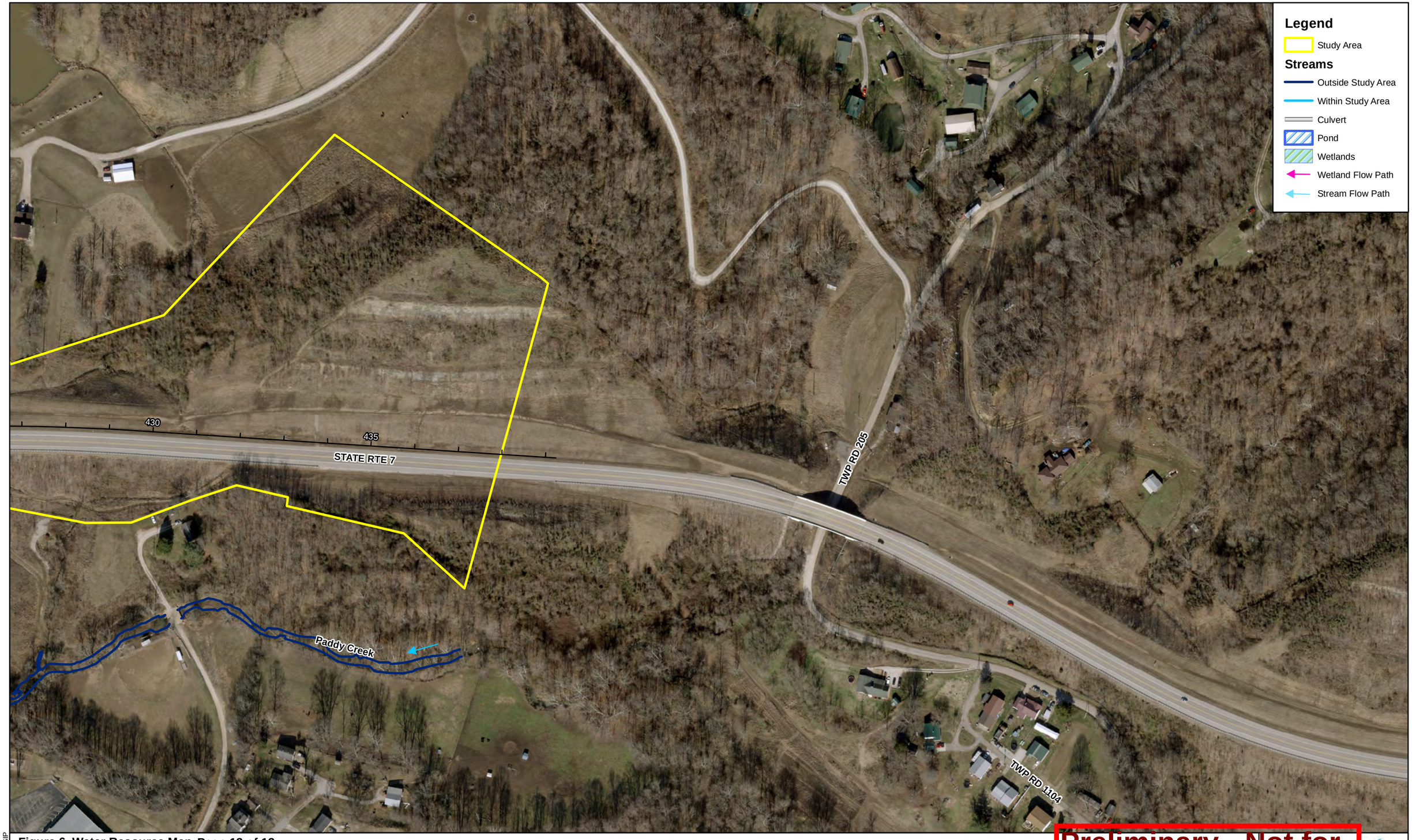


Source: OSIP

Figure 6. Water Resource Map- Page 12 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024



Source: OSIP

Figure 6. Water Resource Map- Page 13 of 13
LAW-SR 7-2.17 Phase 2A (PID 75923)
Lawrence County, Ohio

0 75 150 300 Feet

Preliminary - Not for Construction

07/29/2024

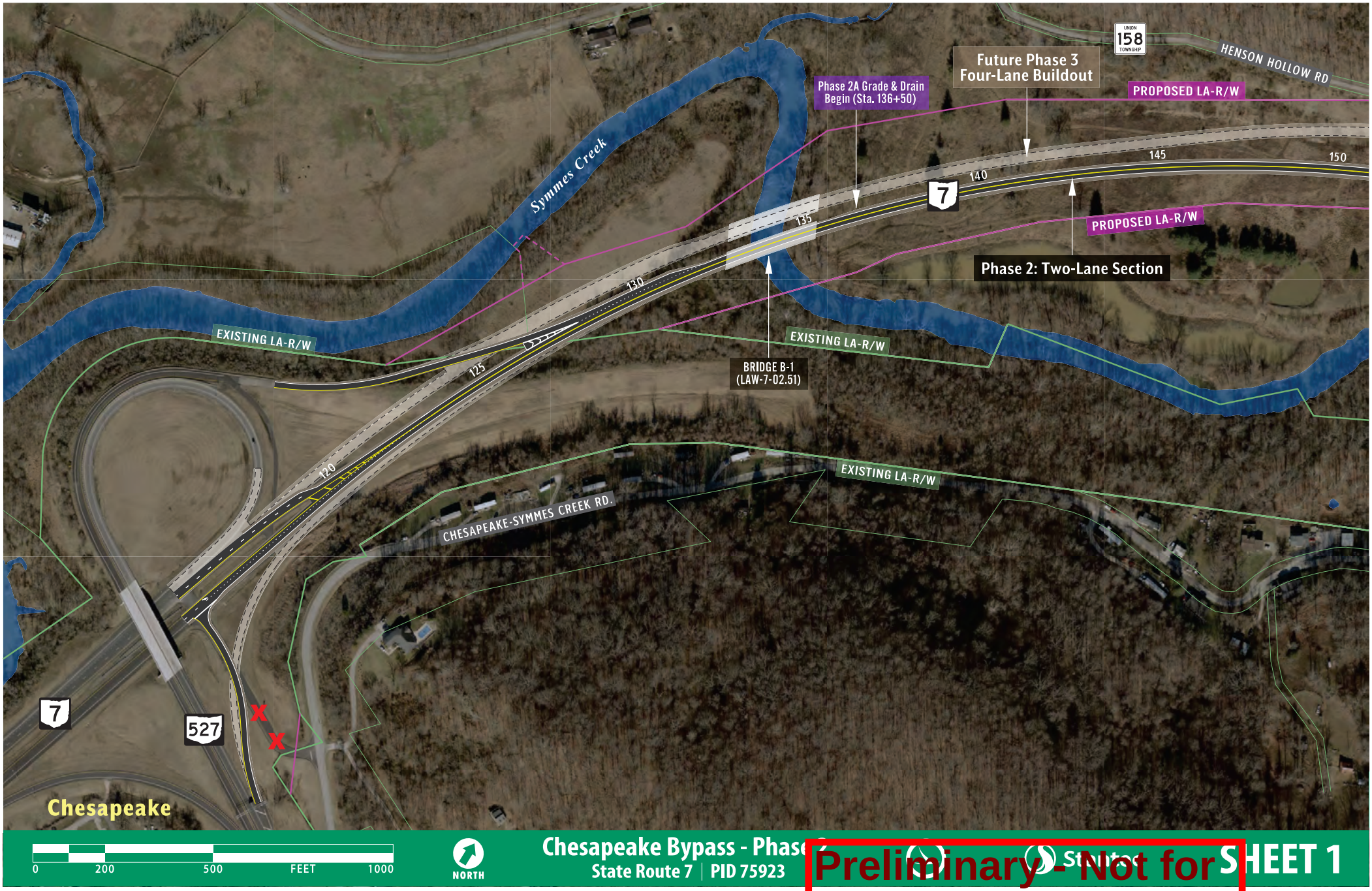
Proposed Project Mapping

Preliminary - Not for Construction

07/29/2024

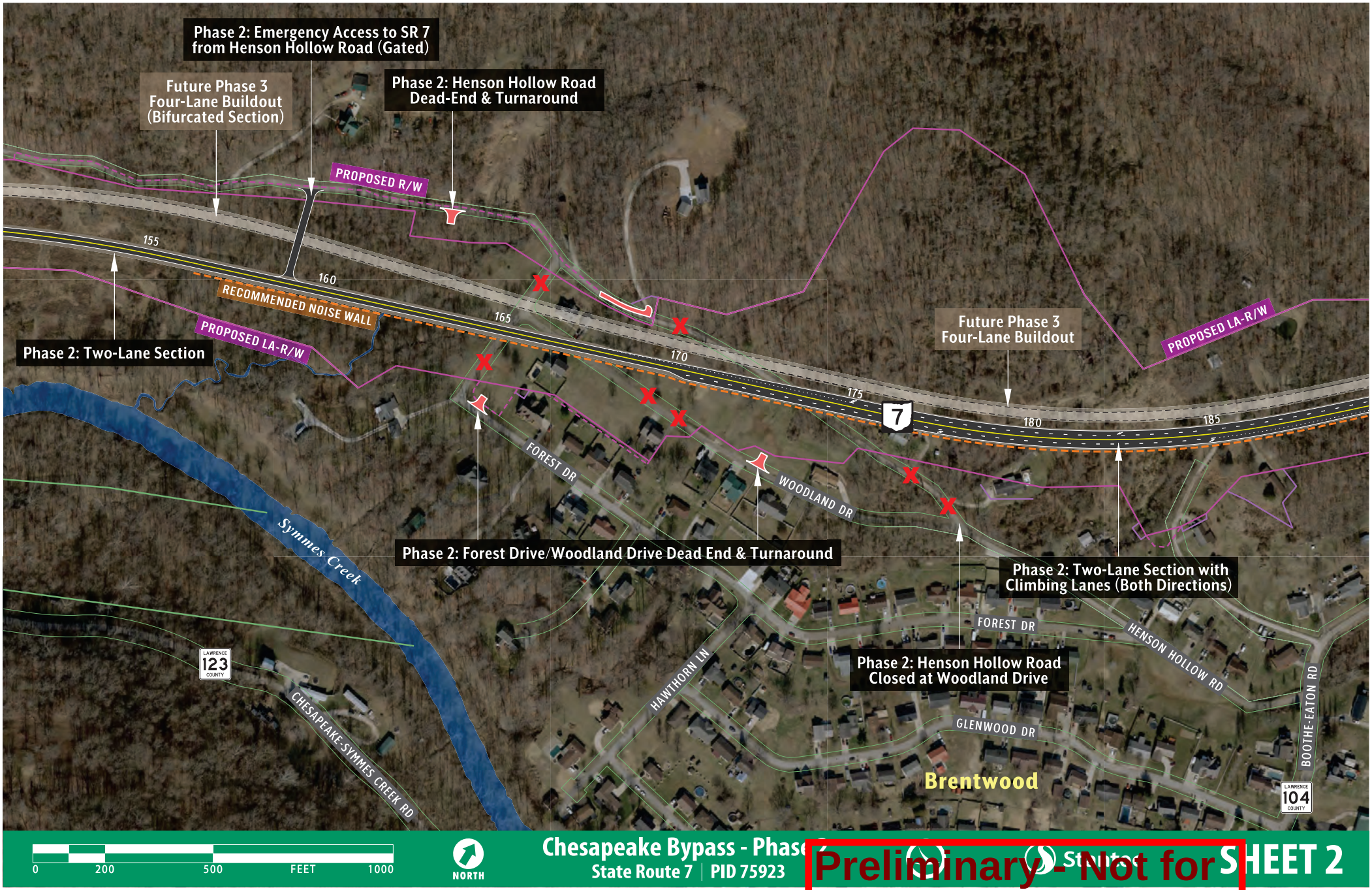
EXHIBIT SHEET KEY

Preliminary - Not for Construction 07/29/2024



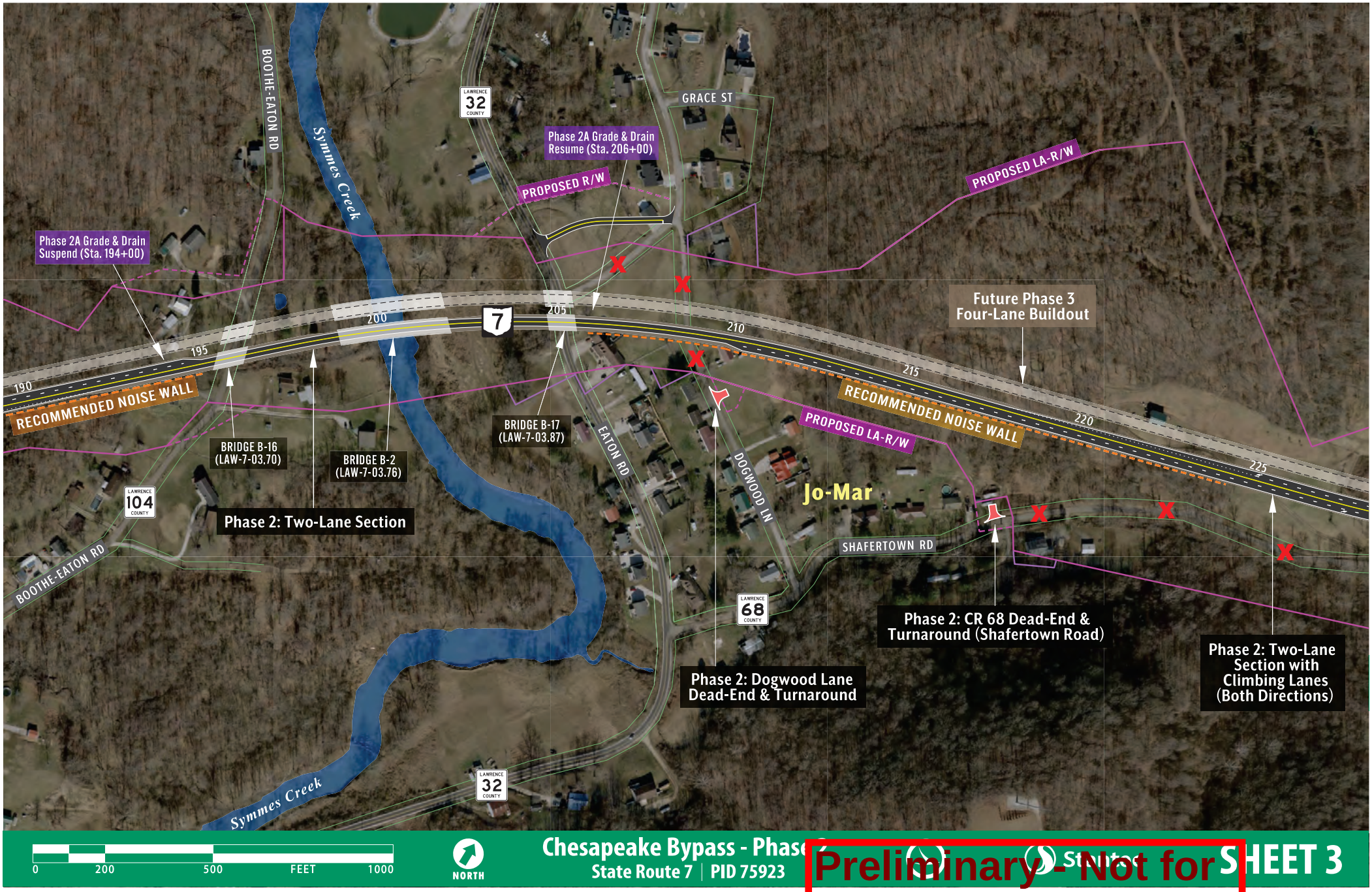
Preliminary - Not for Construction

07/29/2024



Preliminary - Not for Construction

07/29/2024

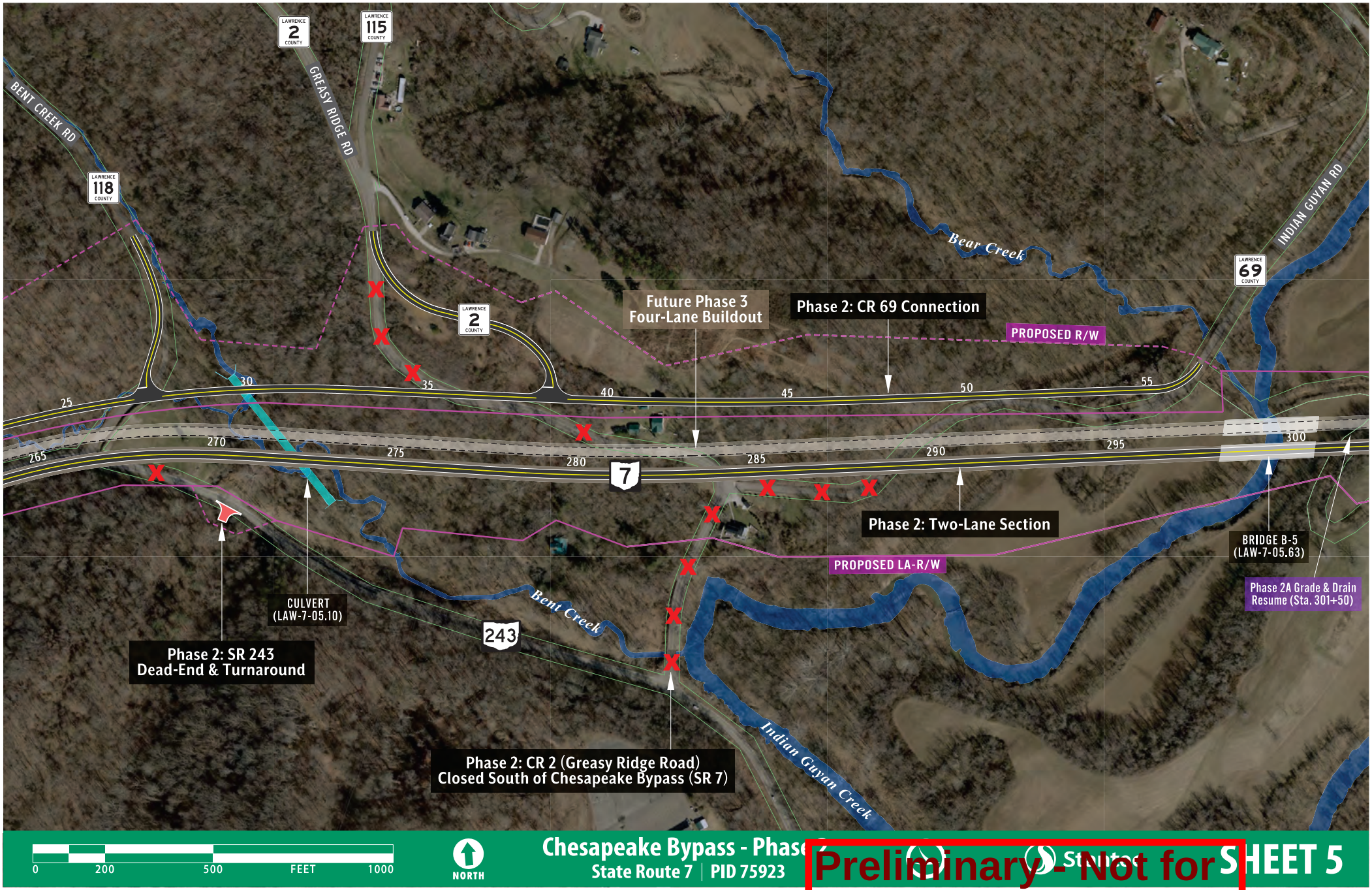


Preliminary - Not for Construction

07/29/2024

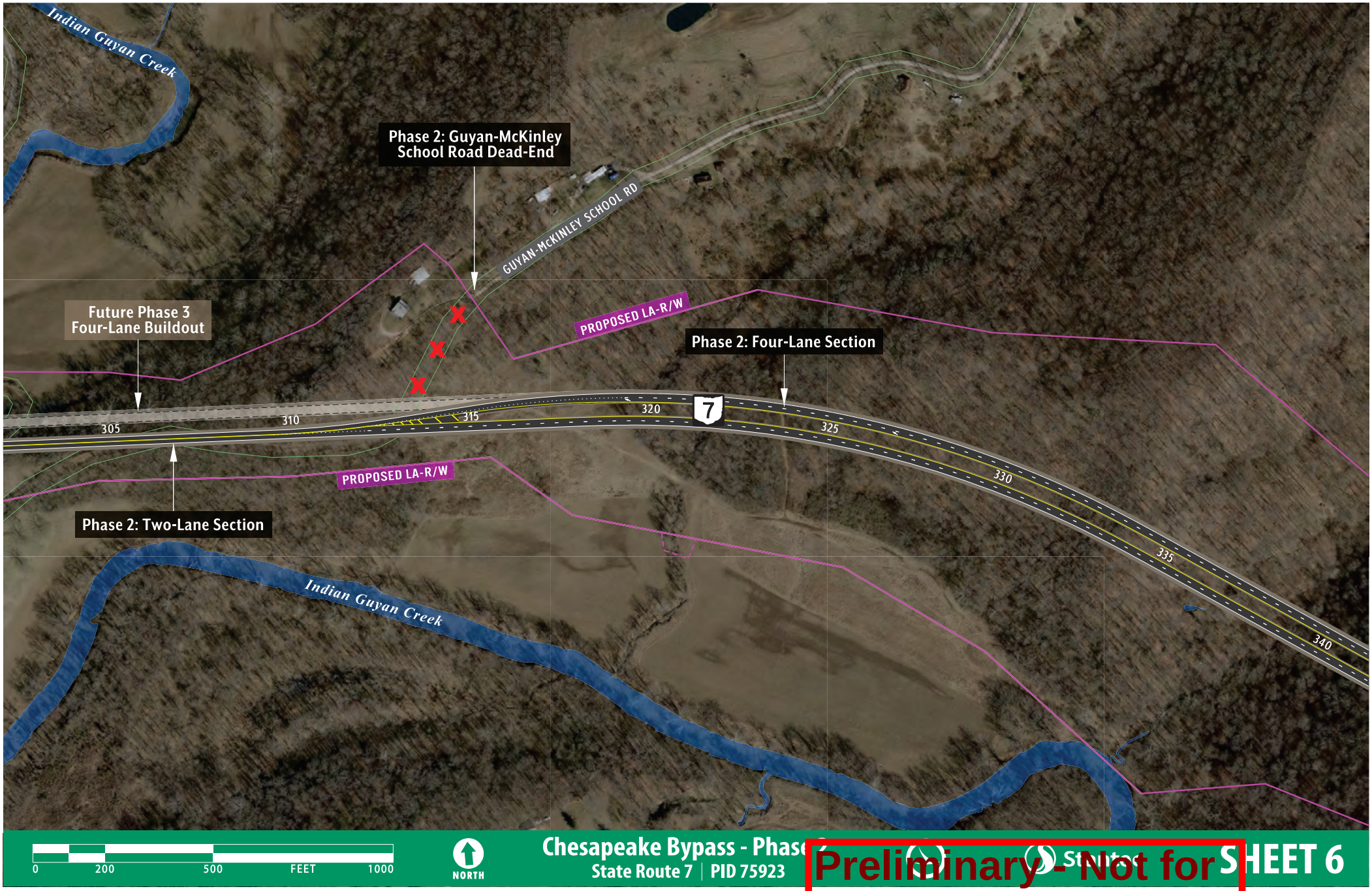
Preliminary - Not for Construction

07/29/2024



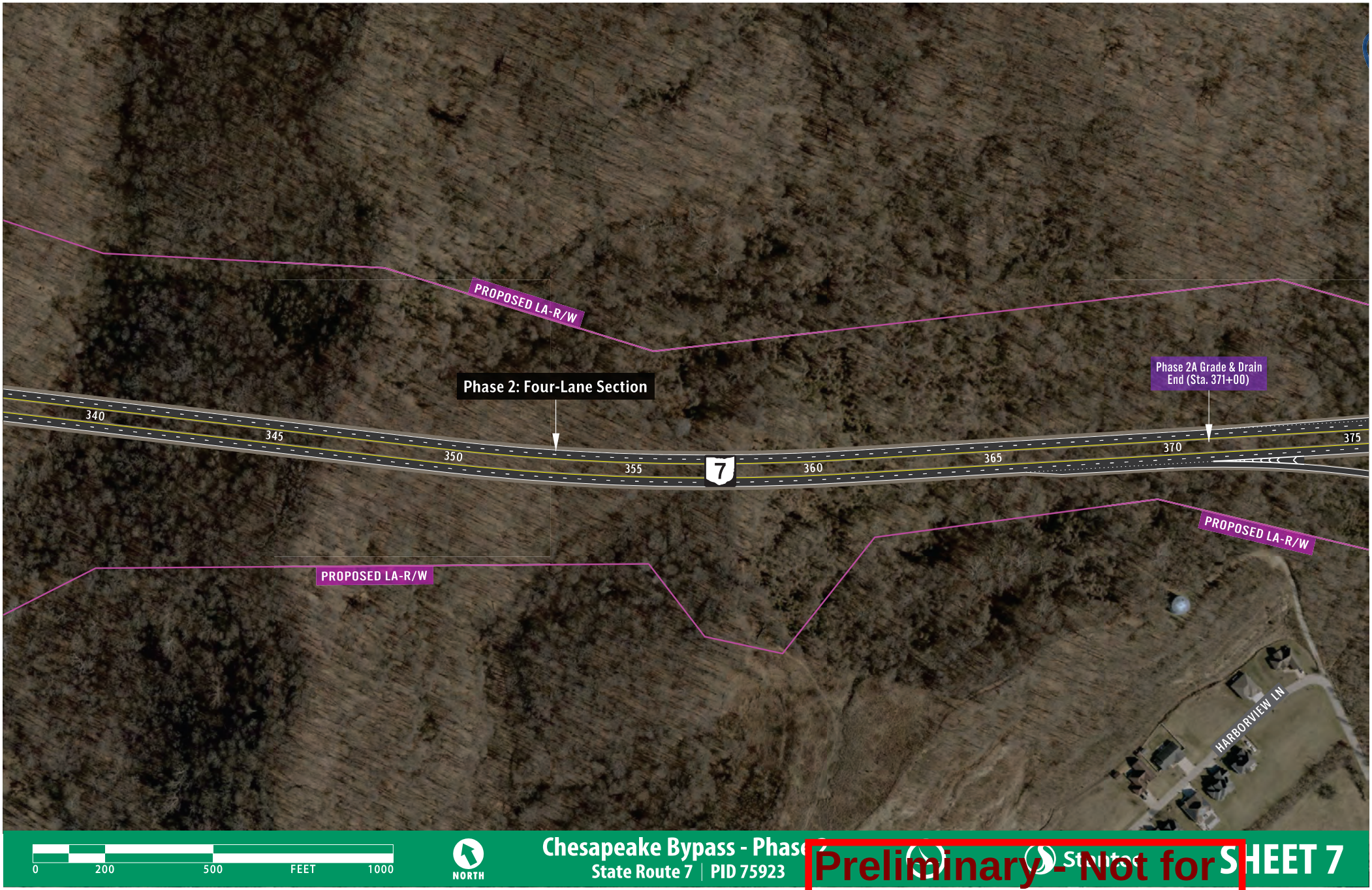
Preliminary - Not for Construction

07/29/2024



Preliminary - Not for Construction

07/29/2024



Preliminary - Not for Construction

07/29/2024

Chesapeake Bypass - Phase
State Route 7 | PID 75923

SHEET 8

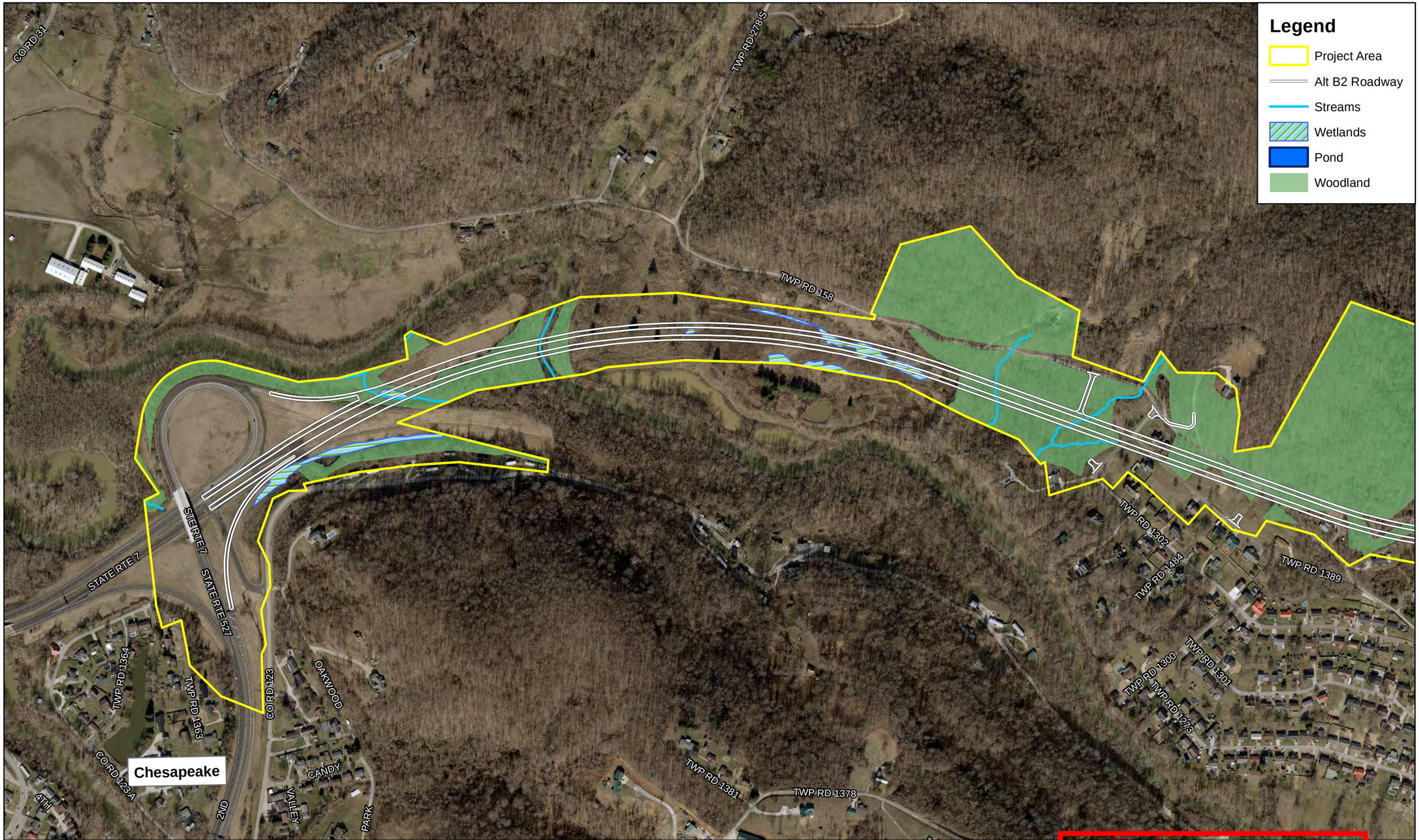
Preliminary - Not for Construction

07/29/2024

Preliminary - Not for Construction

07/29/2024

Alternative Analysis Mapping



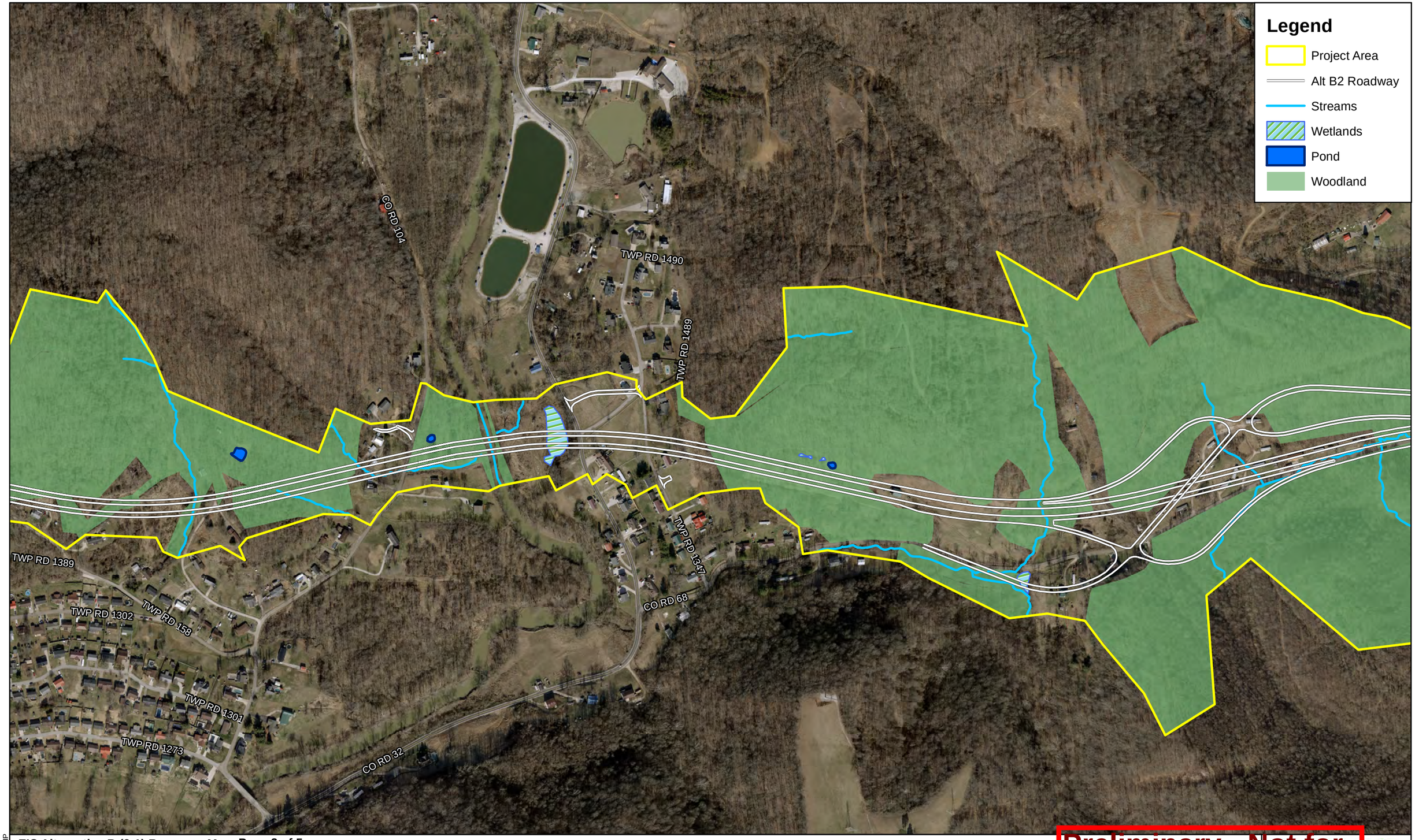
Source: OSIP

EIS Alternative B (3:1) Resource Map- Page 1 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

0 0.025 0.05 0.1 Miles

Preliminary - Not for Construction

07/29/2024



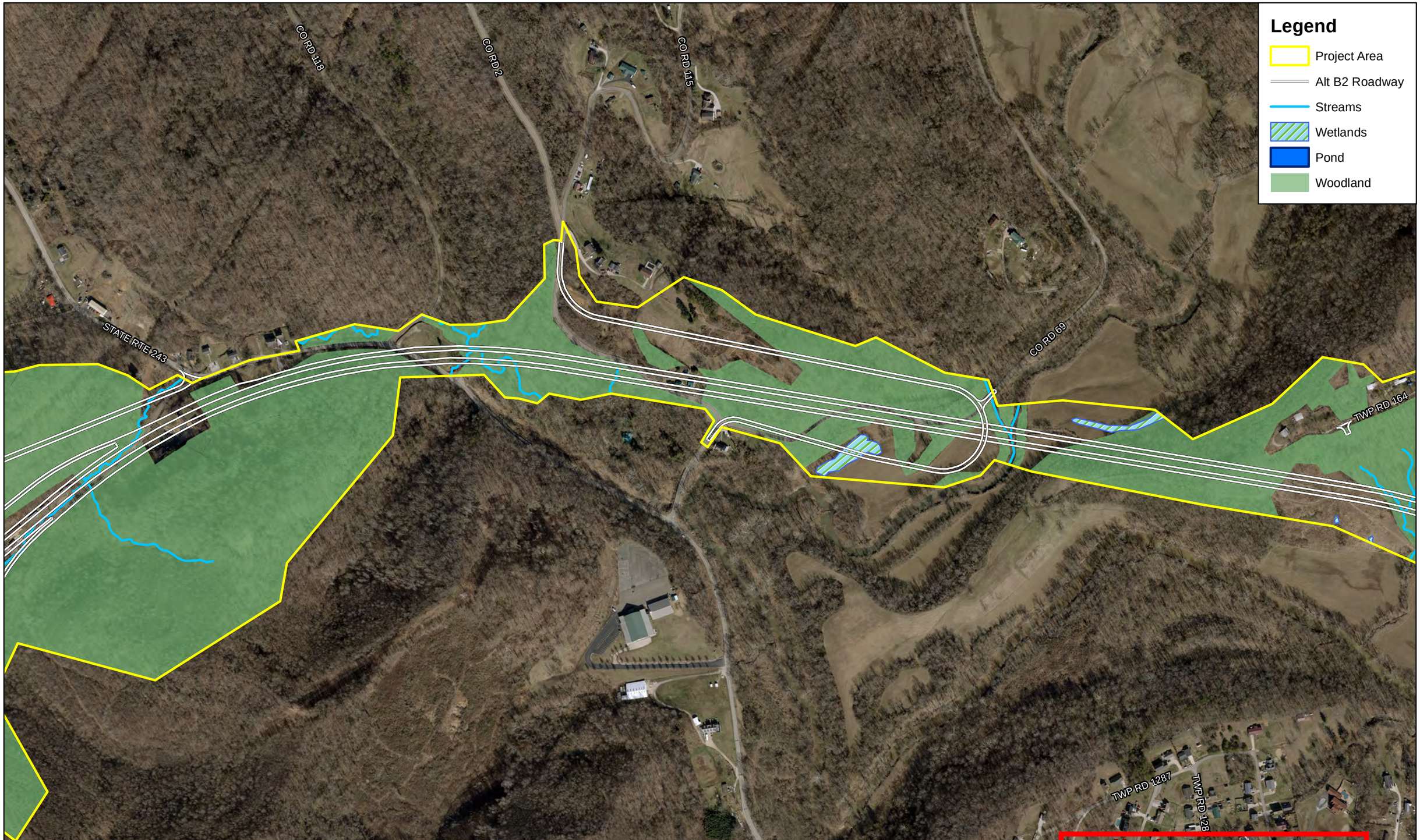
Source: OSIP

EIS Alternative B (3:1) Resource Map- Page 2 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

0 0.025 0.05 0.1 Miles

Preliminary - Not for Construction

07/29/2024

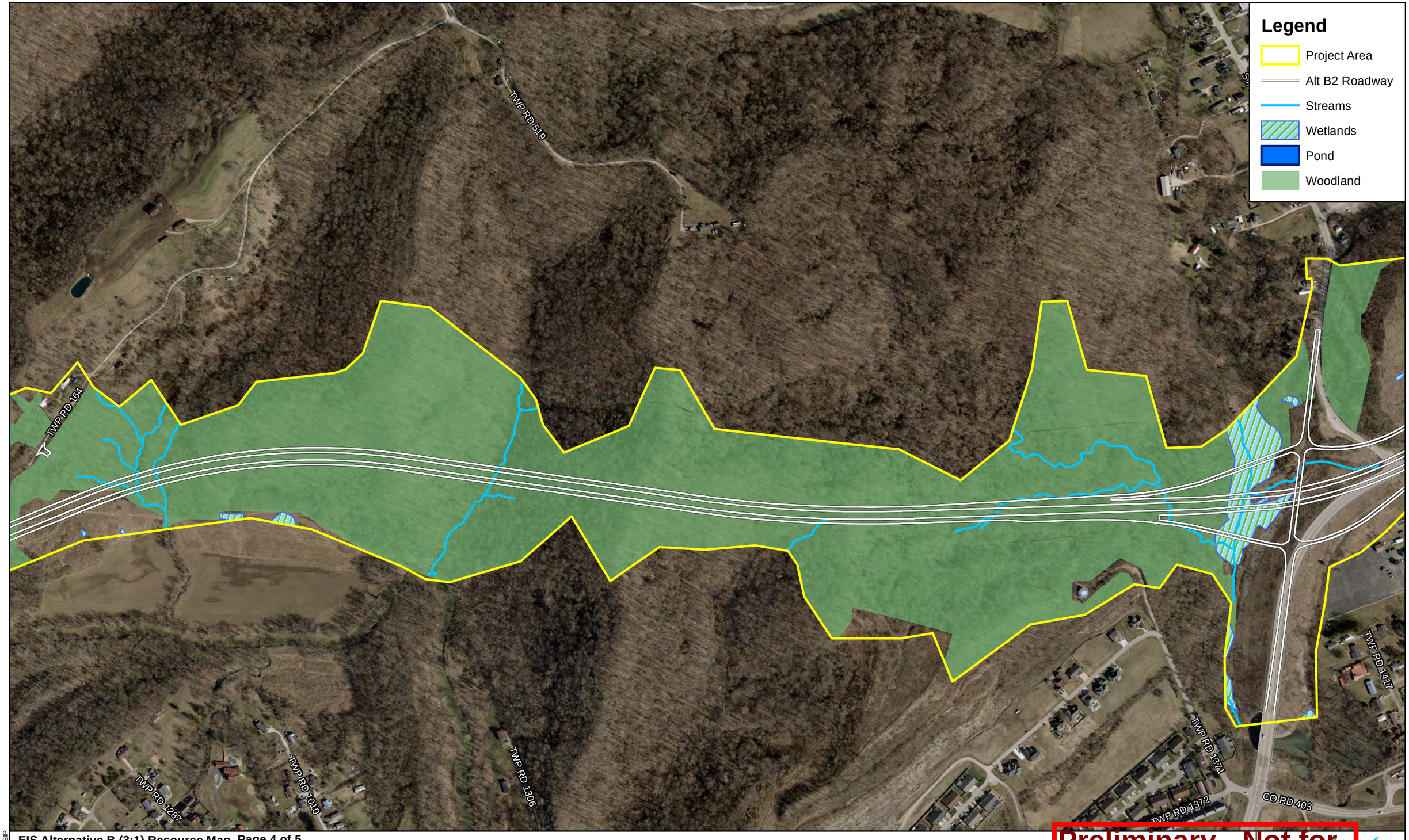


Source: OSIP

EIS Alternative B (3:1) Resource Map- Page 3 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024



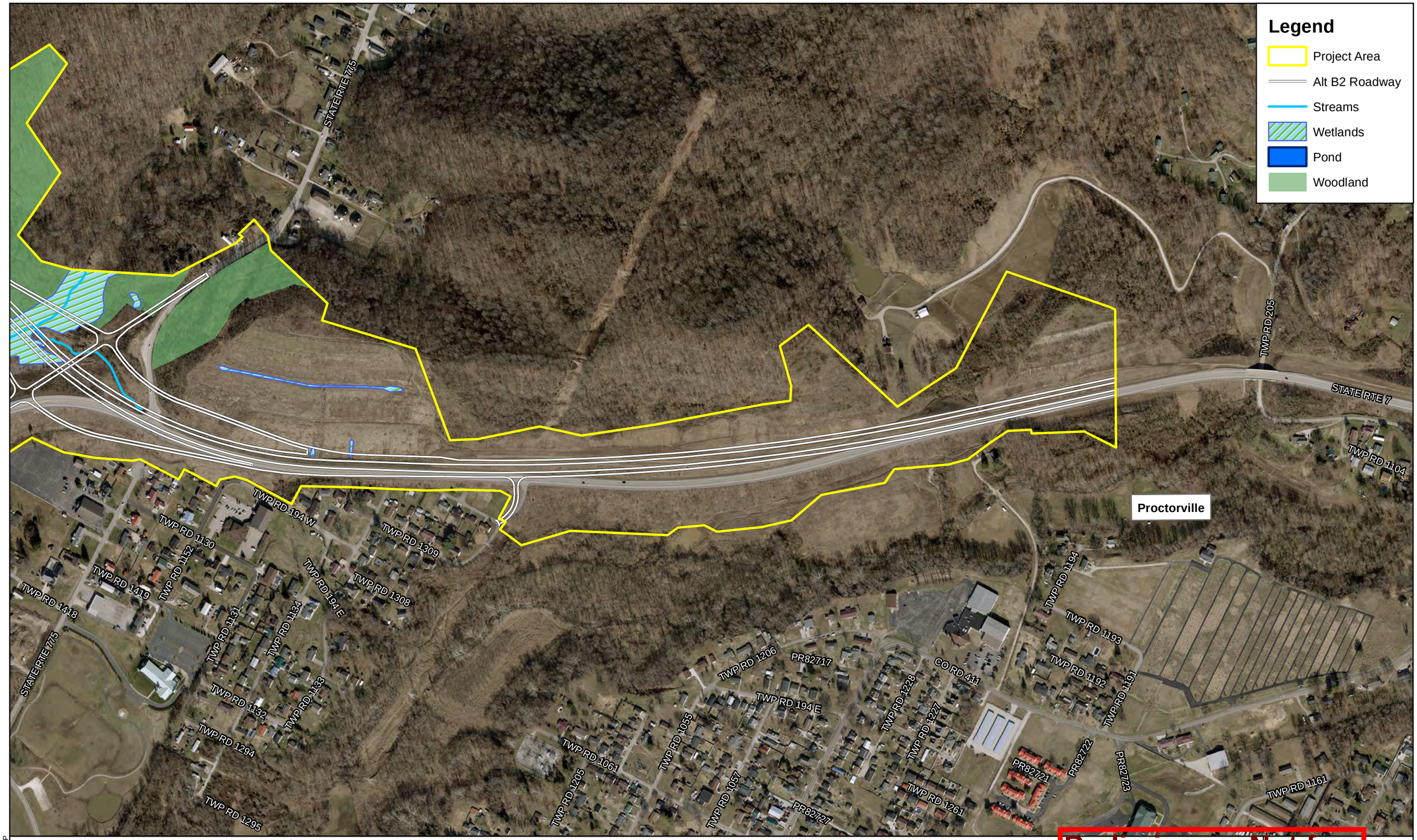
Source: OSIP

EIS Alternative B (3:1) Resource Map- Page 4 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

0 0.025 0.05 0.1 Miles

Preliminary - Not for Construction

07/29/2024



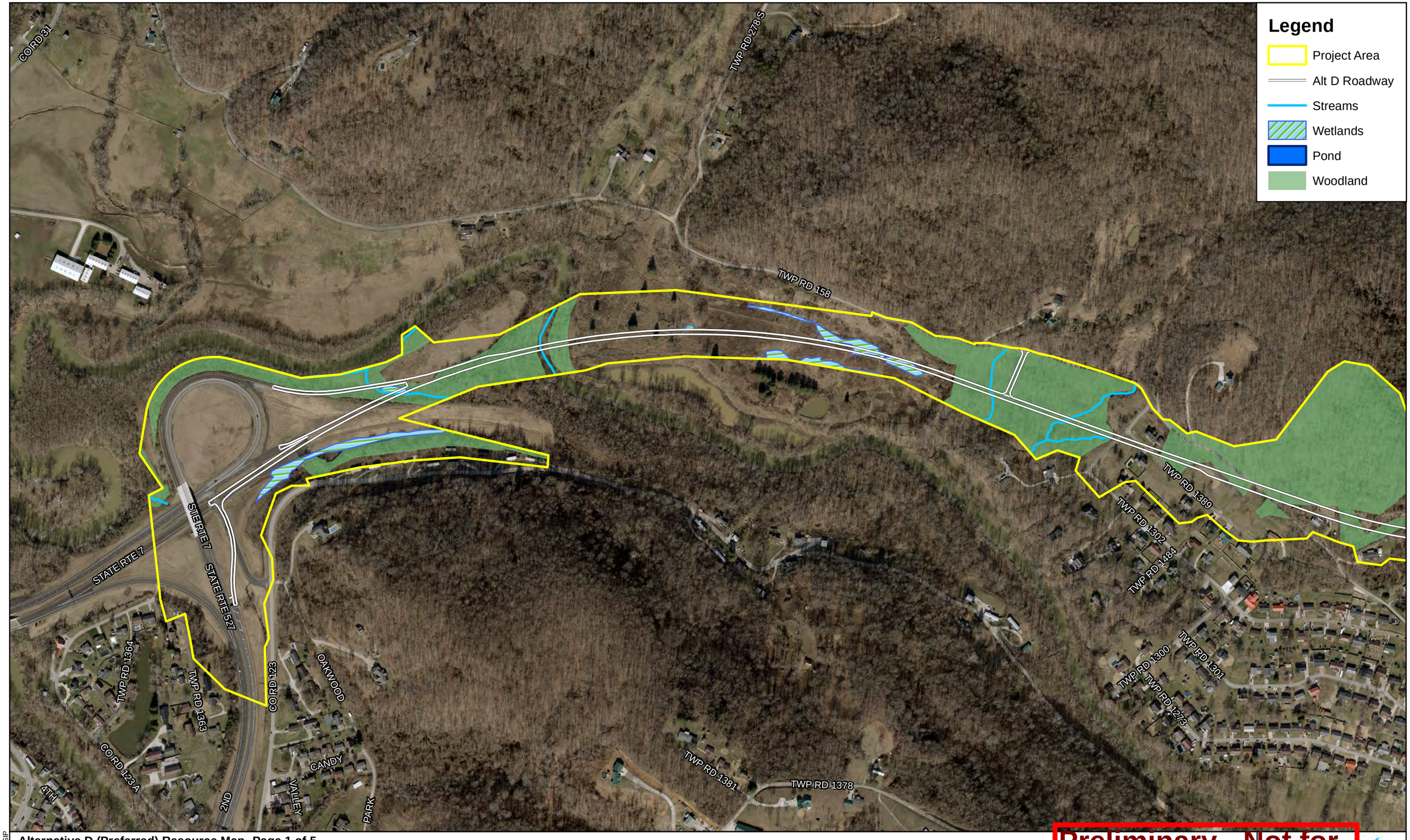
EIS Alternative B (3:1) Resource Map- Page 5 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Source: OSIP

0 0.025 0.05 0.1 Miles

Preliminary - Not for Construction

07/29/2024

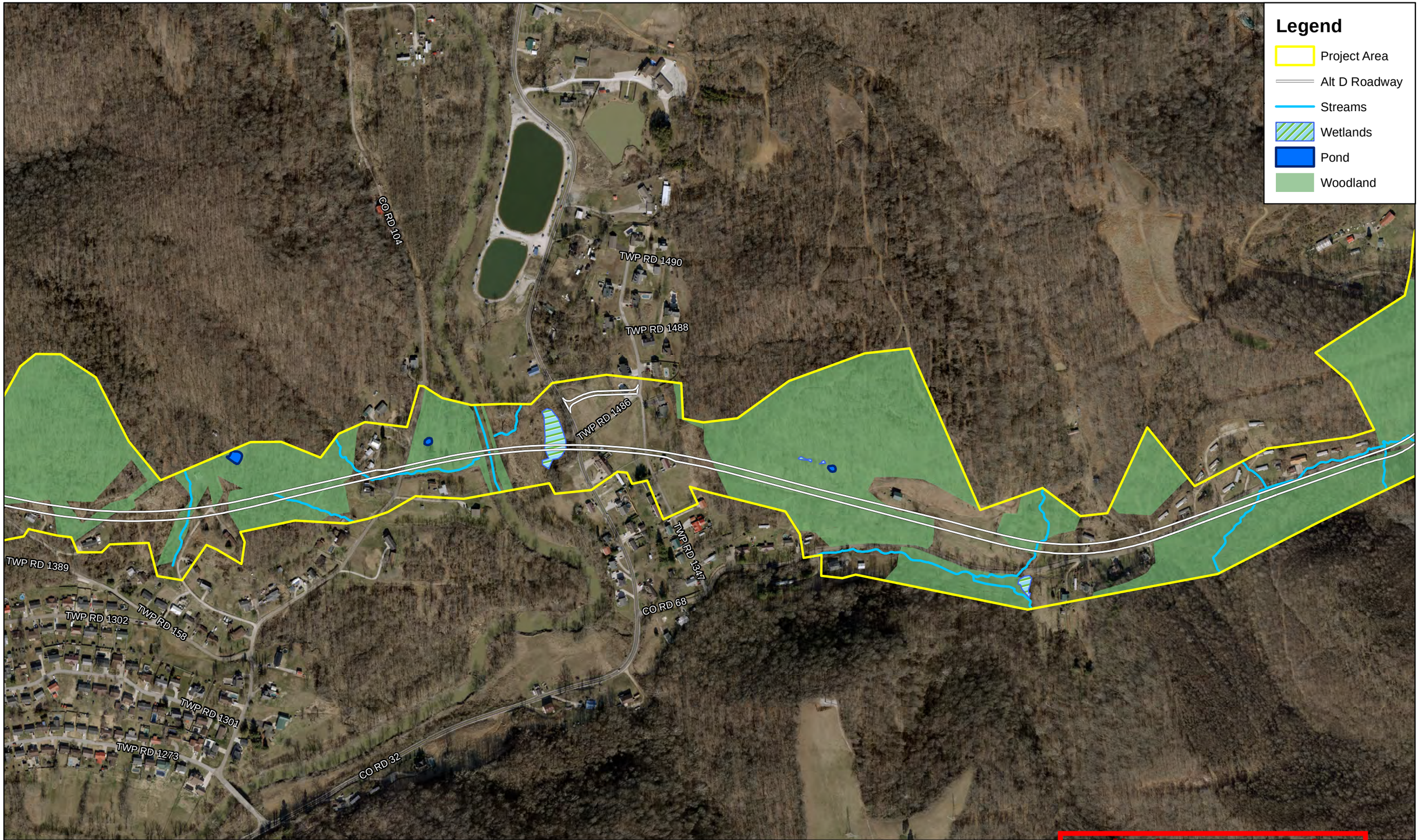


Source: OSIP

Alternative D (Preferred) Resource Map- Page 1 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

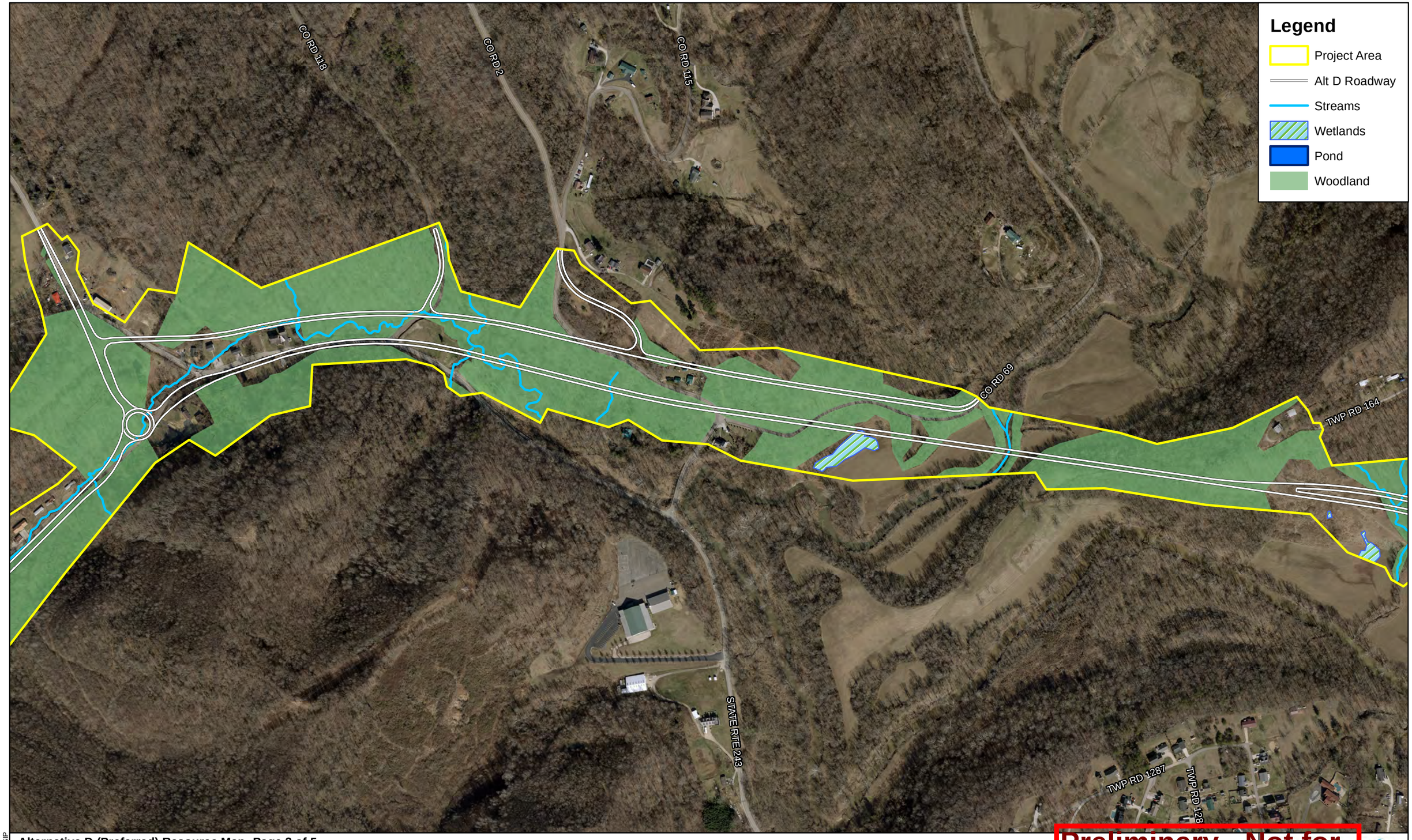


Source: OSIP

Alternative D (Preferred) Resource Map- Page 2 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

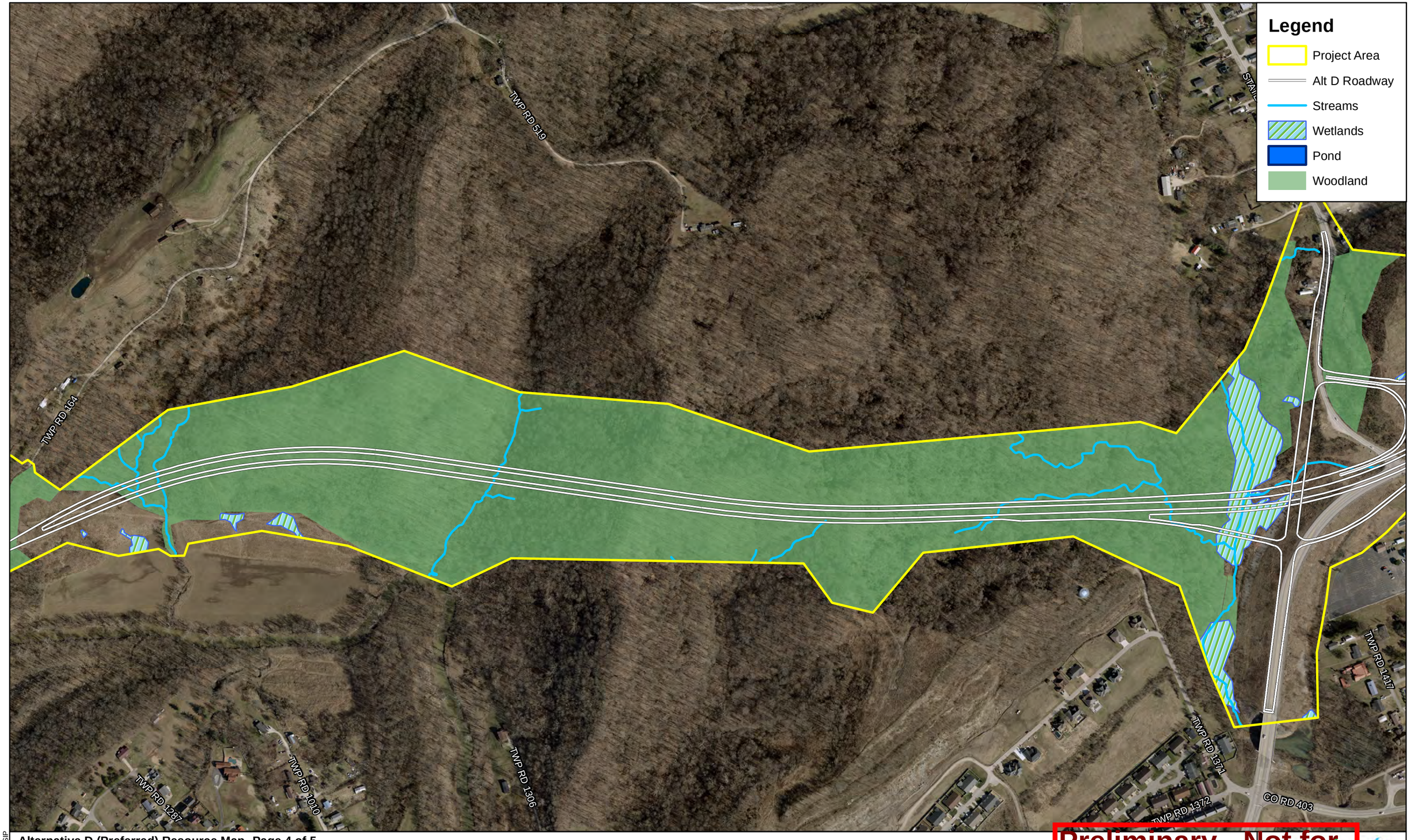


Source: OSIP

Alternative D (Preferred) Resource Map- Page 3 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

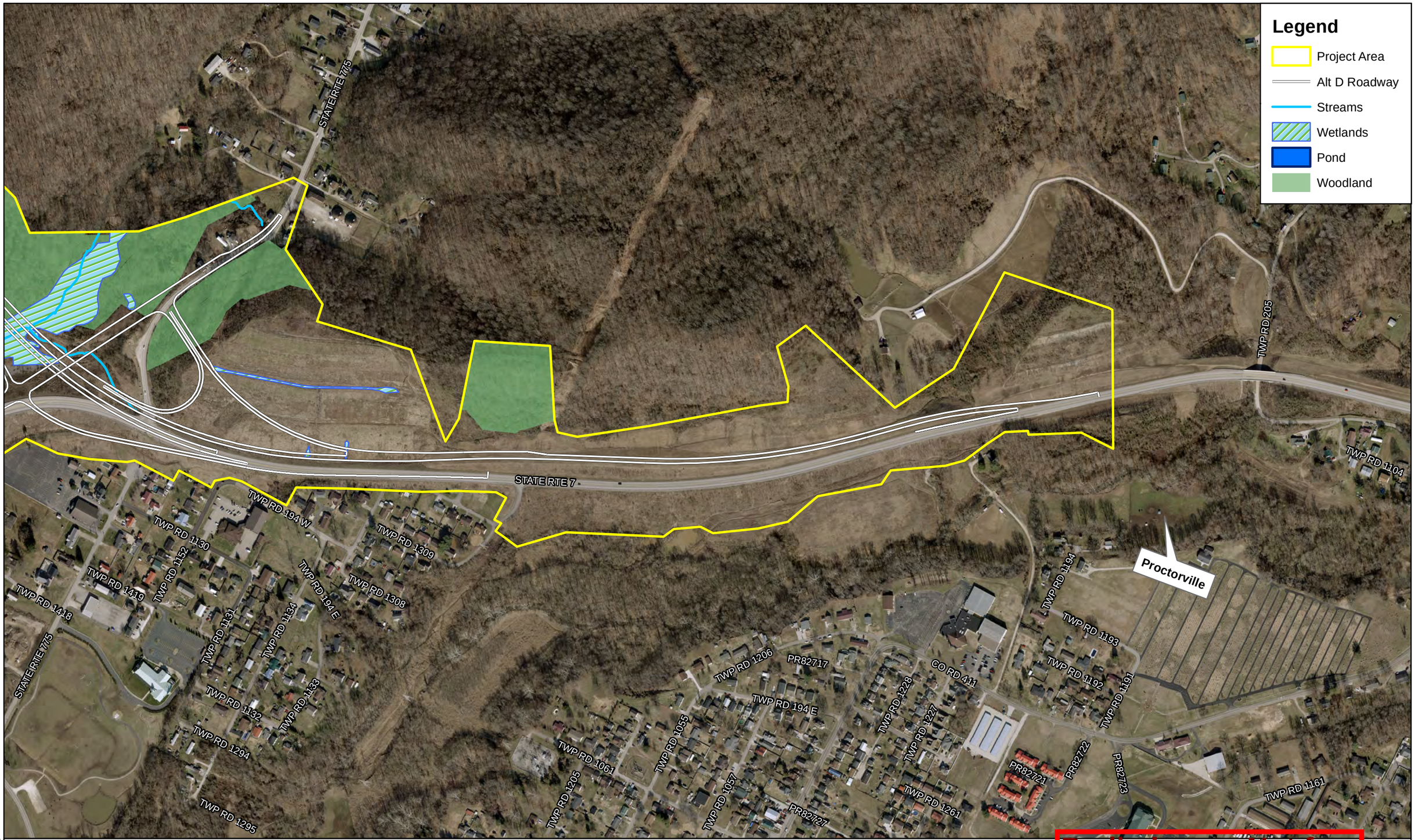


Source: OSIP

Alternative D (Preferred) Resource Map- Page 4 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024



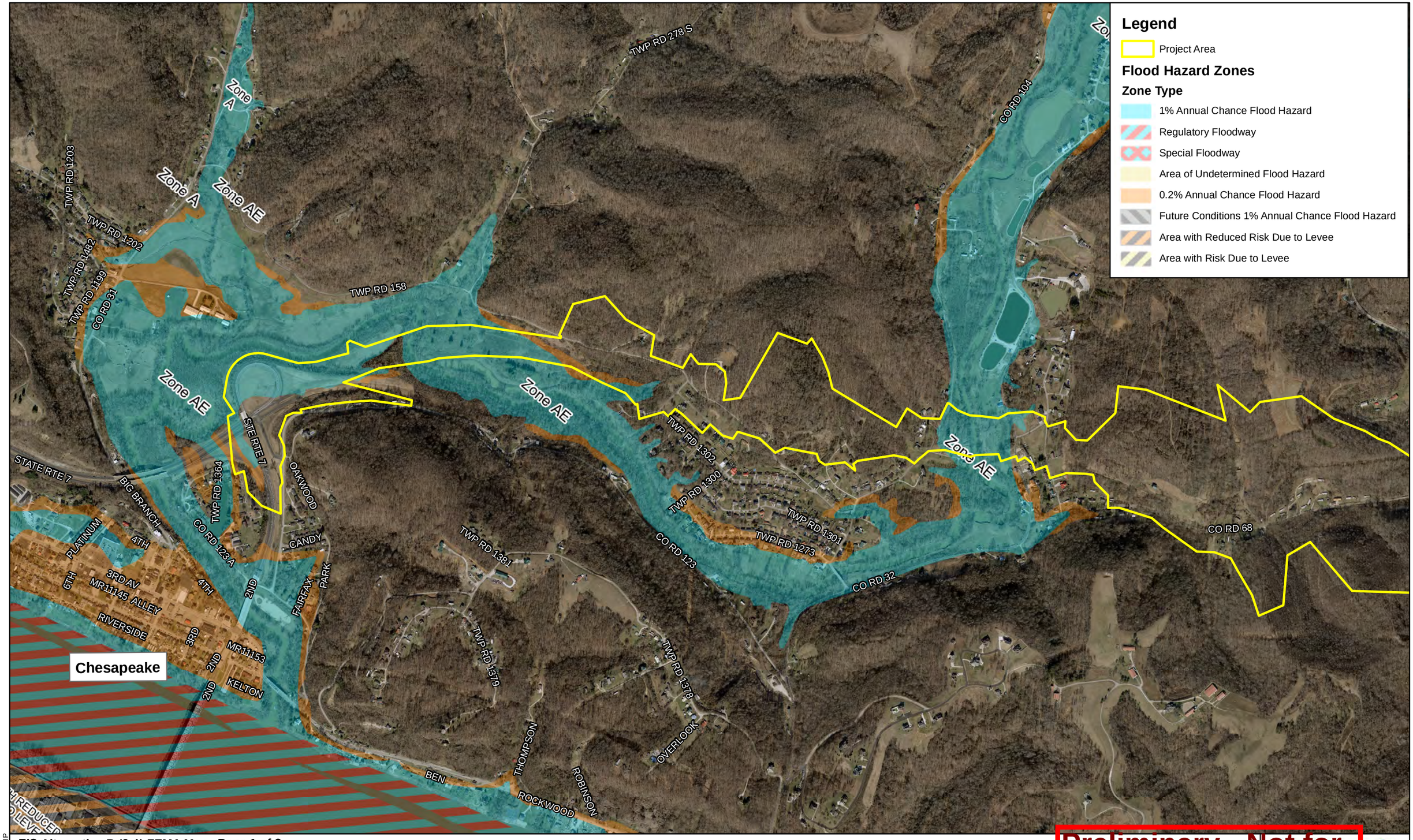
Source: OSIP

Alternative D (Preferred) Resource Map- Page 5 of 5
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

0 0.025 0.05 0.1 Miles

Preliminary - Not for Construction

07/29/2024



Source: OSIP

EIS Alternative B (3:1) FEMA Map- Page 1 of 3
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

Source: OSIP

EIS Alternative B (3:1) FEMA Map- Page 2 of 3
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

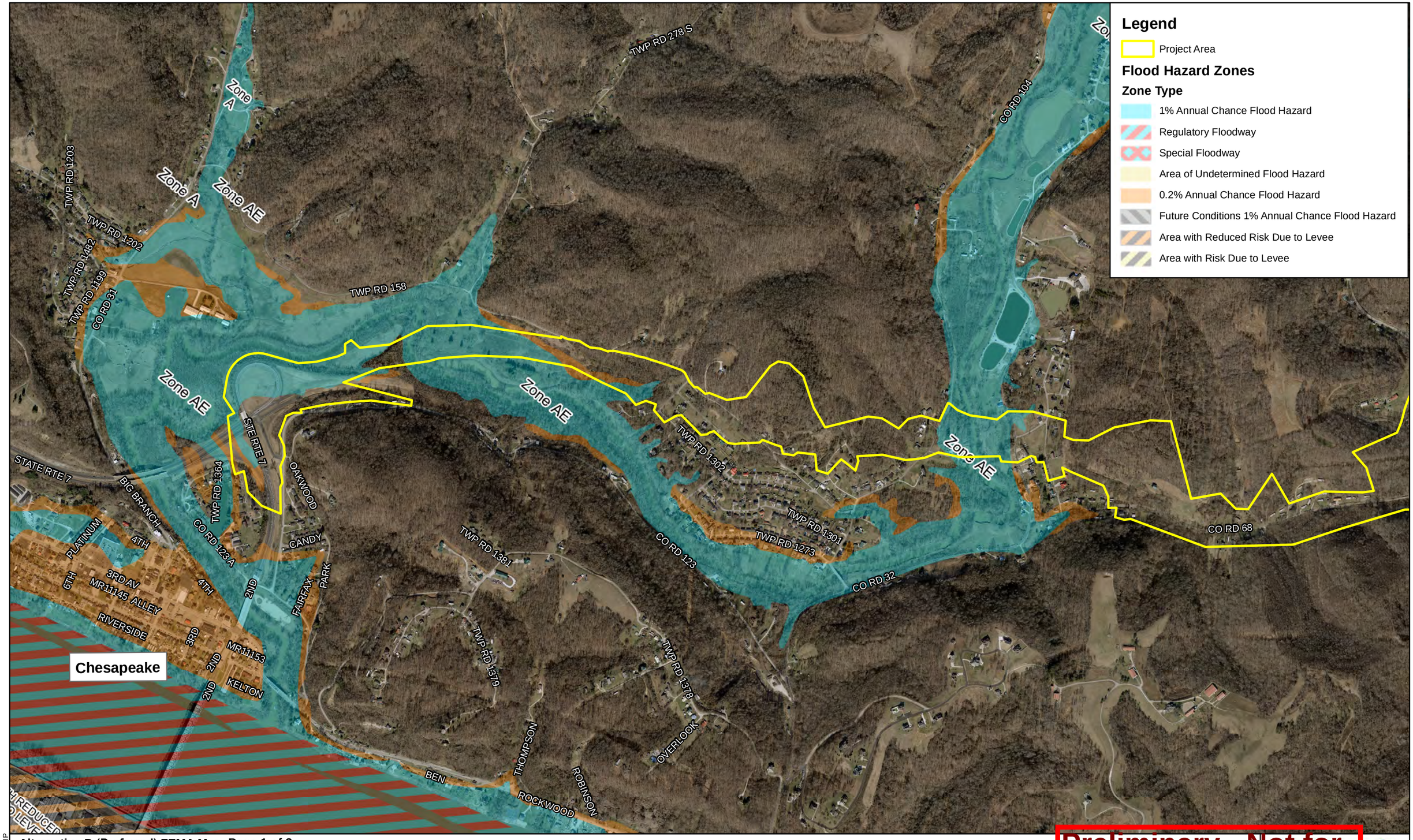
07/29/2024

Source: OSIP

EIS Alternative B (3:1) FEMA Map- Page 3 of 3
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024



Source: OSIP

Alternative D (Preferred) FEMA Map- Page 1 of 3
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

Source: OSIP

Alternative D (Preferred) FEMA Map- Page 2 of 3
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

0 0.05 0.1 0.2 Miles

Preliminary - Not for Construction

07/29/2024

Source: OSIP

Alternative D (Preferred) FEMA Map- Page 3 of 3
LAW-SR 7-2.17 (PID 75923)
Lawrence County, Ohio

Preliminary - Not for Construction

07/29/2024

Project Plan Sheets (Phase 2A)

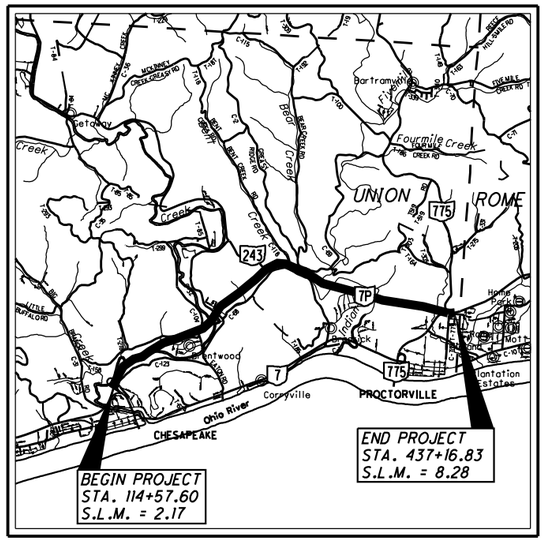
Cross Sections have been removed to manage the size of this application. A separate file of cross sections is located in the ODOT EnviroNet Project File.

Preliminary - Not for Construction 07/29/2024

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LAW-7-2.17-PHASE 2A

VILLAGE OF CHESAPEAKE
VILLAGE OF PROCTORVILLE
UNION TOWNSHIP
ROME TOWNSHIP
LAWRENCE COUNTY



LOCATION MAP

LATITUDE: N 38°27'16" LONGITUDE: W 82°25'19"

SCALE IN MILES
0 1 2 3 4

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

FOR DESIGN DESIGNATIONS AND DESIGN EXCEPTIONS, SEE SHEET 2.

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:

Stantec
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204
(614) 486-4383

OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT NINE
650 EASTERN AVENUE, P.O. BOX 467
CHILLICOTHE, OHIO 45601

ENGINEERS SEAL:
SIGNED:
DATE:

ENGINEERS SEAL:
SIGNED:
DATE:

ENGINEERS SEAL:
SIGNED:
DATE:

INDEX OF SHEETS:

STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS

PROJECT DESCRIPTION

THIS PROJECT IS THE THIRD PHASE OF THE LAW-7-2.17 STATE ROUTE 7 RELOCATION PROJECT. THIS GRADE AND DRAIN PROJECT WILL CONSTRUCT THE EMBANKMENT AND NECESSARY DRAINAGE ITEMS FOR 3.26 MILES OF STATE ROUTE 7. ALSO INCLUDED IS THE CONSTRUCTION OF ROADWAY IMPROVEMENTS ALONG 0.5 MILES OF C.R. 104 AND C.R. 32. THE RELOCATION OF 0.08 MILES OF LYNN LANE WILL ALSO BE A PART OF THIS PROJECT. THE CONSTRUCTION OF SIX TURNAROUNDS, TWO DETENTION BASINS AND PERMANENT TRAFFIC CONTROL WILL ALSO BE INCLUDED WITH THIS PROJECT.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS 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 EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEETS 19-22 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. E035(921) E060(482)
PID NO. 75923
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
LAW-7-2.17
1 297

CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99
Δ = 53° 33′ 53″ (RT)
Dc = 1° 27′ 15″
R = 3,940.00′
T = 1,880.13′
L = 3,508.44′
E = 425.60′
TS STA. 117+84.61
SC STA. 119+59.61

θs = 1° 16′ 21″
Ls = 175.00′
Ts = 2,076.38′
LT = 116.67′
ST = 58.34′
e_{max} = 4.00%
CS STA. 154+68.05
ST STA. 156+43.05

CURVE DATA
S.R. 7
CURVE NO. 2

P.I. STA. 182+06.44
Δ = 24° 16′ 14″ (LT)
Dc = 2° 10′ 43″
R = 2,630.00′
T = 423.13′
L = 839.08′
E = 33.82′
TS STA. 175+03.18
SC STA. 177+78.18

θs = 2° 59′ 44″
Ls = 275.00′
Ts = 703.26′
LT = 183.36′
ST = 91.69′
e_{max} = 5.51%
CS STA. 186+17.26
ST STA. 188+92.26

CURVE DATA
S.R. 7
CURVE NO. 3

P.I. STA. 205+33.31
Δ = 27° 30′ 45″ (RT)
Dc = 1° 45′ 00″
R = 3,274.04′
T = 683.24′
L = 1,347.14′
E = 70.53′
TS STA. 196+19.13
SC STA. 198+44.13

θs = 1° 58′ 07″
Ls = 225.00′
Ts = 914.18′
LT = 150.01′
ST = 75.01′
e_{max} = 4.60%
CS STA. 211+91.27
ST STA. 214+16.27

CURVE DATA
S.R. 7
CURVE NO. 4

P.I. STA. 232+01.52
Δ = 34° 12′ 59″ (LT)
Dc = 4° 45′ 00″
R = 1,206.23′
T = 161.12′
L = 320.35′
E = 10.71′
TS STA. 226+28.73
SC STA. 230+28.73

θs = 9° 30′ 00″
Ls = 400.00′
Ts = 572.79′
LT = 267.05′
ST = 133.68′
e_{max} = 8.00%
CS STA. 233+49.08
ST STA. 237+49.08

CURVE DATA
S.R. 7
CURVE NO. 5

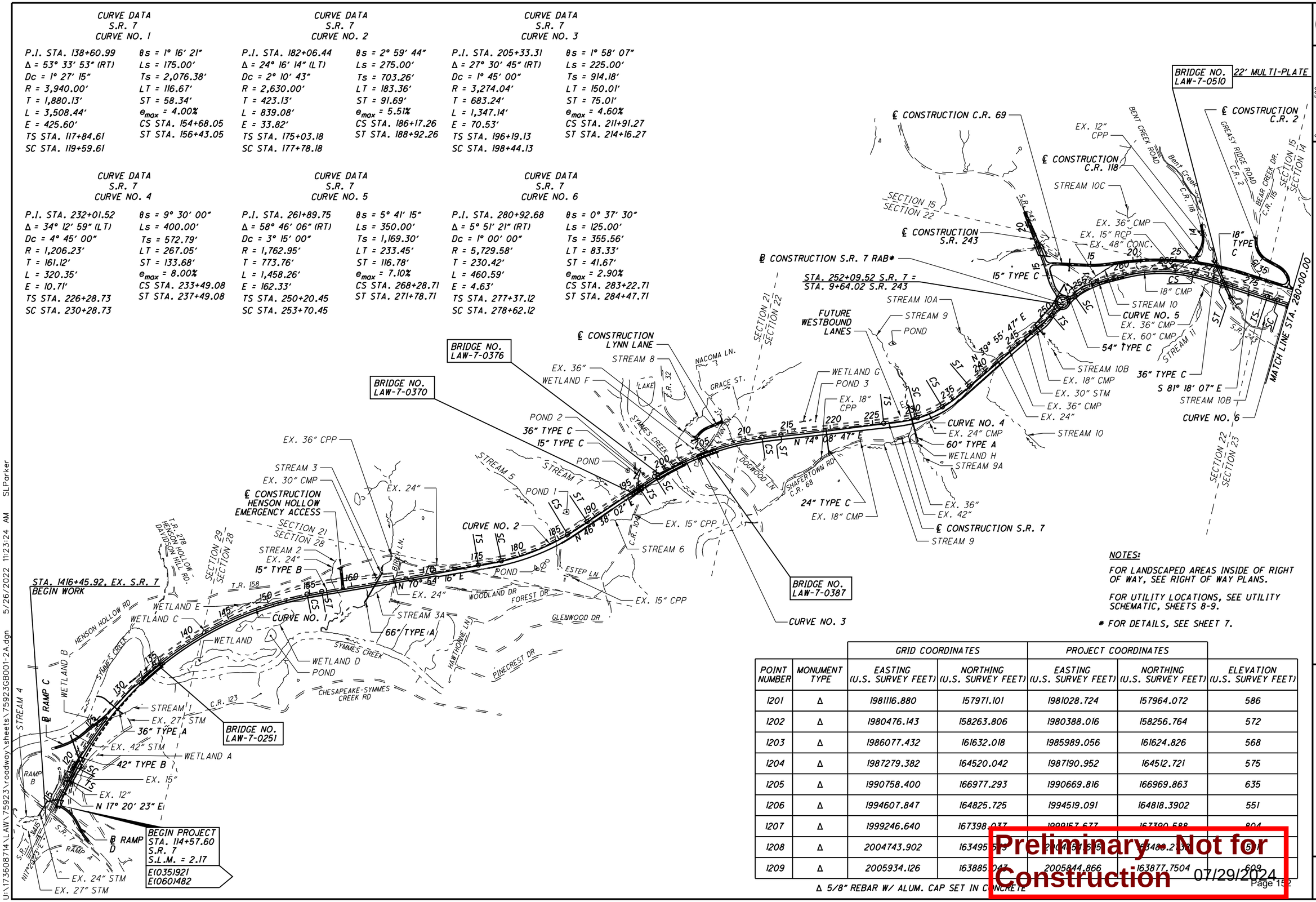
P.I. STA. 261+89.75
Δ = 58° 46′ 06″ (RT)
Dc = 3° 15′ 00″
R = 1,762.95′
T = 773.76′
L = 1,458.26′
E = 162.33′
TS STA. 250+20.45
SC STA. 253+70.45

θs = 5° 41′ 15″
Ls = 350.00′
Ts = 1,169.30′
LT = 233.45′
ST = 116.78′
e_{max} = 7.10%
CS STA. 268+28.71
ST STA. 271+78.71

CURVE DATA
S.R. 7
CURVE NO. 6

P.I. STA. 280+92.68
Δ = 5° 51′ 21″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 230.42′
L = 460.59′
E = 4.63′
TS STA. 277+37.12
SC STA. 278+62.12

θs = 0° 37′ 30″
Ls = 125.00′
Ts = 355.56′
LT = 83.33′
ST = 41.67′
e_{max} = 2.90%
CS STA. 283+22.71
ST STA. 284+47.71



NOTES:

FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.

FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEETS 8-9.

* FOR DETAILS, SEE SHEET 7.

		GRID COORDINATES		PROJECT COORDINATES		
POINT NUMBER	MONUMENT TYPE	EASTING (U.S. SURVEY FEET)	NORTHING (U.S. SURVEY FEET)	EASTING (U.S. SURVEY FEET)	NORTHING (U.S. SURVEY FEET)	ELEVATION (U.S. SURVEY FEET)
1201	Δ	1981116.880	157971.101	1981028.724	157964.072	586
1202	Δ	1980476.143	158263.806	1980388.016	158256.764	572
1203	Δ	1986077.432	161632.018	1985989.056	161624.826	568
1204	Δ	1987279.382	164520.042	1987190.952	164512.721	575
1205	Δ	1990758.400	166977.293	1990669.816	166969.863	635
1206	Δ	1994607.847	164825.725	1994519.091	164818.3902	551
1207	Δ	1999246.640	167398.037	1999157.677	167390.588	804
1208	Δ	2004743.902	163495.513	2004654.936	163488.2134	511
1209	Δ	2005934.126	163885.047	2005844.866	163877.7504	609

Δ 5/8" REBAR W/ ALUM. CAP SET IN CONCRETE

SCHEMATIC PLAN

LAW-7-2.17

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CURVE DATA
S.R. 7
CURVE NO. 6

P.I. STA. 280+92.68
Δ = 5° 51′ 21″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 230.42′
L = 460.59′
E = 4.63′
TS STA. 277+37.12
SC STA. 278+62.12
θs = 0° 37′ 30″
Ls = 125.00′
Ts = 355.56′
LT = 83.33′
ST = 41.67′
e_{max} = 2.90%
CS STA. 283+22.71
ST STA. 284+47.71

CURVE DATA
S.R. 7
CURVE NO. 7

P.I. STA. 326+36.08
Δ = 31° 21′ 41″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 670.91′
L = 1,318.07′
E = 77.51′
TS STA. 317+06.62
SC STA. 319+56.62
θs = 2° 30′ 00″
Ls = 250.00′
Ts = 929.46′
LT = 166.68′
ST = 83.35′
e_{max} = 5.10%
CS STA. 332+74.69
ST STA. 335+24.69

CURVE DATA
S.R. 7
CURVE NO. 8

P.I. STA. 355+16.90
Δ = 9° 56′ 13″ (LT)
Dc = 0° 52′ 24″
R = 6,560.00′
T = 507.37′
L = 1,012.73′
E = 19.59′
TS STA. 348+84.10
SC STA. 350+09.10
θs = 0° 32′ 45″
Ls = 125.00′
Ts = 632.80′
LT = 83.33′
ST = 41.67′
e_{max} = 2.60%
CS STA. 360+21.83
ST STA. 361+46.83

CURVE DATA
S.R. 7
CURVE NO. 9

P.I. STA. 387+47.15
Δ = 46° 04′ 34″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 805.51′
L = 1,549.62′
E = 136.98′
TS STA. 376+18.38
SC STA. 379+18.38
θs = 3° 44′ 12″
Ls = 300.00′
Ts = 1,128.77′
LT = 200.04′
ST = 100.04′
e_{max} = 6.20%
CS STA. 394+68.00
ST STA. 397+68.00

CURVE DATA
S.R. 7
CURVE NO. 10

P.I. STA. 403+74.19
Δ = 1° 29′ 03″ (RT)
Dc = 0° 16′ 56″
R = 20,306.35′
T = 263.02′
L = 526.00′
E = 1.70′
e_{max} = NC
PC STA. 401+11.17
PT STA. 406+37.18

CURVE DATA
S.R. 7
CURVE NO. 11

P.I. STA. 416+63.54
Δ = 18° 47′ 30″ (LT)
Dc = 1° 38′ 13″
R = 3,500.00′
T = 451.44′
L = 897.92′
E = 28.99′
TS STA. = 409+59.26
SC STA. = 412+09.26
θs = 2° 02′ 47″
Ls = 250.00′
Ts = 704.28′
LT = 166.68′
ST = 83.34′
e_{max} = 4.47%
CS STA. 421+07.18
ST STA. 423+57.18

CURVE DATA
S.R. 7
CURVE NO. 12

P.I. STA. 428+11.24
Δ = 3° 17′ 53″ (RT)
Dc = 1° 19′ 10″
R = 4,342.09′
T = 125.00′
L = 249.93′
E = 1.80′
e_{max} = 3.77%
PC STA. = 426+86.24
PT STA. = 429+36.17

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 1

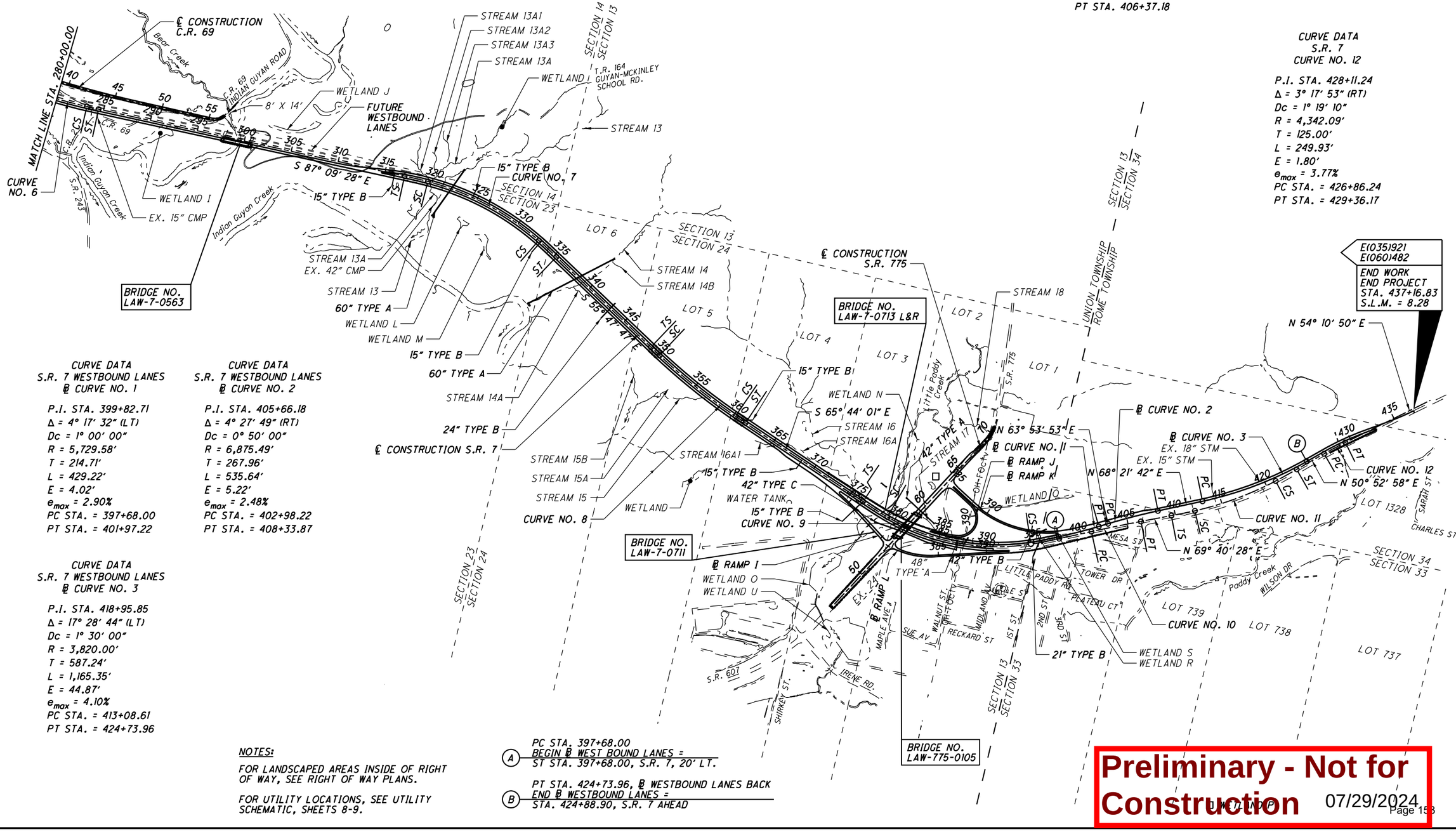
P.I. STA. 399+82.71
Δ = 4° 17′ 32″ (LT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 214.71′
L = 429.22′
E = 4.02′
e_{max} = 2.90%
PC STA. = 397+68.00
PT STA. = 401+97.22

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 2

P.I. STA. 405+66.18
Δ = 4° 27′ 49″ (RT)
Dc = 0° 50′ 00″
R = 6,875.49′
T = 267.96′
L = 535.64′
E = 5.22′
e_{max} = 2.48%
PC STA. = 402+98.22
PT STA. = 408+33.87

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 3

P.I. STA. 418+95.85
Δ = 17° 28′ 44″ (LT)
Dc = 1° 30′ 00″
R = 3,820.00′
T = 587.24′
L = 1,165.35′
E = 44.87′
e_{max} = 4.10%
PC STA. = 413+08.61
PT STA. = 424+73.96



NOTES:

FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.

FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEETS 8-9.

(A) PC STA. 397+68.00
BEGIN ℄ WEST BOUND LANES =
ST STA. 397+68.00, S.R. 7, 20' LT.

(B) PT STA. 424+73.96, ℄ WESTBOUND LANES BACK END ℄ WESTBOUND LANES =
STA. 424+88.90, S.R. 7 AHEAD

HORIZONTAL SCALE IN FEET
0 250 500 1000

SCHEMATIC PLAN

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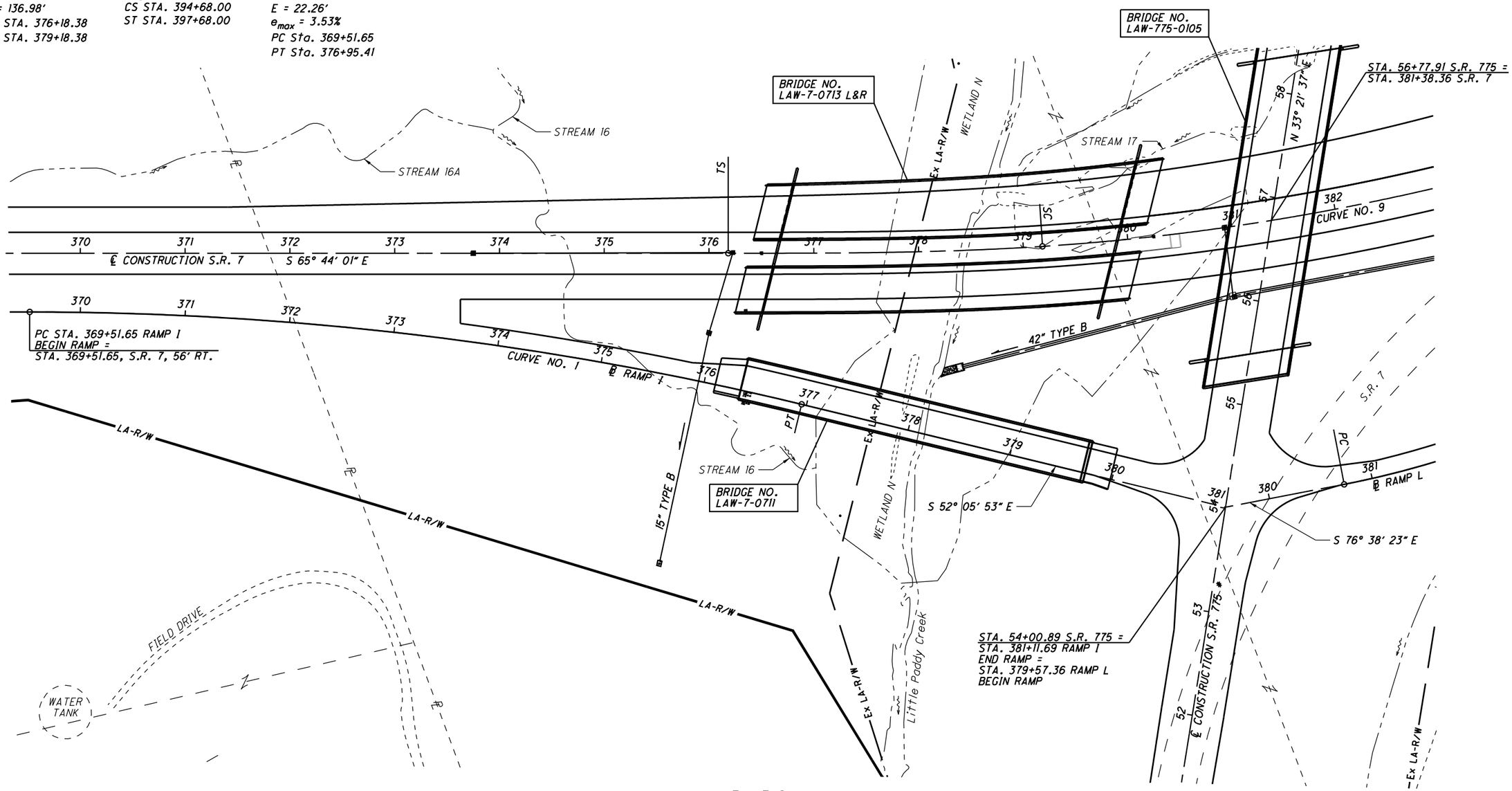
CURVE DATA
S.R. 7
CURVE NO. 9

P.I. STA. 387+47.15
Δ = 46° 04' 34" (LT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 805.51'
L = 1,549.62'
E = 136.98'
TS STA. 376+18.38
SC STA. 379+18.38

θs = 3° 44' 12"
Ls = 300.00'
Ts = 1,128.77'
LT = 200.04'
ST = 100.04'
e_{max} = 6.20%
CS STA. 394+68.00
ST STA. 397+68.00

CURVE DATA
RAMP I
CURVE NO. 1

P.I. Sta. 373+25.29
Δ = 13° 38' 08" (RT)
Dc = 1° 50' 00"
R = 3,125.22'
T = 373.64'
L = 743.76'
E = 22.26'
e_{max} = 3.53%
PC Sta. 369+51.65
PT Sta. 376+95.41



RAMP I

NOTES:

FOR LANDSCAPED AREAS WITHIN R/W OF WAY, SEE RIGHT OF WAY PLANS.

FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEETS 8-9.

HORIZONTAL SCALE IN FEET
0 25 50 100

SCHEMATIC PLAN

LAW-7-2.17

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Preliminary - Not for Construction 07/29/2024

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P.I. STA. 11+53.11
Δ = 2° 41′ 45″
NO CURVE

P.I. STA. 14+07.46
Δ = 2° 39′ 07″
NO CURVE

P.I. STA. 16+72.90
Δ = 4° 02′ 33″
NO CURVE

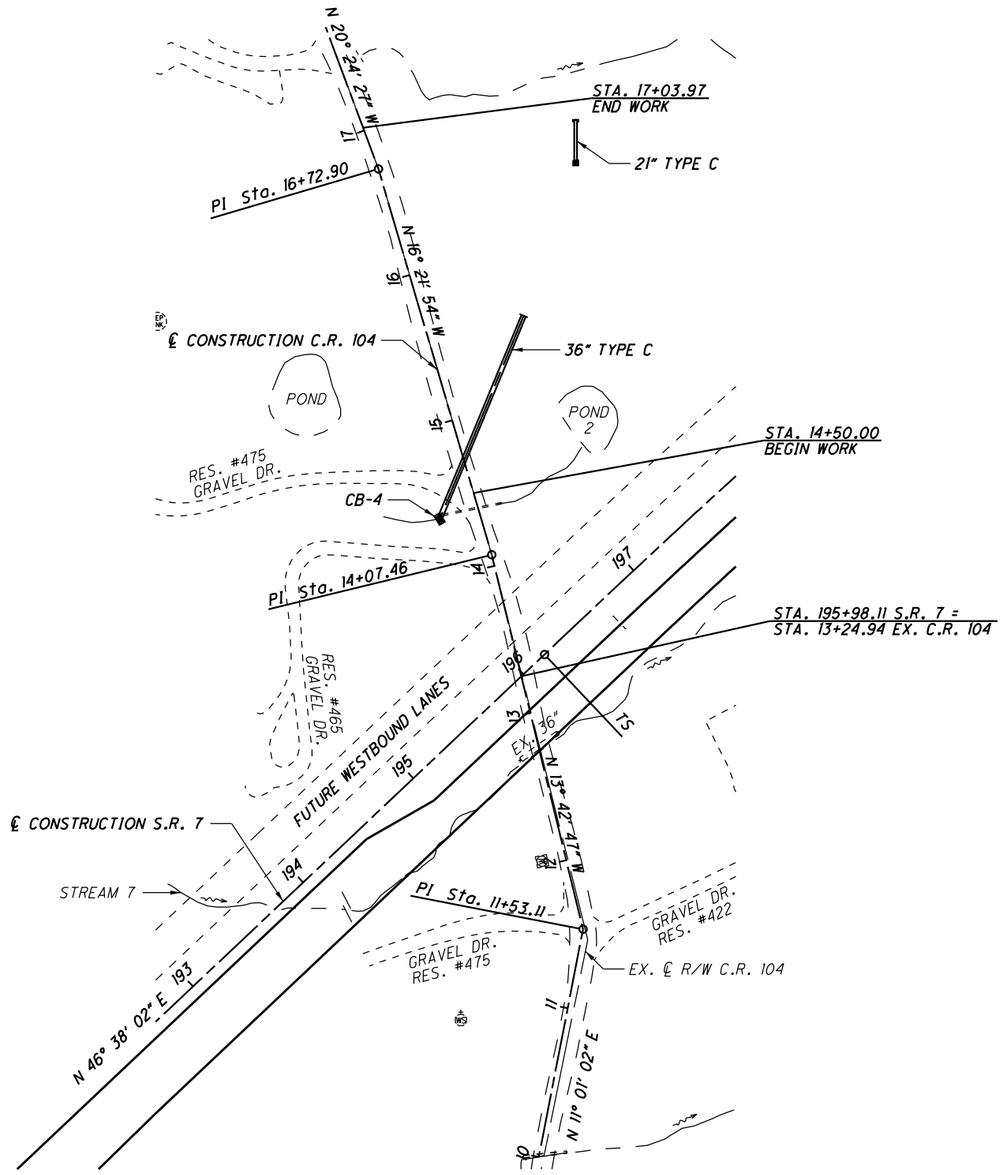
P.I. STA. 10+98.09
Δ = 9° 00′ 49″
NO CURVE

P.I. STA. 11+92.44
Δ = 5° 16′ 18″
NO CURVE

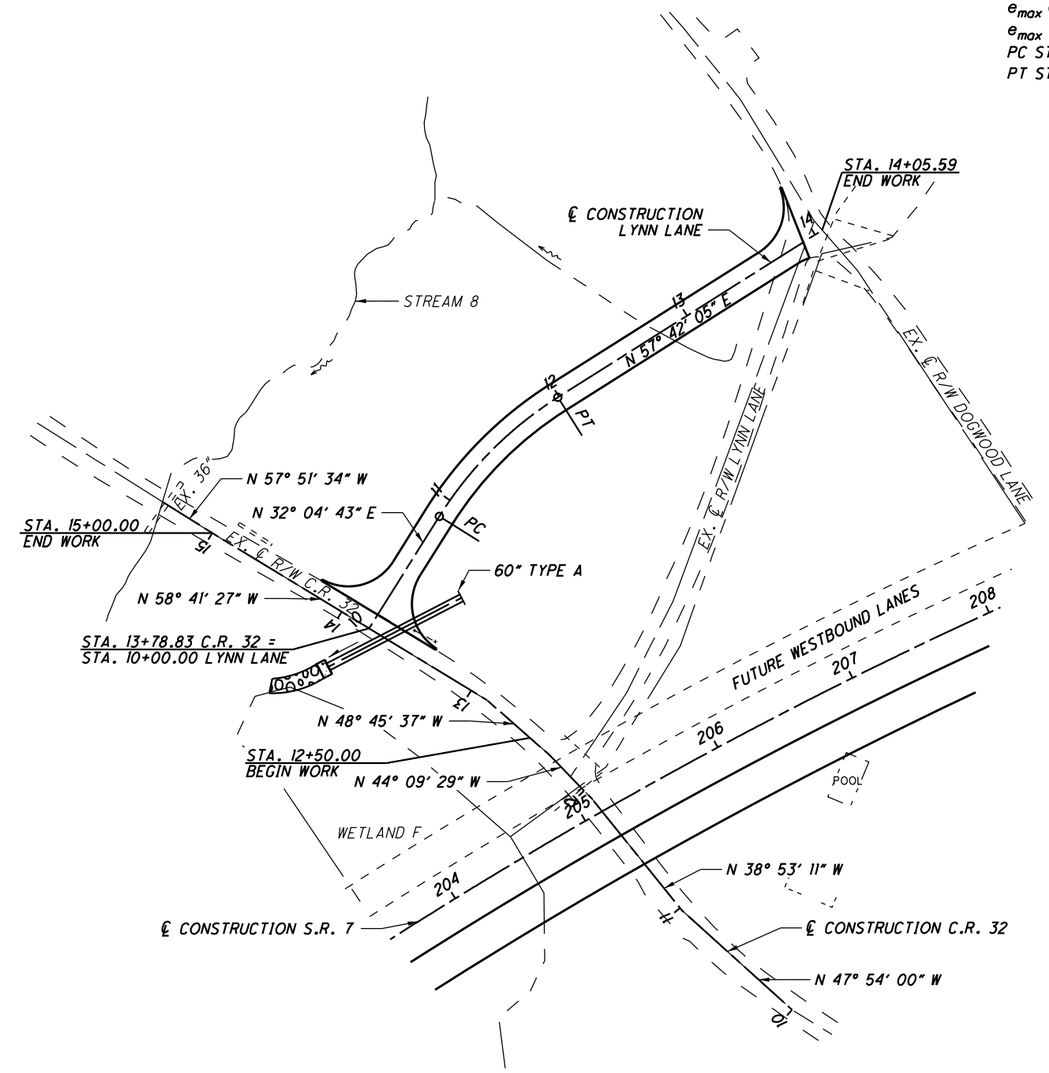
P.I. STA. 12+33.35
Δ = 4° 36′ 08″
NO CURVE

P.I. STA. 12+87.96
Δ = 9° 55′ 50″
NO CURVE

P.I. STA. 15+02.34
Δ = 0° 49′ 53″
NO CURVE



CURVE DATA
LYNN LANE
P.I. STA. 11+44.17
Δ = 25° 37′ 23″ (RT)
Dc = 22° 55′ 06″
R = 250.00′
T = 56.85′
L = 111.80′
E = 6.38′
e_{max} (N.D.C.) = 8.00%
e_{max} = NC
PC STA. 10+87.32
PT STA. 11+99.12



NOTES:

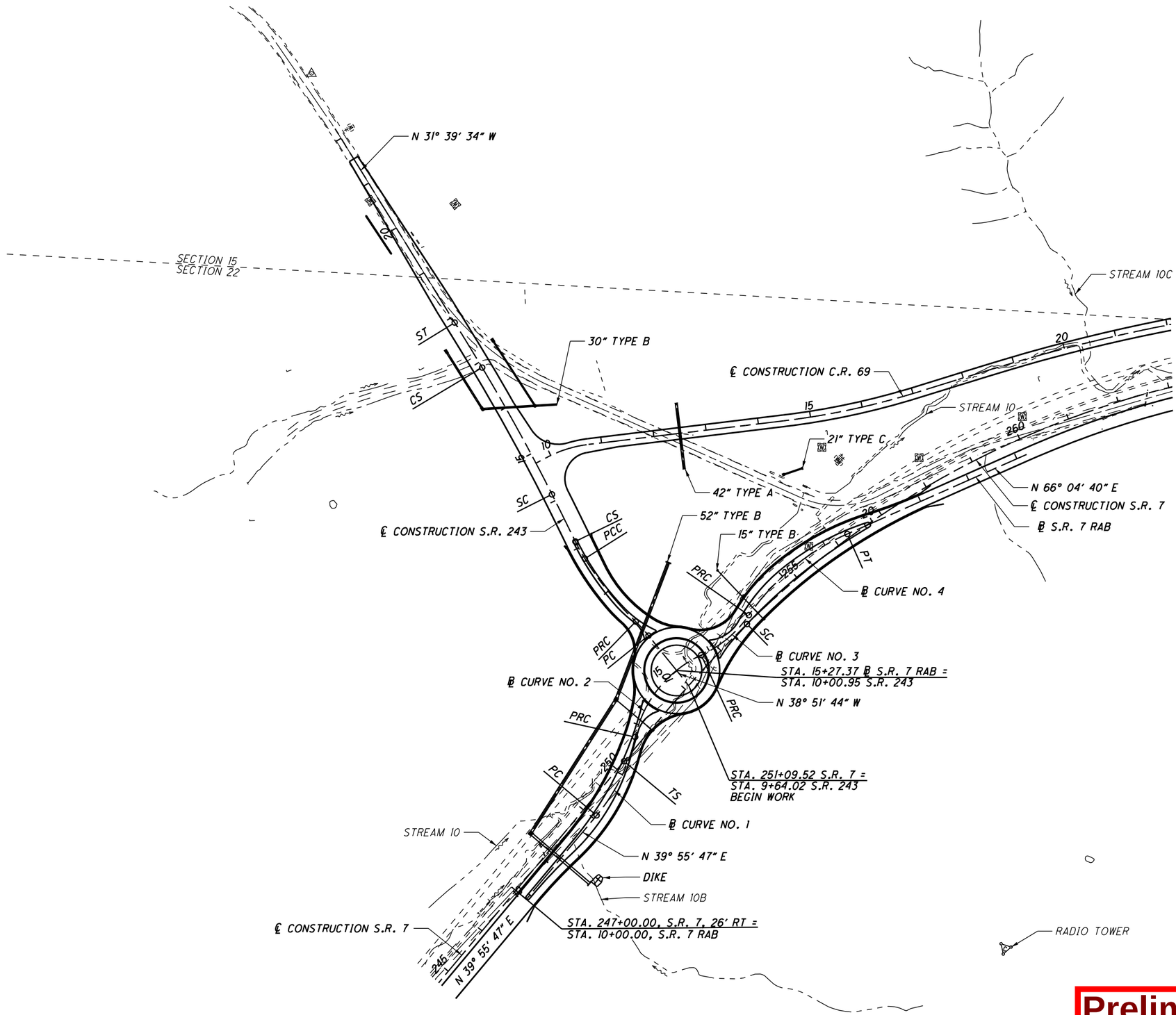
FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.

FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEETS 8-9.

HORIZONTAL SCALE IN FEET
0 25 50 100

SCHEMATIC PLAN

LAW-7-2.17



CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 1

P.I. Sta. 12+93.43
Δ = 27° 26' 21" (LT)
Dc = 16° 22' 13"
R = 350.00'
T = 85.45'
L = 167.62'
E = 10.28'
PC Sta. 12+07.99
PRC Sta. 13+75.60

CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 2

P.I. Sta. 14+87.13
Δ = 52° 43' 55" (RT)
Dc = 25° 27' 53"
R = 225.00'
T = 111.52'
L = 207.08'
E = 26.12'
PRC Sta. 13+75.60
PRC Sta. 15+82.68

CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 3

P.I. Sta. 16+43.83
Δ = 30° 24' 24" (LT)
Dc = 25° 27' 53"
R = 225.00'
T = 61.15'
L = 119.41'
E = 8.16'
PRC Sta. 15+82.68
PRC Sta. 17+02.09

CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 4

P.I. Sta. 18+27.99
Δ = 31° 15' 43" (RT)
Dc = 12° 43' 57"
R = 450.00'
T = 125.90'
L = 245.53'
E = 17.28'
PRC Sta. 17+02.09
PT Sta. 19+47.62

0 50 100 200
HORIZONTAL SCALE IN FEET

SCHEMATIC PLAN

LAW-7-2.17

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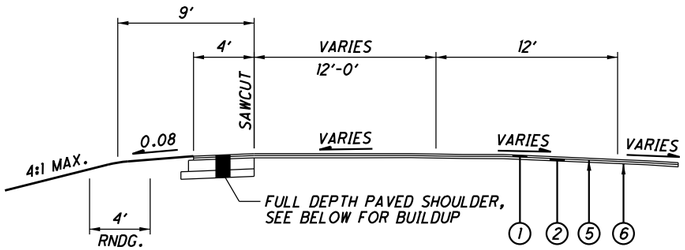
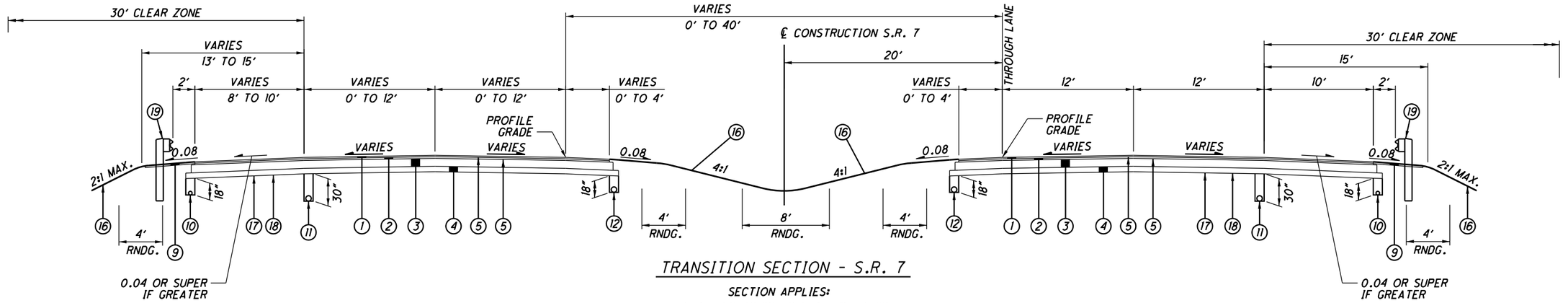


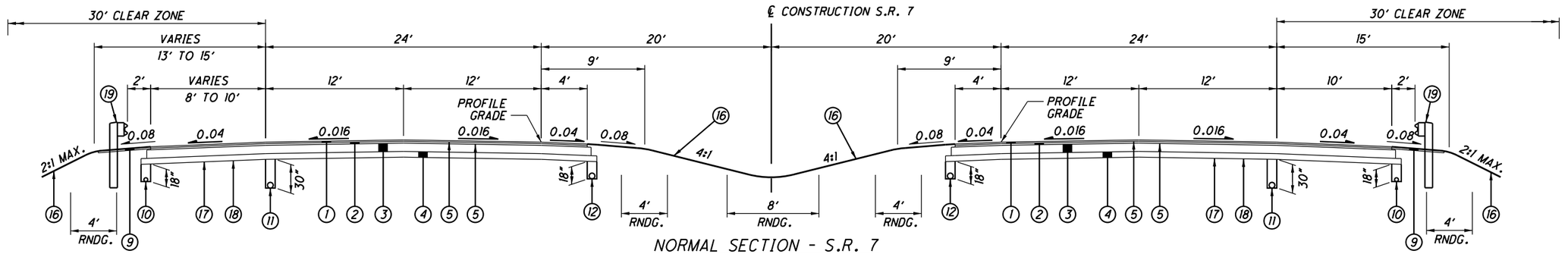
OVERLAY SECTION - S.R. 7

SECTION APPLIES:
STA. 427+42.37 TO STA. 437+16.83



TRANSITION SECTION - S.R. 7

SECTION APPLIES:
STA. 309+49.89 TO STA. 319+56.62
STA. 424+88.90 TO STA. 437+16.83



NORMAL SECTION - S.R. 7

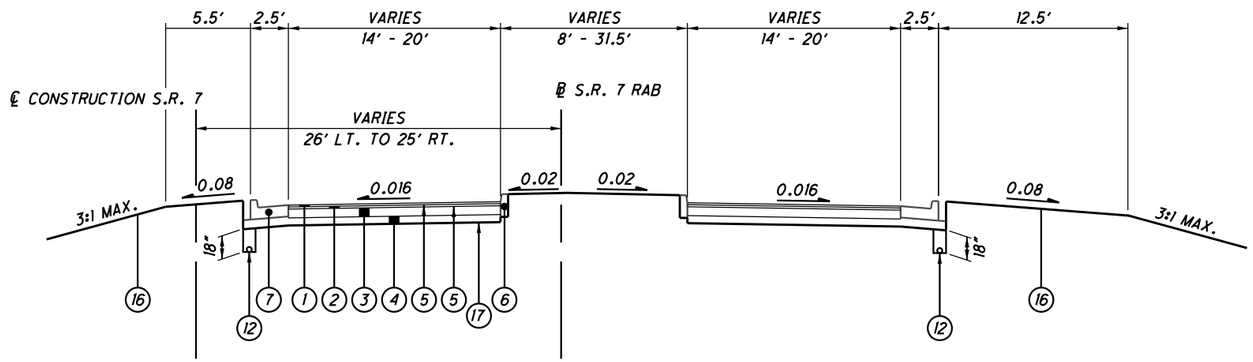
SECTION APPLIES:
STA. 335+67.69 TO STA. 348+41.10
STA. 361+89.83 TO STA. 375+75.38

PAVEMENT AREA SHOWN FOR INFORMATION ONLY. AREA TO BE SEEDED AND MULCHED.

NOTES:
SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN.
FOR LEGEND, SEE SHEET 10.
FOR DITCH DETAILS, SEE SHEET 16.
FOR EDGE COURSE DETAILS, SEE SHEET 17.
FOR SUPERELEVATED SHOULDER DETAILS, SEE GENERAL SHEET 11.

TYPICAL SECTION - S.R. 7

LAW-7-2.17



NORMAL SECTION - S.R. 7 RAB

SECTION APPLIES:
S.R. 7 STA. 247+00.00 TO STA. 251+00.00

PAVEMENT AREA SHOWN FOR INFORMATION ONLY. AREA TO BE SEEDED AND MULCHED.

NOTES:
TYPICAL SHOWN FOR INFORMATION ONLY.

PAVEMENT BUILDUP IS THE SAME FOR BOTH SIDES OF R
SEE PAVEMENT DETAILS FOR LIMITS OF CONCRETE MEDIAN.

FOR LEGEND, SEE SHEET 10.

TYPICAL SECTION - S.R. 7

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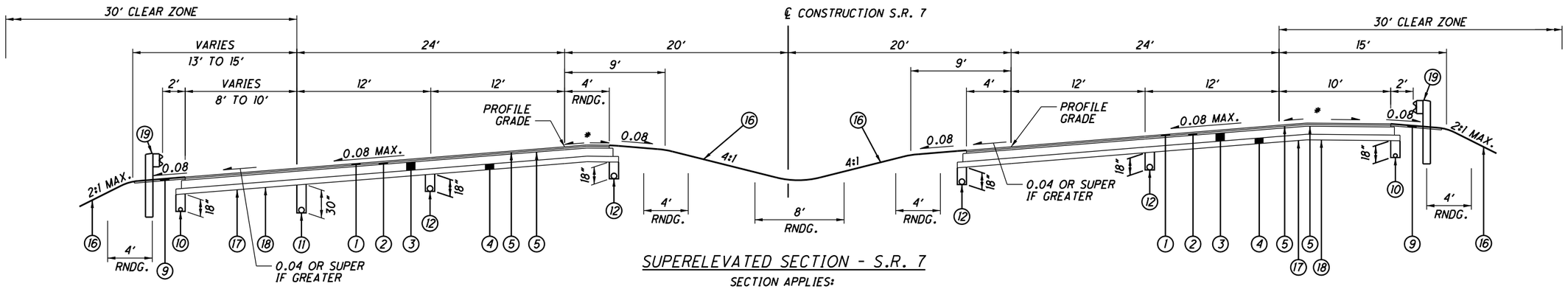
TYPICAL SECTION - S.R. 7



SUPERELEVATED SECTION - S.R. 7

SECTION APPLIES:

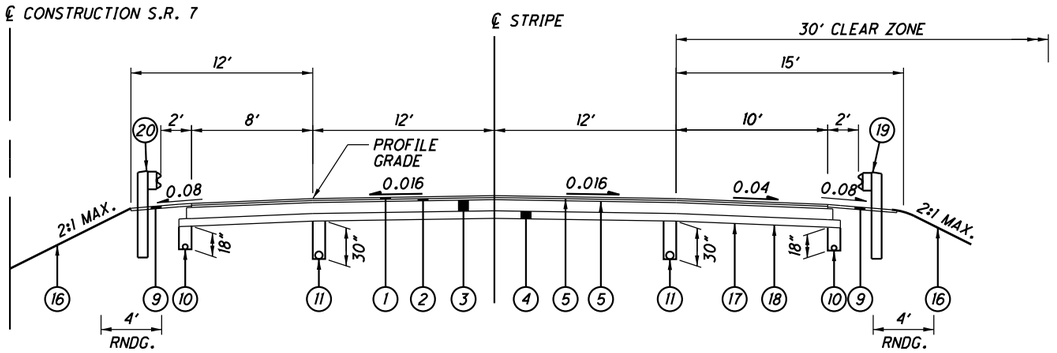
+ STA. 319+56.52 TO STA. 335+67.69
STA. 348+41.10 TO STA. 361+89.83
STA. 375+75.38 TO STA. 397+68.00

PAVEMENT AREA SHOWN FOR INFORMATION ONLY. AREA TO BE SEEDED AND MULCHED.

NOTES:

+ SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN.
FOR LEGEND, SEE SHEET 10.
FOR DITCH DETAILS, SEE SHEET 16.
FOR EDGE COURSE DETAILS, SEE SHEET 17.
* FOR SUPERELEVATED SHOULDER DETAILS, SEE DETAIL A, SHEET 17.

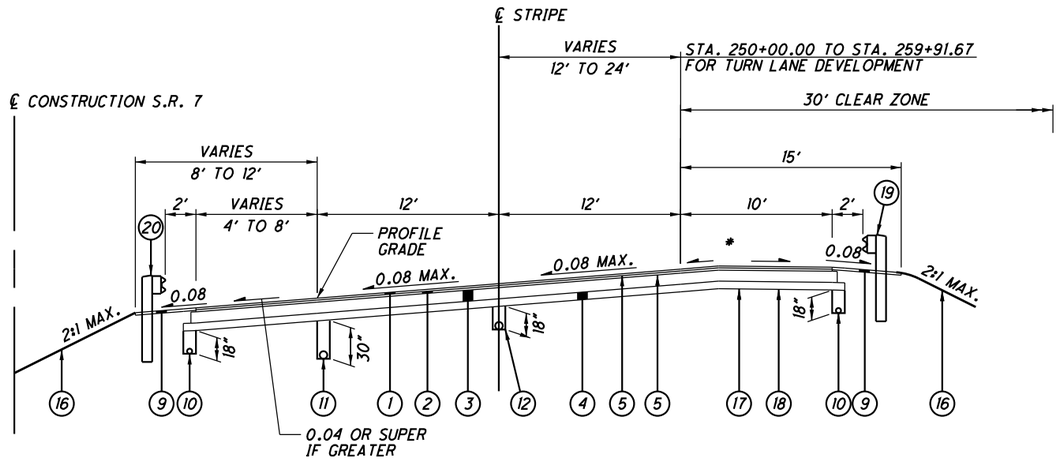
LAW-7-2.17



NORMAL SECTION - S.R. 7

SECTION APPLIES:

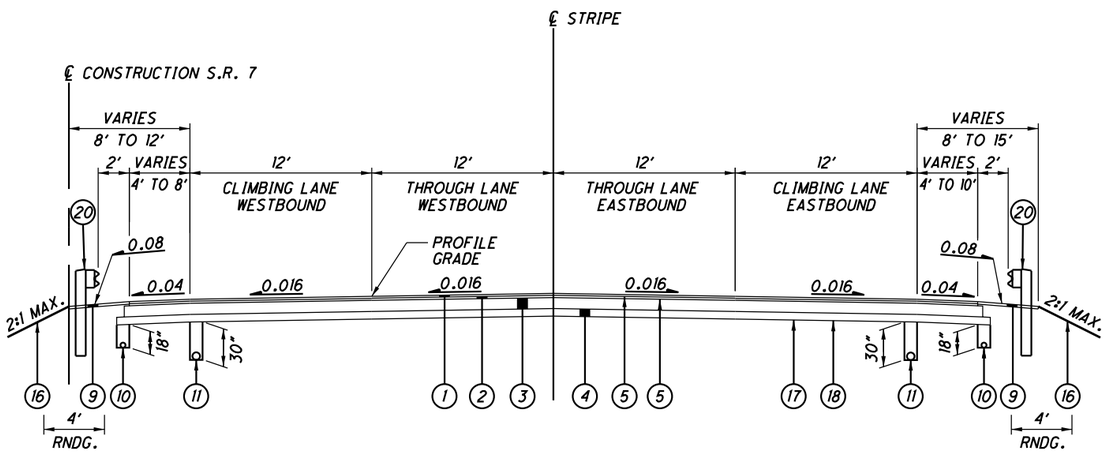
STA. 156+86.05 TO STA. 167+72.52
STA. 195+00.00 TO STA. 195+76.13
STA. 272+21.71 TO STA. 276+94.12
STA. 284+90.71 TO STA. 309+49.89



SUPERELEVATED SECTION - S.R. 7

SECTION APPLIES:

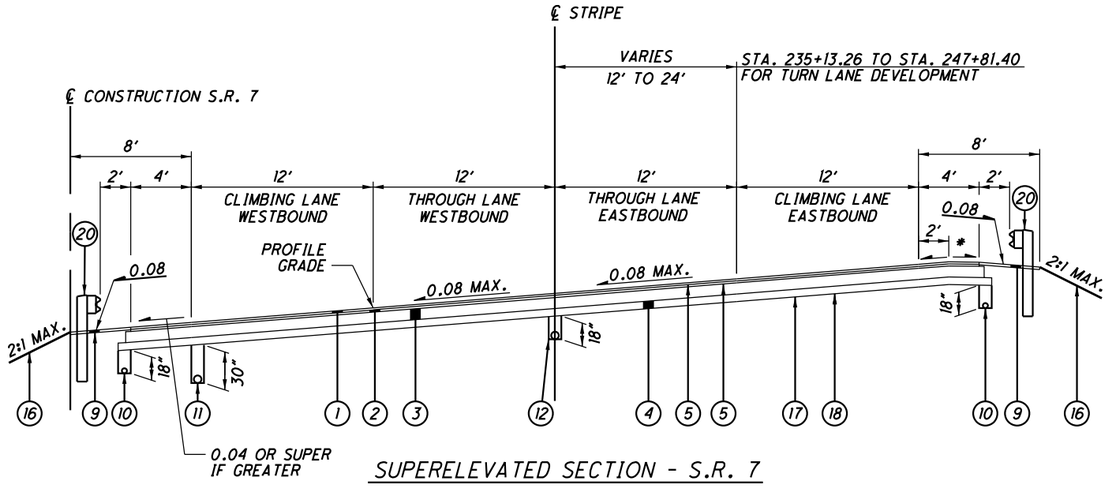
+ STA. 120+56.37 TO STA. 156+86.05
STA. 195+76.13 TO STA. 209+79.72
+ STA. 250+00.00 TO STA. 272+21.71
STA. 276+94.12 TO STA. 284+90.71
STA. 376+00.00 TO STA. 390+75.00



NORMAL SECTION - S.R. 7
WITH CLIMBING LANES

SECTION APPLIES:

STA. 167+72.52 TO STA. 174+60.18
STA. 189+35.26 TO STA. 195+00.00
STA. 214+59.27 TO STA. 225+85.73
STA. 237+92.08 TO STA. 247+00.00



SUPERELEVATED SECTION - S.R. 7
WITH CLIMBING LANES

SECTION APPLIES:

STA. 174+60.18 TO STA. 189+35.26
+ STA. 209+79.72 TO STA. 214+59.27
STA. 225+85.73 TO STA. 237+92.08

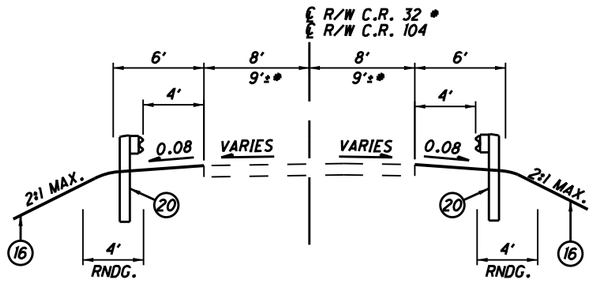
PAVEMENT AREA SHOWN FOR INFORMATION ONLY. AREA TO BE SEEDED AND MULCHED.

NOTES:

+ SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN.
FOR LEGEND, SEE SHEET 10.
FOR DITCH DETAILS, SEE SHEET 16.
FOR EDGE COURSE DETAILS, SEE SHEET 17.
* FOR SUPERELEVATED SHOULDER DETAILS, SEE DETAIL 4, SHEET 27.

TYPICAL SECTION - S.R. 7

LAW-7-2.17



NORMAL SECTION - SIDE ROADS

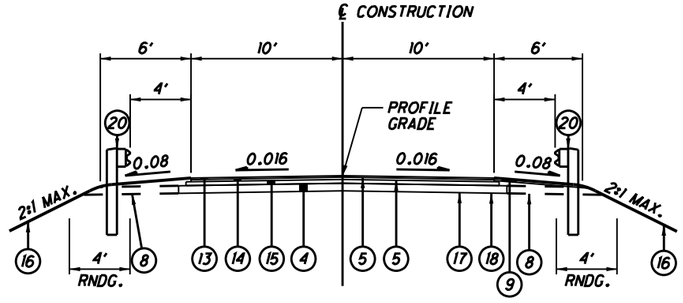
SECTION APPLIES

C.R. 104

STA. 14+50.00 TO STA. 17+03.97

C.R. 32

STA. 12+50.00 TO STA. 15+00.00



NORMAL SECTION - SIDE ROADS

SECTION APPLIES

LYNN LANE

STA. 10+10.00 TO STA. 13+90.68

NOTES:

FOR LEGEND, SEE SHEET 10

FOR DITCH DETAILS, SEE SHEET 16

FOR EDGE COURSE DETAILS, SEE SHEET 17

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TYPICAL SECTIONS - COUNTY ROADS AND SIDE ROADS

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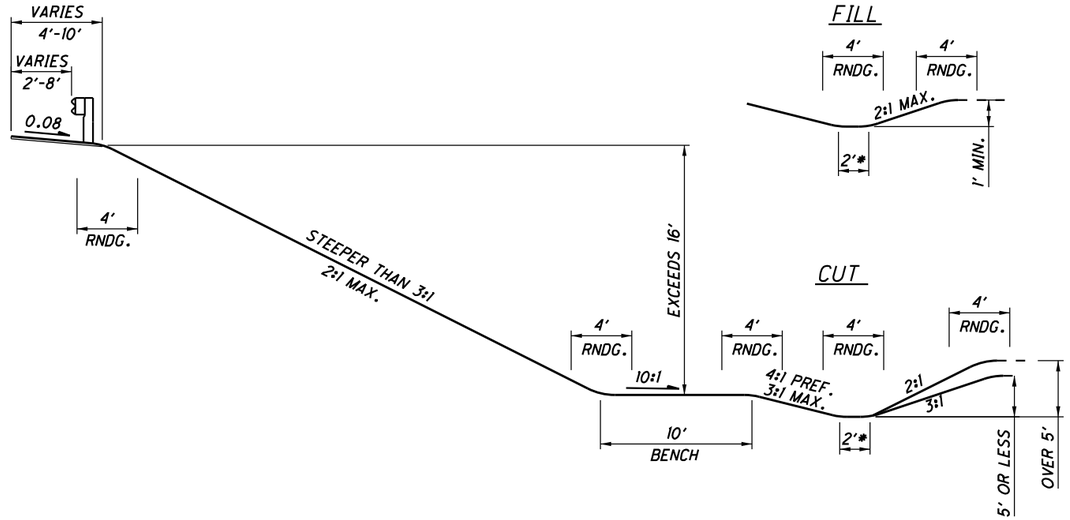
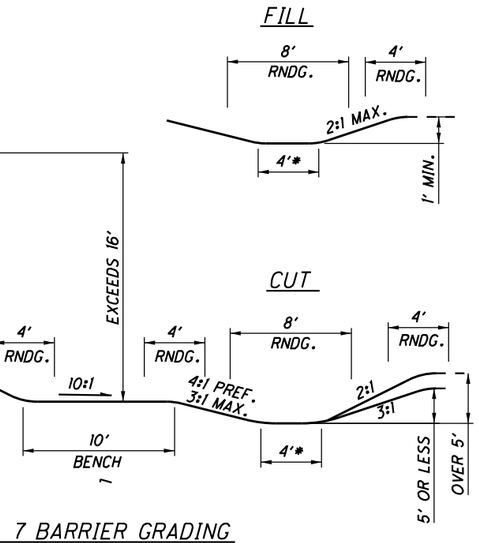
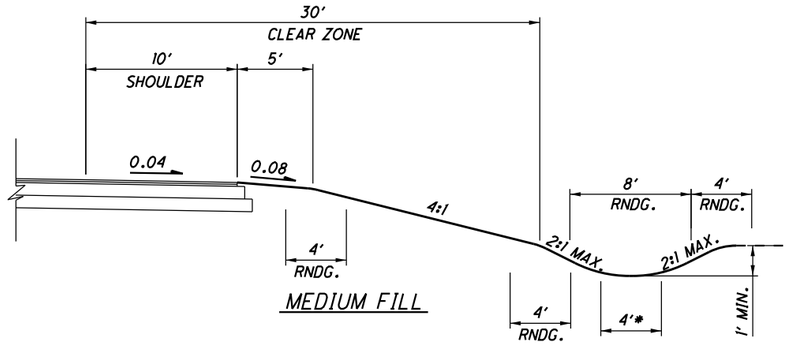


SIDE ROAD BARRIER GRADING

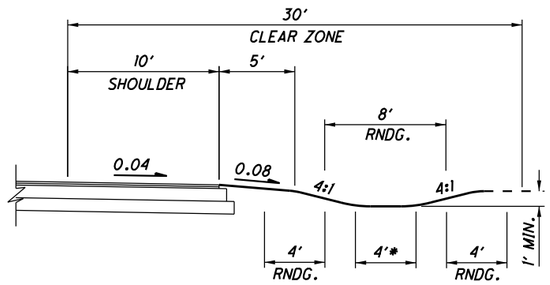
CUT SECTION



S.R. 7 BARRIER GRADING



MEDIUM FILL

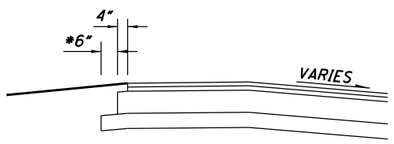


LOW FILL

NOTES:
* SEE CROSS SECTIONS FOR POST CONSTRUCTION ENHANCED BANKFULL WIDTHS
ROUNDING SHALL BE 1' WIDER THAN LTOL WIDTH SHOWN

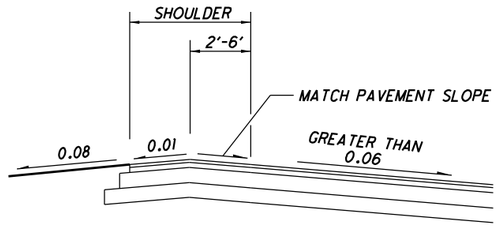
TYPICAL SECTIONS - DITCH DETAILS

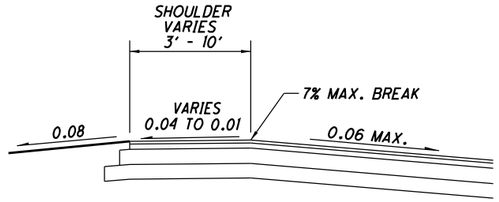
LAW-7-2.17

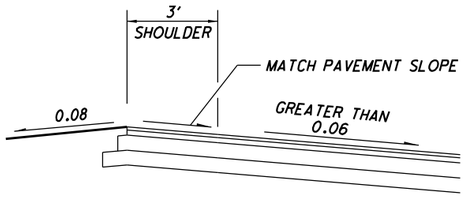


EDGE COURSE DETAIL
FOR ALL TYPICALS

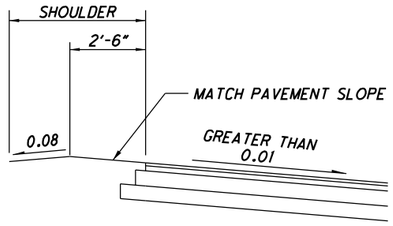
* 6" OR THE THICKNESS OF OVERLYING LIFT, WHICHEVER IS GREATER.

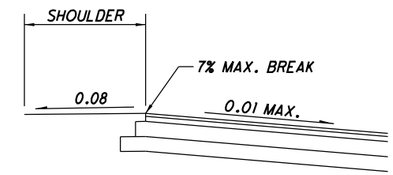






DETAIL A
PAVED SHOULDERS





DETAIL B
TURF SHOULDERS

TYPICAL SECTIONS - MISCELLANEOUS DETAILS

LAW-7-2.17

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:

FRONTIER COMMUNICATIONS
(FORMERLY VERIZON)
1315 SLPERT STREET
PORTSMOUTH, OHIO 45662
PHONE: (740) 354-0512
MR. PAUL MONTAVON

COLUMBIA GAS OF OHIO (KENTUCKY)
P.O. BOX 14241
LEXINGTON, KENTUCKY 40512
PHONE: (859) 288-0225
MR. GARY SULLIVAN

AMERICAN ELECTRIC POWER
(DISTRIBUTION)
850 TECH CENTER DRIVE
GAHANNA, OHIO 43230
PHONE: (614) 883-6831
MR. PAUL PAXTON

ARMSTRONG CABLE SERVICES
9651 COUNTY ROAD 1
SOUTH POINT, OHIO 45680
PHONE: (740) 894-6357
MR. LEONARD HARVEY

AMERICAN ELECTRIC POWER
(TRANSMISSION)
700 MORRISON ROAD
GAHANNA, OHIO 43230
PHONE: (614) 552-1801
MS. TINA HAIRSTON

TIME WARNER CABLE
225 RUSSELL ROAD
ASHLAND, KENTUCKY 41101
PHONE: (606) 326-6803
MR. MIKE JONES

BUCKEYE RURAL ELECTRIC CO-OP
P.O. BOX 200
RIO GRANDE, OHIO 45674
PHONE: (740) 379-2025
MR. JEFF TACKETT

HECLA WATER ASSOCIATION
3190 SR 141
IRONTON, OHIO 45638
PHONE: (740) 533-0526
MR. TIM DALTON

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.

CALCULATED SLP
CHECKED ALB

GENERAL NOTES

LAW-7-2.17

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CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99
Δ = 53° 33' 53" (RT)
Dc = 1° 27' 15"
R = 3,940.00'
T = 1,880.13'
L = 3,508.44'
E = 425.60'
TS STA. 117+84.61
SC STA. 119+59.61

θs = 1° 16' 21"
Ls = 175.00'
Ts = 2,076.38'
LT = 116.67'
ST = 58.34'
e_{max} = 4.00%
CS STA. 154+68.05
ST STA. 156+43.05

SYMMES CREEK
Ex LA-R/W
Ex LA-R/W
STREAM 4
OHWM = 537.4
EX. 27" STM.
EX. 24" STM.
EX. 12" STM.
EX. CB-8
EX. S.R. 7
REFLECTORS
EX. CB-8
EX. 24" STM.
EX. CB-8
STA. 1417+50 EX. S.R. 7 BACK =
STA. 113+38.40 EX. S.R. 7 AHEAD =
STA. 1412+33.87 EX. S.R. 7
EX. CB
EX. CB
EX. RAMP
Ex R/W
Ex LA
E(035)921
E(060)482
BEGIN PROJECT
STA. 114+57.60
S.R. 7
S.L.M. = 2.17
EX. CB-5
CONSTRUCTION LIMITS PHASE 2A & 2B
EX. 18" STM.
EX. CB-8
N17°20'23"E
EX. CB-8
EX. 15" STM.
EX. CB-5
CONSTRUCTION LIMITS
PHASE 2A & 2B
EX. SERVICE RD.
℄ RAMP D
FUTURE PHASE 2B
S59°24'52"E
EX. S.R. 7
CONSTRUCTION LIMITS PHASE 2A & 2B
Delineator
(Typ.)
EX. RAMP B
Reflector
(typ.)
SYMMES CREEK
Ex LA-R/W
℄ RAMP C
FUTURE PHASE 2B
℄ CONSTRUCTION S.R. 7
EX. 42" STM.
EX. CB-5A
EX. 36" STM.
122 CURVE NO. 1
FUTURE PHASE 2B
MATCH LINE STA. 123+00
EX. CB-8A
WETLAND A
Brush
EX. 21" STM.
EX. 36" STM.
EX. 18" STM.
Ex LA-R/W
EX. ℄ R/W
C.B. 123
Steel Ret. Wall
Ex LA-R/W
8"
EX. CB
8" W

Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 114+57.60 TO STA. 123+00

LAW-7-2.17

23
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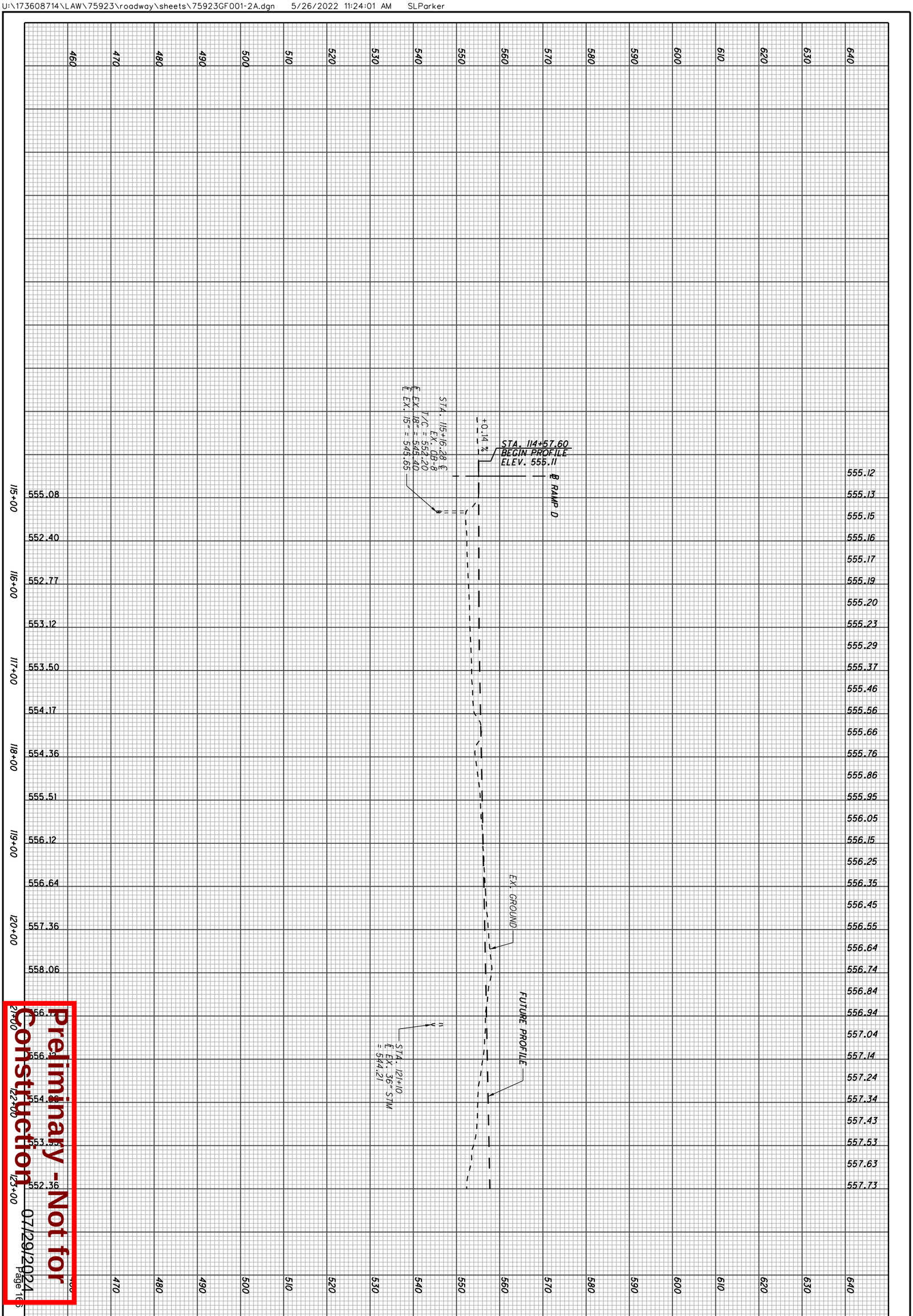


24 / 297	LAW-7-2.17	PROFILE - S.R. 7 STA. 114+57.60 TO STA. 123+00	CALCULATED ALB CHECKED TCM

CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99
Δ = 53° 33' 53" (RT)
Dc = 1° 27' 15"
R = 3,940.00'
T = 1,880.13'
L = 3,508.44'
E = 425.60'
TS STA. 117+84.61
SC STA. 119+59.61

θs = 1° 16' 21"
Ls = 175.00'
Ts = 2,076.38'
LT = 116.67'
ST = 58.34'
e_{max} = 4.00%
CS STA. 154+68.05
ST STA. 156+43.05

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

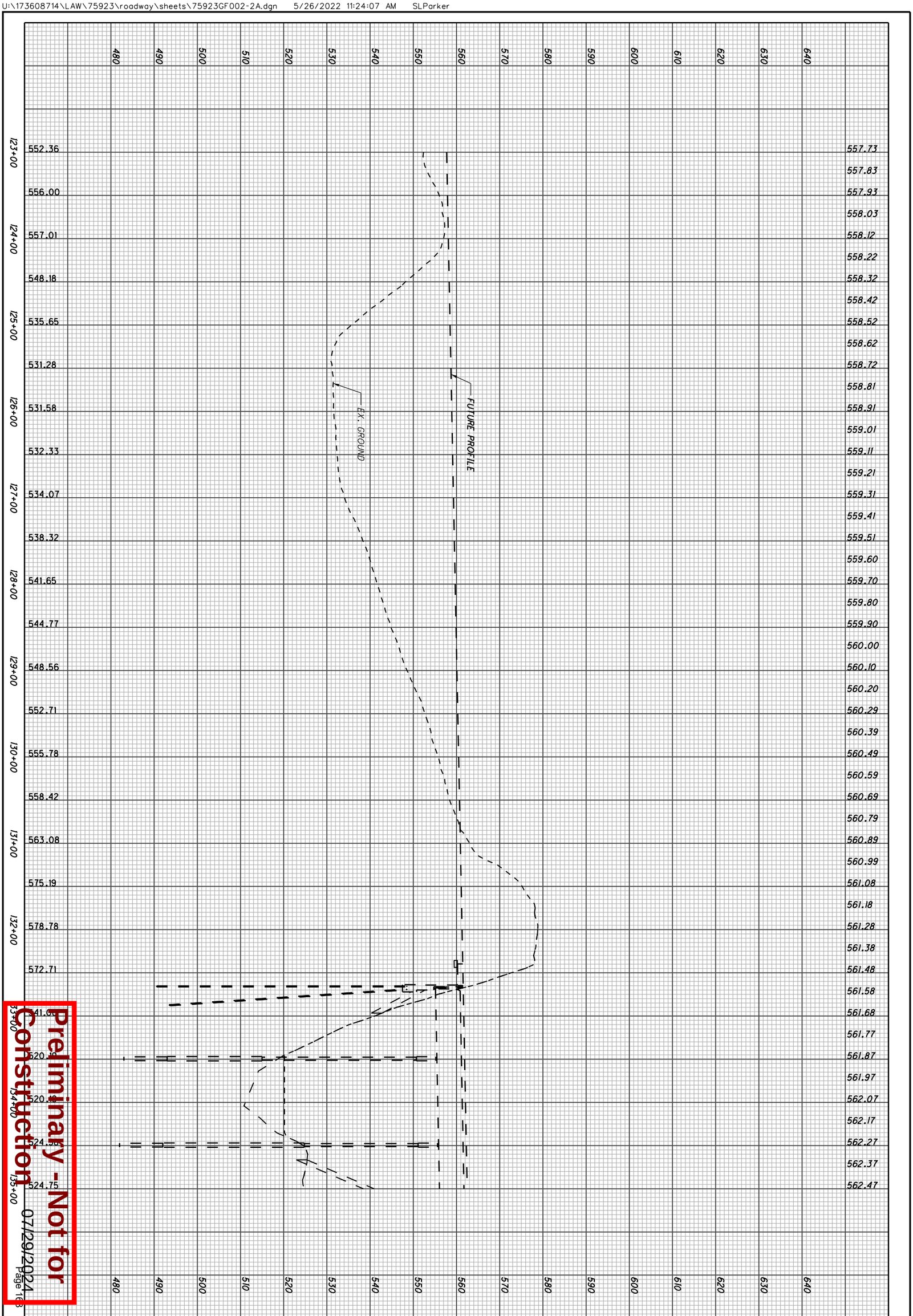
Ex R/W
SYMMES CREEK 1
OHWM = 517.3
Wooded Area
LA-R/W
Ex R/W
CONSTRUCTION LIMITS PHASE 2A & 2B
℄ RAMP C
FUTURE PHASE 2B
℄ CONSTRUCTION S.R. 7
(WETLAND B
Ex LA-R/W
130 CURVE NO. 1
FUTURE PHASE 2B
MATCH LINE STA. 123+00
Brush
CONSTRUCTION LIMITS PHASE 2A & 2B
OHWM = 546.5
WETLAND A
Ex. 27" STM.
Ex. 24" STM.
CB
STREAM 1
Wooded Area
OHWM = 520.1
SYMMES CREEK 2
MATCH LINE STA. 135+00

PLAN - S.R. 7
STA. 123+00 TO STA. 135+00

LAW-7-2.17

25
297

Preliminary - Not for Construction 07/29/2024

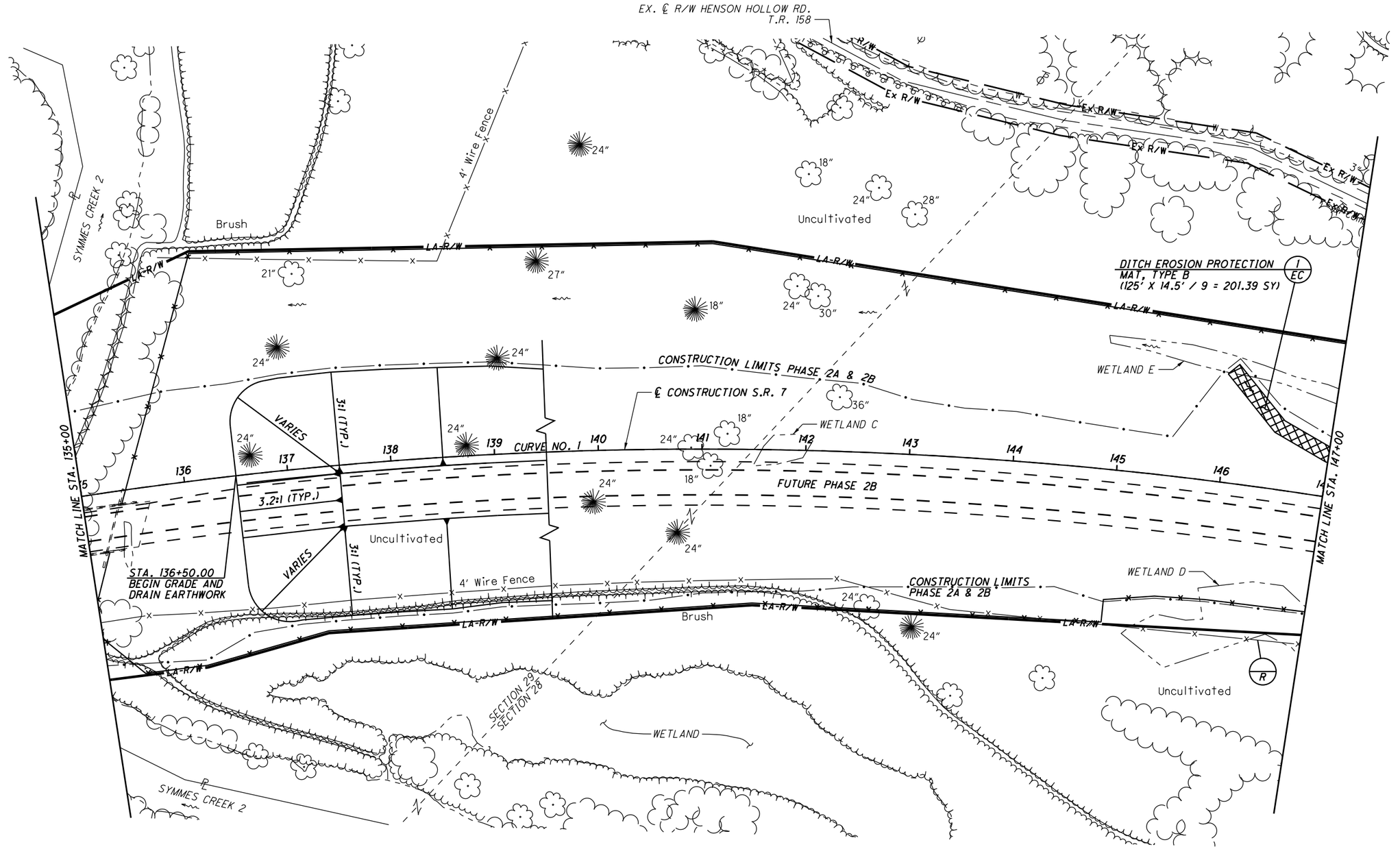


26
297

LAW-7-2.17

PROFILE - S.R. 7
STA. 123+00 TO STA. 135+00

CALCULATED ALB
CHECKED TCM



CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99	θs = 1° 16' 21"
Δ = 53° 33' 53" (RT)	Ls = 175.00'
Dc = 1° 27' 15"	Ts = 2,076.38'
R = 3,940.00'	LT = 116.67'
T = 1,880.13'	ST = 58.34'
L = 3,508.44'	e_{max} = 4.00%
E = 425.60'	CS STA. 154+68.05
TS STA. 117+84.61	ST STA. 156+43.05
SC STA. 119+59.61	

FOR PROFILE, SEE SHEET 28

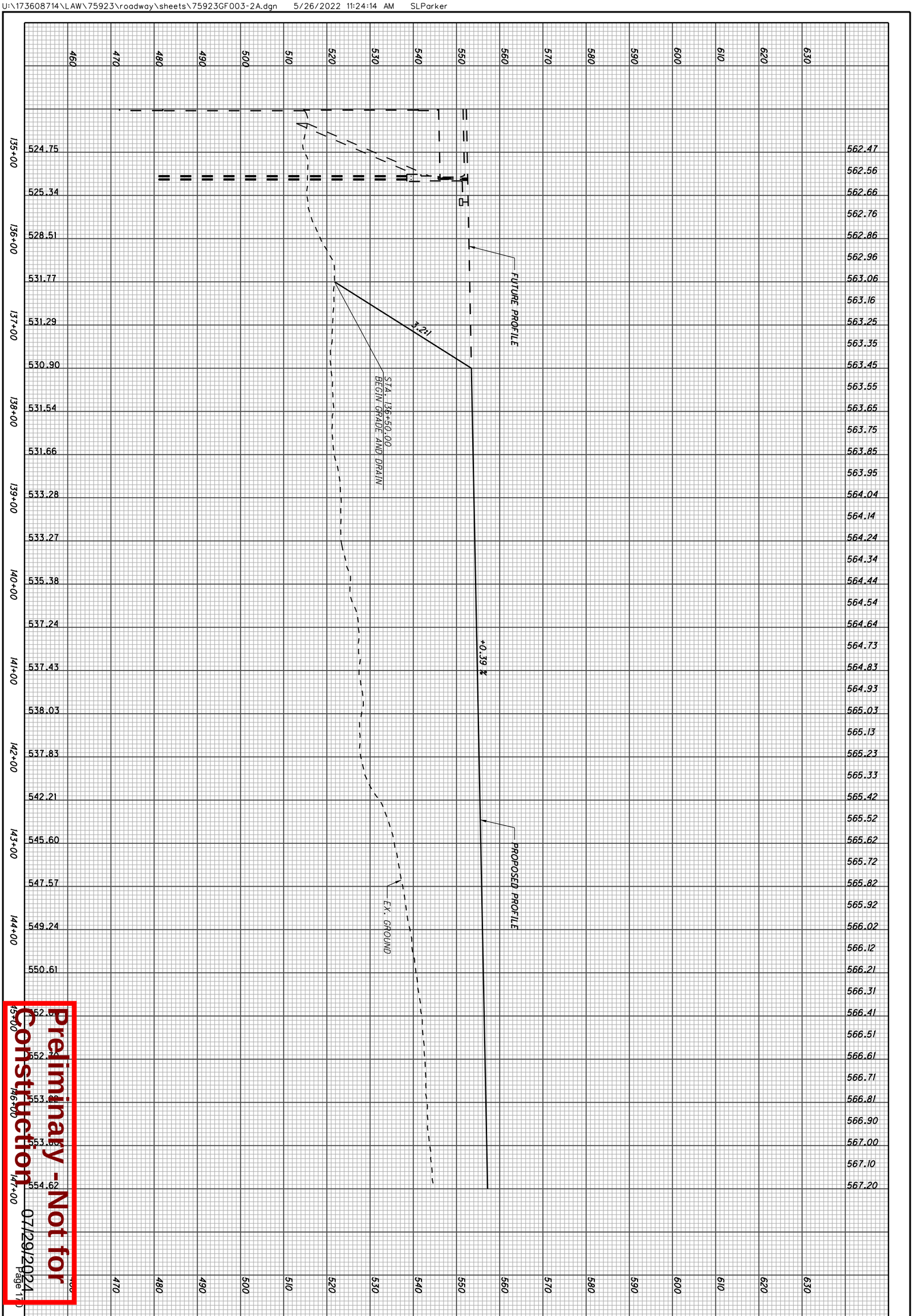
Preliminary - Not for Construction 07/29/2024

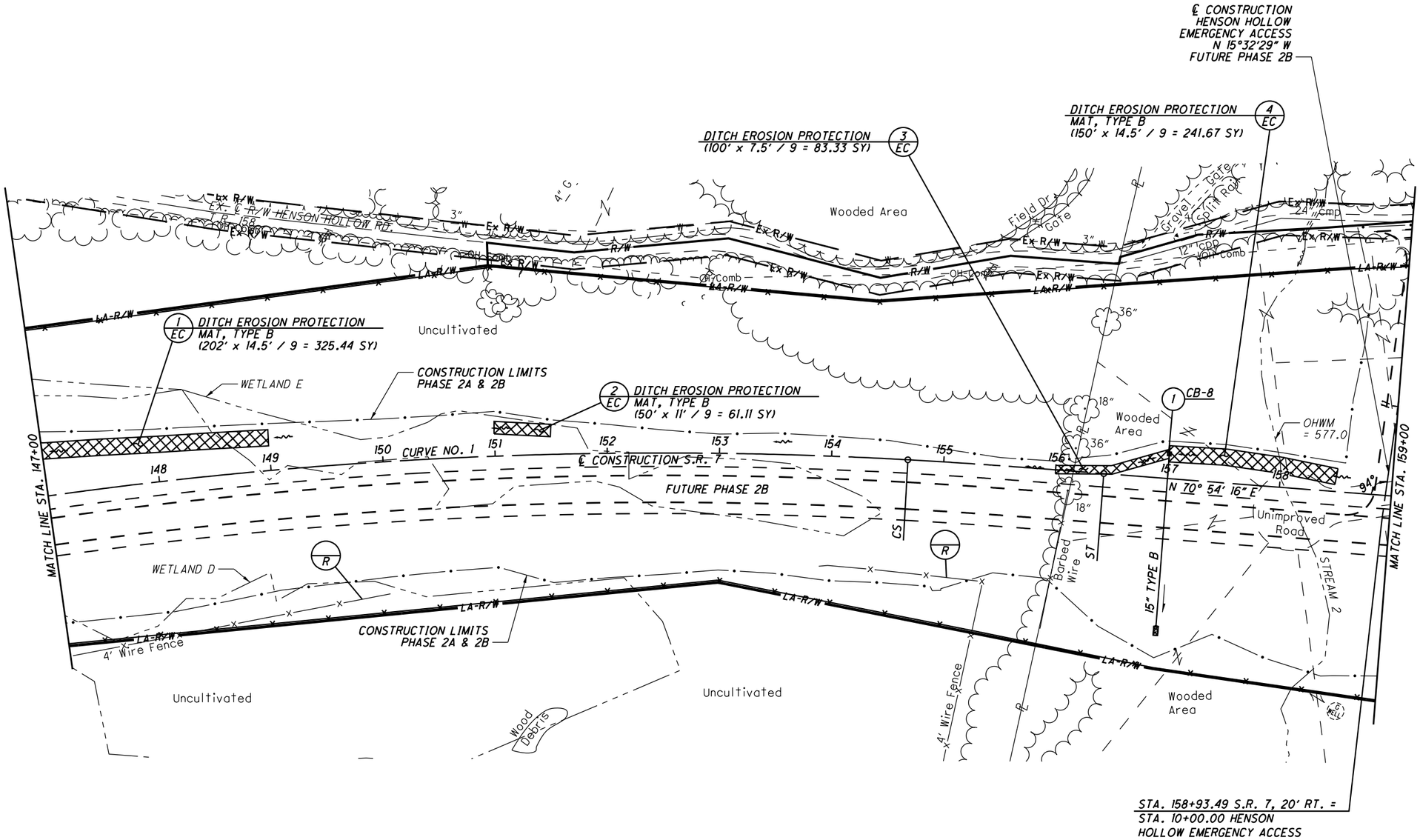
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 135+00 TO STA. 147+00

LAW-7-2.17





CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99	θs = 1° 16' 21"
Δ = 53° 33' 53" (RT)	Ls = 175.00'
Dc = 1° 27' 15"	Ts = 2,076.38'
R = 3,940.00'	LT = 116.67'
T = 1,880.13'	ST = 58.34'
L = 3,508.44'	e_{max} = 4.00%
E = 425.60'	CS STA. 154+68.05
TS STA. 117+84.61	ST STA. 156+43.05
SC STA. 119+59.61	

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

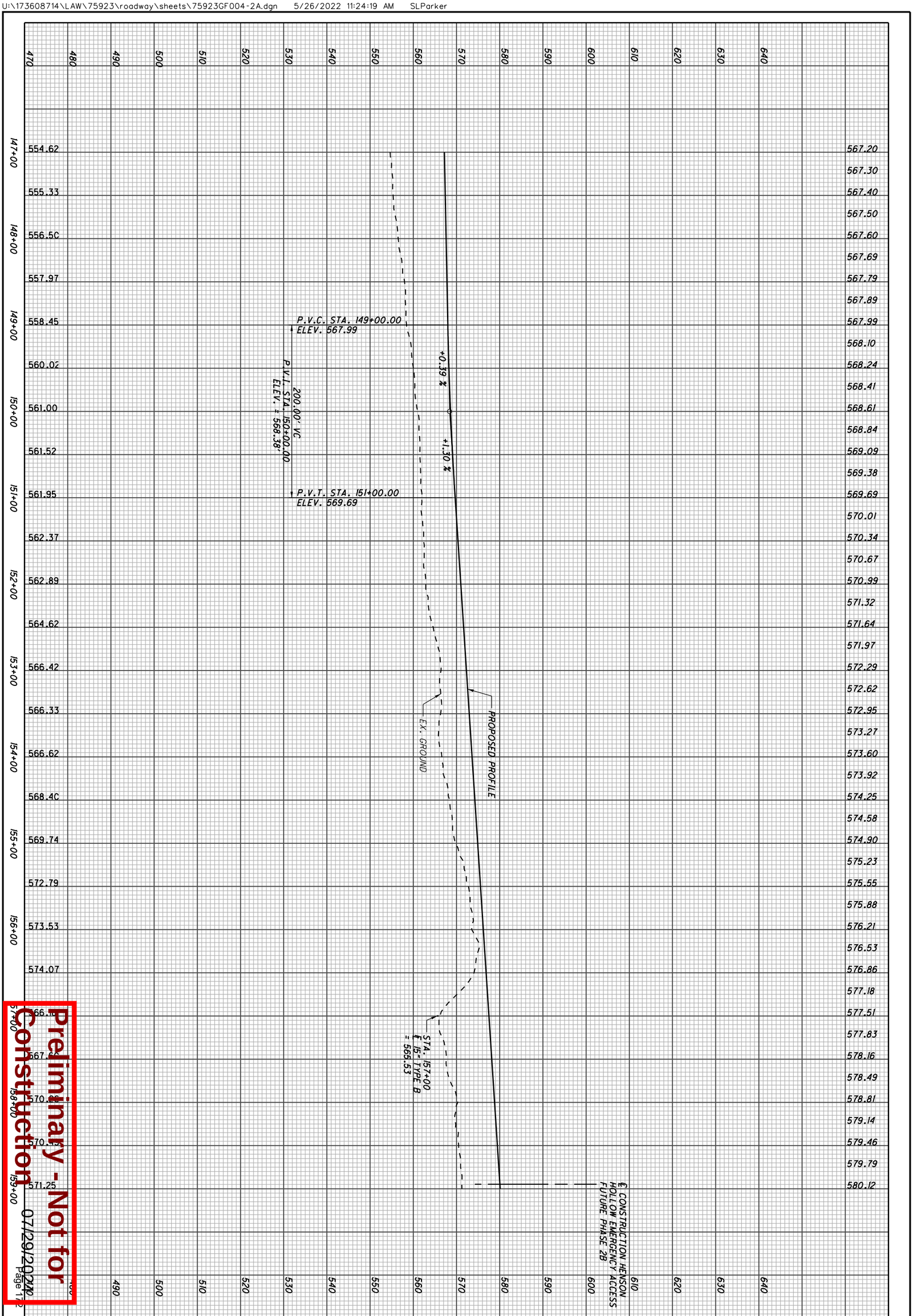
PLAN - S.R. 7
STA. 147+00 TO STA. 159+00

LAW-7-2.17

FOR PROFILE, SEE SHEET 30
FOR STORM SEWER PROFILE, SEE SHEET 97

Preliminary - Not for Construction

07/29/2024



30
297

LAW-7-2.17

PROFILE - S.R. 7
STA. 147+00 TO STA. 159+00

CALCULATED ALB
CHECKED TCM

ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE 1 (68' x 14' / 9 = 105.78 SY) — 6 EC

DITCH EROSION PROTECTION, MAT, TYPE B (210' x 11' / 9 = 256.67 SY) — 3 EC

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (31' x 11' x 1.5' / 27 = 18.94 CY) — 5 EC

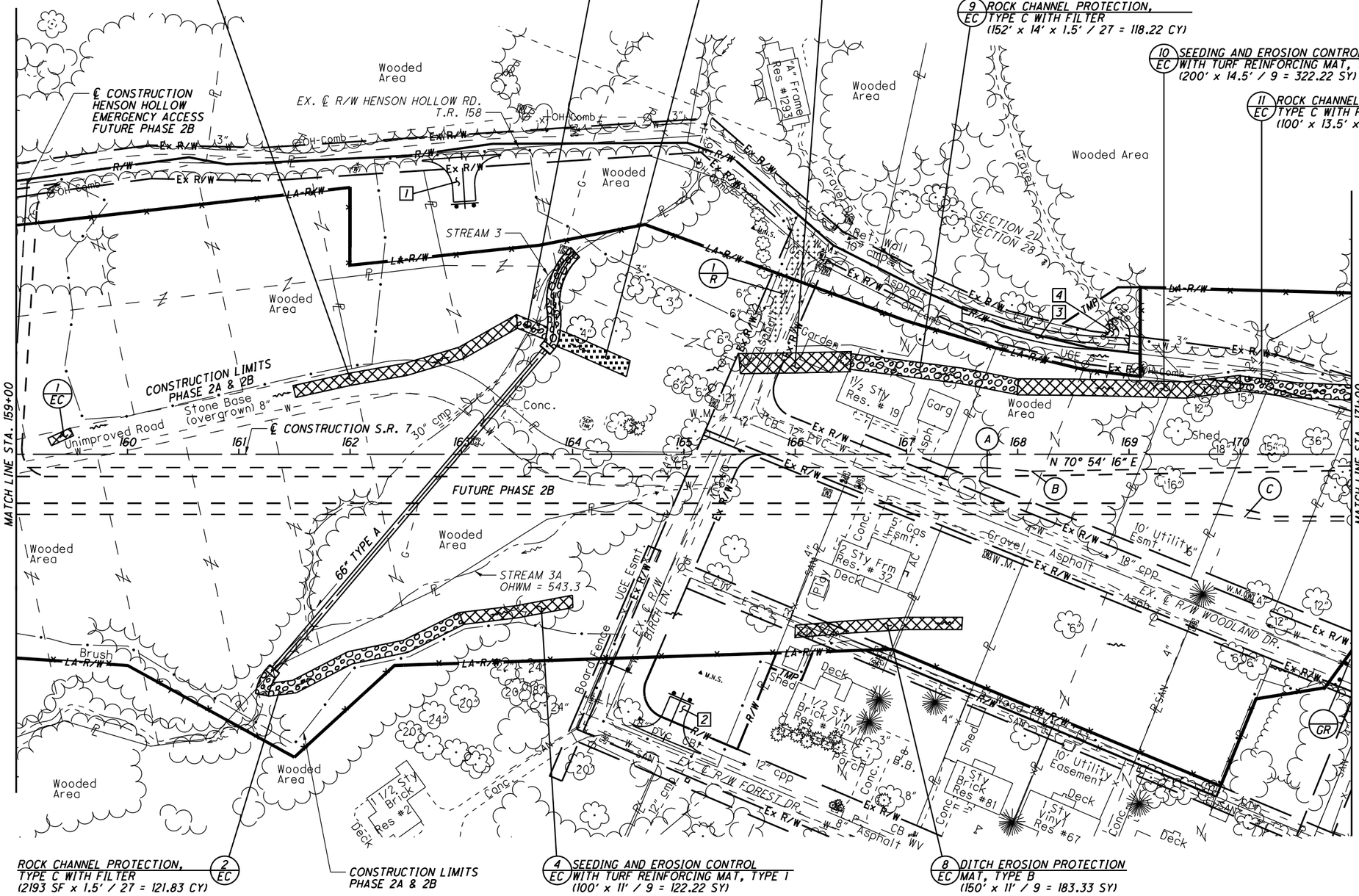
SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (100' x 18' / 9 = 200 SY) — 7 EC

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (152' x 14' x 1.5' / 27 = 118.22 CY) — 9 EC

SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (200' x 14.5' / 9 = 322.22 SY) — 10 EC

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (100' x 13.5' x 1.5' / 27 = 75 CY) — 11 EC

QUANTITIES ARE INCLUDED IN REFERENCE NUMBER 1-R FOR THE REMOVAL OF EXISTING PAVEMENT, REGRADING TO ENSURE A DRAINABLE SURFACE AND SEEDING AND MULCHING OF THE AREA SHOWN.



ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (2193 SF x 1.5' / 27 = 121.83 CY) — 2 EC

CONSTRUCTION LIMITS PHASE 2A & 2B

SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (100' x 11' / 9 = 122.22 SY) — 4 EC

DITCH EROSION PROTECTION MAT, TYPE B (150' x 11' / 9 = 183.33 SY) — 8 EC

SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (20' x 7.5' / 9 = 16.67 SY) — 1 EC

TAPERS PROVIDED FOR INFORMATION ONLY

(A) - STA. 167+72.52
BEGIN PAVEMENT TAPER, 20' RT.
BEGIN SHOULDER TAPER, 12' RT.

(B) - STA. 168+12.52
END SHOULDER TAPER, 15.33' RT.

(C) - STA. 169+80.98
BEGIN PAVEMENT TAPER, 44' RT.
BEGIN SHOULDER TAPER, 54' RT.

STA. 170+30.98
END PAVEMENT TAPER, 56' RT.
END SHOULDER TAPER, 60' RT.

Preliminary - Not for Construction 01/29/2024

FOR PROFILE, SEE SHEET 32
FOR CULVERT DETAILS, SEE SHEETS 275-278
FOR DRAINAGE DETAILS, SEE SHEETS 270-274

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED SLP CHECKED ALB

PLAN - S.R. 7
STA. 159+00 TO STA. 171+00

LAW-7-2.17

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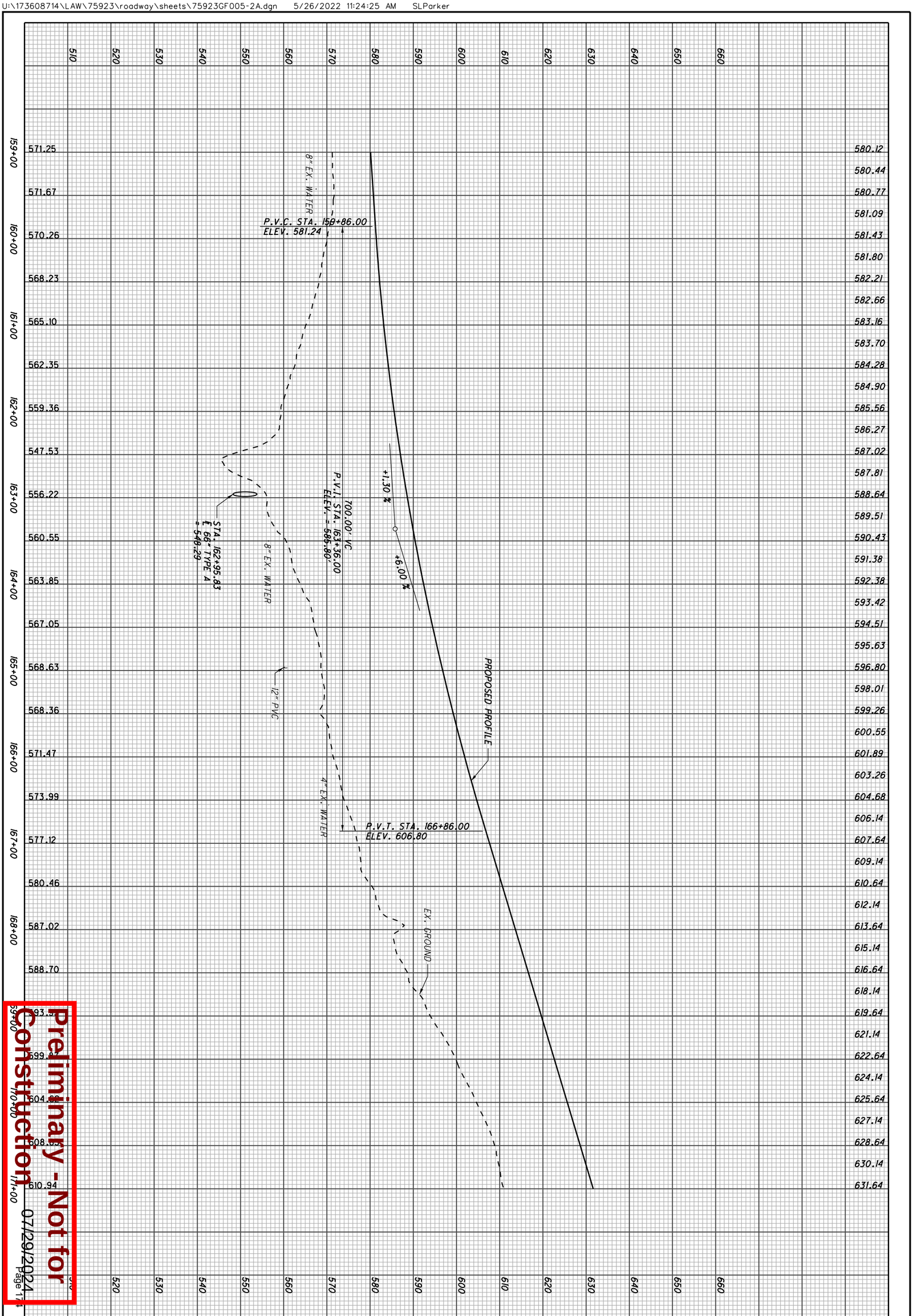


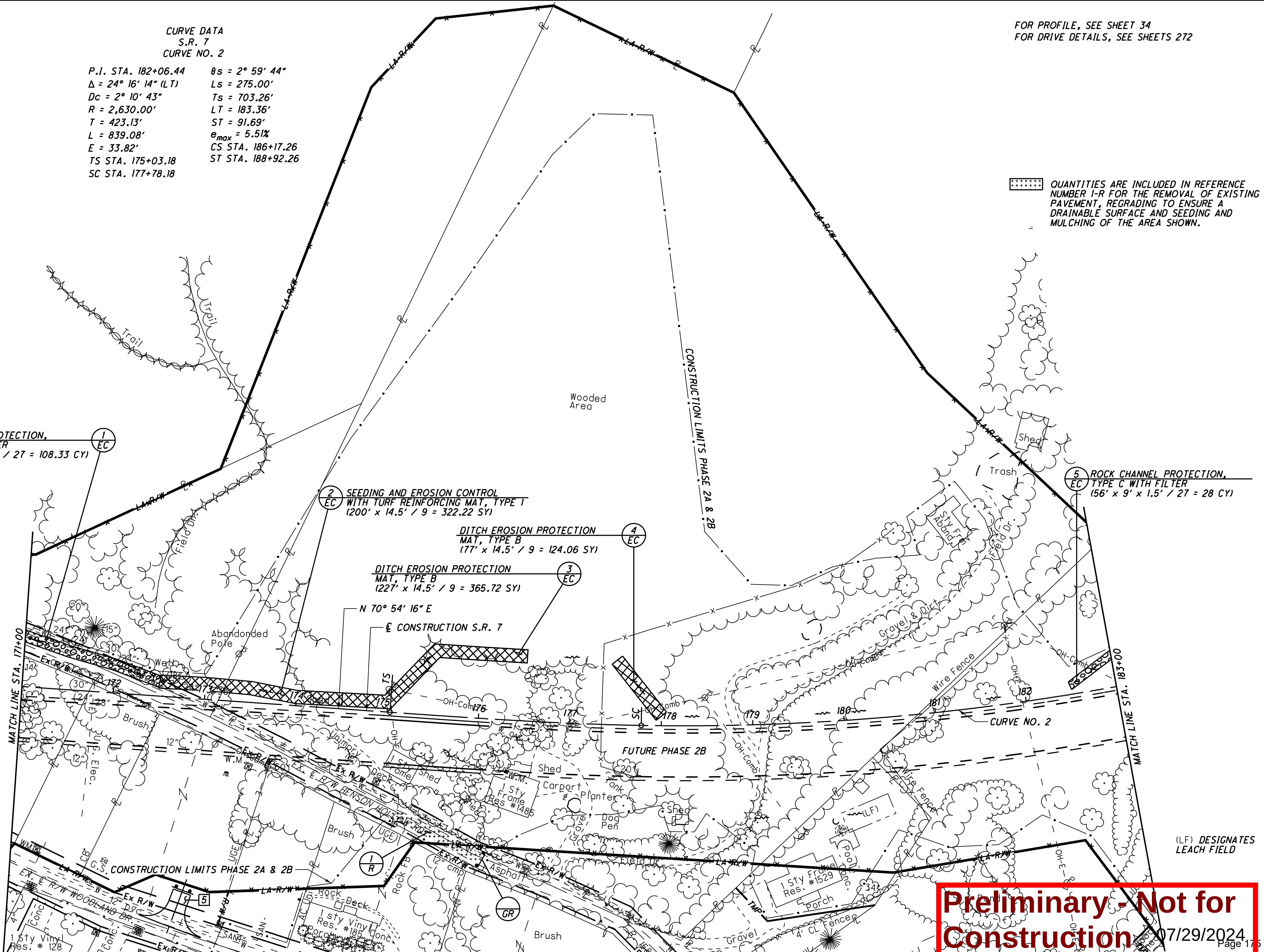
32 / 297	LAW-7-2.17	PROFILE - S.R. 7 STA. 159+00 TO STA. 171+00	CALCULATED ALB CHECKED TCM

CURVE DATA
S.R. 7
CURVE NO. 2

P.I. STA. 182+06.44	θs = 2° 59′ 44″
Δ = 24° 16′ 14″ (LT)	Ls = 275.00′
Dc = 2° 10′ 43″	Ts = 703.26′
R = 2,630.00′	LT = 183.36′
T = 423.13′	ST = 91.69′
L = 839.08′	e_{max} = 5.51%
E = 33.82′	CS STA. 186+17.26
TS STA. 175+03.18	ST STA. 188+92.26
SC STA. 177+78.18	

FOR PROFILE, SEE SHEET 34
FOR DRIVE DETAILS, SEE SHEETS 272

QUANTITIES ARE INCLUDED IN REFERENCE NUMBER 1-R FOR THE REMOVAL OF EXISTING PAVEMENT, REGRADING TO ENSURE A DRAINABLE SURFACE AND SEEDING AND MULCHING OF THE AREA SHOWN.



PLAN - S.R. 7
STA. 171+00 TO STA. 183+00

LAW-7-2.17

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED SLP
CHECKED ALB

CALCULATED ALB
CHECKED TCM

PROFILE - S.R. 7
STA. 171+00 STA. 183+00

1,825.00' VC
P.V.I. STA. 180+30.00
ELEV. = 687.44'

+6.00 %

-6.00 %

EX. GROUND

℄ EX. R/W HENSON HOLLOW RD.

PROPOSED PROFILE

P.V.C. STA. 171+17.50
ELEV. 632.69

3" EX. WATER

631.64 633.14 634.60 636.03 637.41 638.76 640.06 641.32 642.54 643.72 644.86 645.96 647.01 648.03 649.00 649.94 650.83 651.68 652.49 653.26 653.98 654.67 655.32 655.92 656.48 657.01 657.49 657.93 658.32 658.68 659.00 659.27 659.51 659.70 659.85 659.96 660.03 660.06 660.05 660.00 659.90 659.77 659.59 659.37 659.11 658.81 658.47 658.09 657.67

730 720 710 700 690 680 670 660 650 640 630 620 610 600 590 580 570 560 550

610.94 617.14 624.13 630.64 632.16 635.08 646.30 653.15 664.11 666.60 669.66 669.63 671.26 674.03 680.91 679.49 673.75 668.72 668.22 665.88 662.28 661.28 663.88 655.55 644.59

171+00 172+00 173+00 174+00 175+00 176+00 177+00 178+00 179+00 180+00 181+00 182+00 183+00

Preliminary - Not for Construction 07/29/2024

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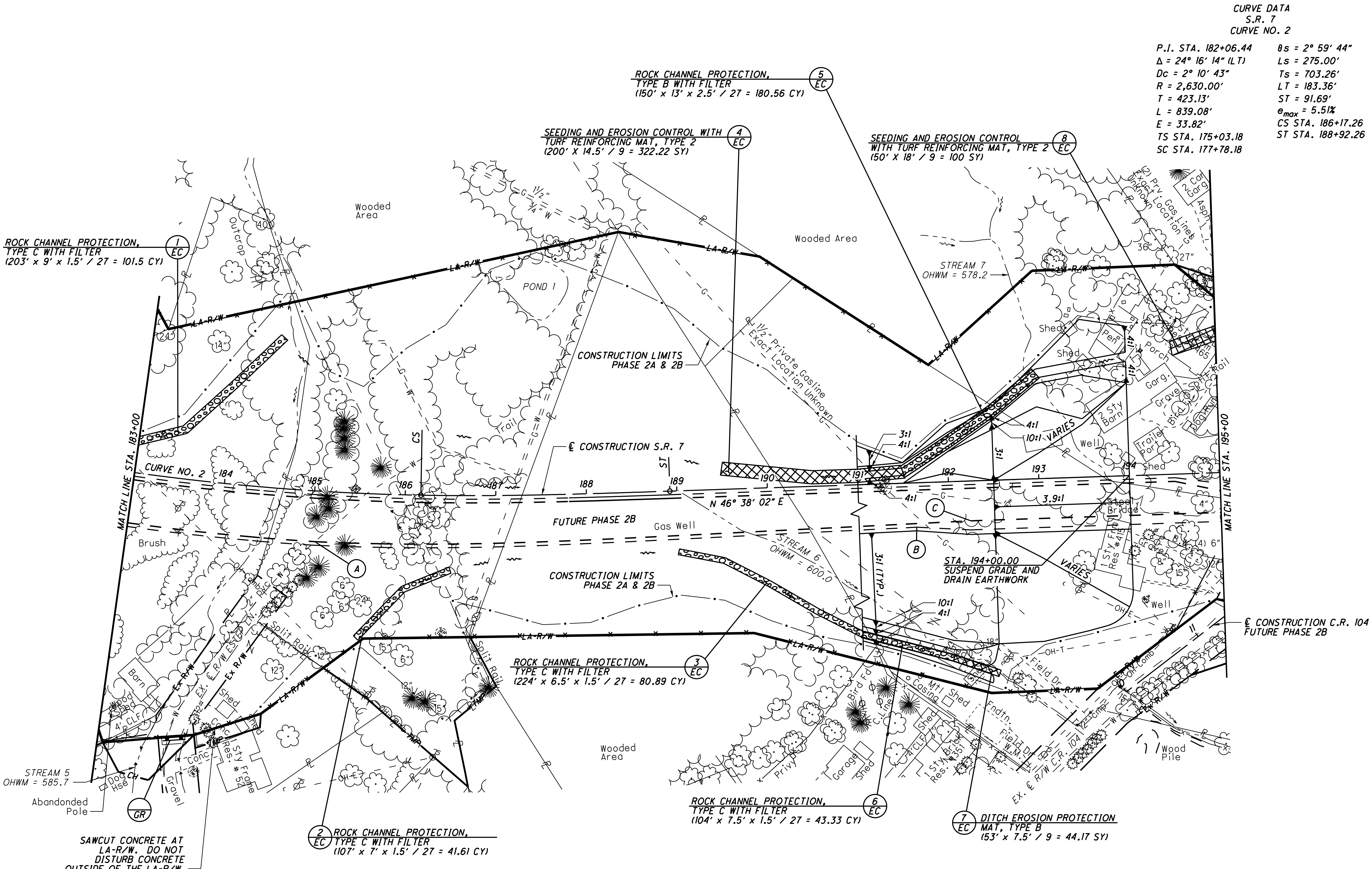
CURVE DATA
S.R. 7
CURVE NO. 2
P.I. STA. 182+06.44
Δ = 24° 16' 14" (LT)
Dc = 2° 10' 43"
R = 2,630.00'
T = 423.13'
L = 839.08'
E = 33.82'
TS STA. 175+03.18
SC STA. 177+78.18
θs = 2° 59' 44"
Ls = 275.00'
Ts = 703.26'
LT = 183.36'
ST = 91.69'
e_max = 5.51%
CS STA. 186+17.26
ST STA. 188+92.26
1 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (203' x 9' x 1.5' / 27 = 101.5 CY)
2 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (107' x 7' x 1.5' / 27 = 41.61 CY)
3 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (224' x 6.5' x 1.5' / 27 = 80.89 CY)
4 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (200' X 14.5' / 9 = 322.22 SY)
5 EC ROCK CHANNEL PROTECTION, TYPE B WITH FILTER (150' x 13' x 2.5' / 27 = 180.56 CY)
6 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (104' x 7.5' x 1.5' / 27 = 43.33 CY)
7 EC DITCH EROSION PROTECTION MAT, TYPE B (53' x 7.5' / 9 = 44.17 SY)
8 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (50' X 18' / 9 = 100 SY)
Wooded Area
Wooded Area
Wooded Area
POND 1
Outcrop
Brush
Trail
Gas Well
CONSTRUCTION LIMITS PHASE 2A & 2B
CONSTRUCTION LIMITS PHASE 2A & 2B
℄ CONSTRUCTION S.R. 7
CURVE NO. 2
FUTURE PHASE 2B
N 46° 38' 02" E
MATCH LINE STA. 183+00
MATCH LINE STA. 195+00
1 1/2" Private Gasline Exact Location Unknown
(2) Pry. Gas Lines Exact Location Unknown
STREAM 7 OHWM = 578.2
STREAM 6 OHWM = 600.0
STREAM 5 OHWM = 585.7
Abandoned Pole
SAWCUT CONCRETE AT LA-R/W. DO NOT DISTURB CONCRETE OUTSIDE OF THE LA-R/W.
STA. 194+00.00 SUSPEND GRADE AND DRAIN EARTHWORK
℄ CONSTRUCTION C.R. 104 FUTURE PHASE 2B
EX. ℄ R/W C.R. 104
VARIES
3:1 (TYP.)
Shed
Barn
2 Sty Barn
Garg.
Porch
Well
Steel Bridge
Split Rail
Wood Pile
Bird Fd
Privy
Garage
1 Sty Frame Res. # 52
1 Sty Brick Res. #351
1 Sty Frm Res. #415
Dog Hse
Gravel
Conc.
Field Dr.
GR

TAPERS PROVIDED FOR INFORMATION ONLY

(A) - STA. 185+03.46 BEGIN PAVEMENT TAPER, 56' RT.

(B) - STA. 191+63.46 BEGIN SHOULDER TAPER, 49' RT.

(C) - STA. 192+23.46 END PAVEMENT TAPER, 44' RT. END SHOULDER TAPER, 54' RT.

FOR PROFILE, SEE SHEET 36

Preliminary - Not for Construction 07/29/2024

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HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED SLP CHECKED ALB

PLAN - S.R. 7
STA. 183+00 TO STA. 195+00

LAW-7-72.17

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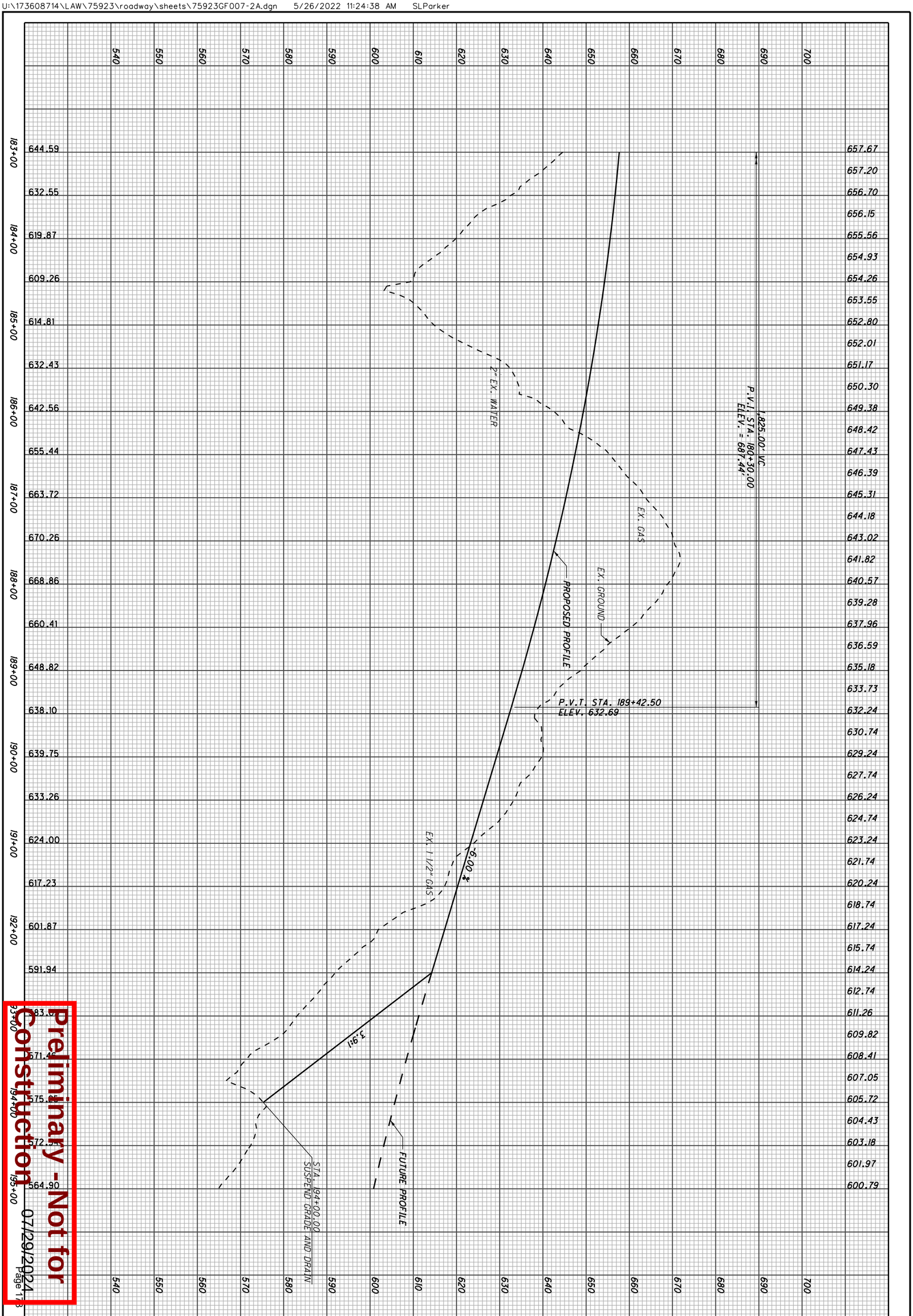
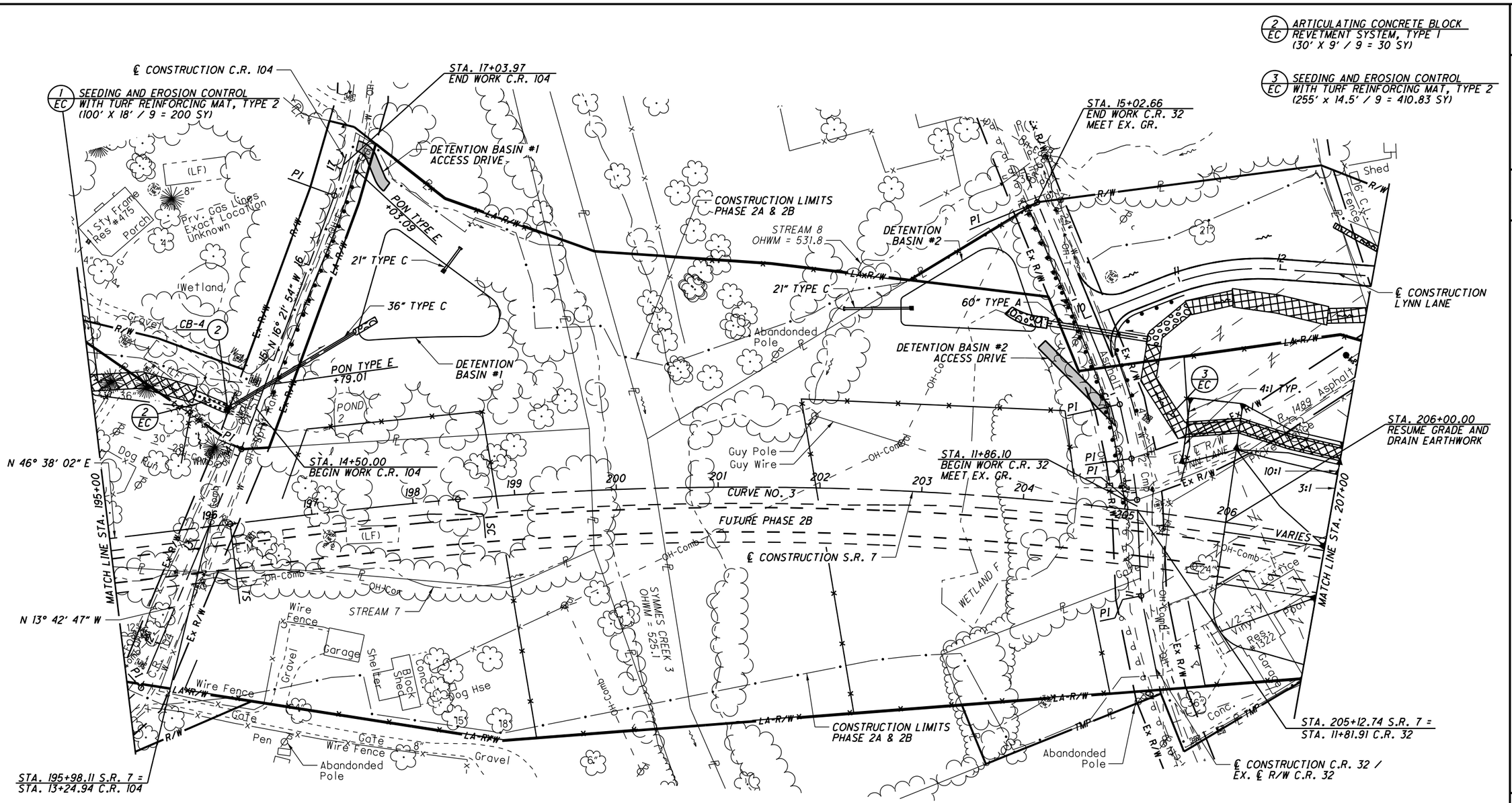


36 / 297	LAW-7-2.17	PROFILE - S.R. 7 STA. 183+00 TO STA. 195+00	CALCULATED ALB CHECKED TCM



CURVE DATA
S.R. 7
CURVE NO. 3

P.I. STA. 205+33.31
Δ = 27° 30' 45" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 683.24'
L = 1,347.14'
E = 70.53'
TS STA. 196+19.13
SC STA. 198+44.13

θs = 1° 58' 07"
Ls = 225.00'
Ts = 914.18'
LT = 150.01'
ST = 75.01'
e_{max} = 4.60%
CS STA. 211+91.27
ST STA. 214+16.27

C.R. 104

P.I. STA. 11+53.11
Δ = 2° 41' 45"
NO CURVE

P.I. STA. 14+07.46
Δ = 2° 39' 07"
NO CURVE

P.I. STA. 16+72.90
Δ = 4° 02' 33"
NO CURVE

C.R. 32

P.I. STA. 10+98.09
Δ = 9° 00' 49"
NO CURVE

P.I. STA. 11+92.44
Δ = 5° 16' 18"
NO CURVE

P.I. STA. 12+33.35
Δ = 4° 36' 08"
NO CURVE

P.I. STA. 12+87.96
Δ = 9° 55' 50"
NO CURVE

P.I. STA. 15+02.34
Δ = 0° 49' 53"
NO CURVE

FOR PROFILE, SEE SHEET 38
FOR LYNN LANE PLAN & PROFILE, SEE SHEET 34
FOR CULVERT DETAIL, SEE SHEET 279
FOR STORM SEWER PROFILES, SEE SHEET 34
FOR TYPICAL SECTIONS & DETAILS, SEE SHEETS 292-297

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 195+00 TO STA. 207+00

LAW-7-2.17

37
297

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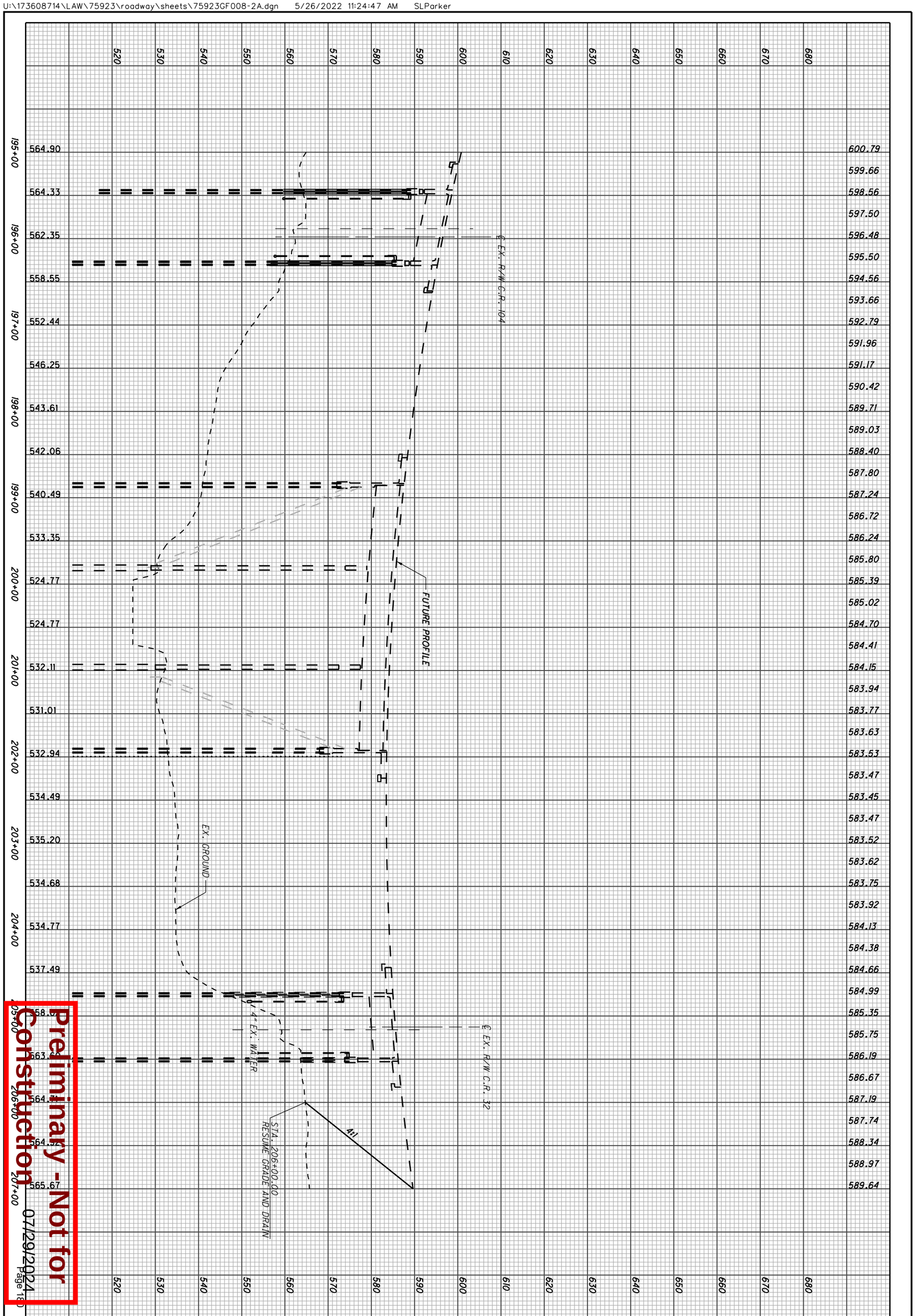

38
297

LAW-7-2.17

PROFILE - S.R. 7
STA. 195+00 STA. 207+00

CALCULATED ALB
CHECKED TCM

CURVE DATA
S.R. 7
CURVE NO. 3

P.I. STA. 205+33.31
Δ = 27° 30' 45" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 683.24'
L = 1,347.14'
E = 70.53'
TS STA. 196+19.13
SC STA. 198+44.13

θs = 1° 58' 07"
Ls = 225.00'
Ts = 914.18'
LT = 150.01'
ST = 75.01'
e_{max} = 4.60%
CS STA. 211+91.27
ST STA. 214+16.27

℄ CONSTRUCTION LYNN LANE

SEEDING AND EROSION CONTROL (4 EC)
WITH TURF REINFORCING MAT, TYPE 1
(325' x 14.5' / 9 = 523.61 SY)

(2 EC) SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE 2
(205' x 14.5' / 9 = 330.28 SY)

(3 EC) ROCK CHANNEL PROTECTION
TYPE C WITH FILTER
(290' x 13.5' x 1.5' / 27 = 217.5 CY)

CONSTRUCTION LIMITS PHASE 2A & 2B

DITCH EROSION PROTECTION (6 EC)
MAT, TYPE B
(100' x 11' / 9 = 122.22 SY)

DITCH EROSION PROTECTION (5 EC)
MAT, TYPE B
(200' x 14.5' / 9 = 322.22 SY)

(A) -
TAPERS PROVIDED FOR INFORMATION ONLY

STA. 209+79.72
BEGIN PAVEMENT TAPER, 44' RT.
BEGIN SHOULDER TAPER, 54' RT.

STA. 210+29.72
END PAVEMENT TAPER, 56' RT.
END SHOULDER TAPER, 60' RT.

(1 EC) SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE 1
(100' x 18' / 9 = 200 SY)

QUANTITIES ARE INCLUDED IN REFERENCE NUMBER 1-R FOR THE REMOVAL OF EXISTING PAVEMENT, REGRADING TO ENSURE A DRAINABLE SURFACE AND SEEDING AND MULCHING OF THE AREA SHOWN.

FOR PROFILE, SEE SHEET 41
FOR LYNN LANE PLAN AND PROFILE, SEE SHEET 248

Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 207+00 TO STA. 219+00 (NORTH)

LAW-7-2.17

39
297

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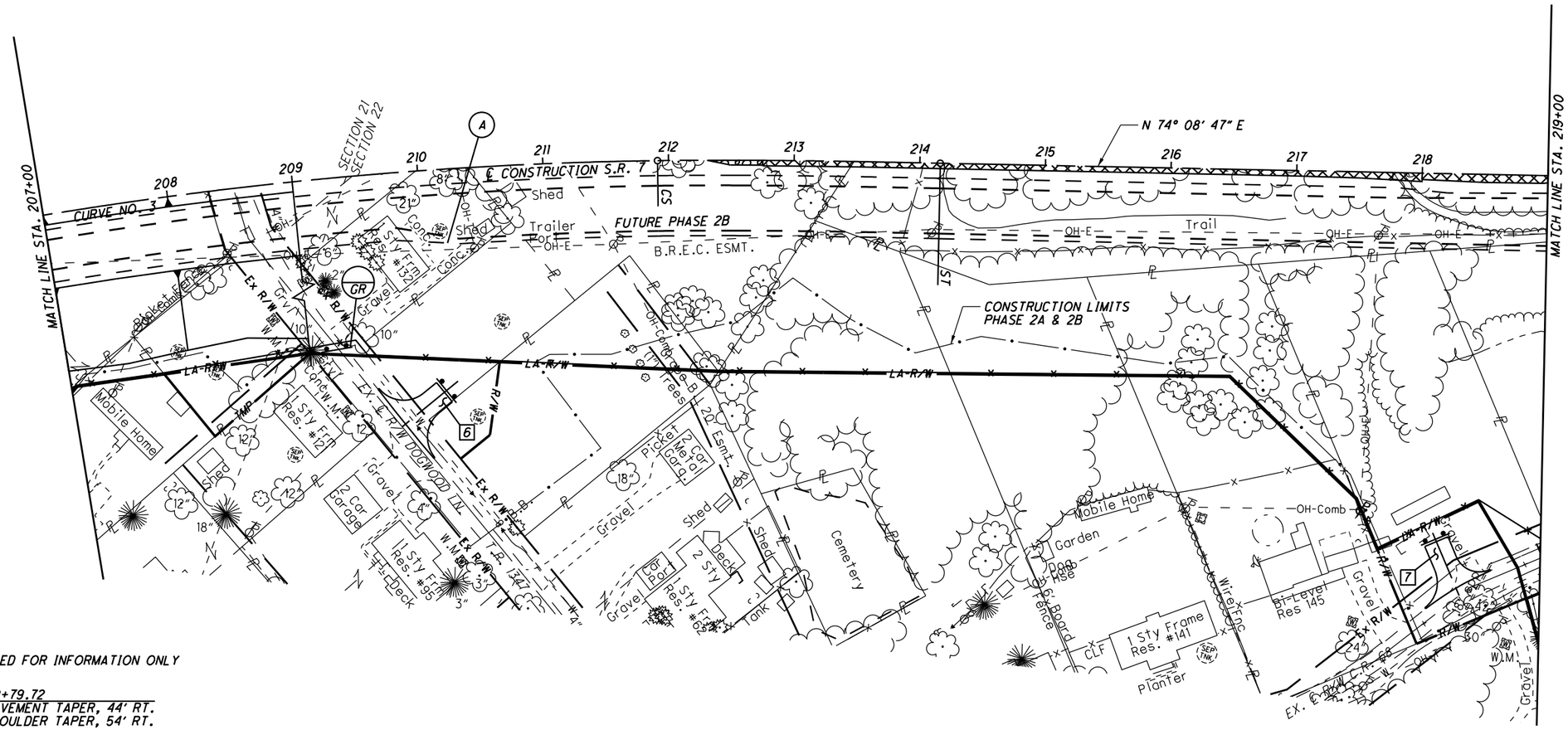
CURVE DATA
S.R. 7
CURVE NO. 3

P.I. STA. 205+33.31
Δ = 27° 30' 45" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 683.24'
L = 1,347.14'
E = 70.53'
TS STA. 196+19.13
SC STA. 198+44.13

θs = 1° 58' 07"
Ls = 225.00'
Ts = 914.18'
LT = 150.01'
ST = 75.01'
e_{max} = 4.60%
CS STA. 211+91.27
ST STA. 214+16.27



TAPERS PROVIDED FOR INFORMATION ONLY

(A) -
STA. 209+79.72
BEGIN PAVEMENT TAPER, 44' RT.
BEGIN SHOULDER TAPER, 54' RT.

STA. 210+29.72
END PAVEMENT TAPER, 56' RT.
END SHOULDER TAPER, 60' RT.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 207+00 TO STA. 219+00 (SOUTH)

LAW-7-2.17

40
297

FOR PROFILE, SEE SHEET 41
FOR DRAINAGE DETAILS, SEE SHEETS 272-273

07/29/2024

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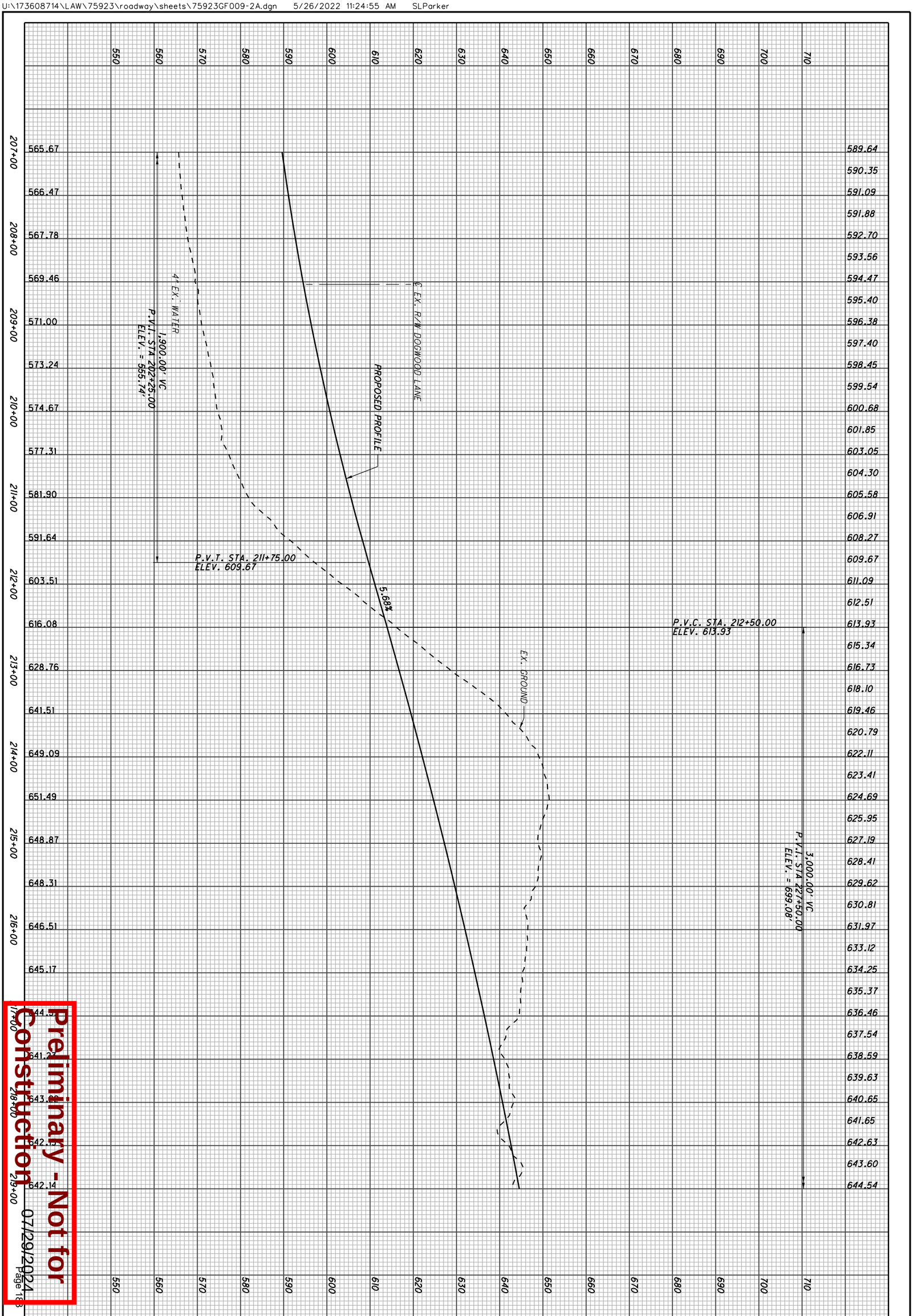

41
297

LAW-7-2.17

PROFILE - S.R. 7
STA. 207+00 TO STA. 219+00

CALCULATED ALB
CHECKED TCM

FOR PROFILE, SEE SHEET 44
FOR STORM SEWER PROFILE, SEE SHEET 141
FOR CULVERT DETAILS, SEE SHEETS 280

Wooded Area

SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (200' x 14.5' / 9 = 322.22 SY) — 2 EC

1 EC DITCH EROSION PROTECTION, MAT, TYPE B (50' x 11' / 9 = 61.11 SY)

3 CB-4

MATCH LINE STA. 219+00

24" TYPE B

Trail

Wire Fence

Wood Steps

2 Sty Metal Building

Field Dr.

Board Fence

B.R.E.C. ESMT.

OH-E

Brush

Shed

Wooded Area

Open Field

CONSTRUCTION LIMITS PHASE 2A & 2B

℄ CONSTRUCTION S.R. 7
N 74° 08' 47" E

TS

Stone Parking

FUTURE PHASE 2B

Dirt/Stone Dr.

Open Field

LA R/W

Wooded Area

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (212' x 8.5' x 1.5' / 27 = 100.11 CY) — 4 EC

3 EC DITCH EROSION PROTECTION MAT, TYPE B (53' x 7.5' / 9 = 44.17 SY)

Pond 1

4' x 6' Overflow (2) 12" CMP

30"

STREAM 9

5 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (74' x 14.5' / 9 = 119.22 SY)

6 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (53' x 11' x 1.5' / 27 = 32.39 CY)

B.R.E.C. ESMT.

Tensil Fence

Board Fence

Brush

60" TYPE A

CURVE NO. 4

Abandonded Pole

SC

C Line

Tank

24"

18"

MATCH LINE STA. 231+00

CURVE DATA
S.R. 7
CURVE NO. 4

P.I. STA. 232+01.52	θs = 9° 30' 00"
Δ = 34° 12' 59" (LT)	Ls = 400.00'
Dc = 4° 45' 00"	Ts = 572.79'
R = 1,206.23'	LT = 267.05'
T = 161.12'	ST = 133.68'
L = 320.36'	θmax = 8.00°
TS STA. 226+28.73	CS STA. 233+41.08
SC STA. 230+28.73	ST STA. 237+41.08

Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 219+00 TO STA. 231+00 (NORTH)

LAW-7-2.17

42
297

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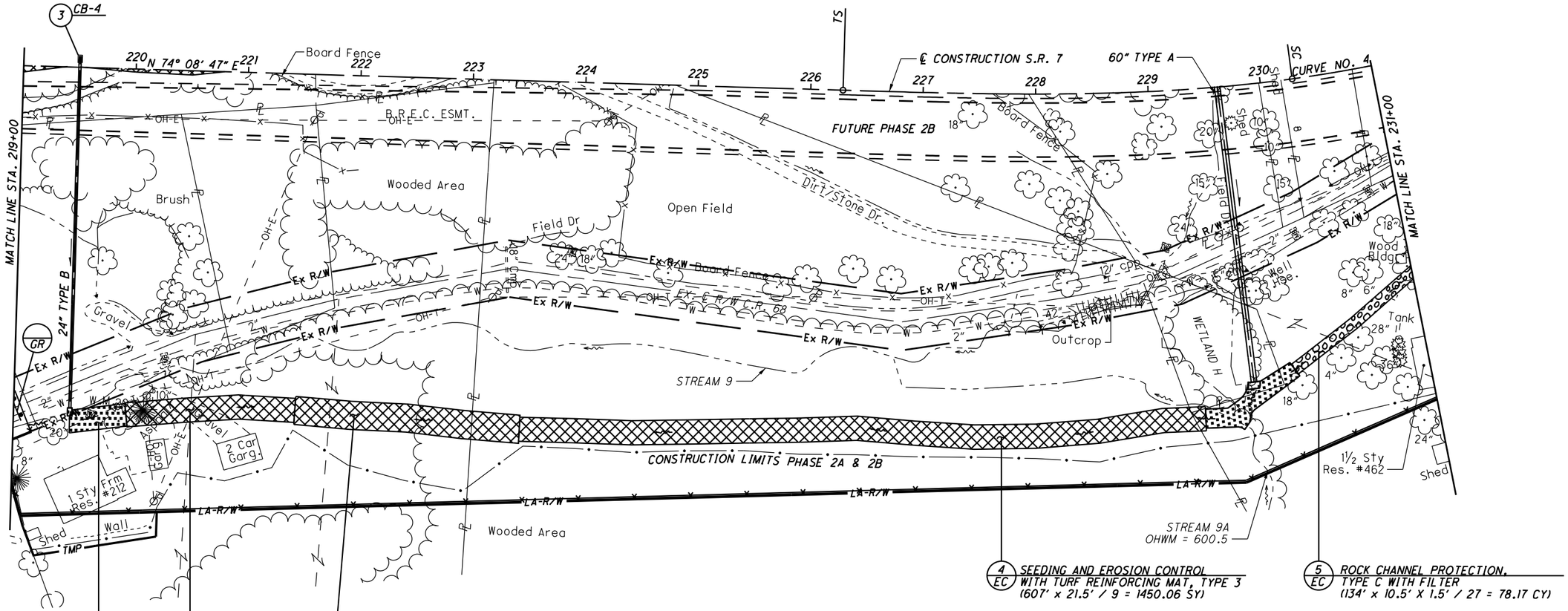
CURVE DATA
S.R. 7
CURVE NO. 4

P.I. STA. 232+01.52
Δ = 34° 12' 59" (LT)
Dc = 4° 45' 00"
R = 1,206.23'
T = 161.12'
L = 320.35'
E = 10.71'
TS STA. 226+28.73
SC STA. 230+28.73

θs = 9° 30' 00"
Ls = 400.00'
Ts = 572.79'
LT = 267.05'
ST = 133.68'
e_{max} = 8.00%
CS STA. 233+49.08
ST STA. 237+49.08



1 EC ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE 1
(50' x 20' / 9 = 111.11 SY)

2 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3
(151' x 21.5' / 9 = 360.72 SY)

3 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
(200' x 25' / 9 = 555.56 SY)

4 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3
(607' x 21.5' / 9 = 1450.06 SY)

5 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
(134' x 10.5' X 1.5' / 27 = 78.17 CY)

FOR PROFILE, SEE SHEET 44
FOR STORM SEWER PROFILES, SEE SHEET 04
FOR CULVERT DETAILS, SEE SHEETS 280

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 219+00 TO STA. 231+00 (SOUTH)

LAW-7-2.17

644.54 645.47 646.38 647.26 648.14 648.99 649.82 650.64 651.43 652.21 652.97 653.71 654.43 655.13 655.82 656.48 657.13 657.76 658.37 658.96 659.54 660.09 660.63 661.14 661.64 662.12 662.58 663.03 663.45 663.86 664.24 664.61 664.96 665.29 665.61 665.90 666.17 666.43 666.67 666.89 667.09 667.27 667.44 667.58 667.71 667.82 667.91 667.98 668.03

750 740 730 720 710 700 690 680 670 660 650 640 630 620 610 600 590

3,000.00' VC
P.V.I. STA 227+50.00
ELEV. = 699.08'

+5.68 %

-3.25 %

PROPOSED PROFILE

EX. GROUND

STA. 219+50.00
℄ 24" TYPE B
= 639.03

STA. 229+61.63
℄ 60" TYPE A
= 606.24

642.14 637.04 641.68 644.58 645.82 647.16 650.09 649.04 649.87 649.67 652.34 652.65 653.34 653.98 654.42 653.57 648.30 643.47 635.61 625.85 [illegible] 616.67

219+00 220+00 221+00 222+00 223+00 224+00 225+00 226+00 227+00 228+00 229+00 230+00 231+00

CALCULATED ALB
CHECKED TCM

PROFILE - S.R. 7
STA. 219+00 TO STA. 231+00

LAW-7-2.17

44
297

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CURVE DATA
S.R. 7
CURVE NO. 4

P.I. STA. 232+01.52
Δ = 34° 12' 59" (LT)
Dc = 4° 45' 00"
R = 1,206.23'
T = 161.12'
L = 320.35'
E = 10.71'
TS STA. 226+28.73
SC STA. 230+28.73

θs = 9° 30' 00"
Ls = 400.00'
Ts = 572.79'
LT = 267.05'
ST = 133.68'
e_{max} = 8.00%
CS STA. 233+49.08
ST STA. 237+49.08

5 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (53' x 6' x 1.5' / 27 = 17.67 CY)

4 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (196' x 11' / 9 = 239.56 SY)

3 EC ROCK CHANNEL PROTECTION TYPE C WITH FILTER (57' x 11' x 1.5' / 27 = 34.83 CY)

9 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (355' x 14.5' / 9 = 571.94 SY)

CONSTRUCTION LIMITS PHASE 2A & 2B

STREAM 10A OHWM = 636.7

STREAM 10 OHWM = 637.4

CONSTRUCTION LIMITS PHASE 2A & 2B

FUTURE PHASE 2B

℄ CONSTRUCTION S.R. 7

CURVE NO. 4

MATCH LINE STA. 231+00

MATCH LINE STA. 243+00

N 39° 55' 47" E

1 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (243' x 10.5' x 1.5' /27 = 141.75 CY)

2 EC DITCH EROSION PROTECTION MAT, TYPE B (57' x 11' / 9 = 69.67 SY)

6 EC DITCH EROSION PROTECTION MAT, TYPE B (153' x 11' / 9 = 187 SY)

8 EC DITCH EROSION PROTECTION MAT, TYPE B (52' x 14.5' / 9 = 83.78 SY)

7 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (52' x 11.5' x 1.5' / 27 = 33.22 CY)

TAPERS PROVIDED FOR INFORMATION ONLY

(A) - STA. 241+73.20
BEGIN SHOULDER TAPER, 49' RT.

(B) - STA. 242+33.20
END PAVEMENT TAPER, 44' RT.
(FOR CLIMBING LANE)
END SHOULDER TAPER, 54' RT.

(LF) DESIGNATES LEACH FIELD

Preliminary - Not for Construction 07/29/2024

FOR CONTINUATION SEE SHEET 16

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 231+00 TO STA. 243+00

LAW-7-2.17

45
297

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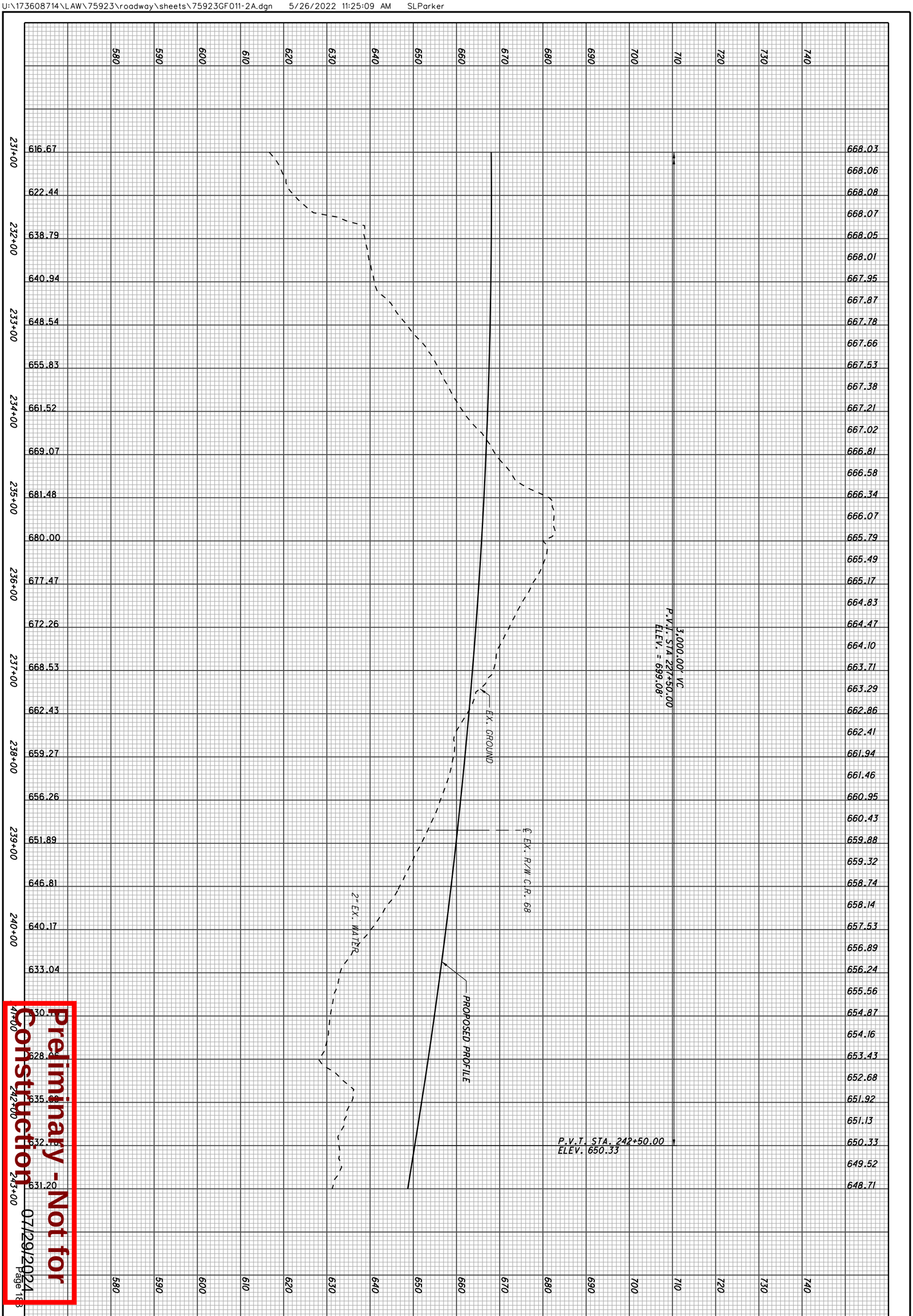
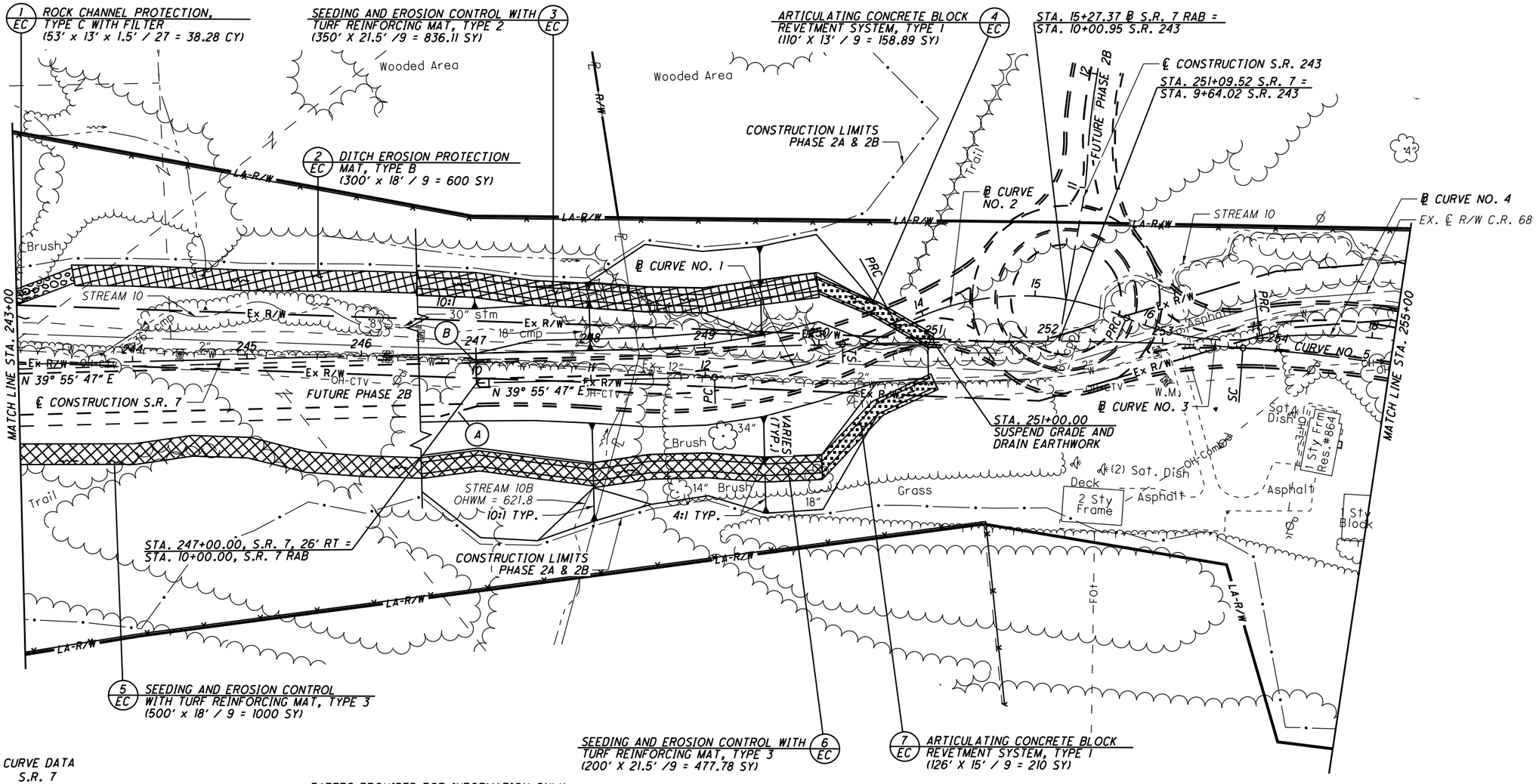


Preliminary - Not for Construction

07/29/2024

46 / 297	LAW-7-2.17	PROFILE - S.R. 7 STA. 231+00 TO STA. 243+00	CALCULATED ALB CHECKED TCM

CURVE DATA @ S.R. 7 RAB CURVE NO. 1	CURVE DATA @ S.R. 7 RAB CURVE NO. 2	CURVE DATA @ S.R. 7 RAB CURVE NO. 3	CURVE DATA @ S.R. 7 RAB CURVE NO. 4
P.I. Sta. 12+93.43	P.I. Sta. 14+87.13	P.I. Sta. 16+43.83	P.I. Sta. 18+27.99
Δ = 27° 26' 21" (LT)	Δ = 52° 43' 55" (RT)	Δ = 30° 24' 24" (LT)	Δ = 31° 15' 43" (RT)
Dc = 16° 22' 13"	Dc = 25° 27' 53"	Dc = 25° 27' 53"	Dc = 12° 43' 57"
R = 350.00'	R = 225.00'	R = 225.00'	R = 450.00'
T = 85.45'	T = 111.52'	T = 61.15'	T = 125.90'
L = 167.62'	L = 207.08'	L = 119.41'	L = 245.53'
E = 10.28'	E = 26.12'	E = 8.16'	E = 17.28'
PC Sta. 12+07.99	PRC Sta. 13+75.60	PRC Sta. 15+82.68	PRC Sta. 17+02.09
PRC Sta. 13+75.60	PRC Sta. 15+82.68	PRC Sta. 17+02.09	PT Sta. 19+47.62



CURVE DATA S.R. 7 CURVE NO. 5	
P.I. STA. 261+89.75	θs = 5° 41' 15"
Δ = 58° 46' 06" (RT)	Ls = 350.00'
Dc = 3° 15' 00"	Ts = 1,169.30'
R = 1,762.95'	LT = 233.45'
T = 773.76'	ST = 116.78'
L = 1,458.26'	e_{max} = 7.10%
E = 162.33'	CS STA. 268+28.71
TS STA. 250+20.45	ST STA. 271+78.71
SC STA. 253+70.45	

TAPERS PROVIDED FOR INFORMATION ONLY

(A) - STA. 246+68.00 BEGIN SHOULDER TAPER, 54' RT.
STA. 247+00.00 END SHOULDER TAPER, 58' RT.

(B) - STA. 246+92.00 BEGIN SHOULDER TAPER, 4' LT.
STA. 247+00.00 END SHOULDER TAPER, 6' LT.

FOR PROFILE, SEE SHEET 48-49

Preliminary - Not for Construction 07/29/2024

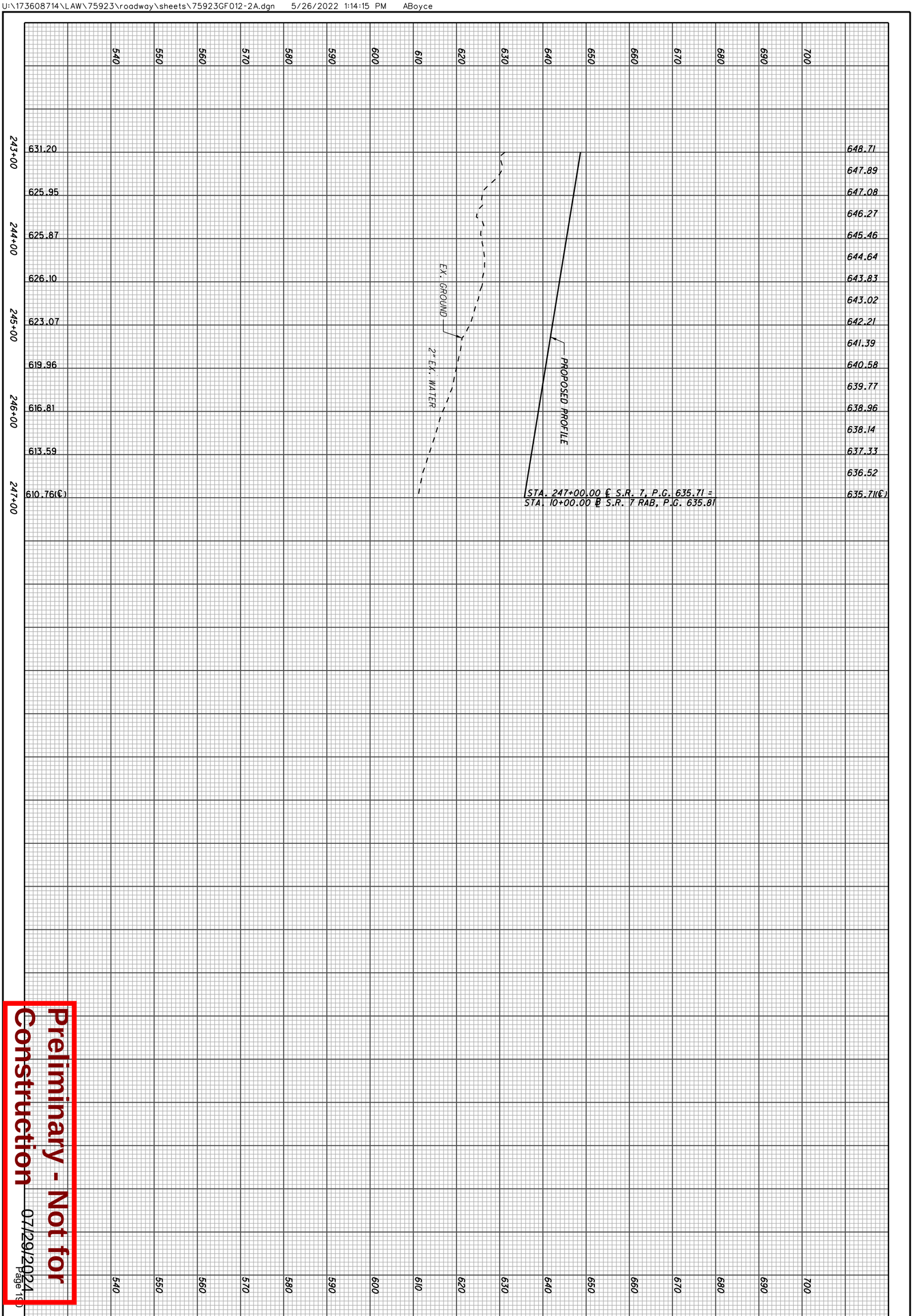
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED SLP CHECKED ALB

PLAN - S.R. 7 STA. 243+00 TO STA. 255+00 (NORTH)

LAW-7-2.17

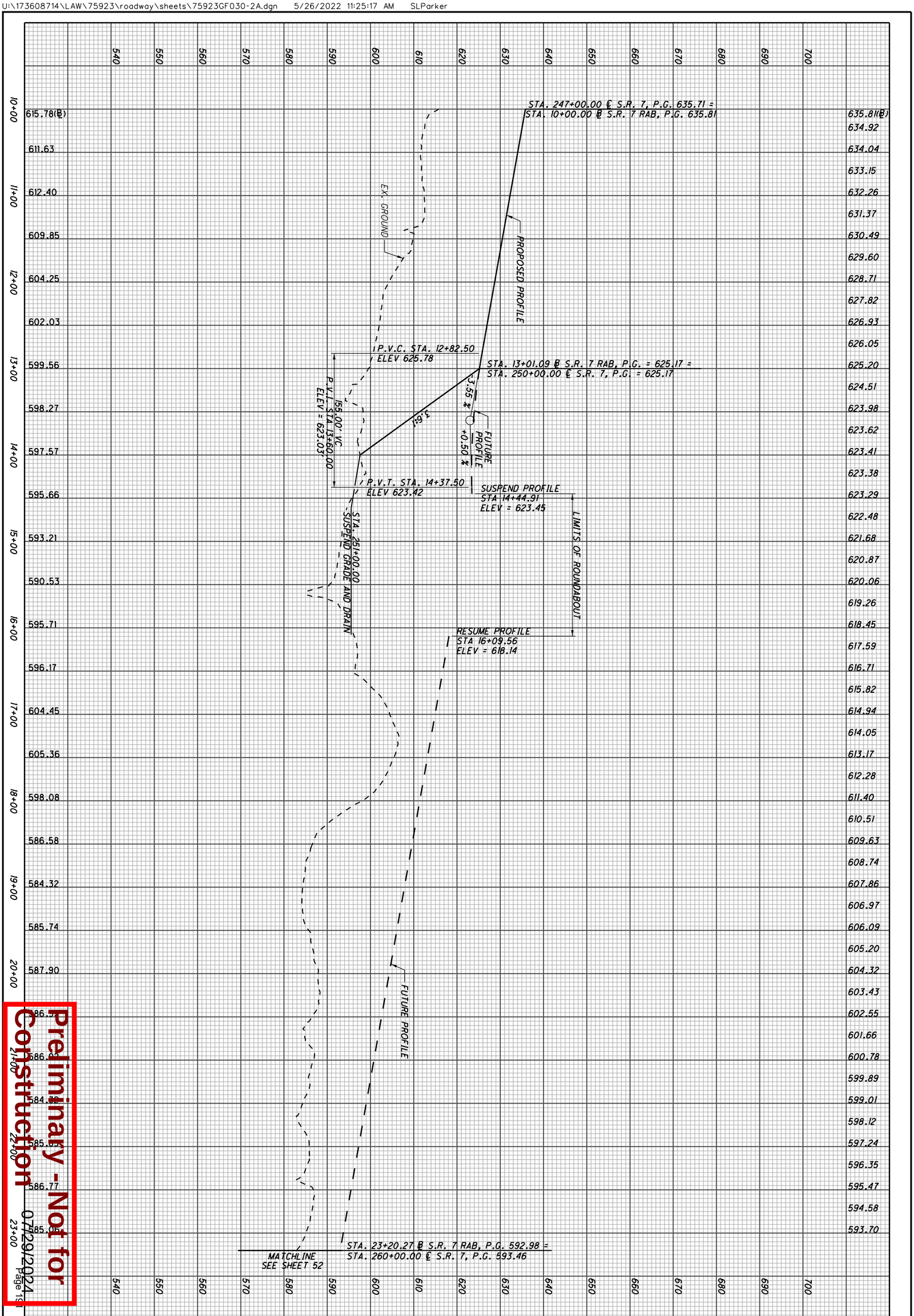
47/297



LAW-7-2.17

PROFILE - S.R. 7
STA. 243+000 TO STA. 247+00

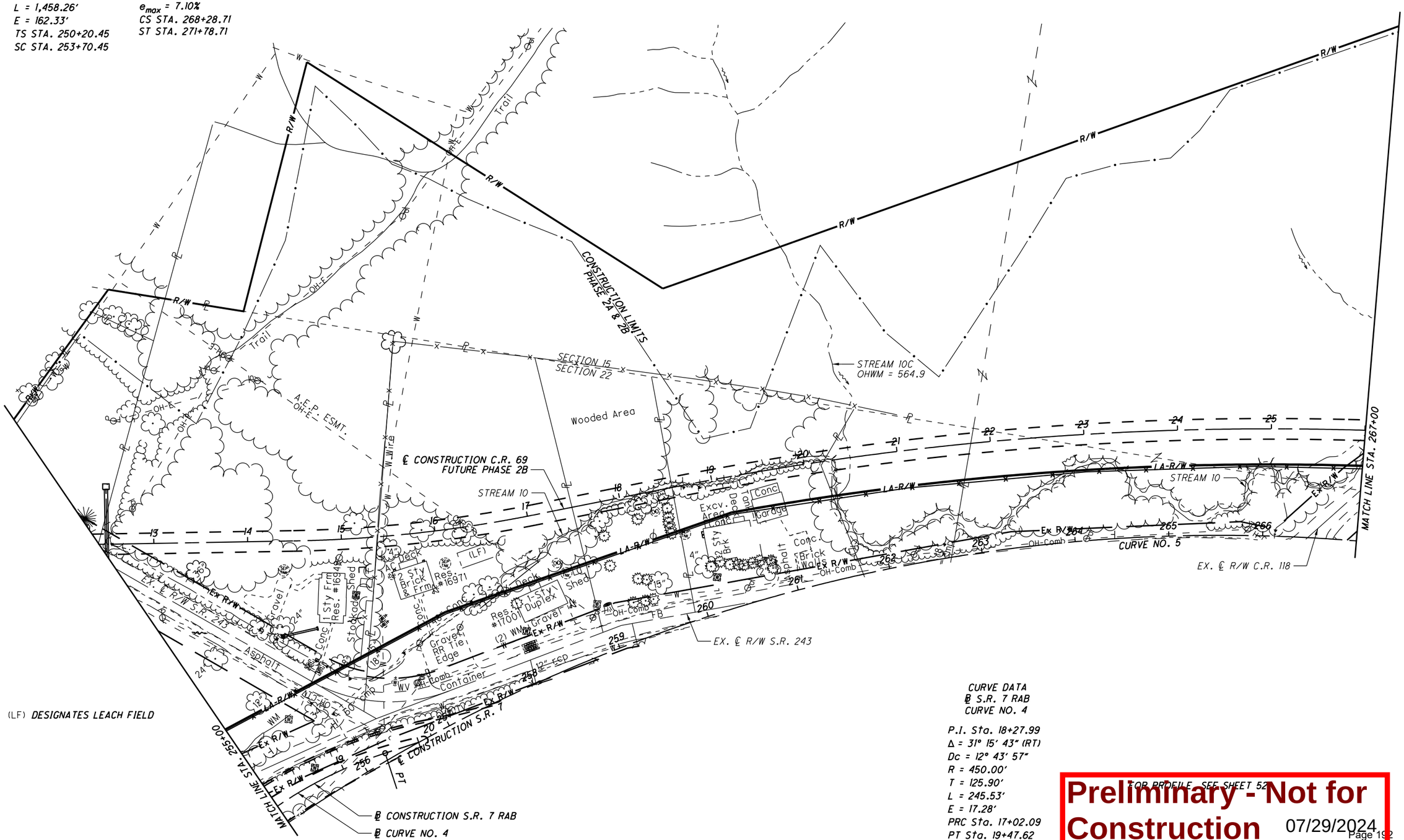
CALCULATED ALB
CHECKED TCM



CURVE DATA
S.R. 7
CURVE NO. 5

P.I. STA. 261+89.75
Δ = 58° 46' 06" (RT)
Dc = 3° 15' 00"
R = 1,762.95'
T = 773.76'
L = 1,458.26'
E = 162.33'
TS STA. 250+20.45
SC STA. 253+70.45

θs = 5° 41' 15"
Ls = 350.00'
Ts = 1,169.30'
LT = 233.45'
ST = 116.78'
e_{max} = 7.10%
CS STA. 268+28.71
ST STA. 271+78.71



(LF) DESIGNATES LEACH FIELD

CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 4

P.I. Sta. 18+27.99
Δ = 31° 15' 43" (RT)
Dc = 12° 43' 57"
R = 450.00'
T = 125.90'
L = 245.53'
E = 17.28'
PRC Sta. 17+02.09
PT Sta. 19+47.62

FOR PROFILE, SEE SHEET 52

Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 255+00 TO STA. 267+00 (NORTH)

LAW-7-2.17

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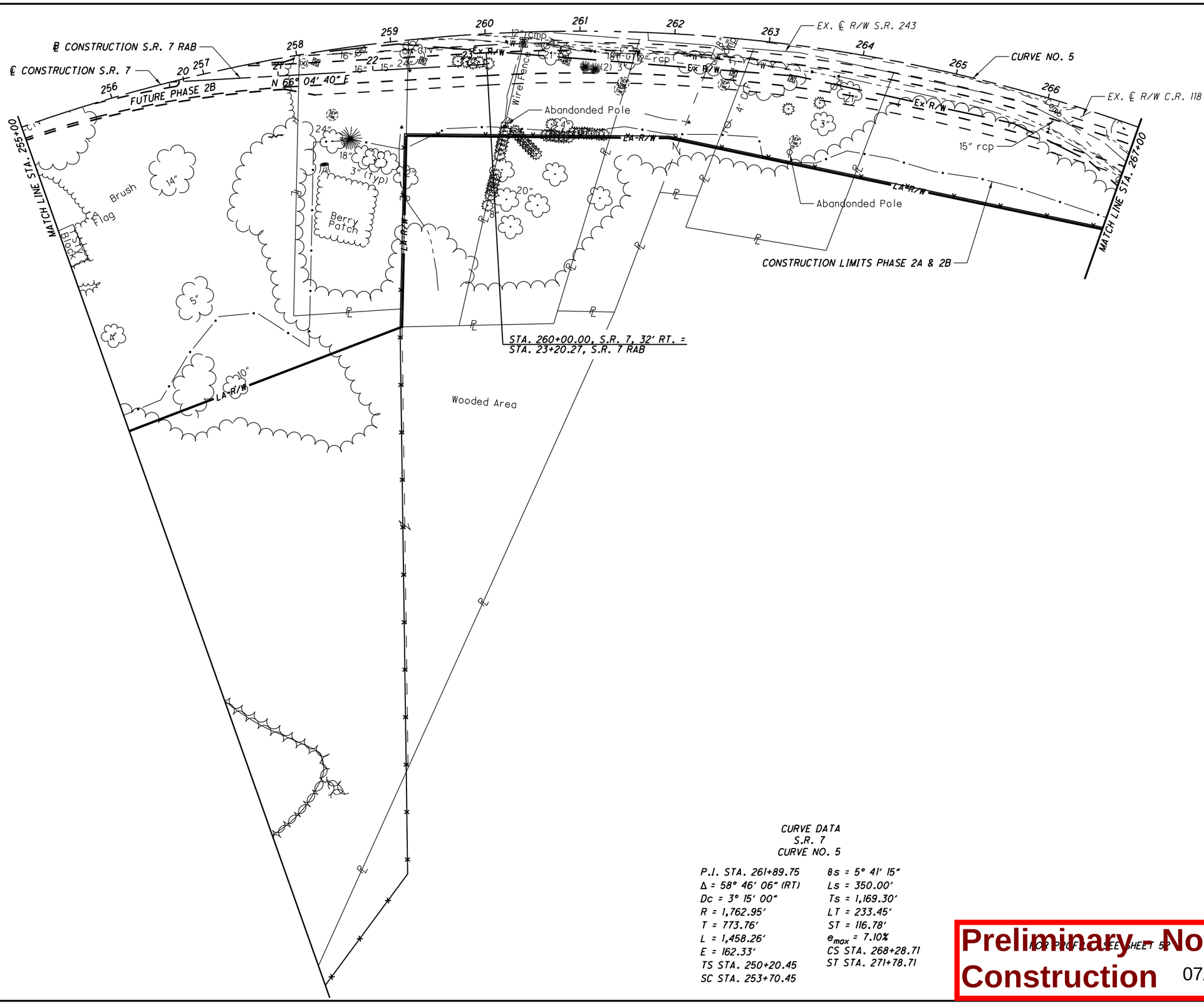


CURVE DATA
S.R. 7
CURVE NO. 5

P.I. STA. 261+89.75	θs = 5° 41' 15"
Δ = 58° 46' 06" (RT)	Ls = 350.00'
Dc = 3° 15' 00"	Ts = 1,169.30'
R = 1,762.95'	LT = 233.45'
T = 773.76'	ST = 116.78'
L = 1,458.26'	e_{max} = 7.10%
E = 162.33'	CS STA. 268+28.71
TS STA. 250+20.45	ST STA. 271+78.71
SC STA. 253+70.45	

FOR PROFILE SEE SHEET 52

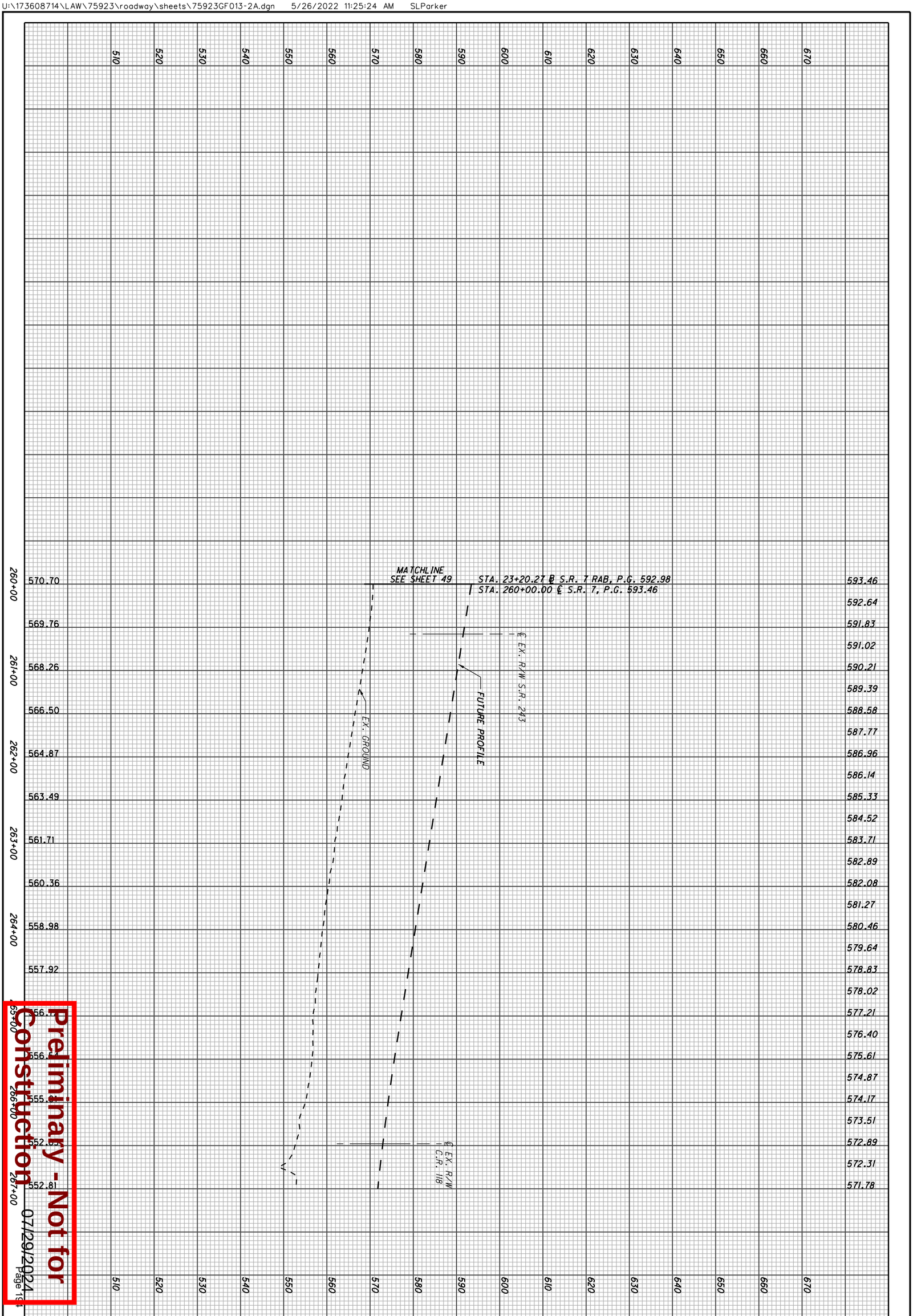
Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 255+00 TO STA. 267+00 (SOUTH)

LAW-7-2.17

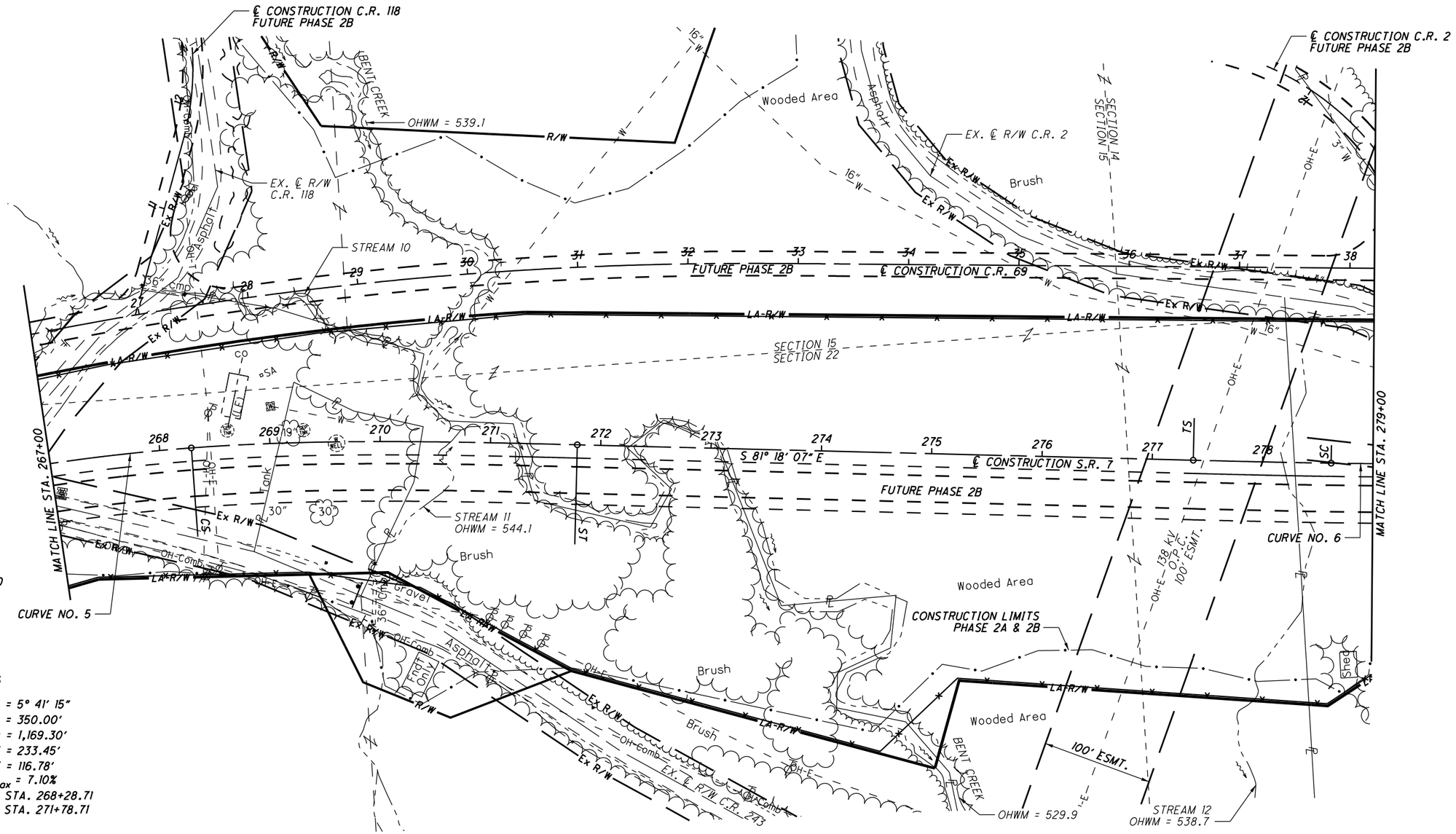


52
297

LAW-7-2.17

PROFILE - S.R. 7
STA. 260+00 TO 267+00

CALCULATED ALB
CHECKED TCM



(LF) *DESIGNATES LEACH FIELD*

CURVE DATA
S.R. 7
CURVE NO. 5

P.I. STA. 261+89.75	*θs = 5° 41' 15"*
Δ = 58° 46' 06" (RT)	*Ls = 350.00'*
Dc = 3° 15' 00"	*Ts = 1,169.30'*
R = 1,762.95'	*LT = 233.45'*
T = 773.76'	*ST = 116.78'*
L = 1,458.26'	*e_{max} = 7.10%*
E = 162.33'	*CS STA. 268+28.71*
TS STA. 250+20.45	*ST STA. 271+78.71*
SC STA. 253+70.45	

CURVE DATA
S.R. 7
CURVE NO. 6

P.I. STA. 280+92.68	*θs = 0° 37' 30"*
Δ = 5° 51' 21" (RT)	*Ls = 125.00'*
Dc = 1° 00' 00"	*Ts = 355.56'*
R = 5,729.58'	*LT = 83.33'*
T = 230.42'	*ST = 41.67'*
L = 460.59'	*e_{max} = 2.90%*
E = 4.63'	*CS STA. 283+22.71*
TS STA. 277+37.12	*ST STA. 284+47.71*
SC STA. 278+62.12	

Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 267+00 TO STA. 279+00

LAW-7-2.17

53
297

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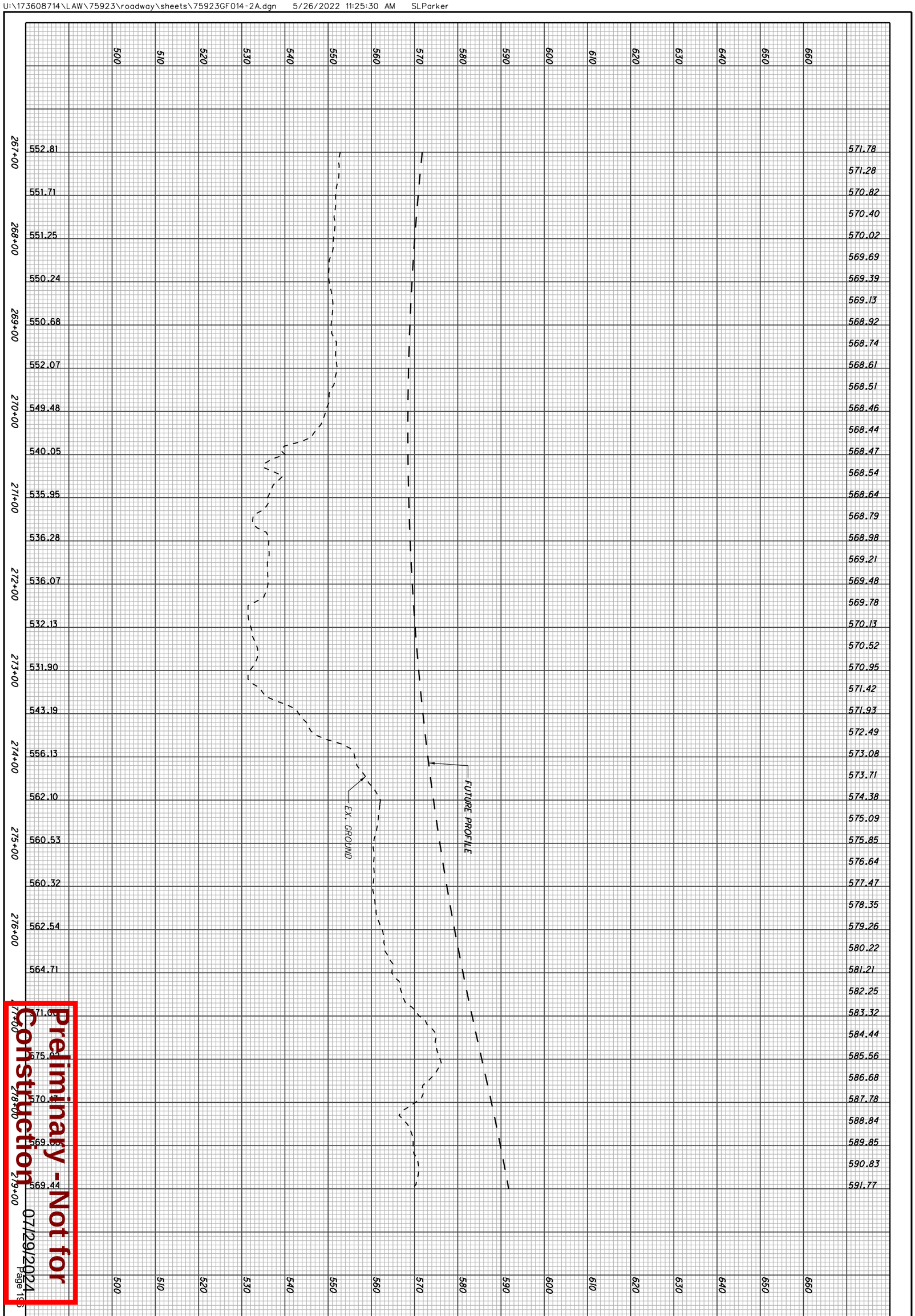

54 / 297	LAW-7-2.17	PROFILE - S.R. 7 STA. 267+00 TO STA. 279+00	CALCULATED ALB CHECKED TCM

(LF) *DESIGNATES LEACH FIELD*

CURVE DATA
S.R. 7
CURVE NO. 6

P.I. STA. 280+92.68
Δ = 5° 51' 21" (RT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 230.42'
L = 460.59'
E = 4.63'
TS STA. 277+37.12
SC STA. 278+62.12
θs = 0° 37' 30"
Ls = 125.00'
Ts = 355.56'
LT = 83.33'
ST = 41.67'
e_{max} = 2.90%
CS STA. 283+22.71
ST STA. 284+47.71

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 279+00 TO STA. 291+00

LAW-7-2.17

55
297

MATCH LINE STA. 279+00

MATCH LINE STA. 291+00

Mowed Area
Bldg. Foundation
Field Dr.
OH-Comb
R/W
Wooded Area
℄ CONSTRUCTION C.R. 2
FUTURE PHASE 2B
CONSTRUCTION LIMITS
PHASE 2A & 2B
SECTION 14
SECTION 23
℄ CONSTRUCTION C.R. 69
FUTURE PHASE 2B
Tree Hse
Shop
Play Center
Deck
Mtl Bldg
Gravel
Mtl Garg
Walk
Apron
Tank
Gravel
Container
Brush
Ex R/W C.R. 2
Ex R/W
LA-R/W
CURVE NO. 6
Trail
Guard Rail
S 87° 09' 28" E
℄ CONSTRUCTION S.R. 7
FUTURE PHASE 2B
Wire Fence
Lattice Fence
Ex ℄ R/W C.R. 69
Asphalt
Planter
Shed
Conc
2 Sty Frm Res. #92
1 Sty Add
2 Sty Frm Res. #15
Gravel
WETLAND I
GR

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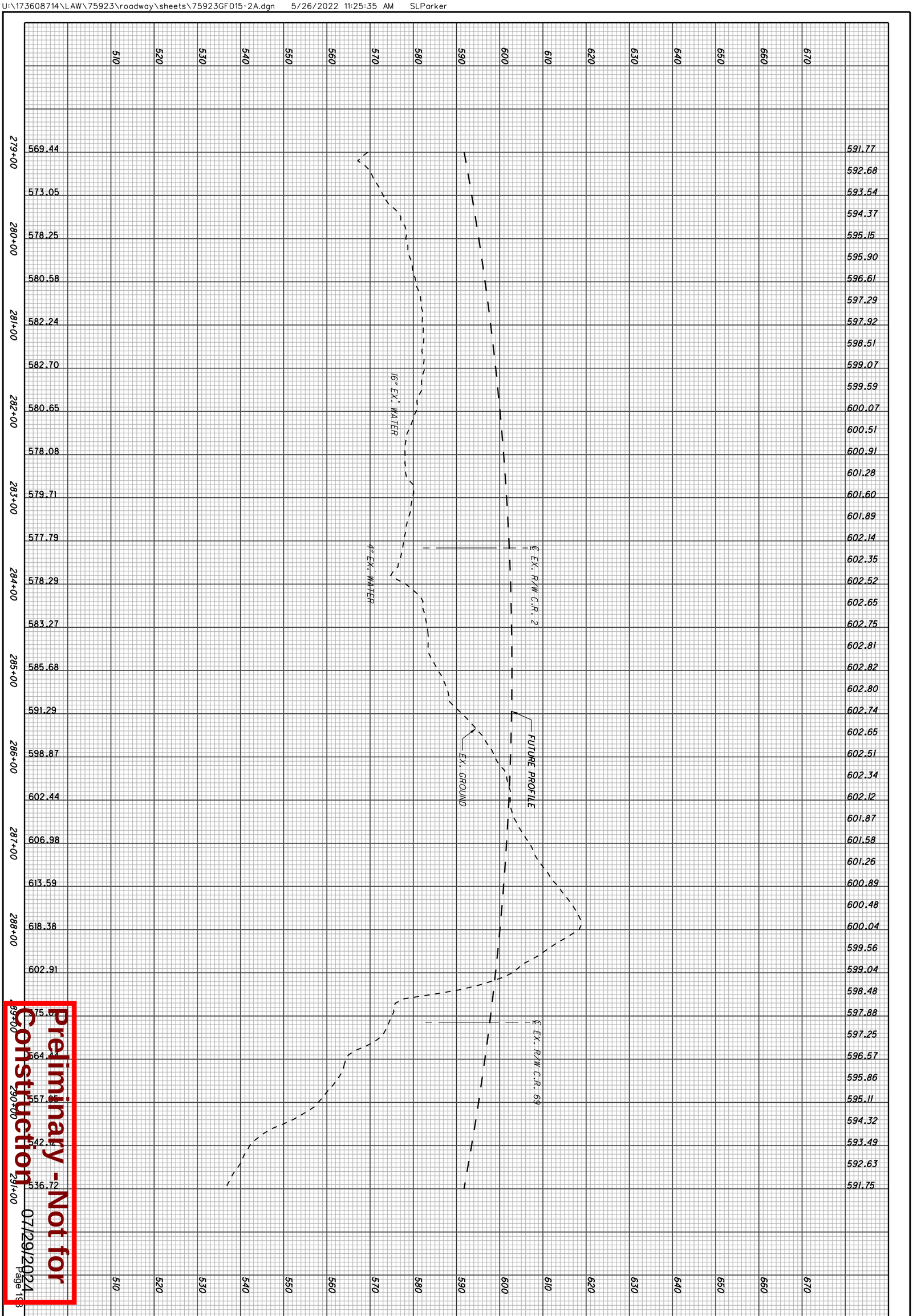
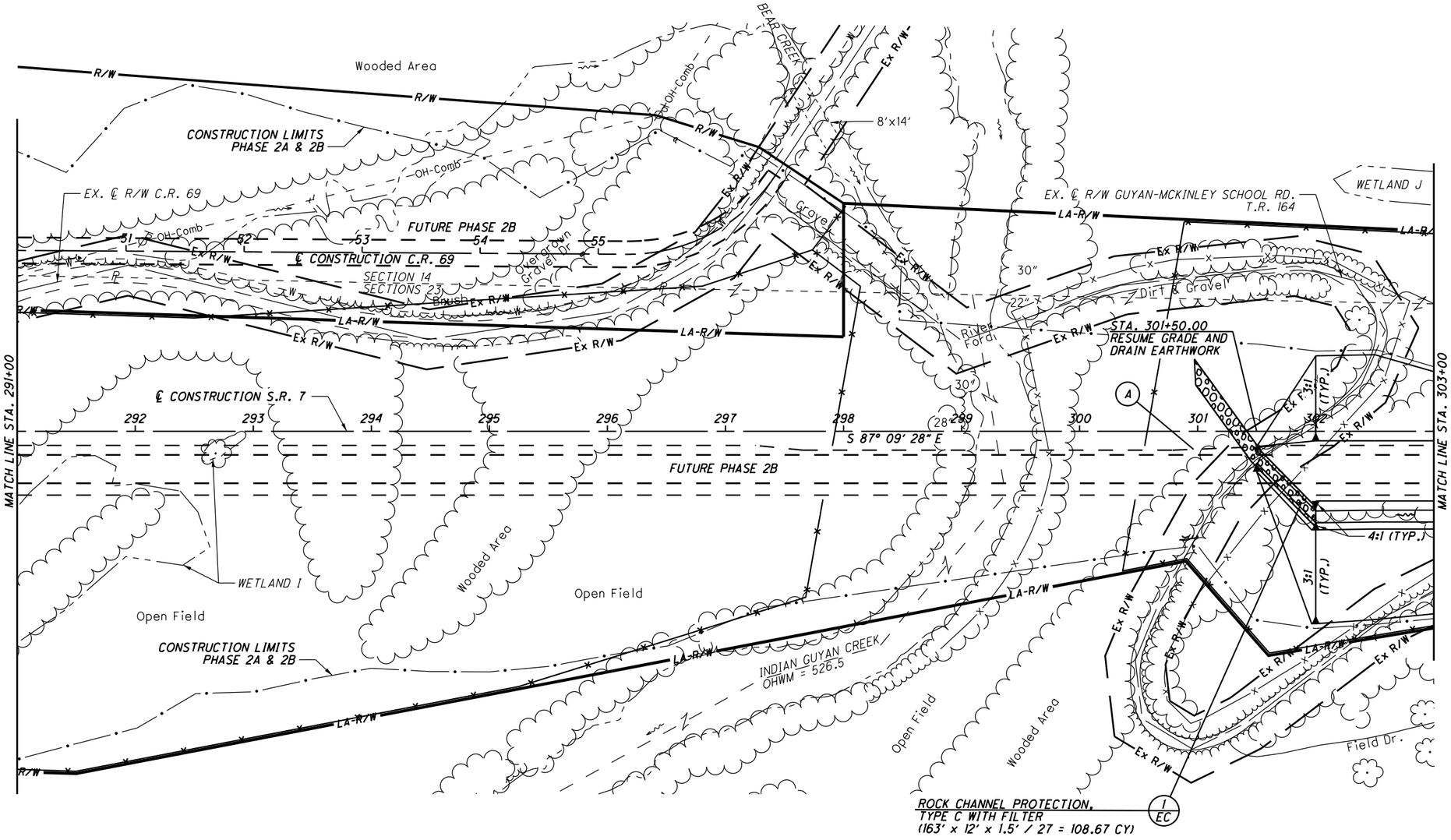


56
297

LAW-7-2.17

PROFILE - S.R. 7
STA. 279+00 TO STA. 291+00

CALCULATED ALB
CHECKED TCM



TAPERS PROVIDED FOR INFORMATION ONLY

(A) - STA. 300+78.70
BEGIN SHOULDER TAPER, 16' RT.

STA. 301+78.70
END SHOULDER TAPER, 12' RT.

FOR PROFILE, SEE SHEET 58

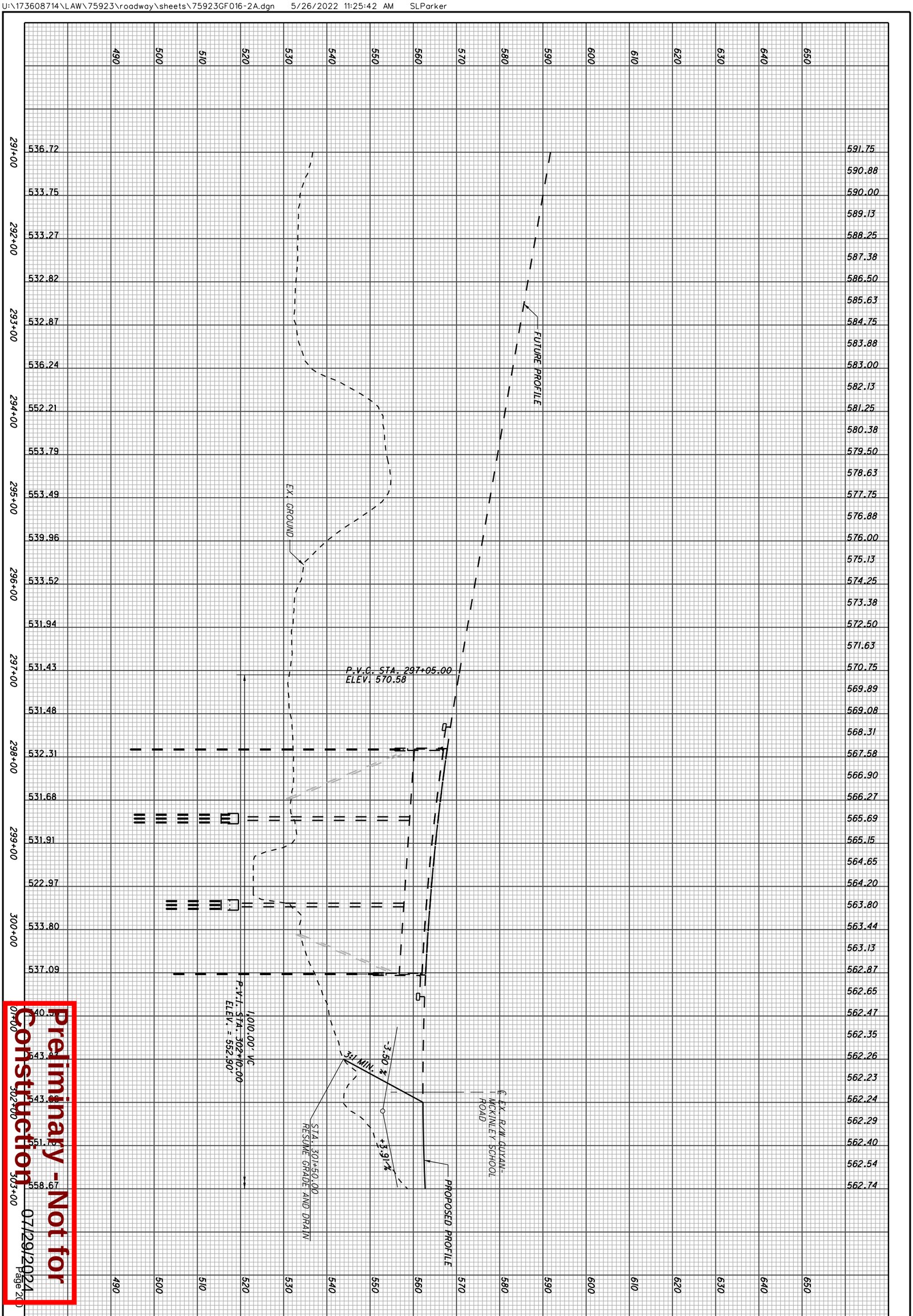
Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

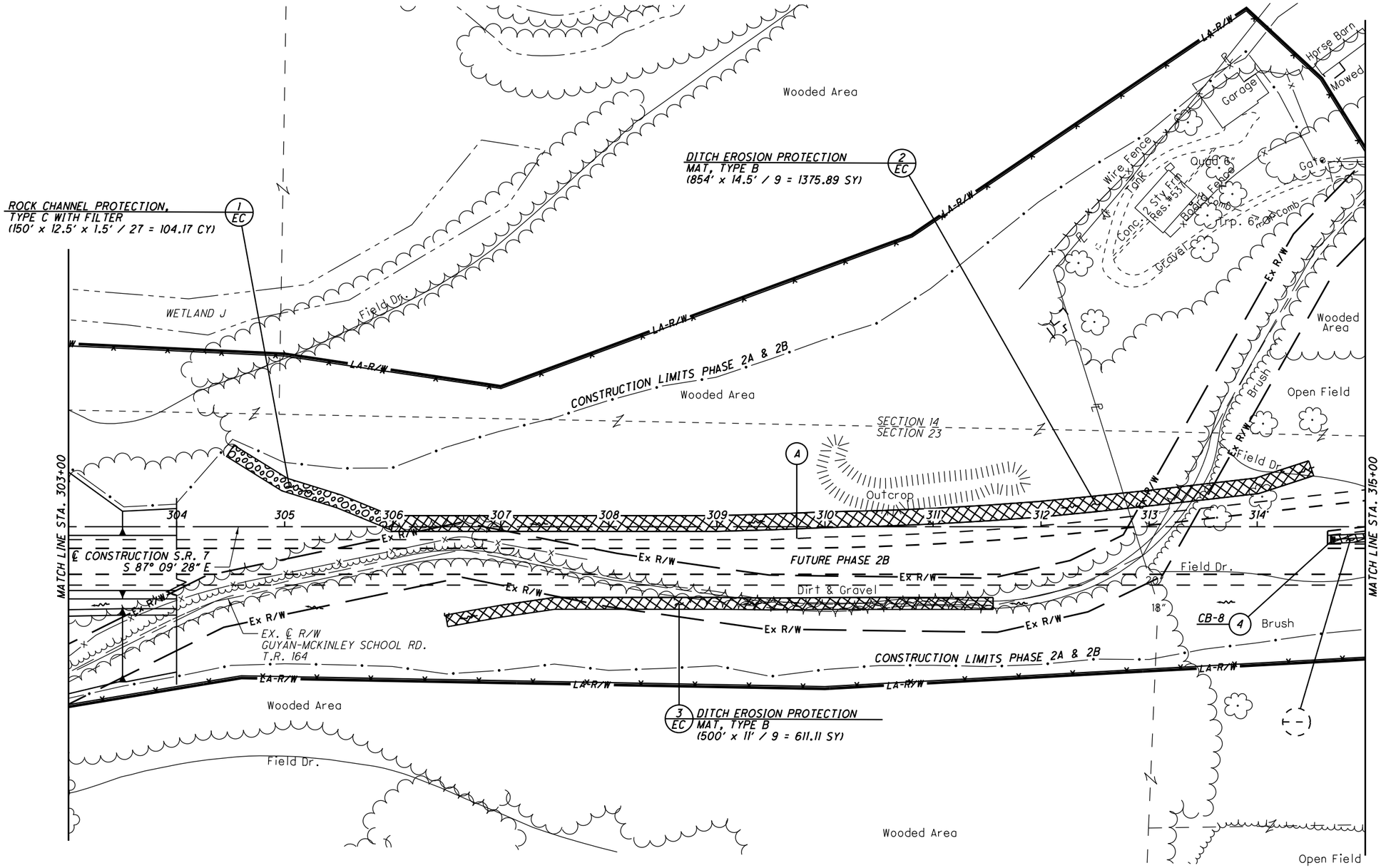
CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 291+00 TO 303+00

LAW-7-2.17



58 / 297	LAW-7-2.17	PROFILE - S.R. 7 STA. 291+00 TO STA. 303+00	CALCULATED ALB CHECKED TCM



CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 1
(FOR HORIZONTAL LAYOUT ONLY)

P.I. Sta. 311+12.46, S.R. 7, 20' RT.
Δ = 6° 29' 46" (LT)
Dc = 2° 00' 00"
R = 2,864.79'
T = 162.58'
L = 324.81'
E = 4.61'
e_{max} = NC
PC STA. = 309+49.89, S.R. 7, 20' RT.
PT STA. = 312+74.00, S.R. 7, 1.61' RT.

TAPERS PROVIDED FOR INFORMATION ONLY

(A) - STA. 309+49.89
BEGIN SHOULDER TAPER, 12' RT.

STA. 309+99.71
END SHOULDER TAPER, 9.57' RT.

Preliminary - Not for Construction

07/29/2024

FOR PROFILE, SEE SHEET 60
FOR STORM SEWER PROFILE, SEE SHEET 274

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 303+00 TO STA. 315+00

LAW-7-2.17

59
297

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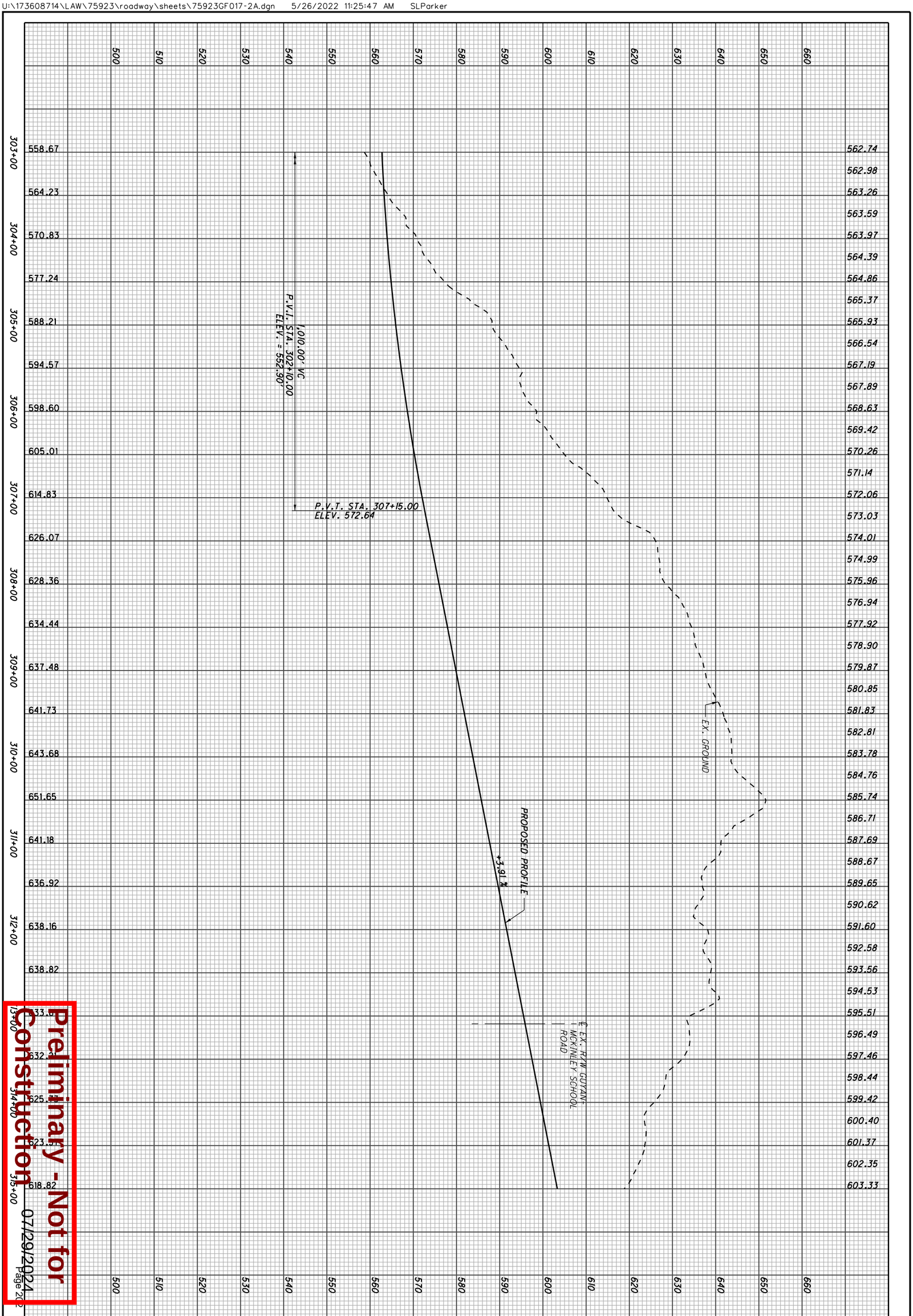

60 297

LAW-7-2.17

PROFILE - S.R. 7
STA. 303+00 TO STA. 315+00

CALCULATED ALB
CHECKED TCM

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (100' x 14.5' x 1.5' / 27 = 80.56 CY) — 7 EC

SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE I (100' x 18' / 9 = 200 SY) — 6 EC

ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE I (119' x 13' / 9' = 171.89 SY) — 8 EC

SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE I (104' x 14.5' / 9 = 167.56 SY) — 10 EC

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (50' x 11' x 1.5' / 27 = 30.56 CY) — 5 EC

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (172' x 12.5' x 1.5' / 27 = 119.44 CY) — 9 EC

Mowed
Brush
Ex R/W
Ex. Tel. Pole
EX. ℄ R/W GUYAN-MCKINLEY SCHOOL RD. T.R. 164
GR
Wooded Area
STREAM 13A
OHWM = 613.8
STREAM 1343
STREAM 1342
OHWM = 584.8
LA-R/W
Ex R/W
18"
24"
16"
Trail
CONSTRUCTION LIMITS PHASE 2A & 2B
SECTION 14
SECTION 23
STREAM 13
STREAM 13A1
OHWM = 567.7
Open Field
1 EC
2 EC
15" TYPE B
FUTURE PHASE 2B
MATCH LINE STA. 315+00
Field Dr.
S 87° 09' 28" E
316
317
318
319
320
321
322
323
324
325
326
CURVE NO. 7
CURVE NO. 2
℄ CONSTRUCTION S.R. 7
PC
SC
CS
ST
MATCH LINE STA. 327+00
5 CB-8
15" TYPE B
OHWM = 543.3
STREAM 13A
60" TYPE A
Wooded Area
6 CB-8
Trail
Field Dr.
WETLAND K
15" TYPE C
LA-R/W
Brush
WETLAND T
WETLAND L
CONSTRUCTION LIMITS PHASE 2A & 2B
Open Field
SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE I (850' x 7.5' / 9 = 708.33 SY) — 3 EC
Open Field
SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE I (250' x 7.5' / 9 = 208.33 SY) — 4 EC
WETLAND M

CURVE DATA
S.R. 7
CURVE NO. 7

P.I. STA. 326+36.08
Δ = 31° 21' 41" (RT)
Dc = 2° 00' 00"
R = 2,864.79'
T = 670.91'
L = 1,318.07'
E = 77.51'
TS STA. 317+06.62
SC STA. 319+56.62
θs = 2° 30' 00"
Ls = 250.00'
Ts = 929.46'
LT = 166.68'
ST = 83.35'
e_{max} = 5.10%
CS STA. 332+74.69
ST STA. 335+24.69

CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 2
(FOR HORIZONTAL LAYOUT ONLY)

P.I. Sta. 323+90.75, S.R. 7, 188.18' LT.
Δ = 35° 21' 27" (RT)
Dc = 1° 58' 11"
R = 2,908.79'
T = 927.12'
L = 1,795.03'
E = 144.18'
e_{max} = 5.10%
PC STA. = 315+02.52, S.R. 7, 24.41' LT.
PT STA. = 332+74.69, S.R. 7, 44' LT.

1 EC DITCH EROSION PROTECTION (VBF) (50' x 14.5' / 9 = 80.56 SY)

2 EC DITCH EROSION PROTECTION (130' x 7.5' / 9 = 108.33 SY)

(VBF) DENOTES LOCATION OF VEGETATED BOTTOM LINER

FOR PROFILE, SEE SHEET 62
FOR LOOP RAMP PROFILE, SEE SHEET 282
FOR CULVERT DETAILS, SEE SHEETS 281-282

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 315+00 TO STA. 327+00

LAW-7-2.17

61
297

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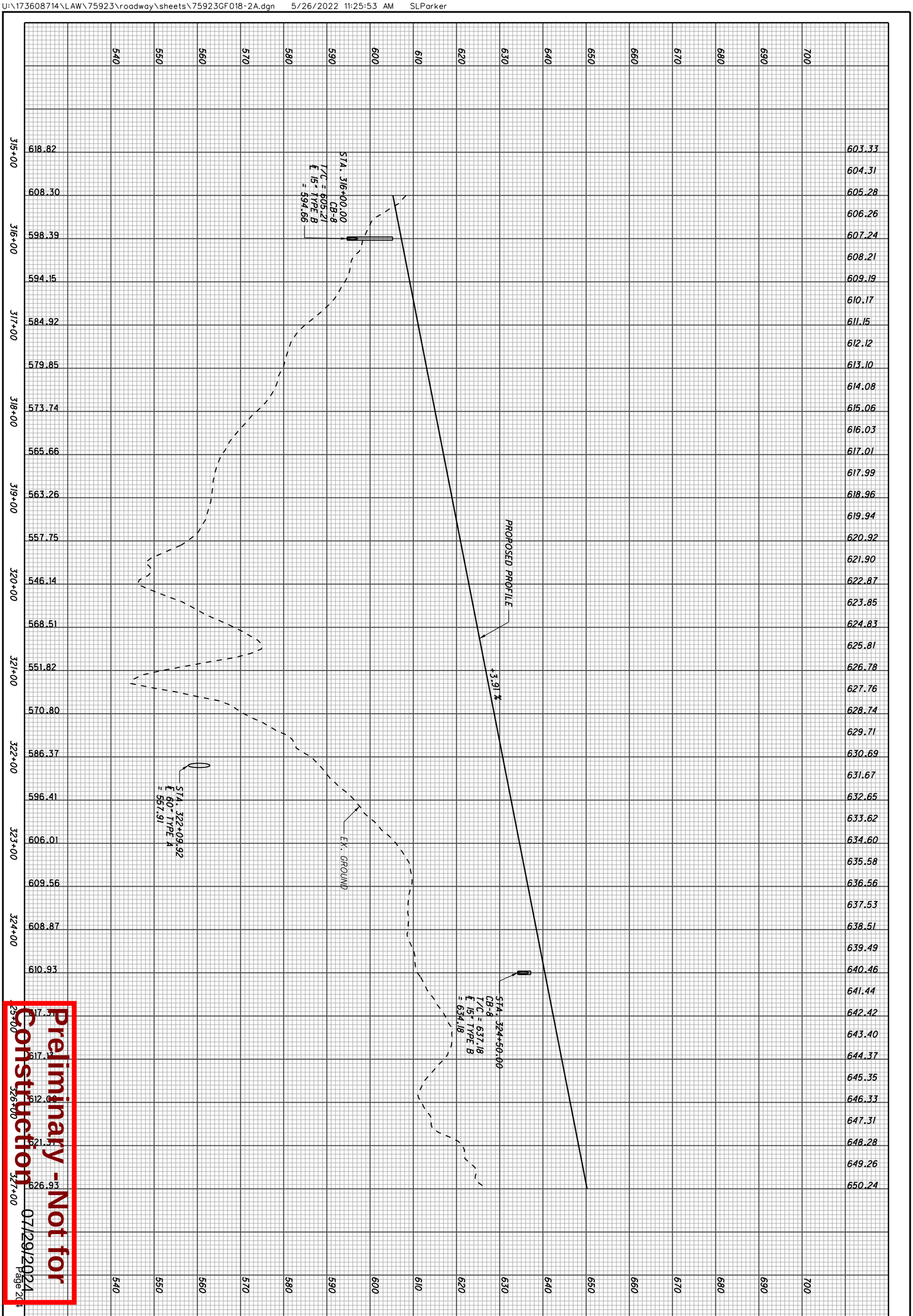


Preliminary - Not for Construction

07/29/2024

62/297

LAW-7-2.17

PROFILE - S.R. 7
STA. 315+00 TO STA. 327+00

CALCULATED ALB
CHECKED TCM

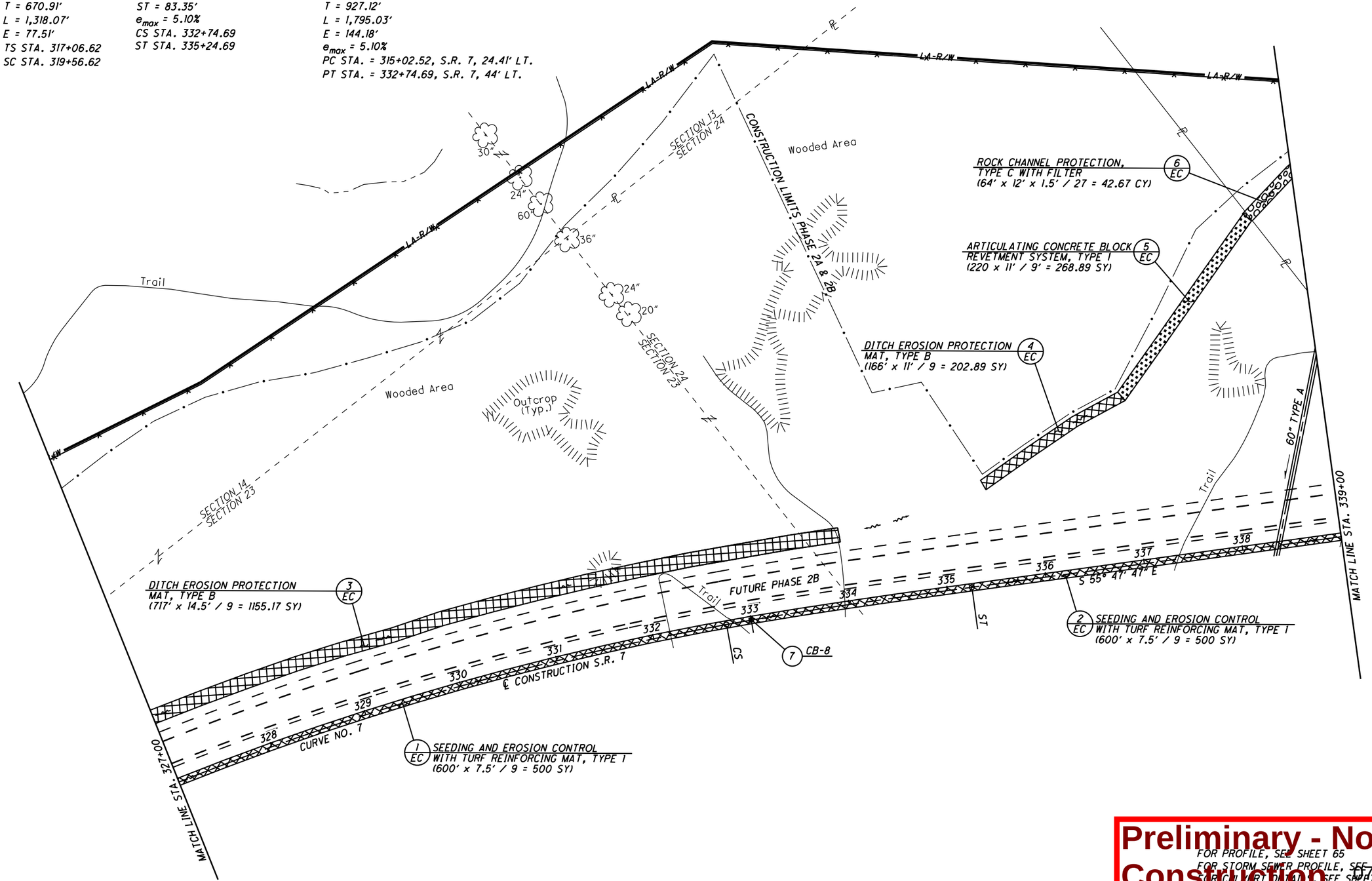
CURVE DATA
S.R. 7
CURVE NO. 7

P.I. STA. 326+36.08
Δ = 31° 21' 41" (RT)
Dc = 2° 00' 00"
R = 2,864.79'
T = 670.91'
L = 1,318.07'
E = 77.51'
TS STA. 317+06.62
SC STA. 319+56.62

θs = 2° 30' 00"
Ls = 250.00'
Ts = 929.46'
LT = 166.68'
ST = 83.35'
e_{max} = 5.10%
CS STA. 332+74.69
ST STA. 335+24.69

CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 2
(FOR HORIZONTAL LAYOUT ONLY)

P.I. STA. 323+90.75, S.R. 7, 188.18' LT.
Δ = 35° 21' 27" (RT)
Dc = 1° 58' 11"
R = 2,908.79'
T = 927.12'
L = 1,795.03'
E = 144.18'
e_{max} = 5.10%
PC STA. = 315+02.52, S.R. 7, 24.41' LT.
PT STA. = 332+74.69, S.R. 7, 44' LT.



FOR PROFILE, SEE SHEET 65
FOR STORM SEWER PROFILE, SEE SHEET 201
FOR CULVERT DATA, SEE SHEETS 283-284

Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 327+00 TO STA. 339+00

LAW-7-2.17

63
297

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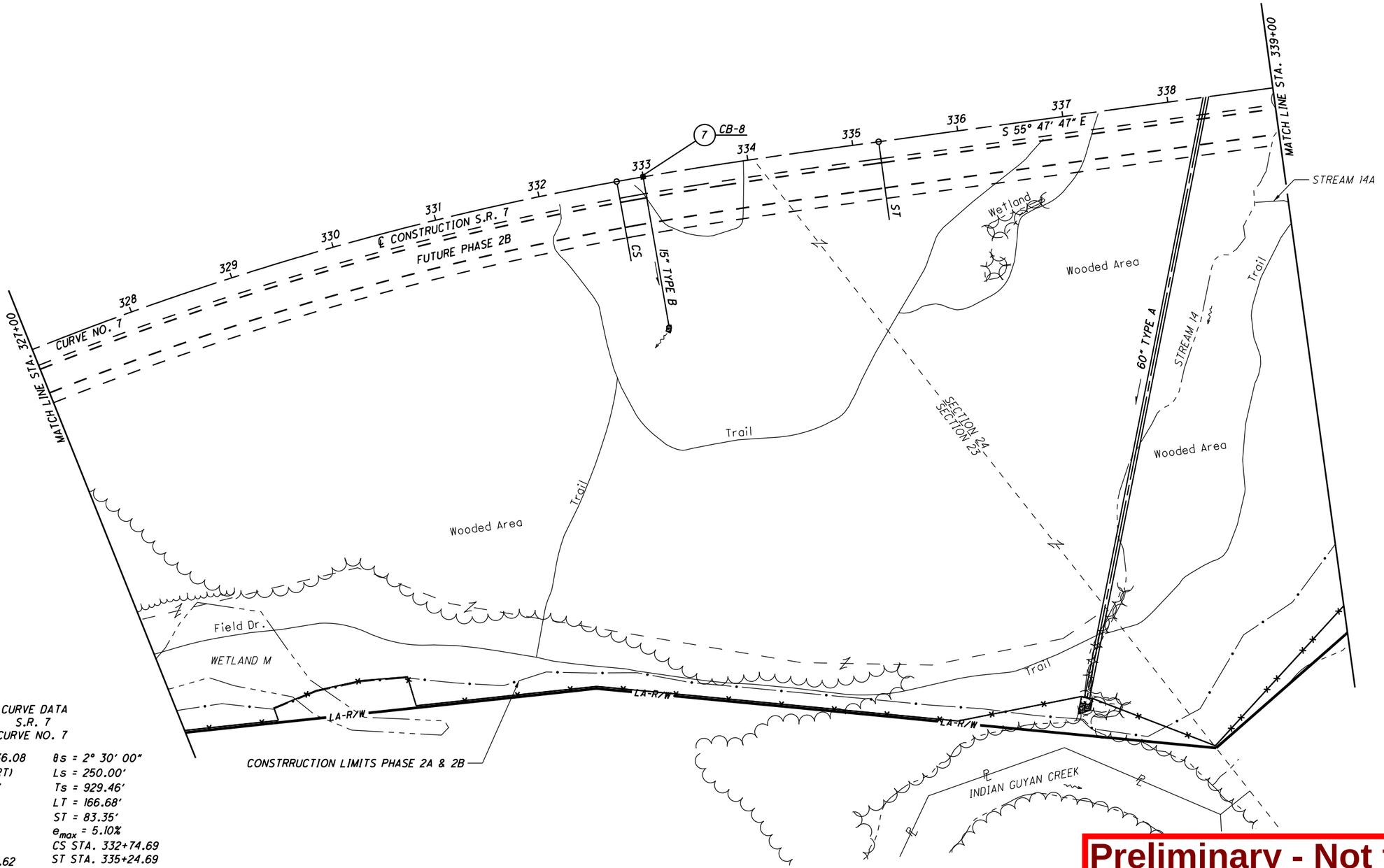

CURVE DATA
S.R. 7
CURVE NO. 7

P.I. STA. 326+36.08	θs = 2° 30' 00"
Δ = 31° 21' 41" (RT)	Ls = 250.00'
Dc = 2° 00' 00"	Ts = 929.46'
R = 2,864.79'	LT = 166.68'
T = 670.91'	ST = 83.35'
L = 1,318.07'	e_{max} = 5.10%
E = 77.51'	CS STA. 332+74.69
TS STA. 317+06.62	ST STA. 335+24.69
SC STA. 319+56.62	

FOR PROFILE, SEE SHEET 65
FOR STORM SEWER PROFILE, SEE SHEET 207
FOR CULVERT DETAILS, SEE SHEETS 283 & 284

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 327+00 TO STA. 339+00 (SOUTH)

LAW-7-2.17

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PROFILE - S.R. 7
STA. 327+00 TO STA. 339+00

CALCULATED ALB
CHECKED TCM

PROPOSED PROFILE

+3.91 %

+5.93 %

STA. 333+00.00
CB-8
T/C = 672.21
℄ 15" TYPE B
= 669.21

EX. GROUND

P.V.C. STA. 328+78.00
ELEV. 657.20

1,000.00' VC
P.V.I. STA. 333+78.00
ELEV. = 676.74'

P.V.T. STA. 338+78.00
ELEV. 706.41

STA. 338+36.39
℄ 60" TYPE A
= 564.93

650.24 651.21 652.19 653.17 654.15 655.12 656.10 657.08 658.06 659.06 660.06 661.08 662.12 663.16 664.22 665.29 666.37 667.47 668.58 669.70 670.83 671.98 673.14 674.31 675.49 676.69 677.90 679.12 680.36 681.61 682.87 684.14 685.43 686.73 688.04 689.36 690.70 692.05 693.41 694.78 696.17 697.57 698.98 700.41 701.84 703.29 704.76 706.23 707.72

730 720 710 700 690 680 670 660 650 640 630 620 610 600 590 580 570 560 550

626.93 641.18 645.40 632.36 626.76 624.54 633.76 642.57 644.96 643.26 644.47 663.16 674.29 695.14 697.82 682.52 667.96 648.75 628.27 611.88 600.7 603.18 592.76 578.00 561.53

327+00 328+00 329+00 330+00 331+00 332+00 333+00 334+00 335+00 336+00 337+00 338+00 339+00

Preliminary - Not for Construction 07/29/2025

LAW-7-2.17

65
297

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3 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (59' x 12' x 1.5' / 27 = 39.33 CY)

4 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (58' x 12' x 1.5' / 27 = 38.67 CY)

LA-R/W

STREAM 14B OHWM = 595.0

60" TYPE A

STREAM 14

Wooded Area

DITCH EROSION PROTECTION (VBF) 5 EC (800' x 14.5' / 9 = 1288.89 SY)

CONSTRUCTION LIMITS PHASE 2A & 2B

Wooded Area

1 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (400' x 7.5' / 9 = 333.33 SY)

2 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (500' x 14.5' / 9 = 805.56 SY)

Field Dr.

CB-5 8

MATCH LINE STA. 339+00

340 341 342 343 344 345 346 347 348 349 350

TS SC

S 55° 47' 47" E

℄ CONSTRUCTION S.R. 7

CURVE NO. 8

MATCH LINE STA. 351+00

FUTURE PHASE 2B

FUTURE PHASE 2B

9 CB-8

21" TYPE B

Trail

STREAM 14A OHWM = 572.0

7 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (52' x 13.5' x 1.5' / 27 = 39 CY)

9 EC DITCH EROSION PROTECTION MAT, TYPE B (200' x 11' / 9 = 244.44 SY)

Trail

CONSTRUCTION LIMITS PHASE 2A & 2B

6 EC ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE 1 (286' x 13' / 9 = 413.11 SY)

8 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (165' x 10.5' x 1.5' / 27 = 96.25 CY)

STREAM 15B OHWM = 736.8

Wooded Area

Wooded Area

Wooded Area

LA-R/W

LA-R/W

LA-R/W

LA-R/W

Outcrop Typ.

(VBF) DENOTES LOCATION OF VEGETATED BIOFILTER.

CURVE DATA
S.R. 7
CURVE NO. 8

P.I. STA. 355+16.90	θs = 0° 32' 45"
Δ = 9° 56' 13" (LT)	Ls = 125.00'
Dc = 0° 52' 24"	Ts = 632.80'
R = 6,560.00'	LT = 83.33'
T = 507.37'	ST = 41.67'
L = 1,012.73'	e_{max} = 2.60%
E = 19.59'	CS STA. 360+21.83
TS STA. 348+84.10	ST STA. 361+46.83
SC STA. 350+09.10	

FOR PROFILE, SEE SHEET 67
FOR STORM SEWER PROFILE, SEE SHEET 210
FOR OTHER DETAILS, SEE SHEETS 285-286

Preliminary - Not for Construction 09/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 339+00 TO STA. 351+00

LAW-7-2.17

66
297

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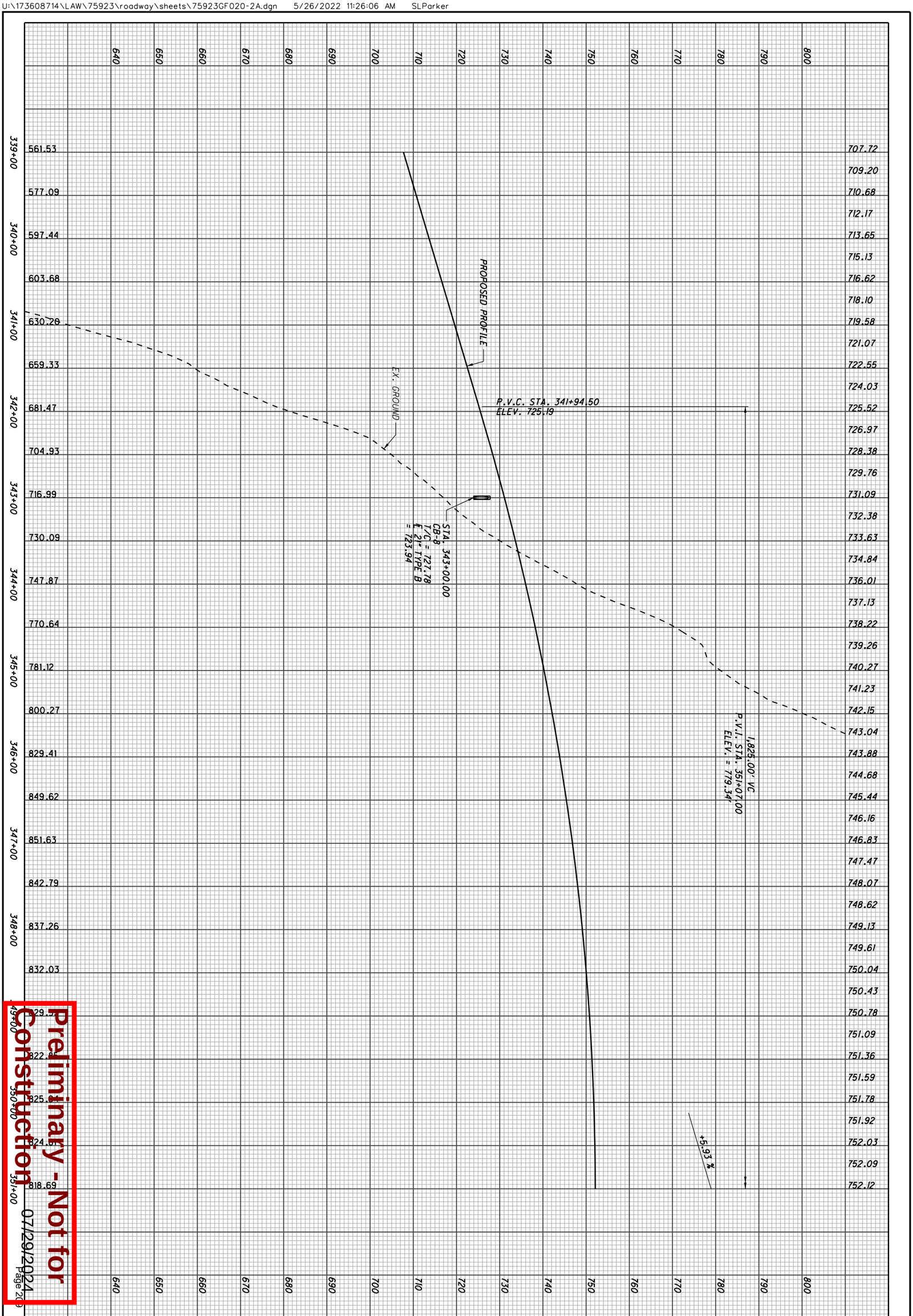
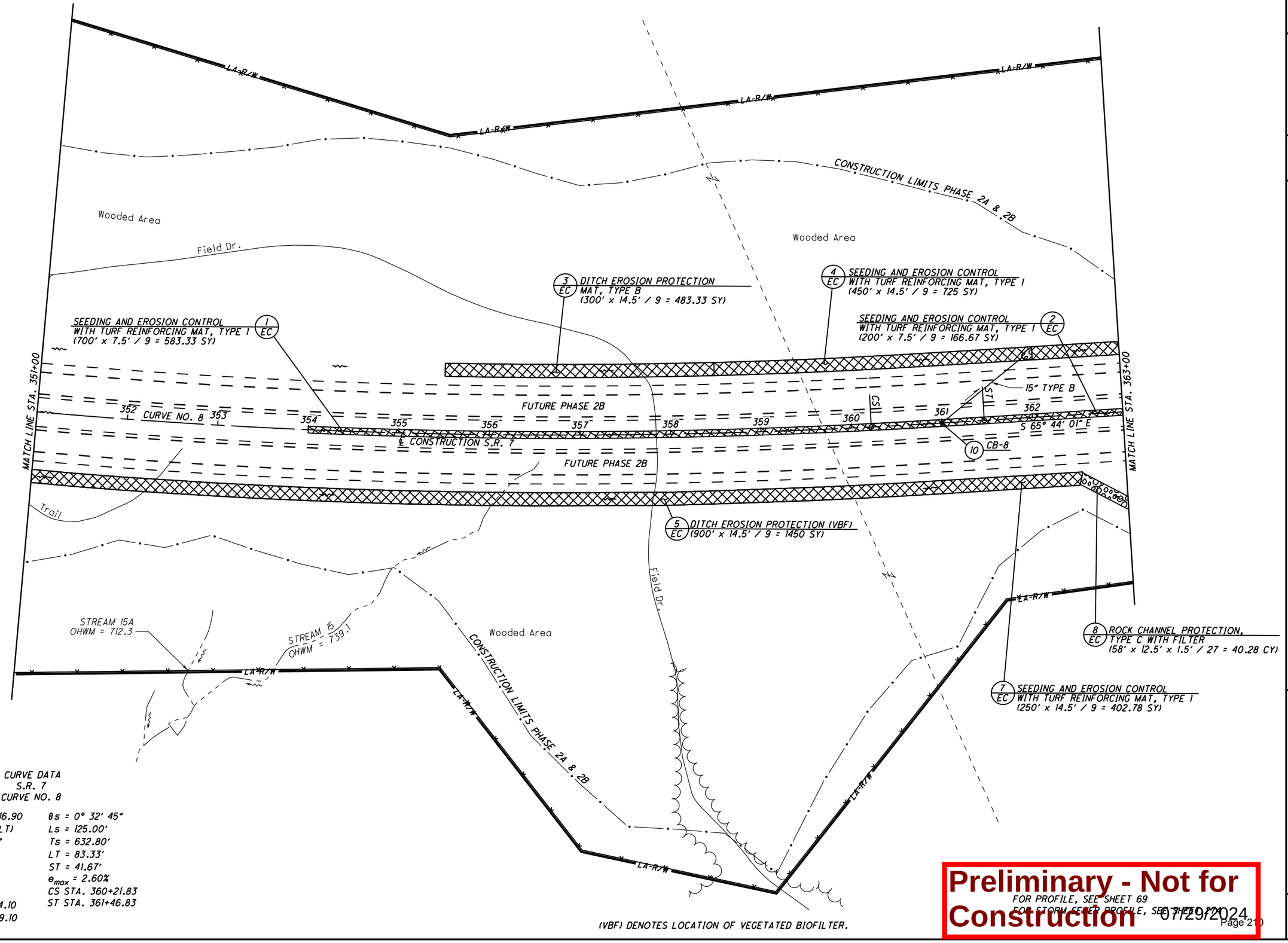


LAW-7-2.17

PROFILE - S.R. 7
STA. 339+00 STA. 351+00

CALCULATED ALB
CHECKED TCM



CURVE DATA
S.R. 7
CURVE NO. 8

P.I. STA. 355+16.90	θs = 0° 32' 45"
Δ = 9° 56' 13" (LT)	Ls = 125.00'
Dc = 0° 52' 24"	Ts = 632.80'
R = 6,560.00'	LT = 83.33'
T = 507.37'	ST = 41.67'
L = 1,012.73'	e_{max} = 2.60%
E = 19.59'	CS STA. 360+21.83
TS STA. 348+84.10	ST STA. 361+46.83
SC STA. 350+09.10	

(VBF) DENOTES LOCATION OF VEGETATED BIOFILTER.

FOR PROFILE, SEE SHEET 69
FOR STORM SEWER PROFILE, SEE SHEET 224

Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN
STA. 351+00 TO STA. 363+00

LAW-7-2.17

68
297

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PROFILE - S.R. 7
STA. 351+00 TO STA. 363+00

CALCULATED ALB
CHECKED TCM

EX. GROUND

PROPOSED PROFILE

1,825.00' VC
P.V.I. STA. 351+07.00
ELEV. = 779.34'

-6.00 %

P.V.T. STA. 360+19.50
ELEV. 724.59

STA. 361+00.00
CB-8
T/C = 716.45
℄ 15" TYPE B
= 712.47

752.12 752.10 752.04 751.94 751.80 751.62 751.40 751.14 750.83 750.49 750.10 749.68 749.21 748.70 748.15 747.57 746.94 746.26 745.55 744.80 744.01 743.17 742.30 741.38 740.42 739.42 738.38 737.30 736.18 735.02 733.82 732.58 731.29 729.97 728.60 727.19 725.75 724.26 722.76 721.26 719.76 718.26 716.76 715.26 713.76 712.26 710.76 709.26 707.76

870 860 850 840 830 820 810 800 790 780 770 760 750 740 730 720 710 700 690 680

818.69 810.14 802.37 798.68 793.88 801.30 806.38 810.23 814.81 819.92 824.29 828.57 838.02 856.35 864.29 843.67 829.71 817.98 800.13 782.92 775.75 765.03 738.14 704.55

351+00 352+00 353+00 354+00 355+00 356+00 357+00 358+00 359+00 360+00 361+00 362+00 363+00

LAW-7-2.17

69
297

Preliminary - Not for Construction 07/29/2022

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4 EC SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE 3
(50' X 21.5' / 9 = 119.44 SY)

5 EC ARTICULATING CONCRETE BLOCK
REVETMENT SYSTEM, TYPE 1
(150' X 19' / 9 = 316.67 SY)

CONSTRUCTION LIMITS
PHASE 2A & 2B

LA-R/W

3:1 (TYP.)

Wooded Area

ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE 1 (3 EC)
(459' x 12.5' / 9' = 637.5 SY)

STREAM 16

4:1 (TYP.)
10:1 (TYP.)

2 EC ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE 1
(325' X 14' / 9 = 505.56 SY)

Wooded Area

STA. 371+00.00
END GRADE AND
DRAIN EARTHWORK

1 EC SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE 1
(550' x 7.5' / 9 = 458.33 SY)

CB-8 (11)

Abandonded Well (2)

STREAM 16A
OHWM = 586.6

OHWM = 564.7

℄ CONSTRUCTION S.R. 7

MATCH LINE STA. 363+00

MATCH LINE STA. 375+00

3.1:1 (TYP.)

FUTURE PHASE 2B

364 365 366 367 368 369 370 371 372 373 374 375

S 65° 44' 01" E

15" TYPE B

A

STREAM 16A1
OHWM = 659.7

4:1 (TYP.)

3:1 (TYP.)

10:1 (TYP.)
4:1 (TYP.)

B RAMP 1
FUTURE PHASE 2B

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (6 EC)
(110' X 12.5' X 1.5' / 27 = 76.39 CY)

SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE 1 (7 EC)
(453' X 18' / 9 = 906 SY)

CONSTRUCTION LIMITS
PHASE 2A & 2B

Wooded Area

Stone Dr.

STA. 365+89.03
BEGIN PAVEMENT TAPER, 44' RT.
BEGIN SHOULDER TAPER, 54' RT.

(A) -

STA. 366+89.03
END PAVEMENT TAPER, 56' RT.
END SHOULDER TAPER, 64' RT.

TAPERS PROVIDED FOR INFORMATION ONLY

N

0 25 50 100
HORIZONTAL
SCALE IN FEET

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 363+00 TO STA. 375+00

LAW-7-2.17

70
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07/29/2024

FOR PROFILE, SEE SHEET 71
FOR STORM SEWER PROFILE, SEE SHEETS 242

PROPOSED PROFILE

-6.00 %

STA. 368+50.00
CB-8
T/C = 671.45
℄ 15" TYPE B
= 668.45

FUTURE PROFILE

EX. GROUND

3:1

STA. 371+00.00
END GRADE AND DRAIN

707.76 706.26 704.76 703.26 701.76 700.26 698.76 697.26 695.76 694.26 692.76 691.26 689.76 688.26 686.76 685.26 683.76 682.26 680.76 679.26 677.76 676.26 674.76 673.26 671.76 670.26 668.76 667.26 665.76 664.26 662.76 661.26 659.76 658.26 656.76 655.26 653.76 652.26 650.76 649.26 647.76 646.26 644.76 643.26 641.76 640.26 638.76 637.26 635.76

720 710 700 690 680 670 660 650 640 630 620 610 600 590 580 570 560 550

704.55 693.98 671.80 662.32 650.36 637.53 638.59 632.24 627.47 629.38 625.72 620.23 615.31 605.42 599.11 596.83 594.94 591.56 590.23 585.10 582.47 579.32 570.48 563.15 560.62

363+00 364+00 365+00 366+00 367+00 368+00 369+00 370+00 371+00 372+00 373+00 374+00 375+00

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CALCULATED ALB
CHECKED TCM

PROFILE - S.R. 7
STA. 363+00 TO STA. 375+00

LAW-7-2.17

71
297

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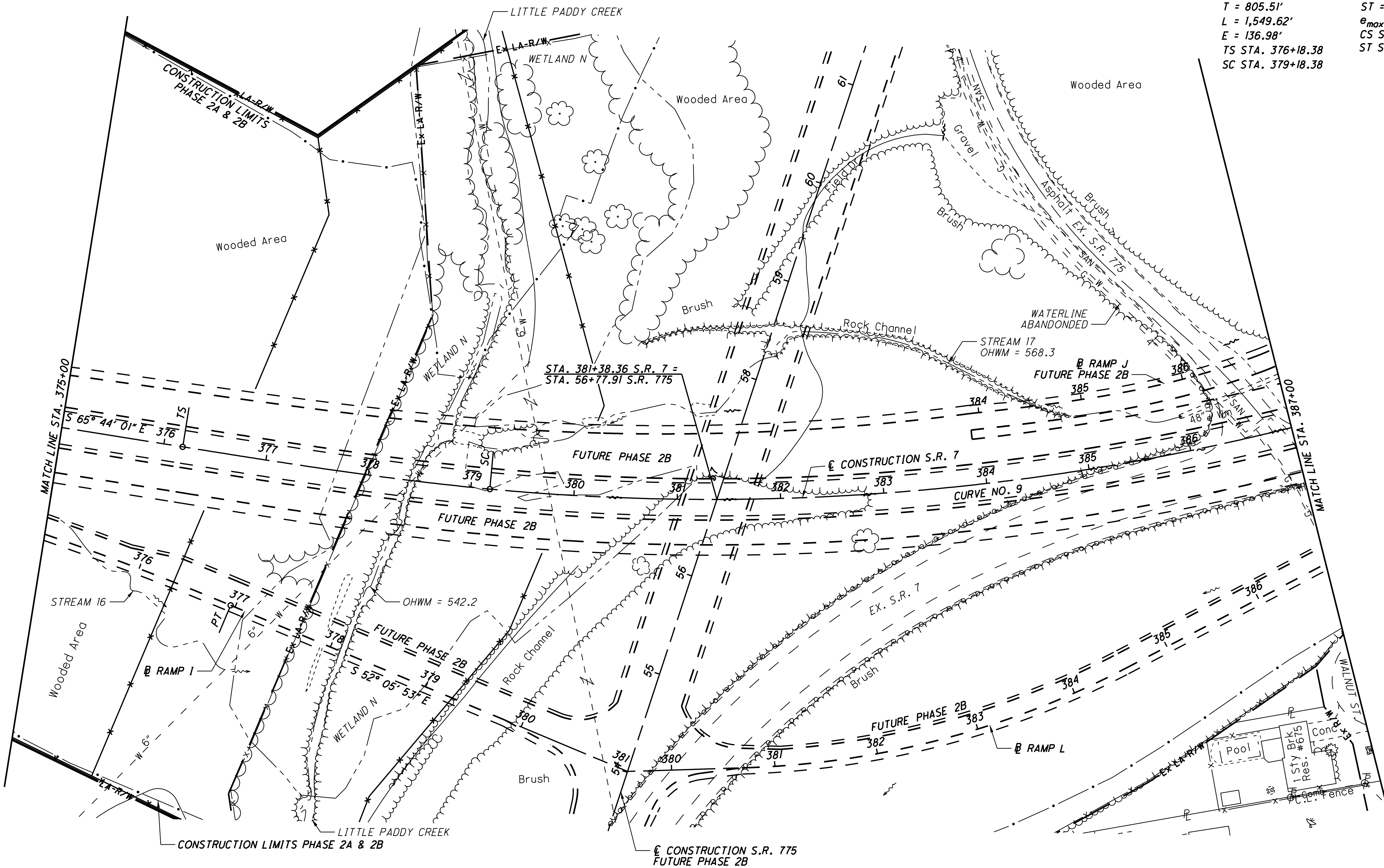
07/29/2024

CURVE DATA
S.R. 7
CURVE NO. 9

P.I. STA. 387+47.15
Δ = 46° 04' 34" (LT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 805.51'
L = 1,549.62'
E = 136.98'
TS STA. 376+18.38
SC STA. 379+18.38

θs = 3° 44' 12"
Ls = 300.00'
Ts = 1,128.77'
LT = 200.04'
ST = 100.04'
e_{max} = 6.20%
CS STA. 394+68.00
ST STA. 397+68.00



LITTLE PADDY CREEK
Ex LA-R/W
WETLAND N
CONSTRUCTION LIMITS PHASE 2A & 2B
Wooded Area
Brush
Rock Channel
Gravel
Field Dr.
Asphalt EX. S.R. 775
WATERLINE ABANDONDED
STREAM 17
OHWM = 568.3
℄ RAMP J
FUTURE PHASE 2B
STA. 381+38.36 S.R. 7 =
STA. 56+77.91 S.R. 775
MATCH LINE STA. 375+00
MATCH LINE STA. 387+00
S 65° 44' 01" E
TS
SC
FUTURE PHASE 2B
℄ CONSTRUCTION S.R. 7
CURVE NO. 9
STREAM 16
℄ RAMP I
PT
OHWM = 542.2
S 52° 05' 53" E
EX. S.R. 7
℄ RAMP L
WALNUT ST.
Pool
1 Sty Brk Res. #675
Conc
C.L. Fence
LITTLE PADDY CREEK
CONSTRUCTION LIMITS PHASE 2A & 2B
℄ CONSTRUCTION S.R. 775
FUTURE PHASE 2B

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 375+00 TO STA. 387+00

LAW-7-2.17

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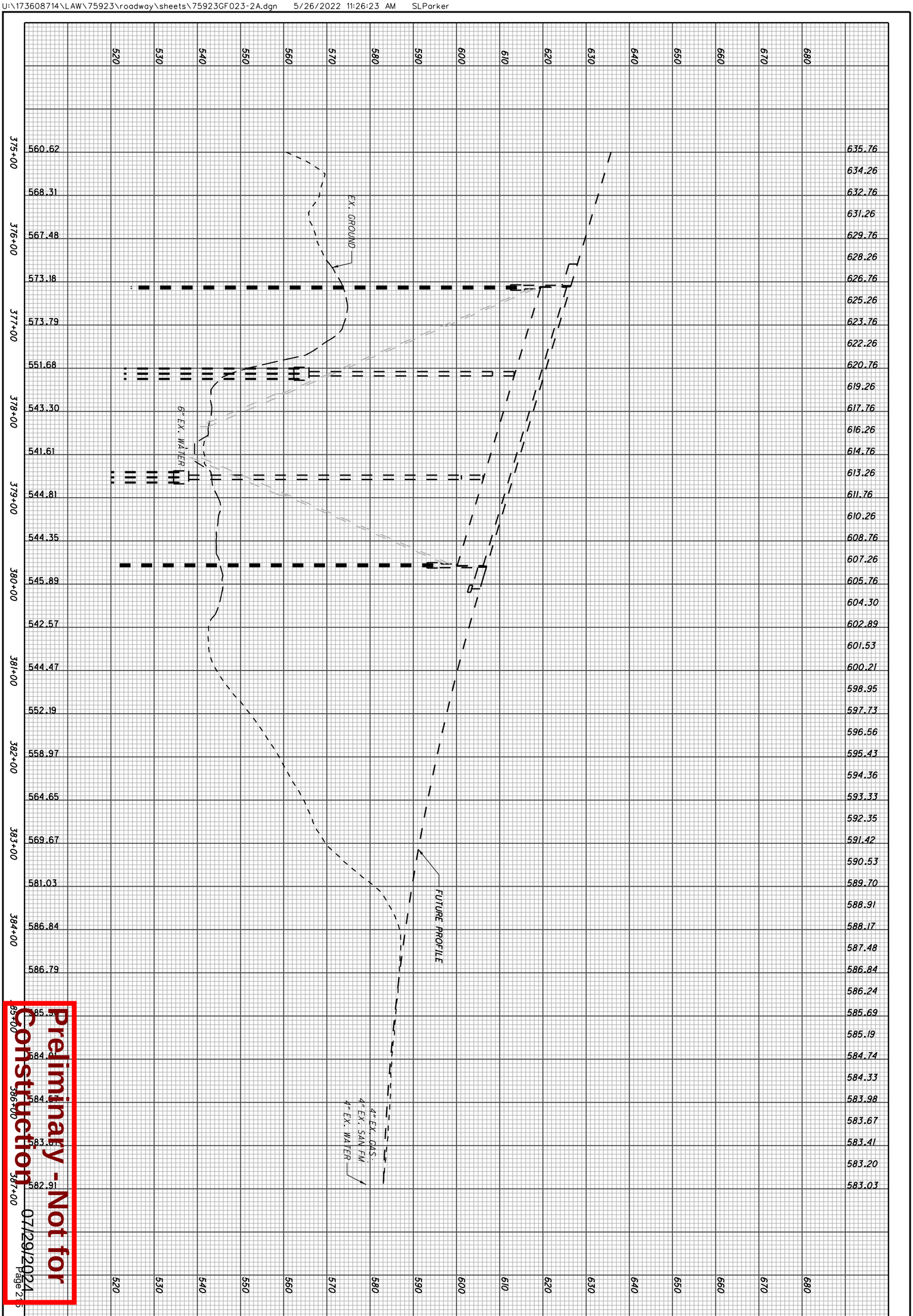
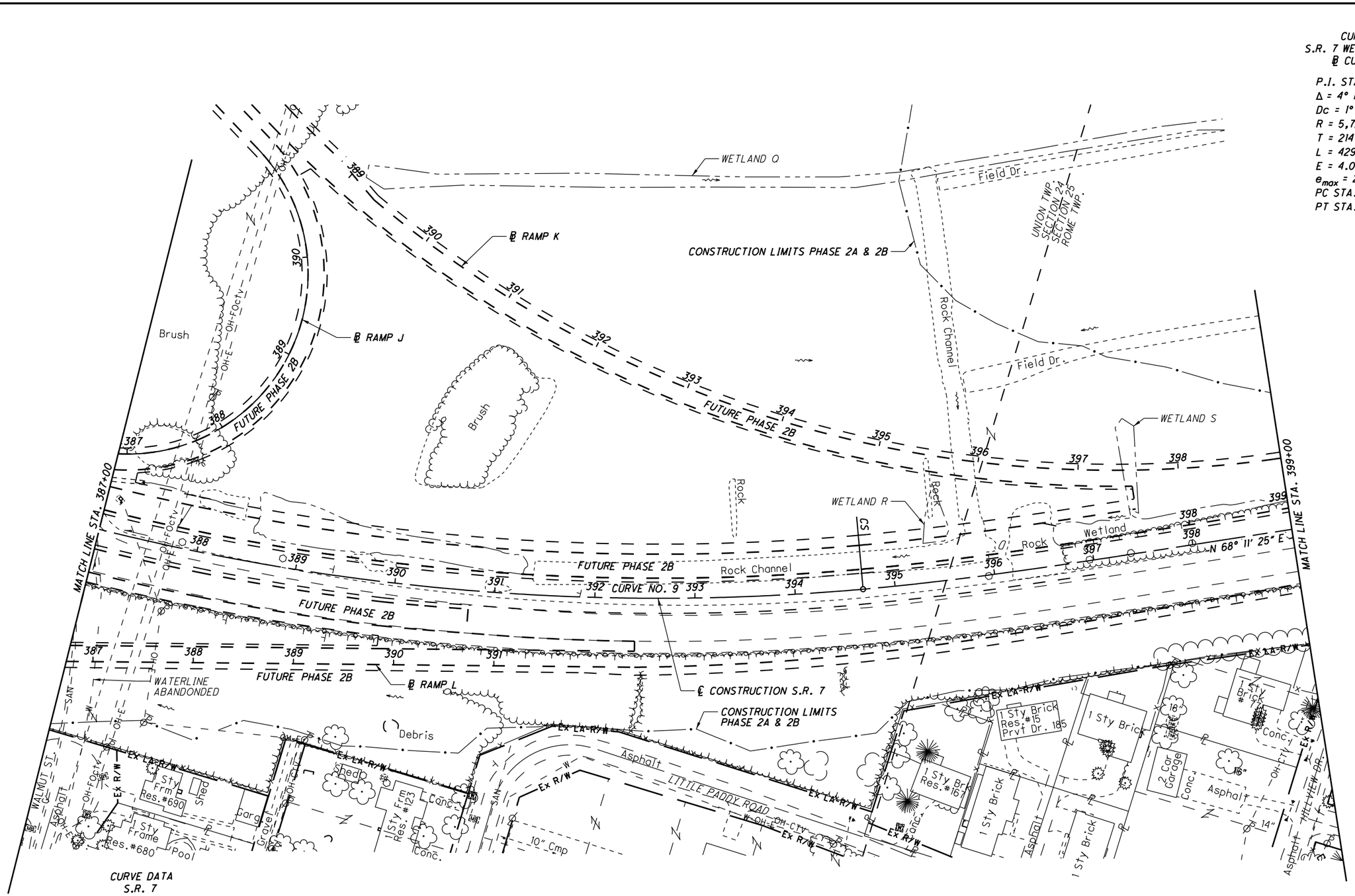


73 / 297	LAW-7-2.17	PROFILE - S.R. 7 STA. 375+00 TO STA. 387+00	CALCULATED ALB CHECKED TCM



CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 1

P.I. STA. 399+82.71
Δ = 4° 17' 32" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 214.71'
L = 429.22'
E = 4.02'
e_{max} = 2.90%
PC STA. = 397+68.00
PT STA. = 401+97.22

CURVE DATA
S.R. 7
CURVE NO. 9

P.I. STA. 387+47.15
Δ = 46° 04' 34" (LT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 805.51'
L = 1,549.62'
E = 136.98'
TS STA. 376+18.38
SC STA. 379+18.38

θs = 3° 44' 12"
Ls = 300.00'
Ts = 1,128.77'
LT = 200.04'
ST = 100.04'
e_{max} = 6.20%
CS STA. 394+68.00
ST STA. 397+68.00

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 387+00 STA. 399+00

LAW-7-2.17

74
297

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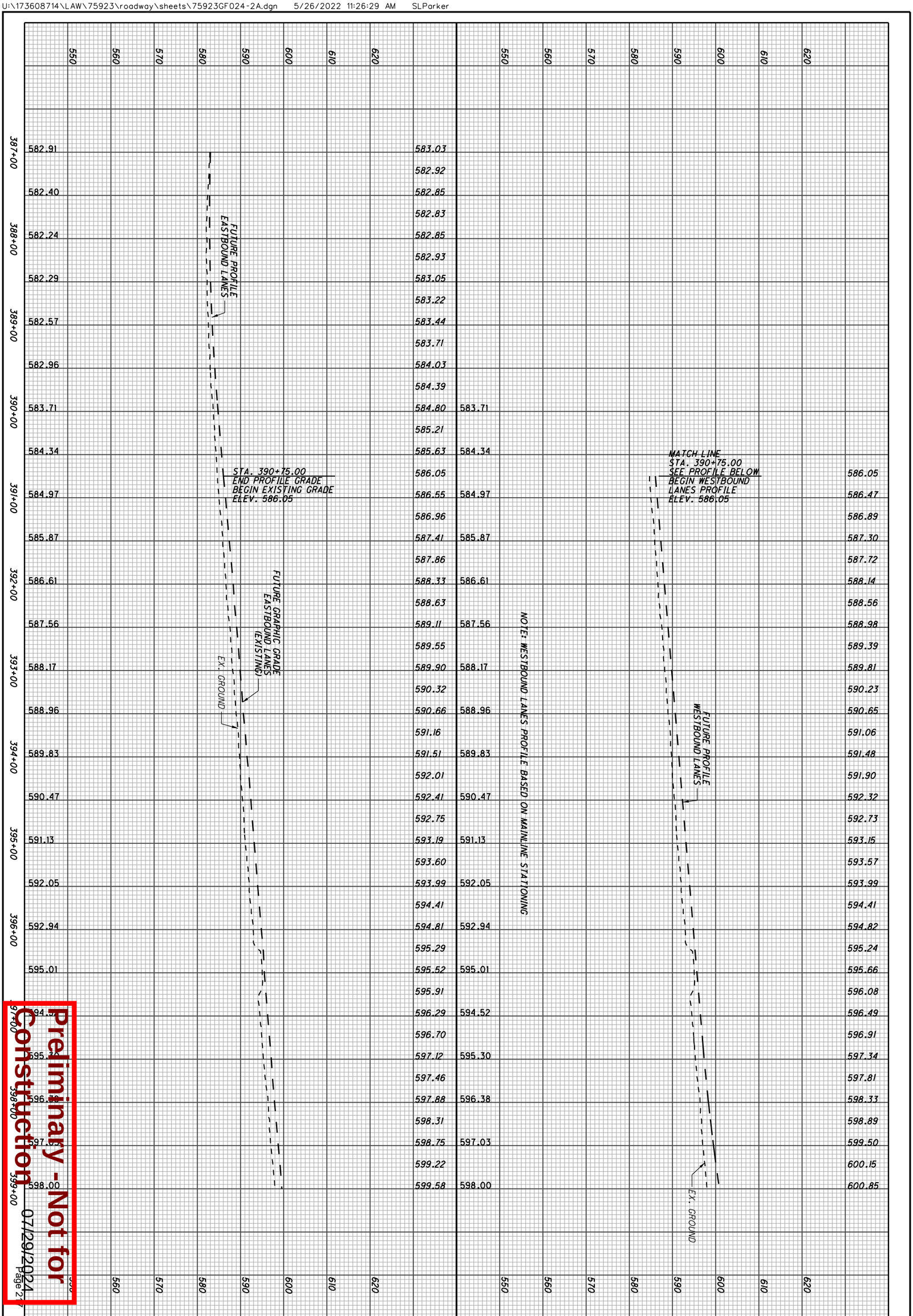


LAW-7-2.17

PROFILE - S.R. 7
STA. 387+00 TO STA. 399+00

CALCULATED ALB
CHECKED TCM

CURVE DATA
S.R. 7
CURVE NO. 10

P.I. STA. 403+74.19
Δ = 1° 29' 03" (RT)
Dc = 0° 16' 56"
R = 20,306.35'
T = 263.02'
L = 526.00'
E = 1.70'
e_{max} = NC
PC STA. 401+11.17
PT STA. 406+37.18

CURVE DATA
S.R. 7
CURVE NO. 11

P.I. STA. 416+63.54
Δ = 18° 47' 30" (LT)
Dc = 1° 38' 13"
R = 3,500.00'
T = 451.44'
L = 897.92'
E = 28.99'
TS STA. = 409+59.26
SC STA. = 412+09.26

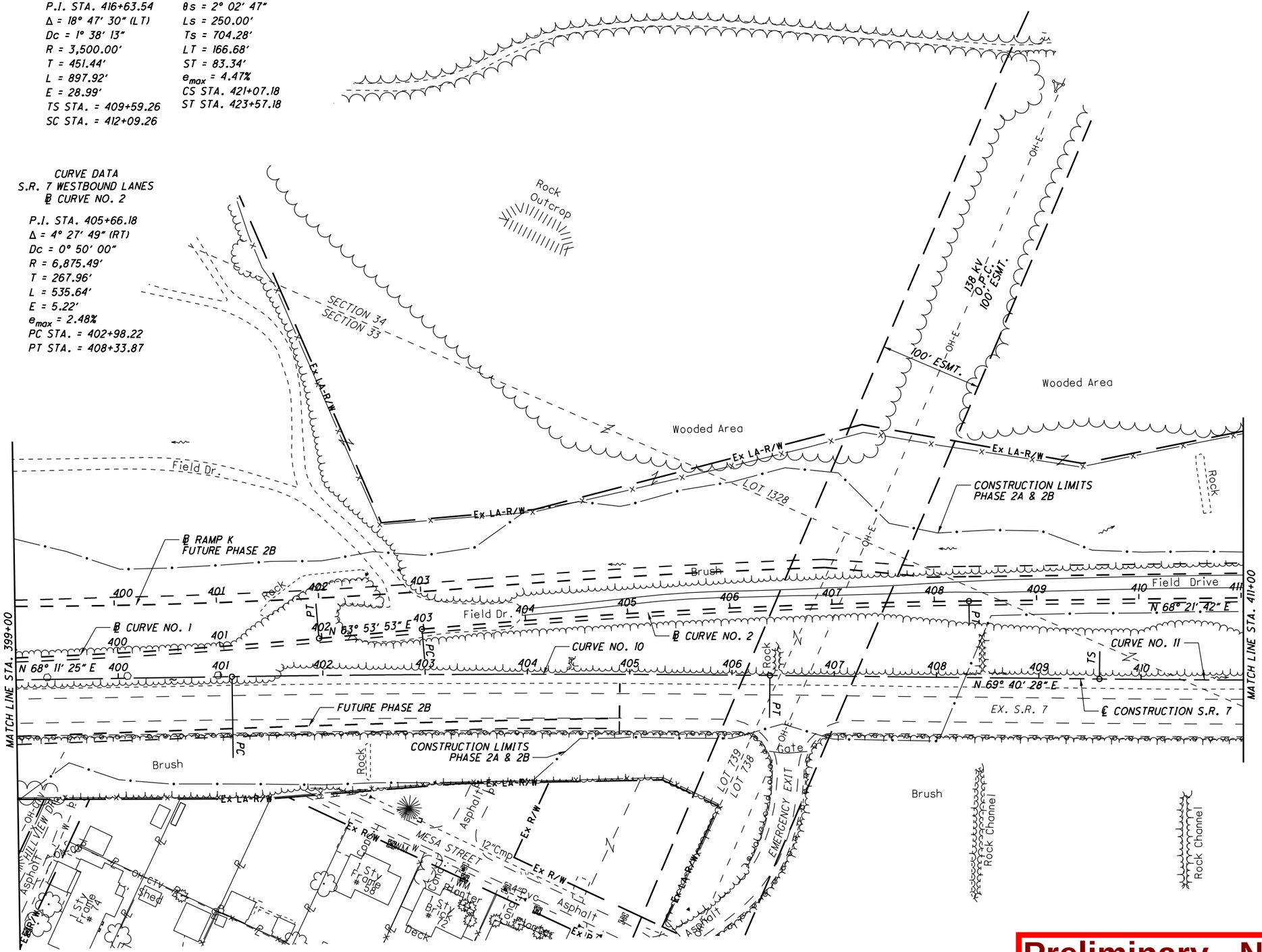
θs = 2° 02' 47"
Ls = 250.00'
Ts = 704.28'
LT = 166.68'
ST = 83.34'
e_{max} = 4.47%
CS STA. 421+07.18
ST STA. 423+57.18

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 1

P.I. STA. 399+82.71
Δ = 4° 17' 32" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 214.71'
L = 429.22'
E = 4.02'
e_{max} = 2.90%
PC STA. = 397+68.00
PT STA. = 401+97.22

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 2

P.I. STA. 405+66.18
Δ = 4° 27' 49" (RT)
Dc = 0° 50' 00"
R = 6,875.49'
T = 267.96'
L = 535.64'
E = 5.22'
e_{max} = 2.48%
PC STA. = 402+98.22
PT STA. = 408+33.87



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CALCULATED SLP
CHECKED ALB

HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN - S.R. 7
STA. 399+00 TO STA. 411+00

LAW-7-2.17

76
297

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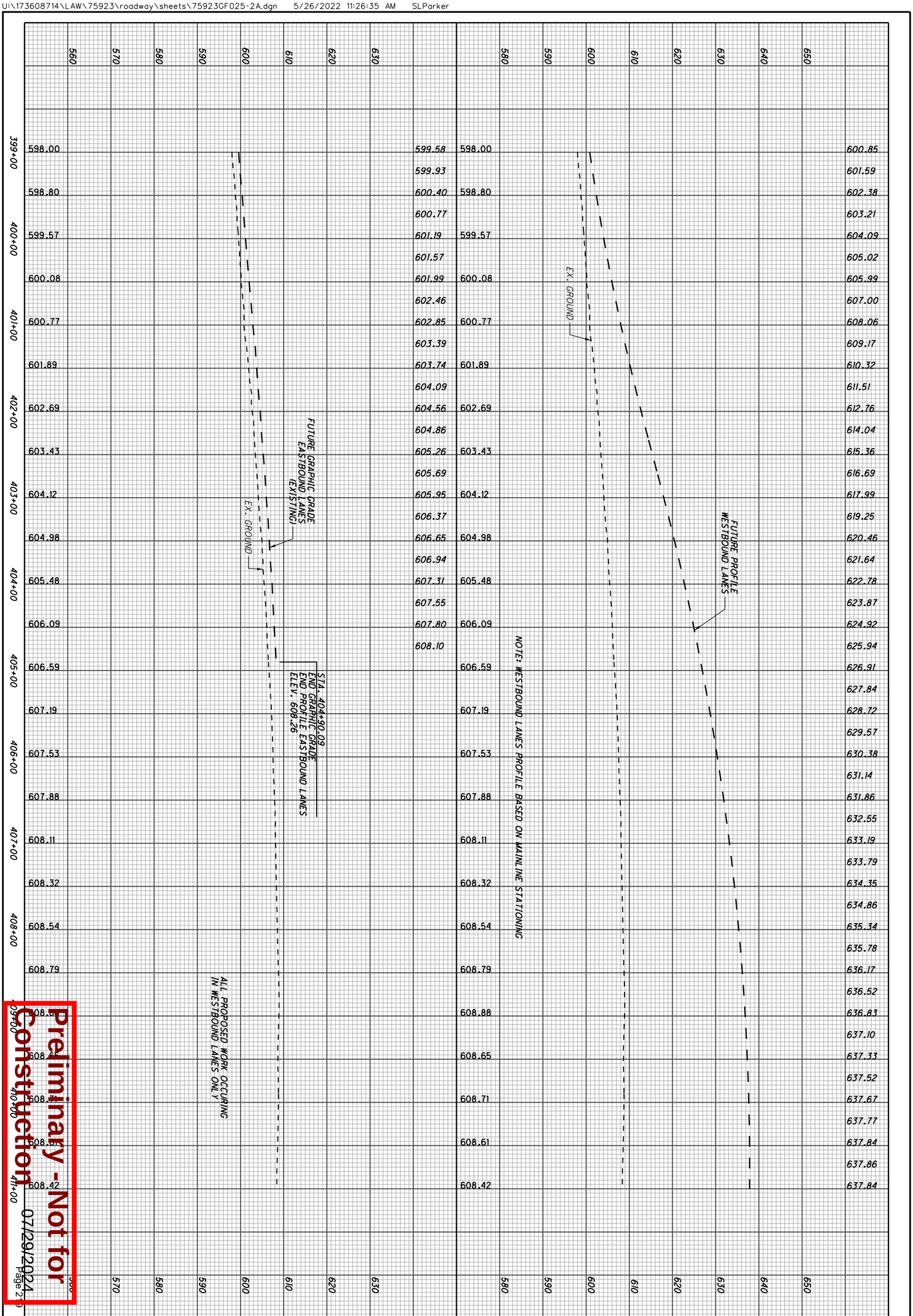


77 / 297	LAW-7-2.17	PROFILE - S.R. 7 STA. 399+00 TO 411+00	CALCULATED ALB CHECKED TCM

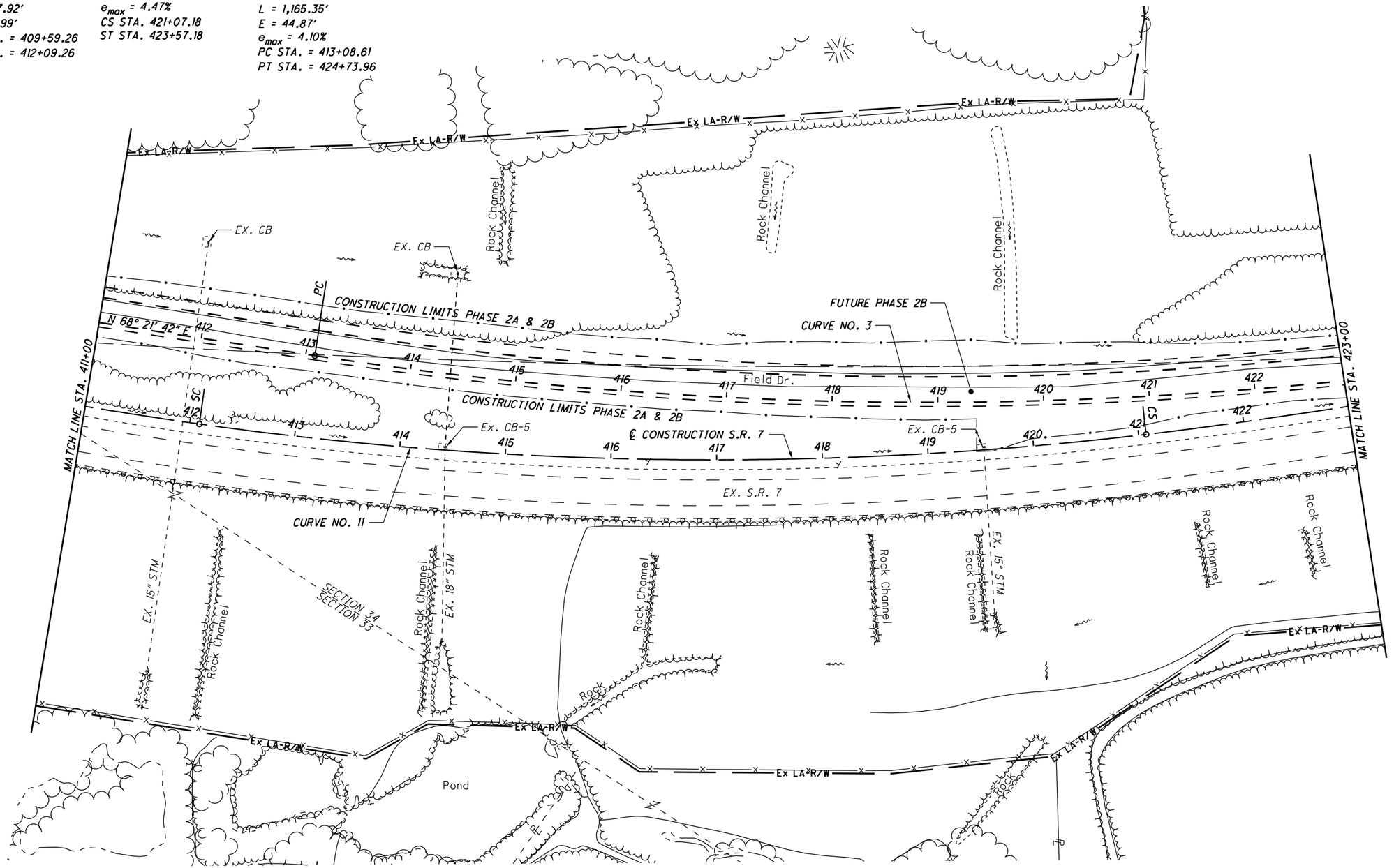
CURVE DATA
S.R. 7
CURVE NO. 11

P.I. STA. 416+63.54
Δ = 18° 47' 30" (LT)
Dc = 1° 38' 13"
R = 3,500.00'
T = 451.44'
L = 897.92'
E = 28.99'
TS STA. = 409+59.26
SC STA. = 412+09.26

θs = 2° 02' 47"
Ls = 250.00'
Ts = 704.28'
LT = 166.68'
ST = 83.34'
e_{max} = 4.47%
CS STA. 421+07.18
ST STA. 423+57.18

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 3

P.I. STA. 418+95.85
Δ = 17° 28' 44" (LT)
Dc = 1° 30' 00"
R = 3,820.00'
T = 587.24'
L = 1,165.35'
E = 44.87'
e_{max} = 4.10%
PC STA. = 413+08.61
PT STA. = 424+73.96



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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 411+00 TO STA. 423+00

LAW-7-2.17

78
297

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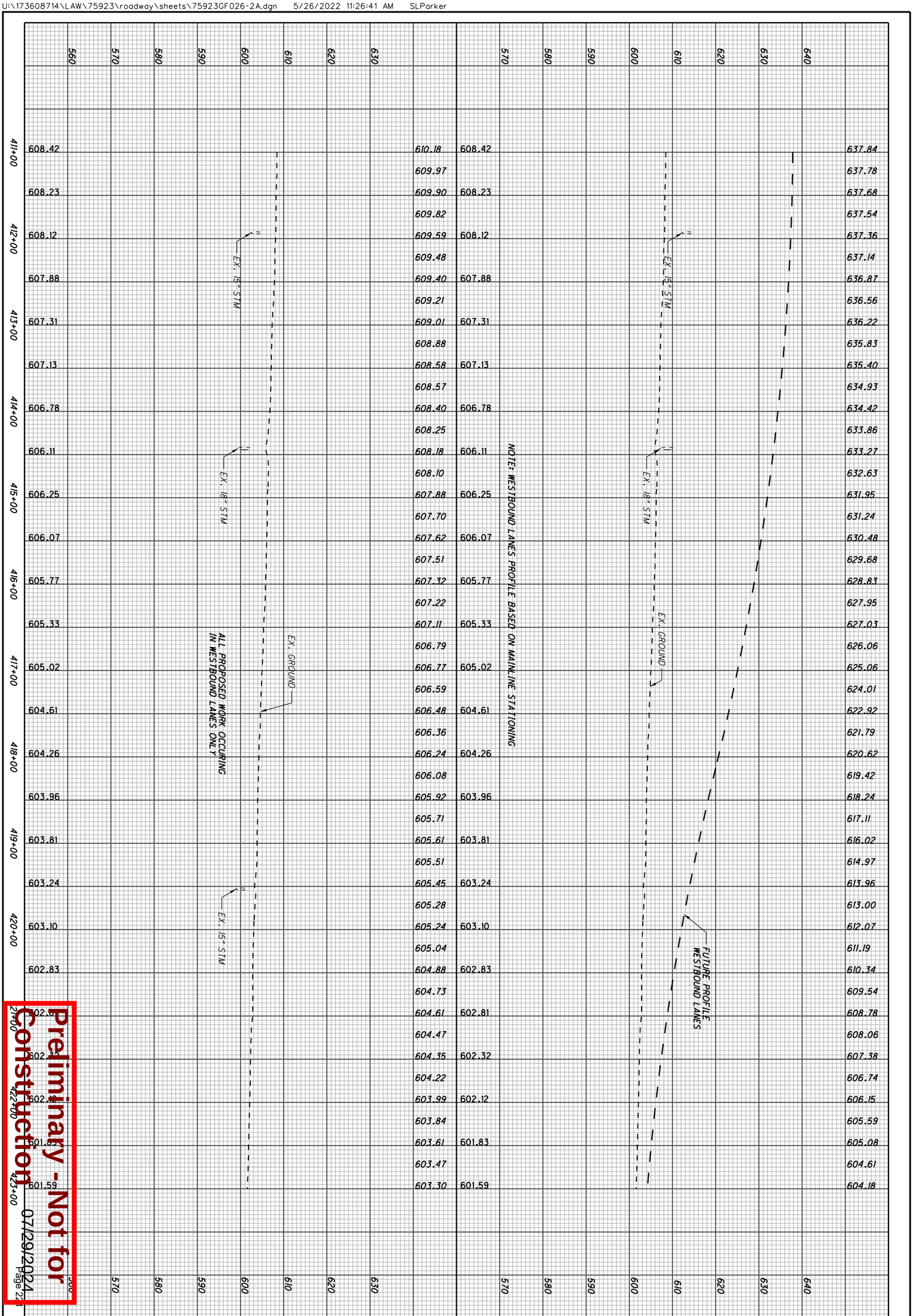


LAW-7-2.17

PROFILE - S.R. 7
STA. 411+00 TO STA. 423+00

CALCULATED ALB
CHECKED TCM

CURVE DATA
S.R. 7
CURVE NO. 11

P.I. STA. 416+63.54
Δ = 18° 47′ 30″ (LT)
Dc = 1° 38′ 13″
R = 3,500.00′
T = 451.44′
L = 897.92′
E = 28.99′
TS STA. = 409+59.26
SC STA. = 412+09.26

θs = 2° 02′ 47″
Ls = 250.00′
Ts = 704.28′
LT = 166.68′
ST = 83.34′
e_{max} = 4.47%
CS STA. 421+07.18
ST STA. 423+57.18

CURVE DATA
S.R. 7
CURVE NO. 12

P.I. STA. 428+11.24
Δ = 3° 17′ 53″ (RT)
Dc = 1° 19′ 10″
R = 4,342.09′
T = 125.00′
L = 249.93′
E = 1.80′
e_{max} = 3.77%
PC STA. = 426+86.24
PT STA. = 429+36.17

CURVE DATA
S.R. 7
℄ WESTBOUND LANES
CURVE NO. 3

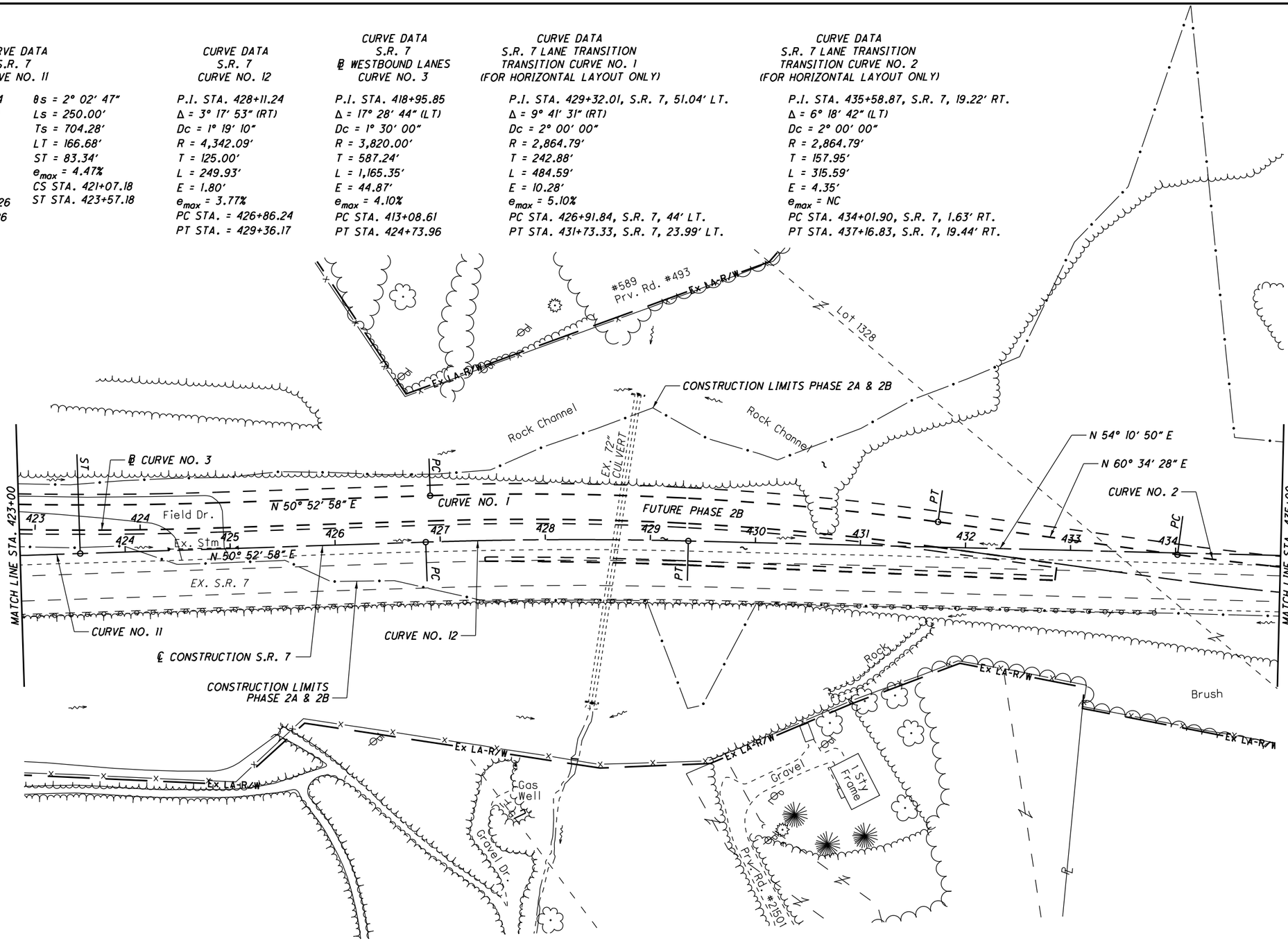
P.I. STA. 418+95.85
Δ = 17° 28′ 44″ (LT)
Dc = 1° 30′ 00″
R = 3,820.00′
T = 587.24′
L = 1,165.35′
E = 44.87′
e_{max} = 4.10%
PC STA. 413+08.61
PT STA. 424+73.96

CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 1
(FOR HORIZONTAL LAYOUT ONLY)

P.I. STA. 429+32.01, S.R. 7, 51.04′ LT.
Δ = 9° 41′ 31″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 242.88′
L = 484.59′
E = 10.28′
e_{max} = 5.10%
PC STA. 426+91.84, S.R. 7, 44′ LT.
PT STA. 431+73.33, S.R. 7, 23.99′ LT.

CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 2
(FOR HORIZONTAL LAYOUT ONLY)

P.I. STA. 435+58.87, S.R. 7, 19.22′ RT.
Δ = 6° 18′ 42″ (LT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 157.95′
L = 315.59′
E = 4.35′
e_{max} = NC
PC STA. 434+01.90, S.R. 7, 1.63′ RT.
PT STA. 437+16.83, S.R. 7, 19.44′ RT.



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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 423+00 TO STA. 435+00

LAW-7-2.17

80
297

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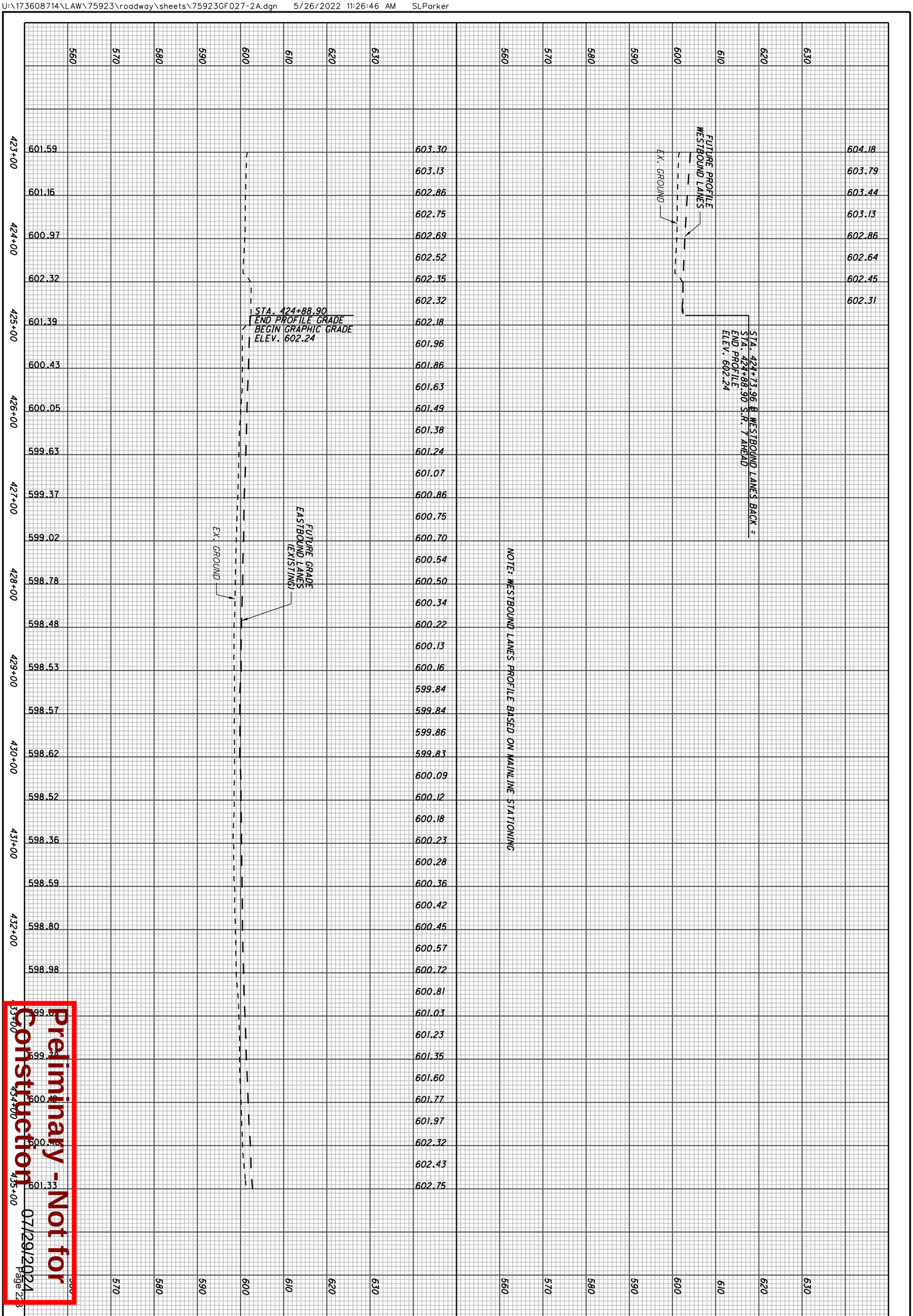

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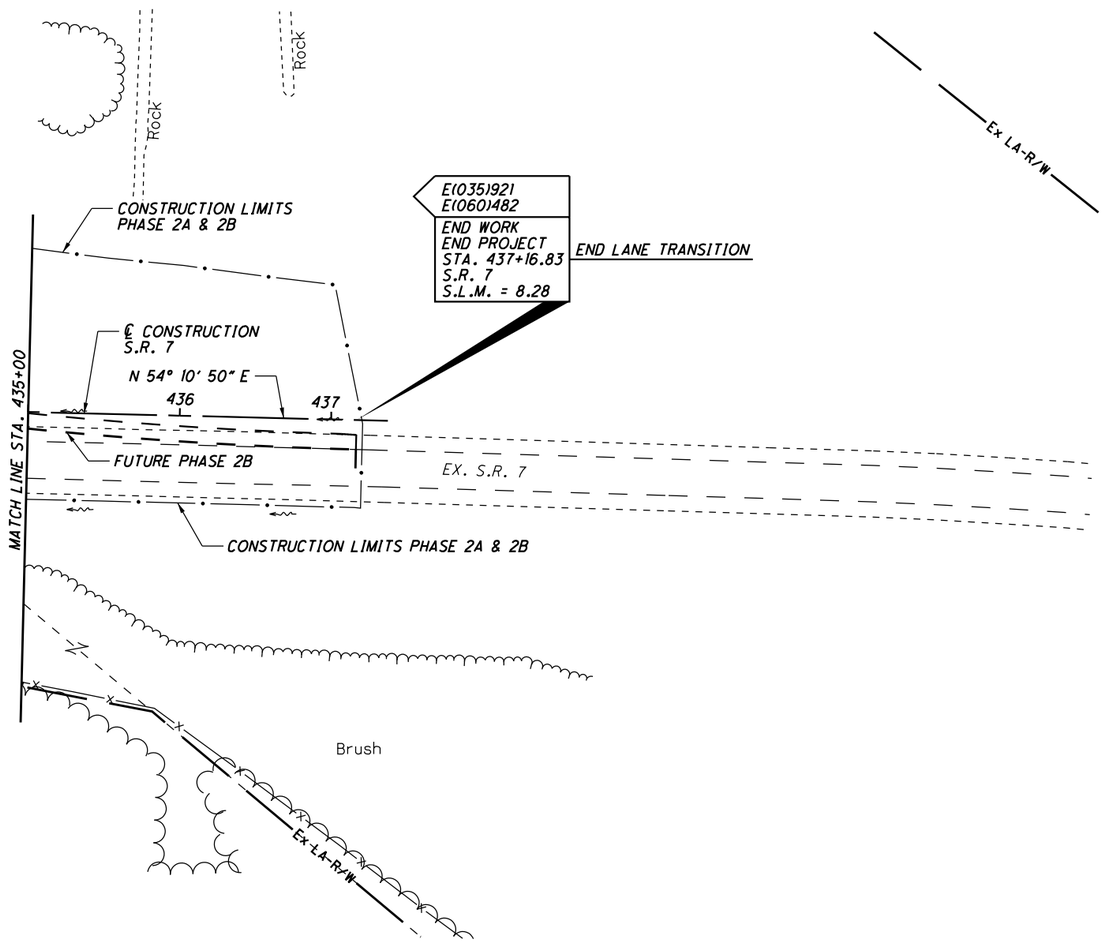
297

LAW-7-2.17

PROFILE - S.R. 7
STA. 423+00 TO 435+00

CALCULATED ALB
CHECKED TCM



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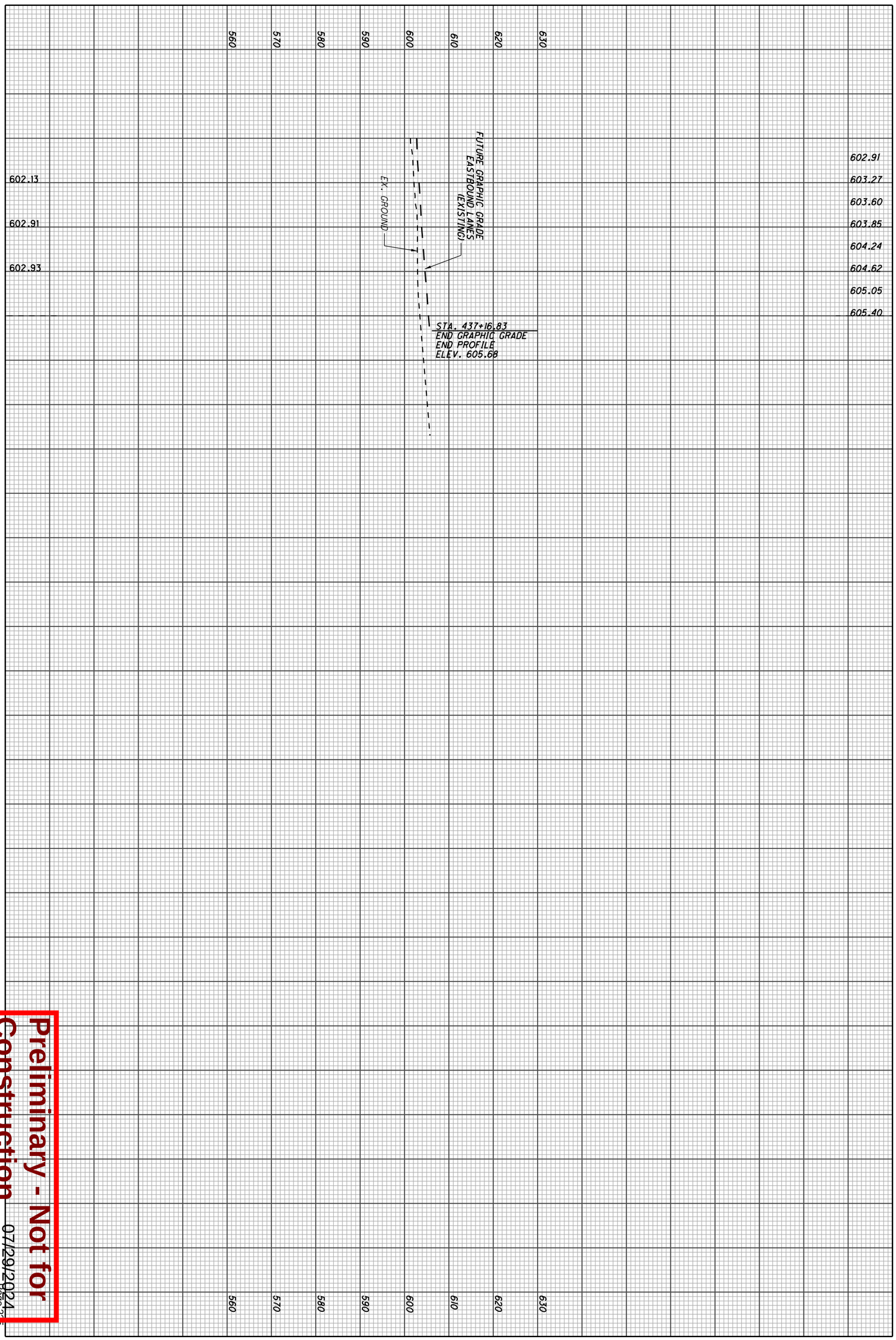
CALCULATED SLP
CHECKED ALB

HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN - S.R. 7
STA. 435+00 TO STA. 437+16.83

LAW-7-2.17

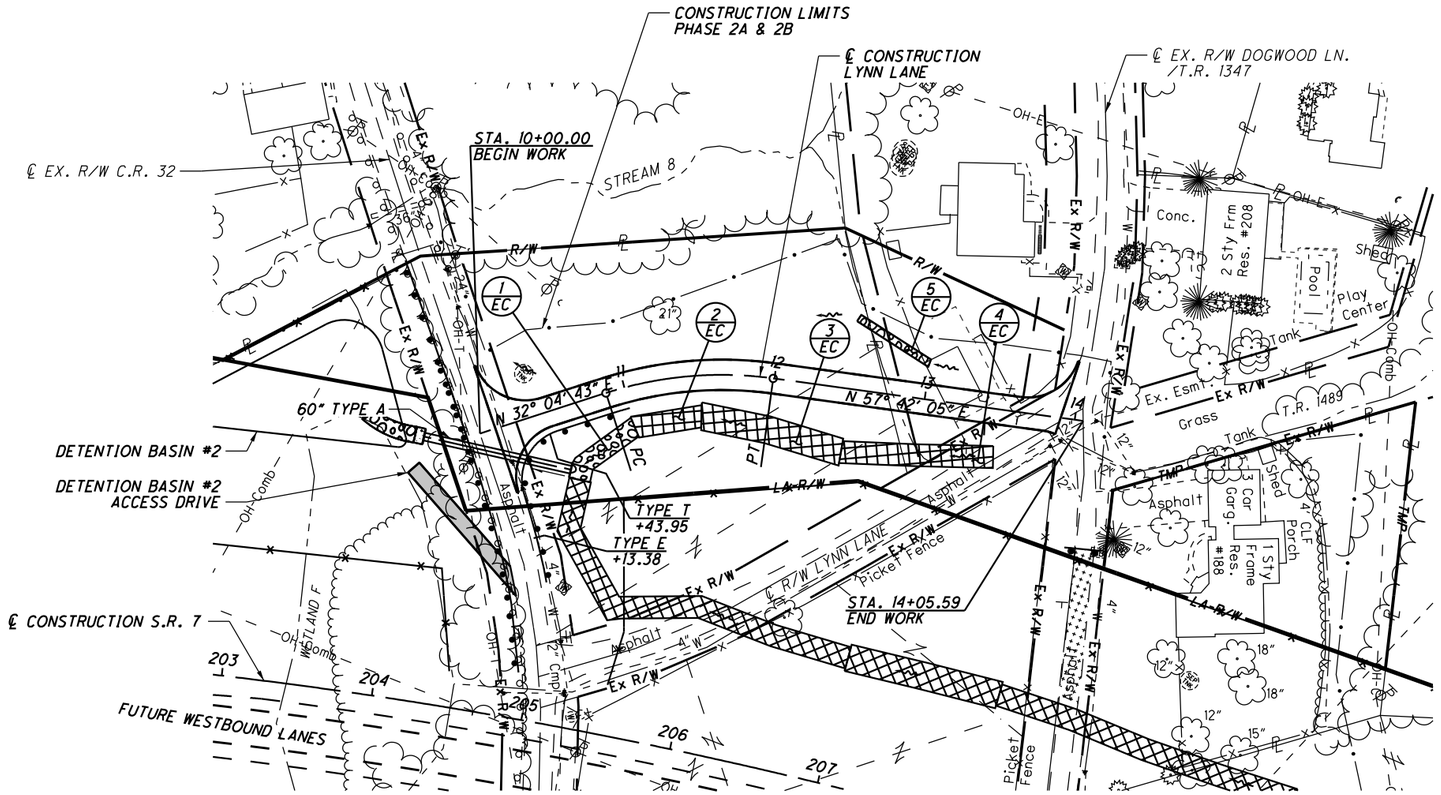


LAW-7-2.17

PROFILE - S.R. 7
STA. 435+00 TO 437+16.83

CALCULATED ALB
CHECKED TCM

CURVE DATA
LYNN LANE
P.I. STA. 11+44.17
Δ = 25° 37' 23" (RT)
Dc = 22° 55' 06"
R = 250.00'
T = 56.85'
L = 111.80'
E = 6.38'
e_{max} (N.D.C.) = 8.00%
e_{max} = NC
PC STA. 10+87.32
PT STA. 11+99.12



1 EC ROCK CHANNEL PROTECTION
TYPE C WITH FILTER
(691 SF x 1.5' / 27 = 38.39 CY)

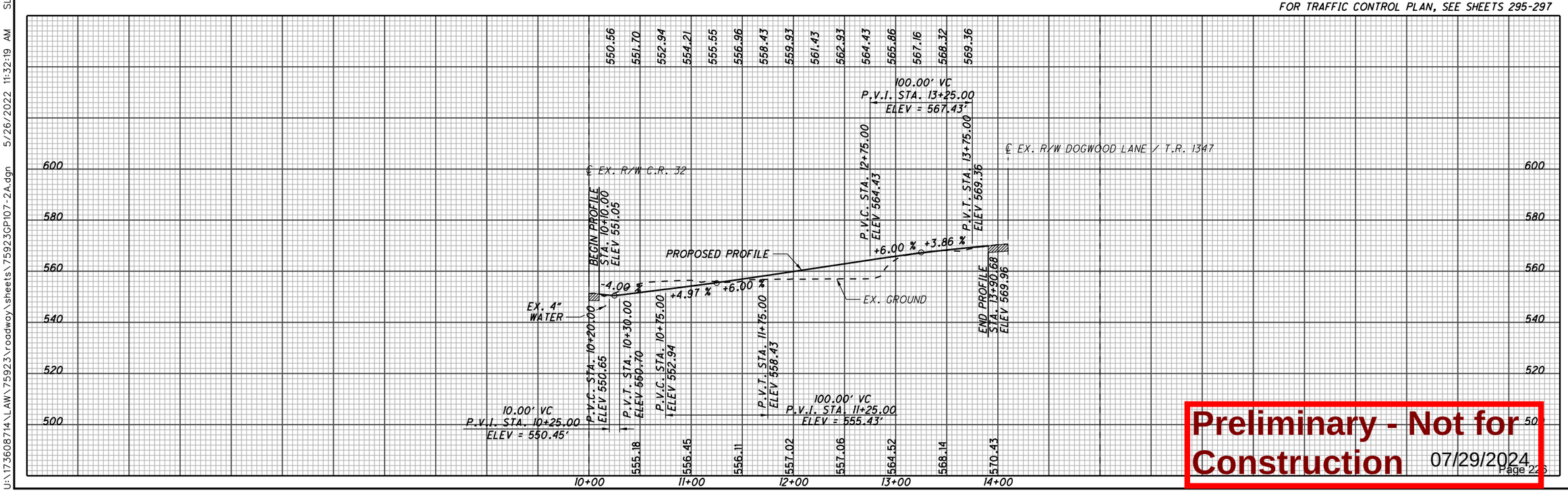
2 EC SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE T
(45' x 14.5' / 9 = 72.50 SY)

3 EC DITCH EROSION PROTECTION
MAT, TYPE B
(95' x 18' / 9 = 190 SY)

4 EC SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE 2
(101' x 14.5' / 9 = 162.72 SY)

5 EC ROCK CHANNEL PROTECTION,
TYPE C WITH FILTER
(55' x 5' x 1.5' / 27 = 15.28 CY)

FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 37-40
FOR INTERSECTION DETAILS, SEE SHEET 268
FOR CULVERT DETAILS, SEE SHEET 279
FOR DETENTION BASIN DETAILS, SEE SHEETS 293-294
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 295-297



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HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE
LYNN LANE

LAW-7-2.17

249
297

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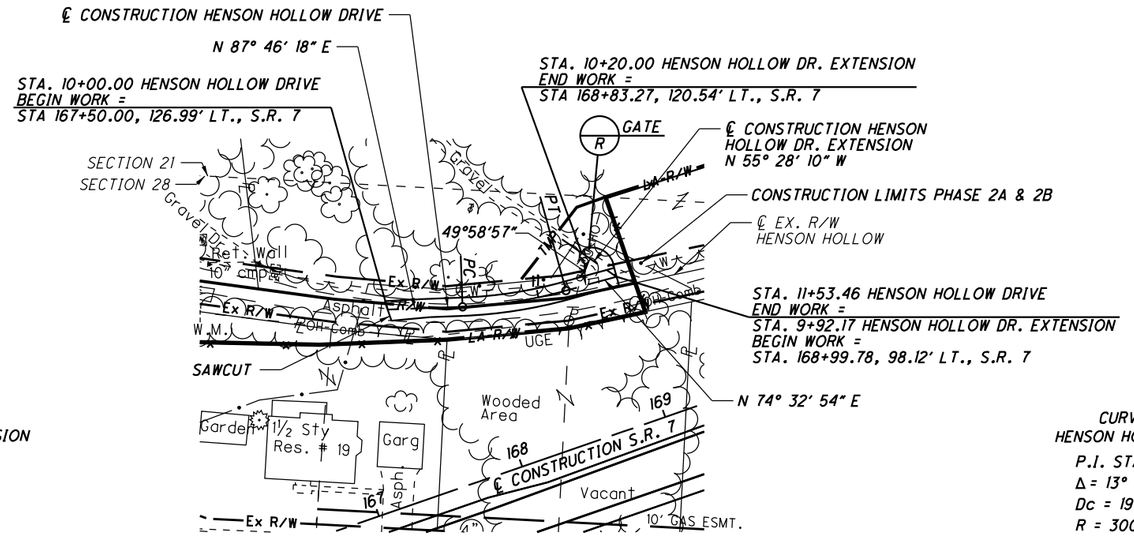
HENSON HOLLOW DRIVE EXTENSION
LEFT E/P RETURN DATA

Δ = 130° 42' 18"
R = 8.00'
T = 17.44'
L = 18.25'
R.P. STA. 11+27.27, 14' LT., HENSON HOLLOW DR.
P.C. STA. 11+27.27, 6' LT., HENSON HOLLOW DR.
P.T. STA. 10+19.68, 2.89' LT., HENSON HOLLOW DR. EXTENSION

HENSON HOLLOW DRIVE EXTENSION
RIGHT E/P RETURN DATA

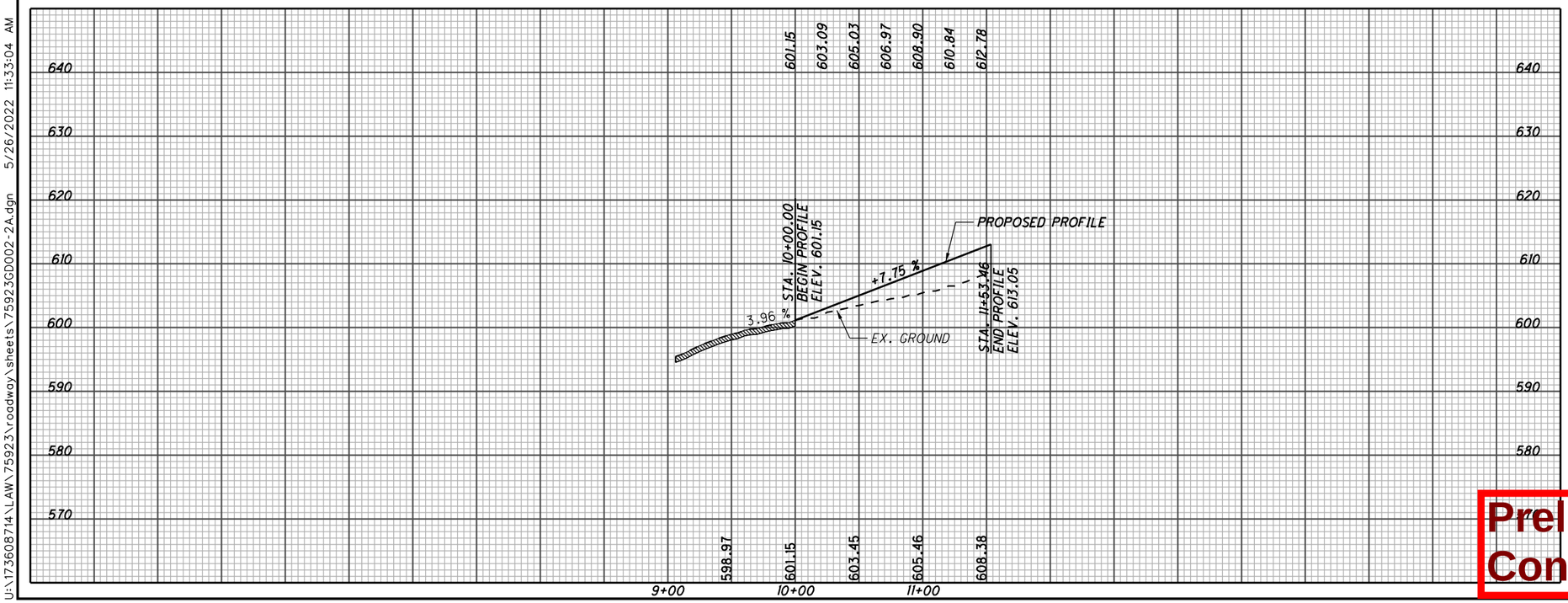
Δ = 102° 28' 43"
R = 15.00'
T = 18.68'
L = 26.83'
R.P. STA. 11+38.66, 8.47' LT., HENSON HOLLOW DR.
P.C. STA. 11+53.46, 6' LT., HENSON HOLLOW DR.
P.T. STA. 10+20.00, 3.32' RT., HENSON HOLLOW DR. EXTENSION



CURVE DATA
HENSON HOLLOW DRIVE

P.I. STA. 10+84.31
Δ = 13° 13' 25" (LT)
Dc = 19° 05' 55"
R = 300.00'
T = 34.77'
L = 69.24'
E = 2.01'
PC STA. 10+49.54
PT STA. 11+18.78

HENSON HOLLOW DRIVE - 3
HENSON HOLLOW DRIVE EXTENSION - 4



STATION FROM	TO	SIDE

TOTALS CARRIED TO GENERAL SUMMARY

QUANTITY	UNIT	ITEM

PLAN AND PROFILE
HENSON HOLLOW DRIVE

LAW-7-2.17

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

271
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07/29/2024

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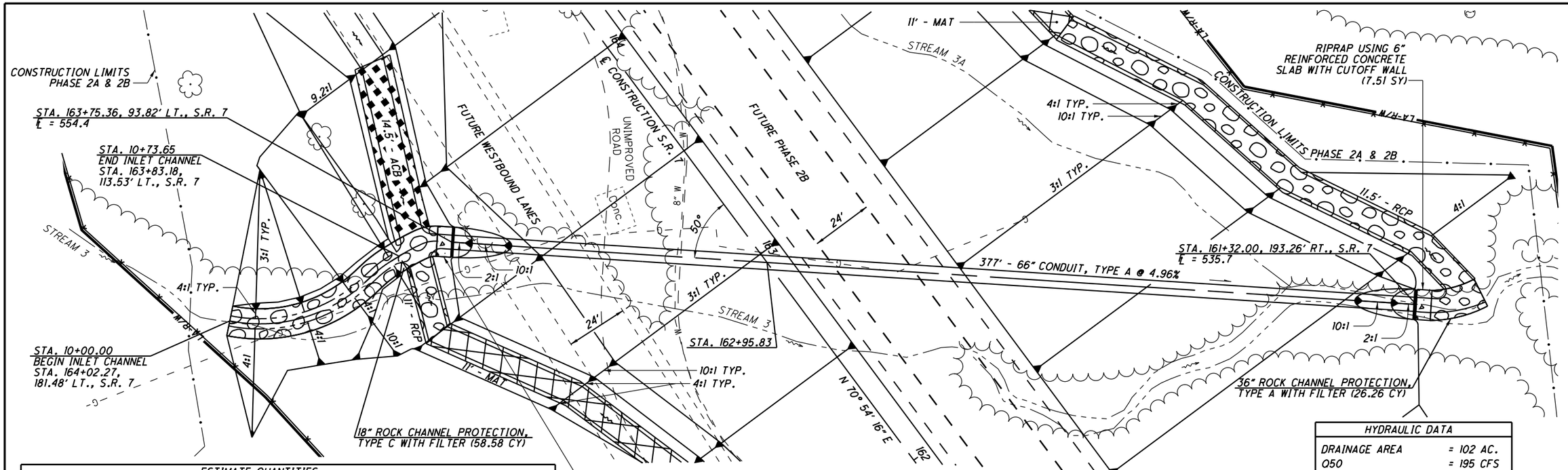
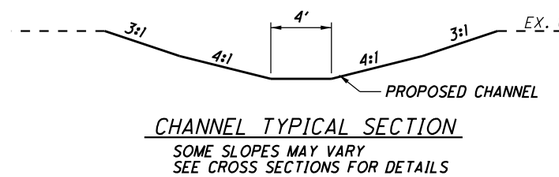




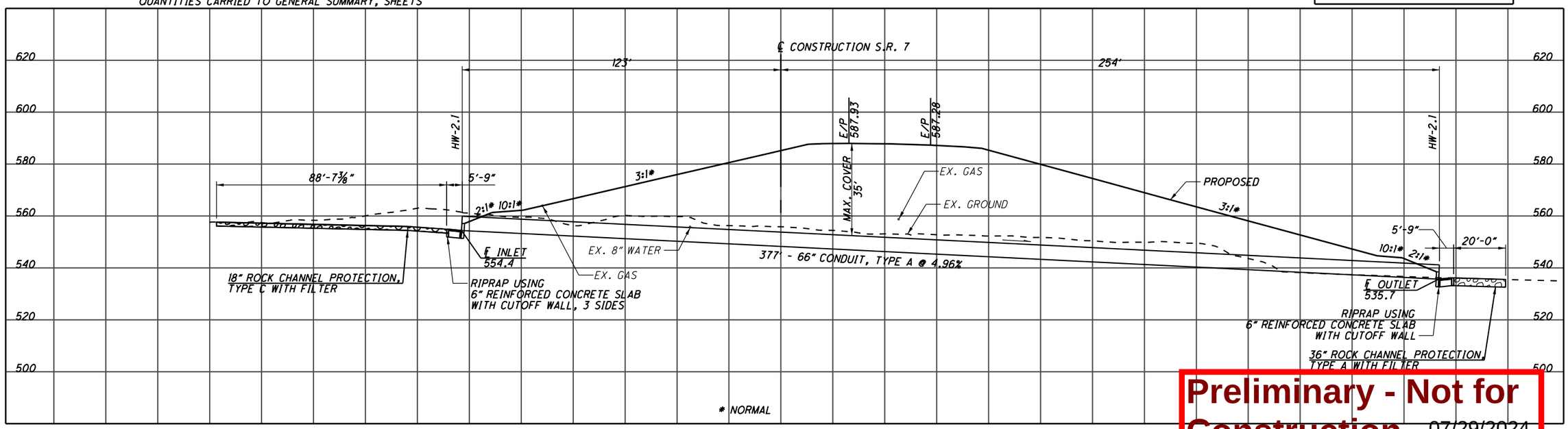
CHANNEL TYPICAL SECTION

SOME SLOPES MAY VARY
SEE CROSS SECTIONS FOR DETAILS

ESTIMATE QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION

QUANTITIES CARRIED TO GENERAL SUMMARY, SHEETS

HYDRAULIC DATA	
DRAINAGE AREA	= 102 AC.
Q50	= 195 CFS
Q100	= 232 CFS
50V	= 15.3 FPS
100V	= 15.9 FPS
50 HW	= 562.4
100 HW	= 564.5
OHWMi	= 555.4
OHWMo	= 537.2
PH	= 7.6
DESIGN SERVICE LIFE	= 75 YEARS
ABRASION LEVEL	=
CFN	=



CULVERT DETAIL
S.R. 7 STA. 162+95.83

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED SLP
CHECKED ALB

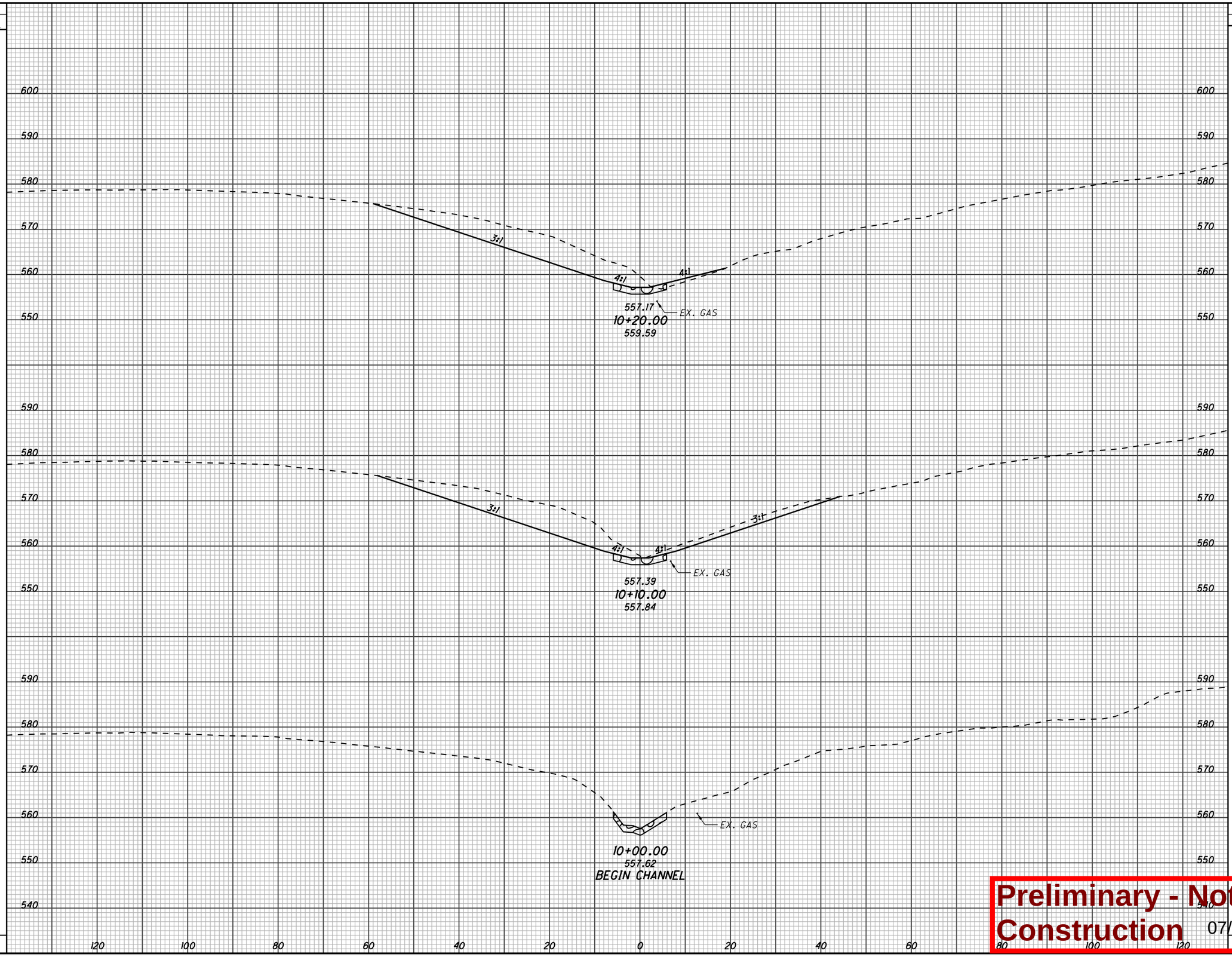
LAW-7-2.17

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED SLP

CHECKED ALB



CROSS SECTIONS CULVERT STA. 162+95.83 INLET CHANNEL STA. 10+00.00 TO STA. 10+20.00

LWA-7-2.17

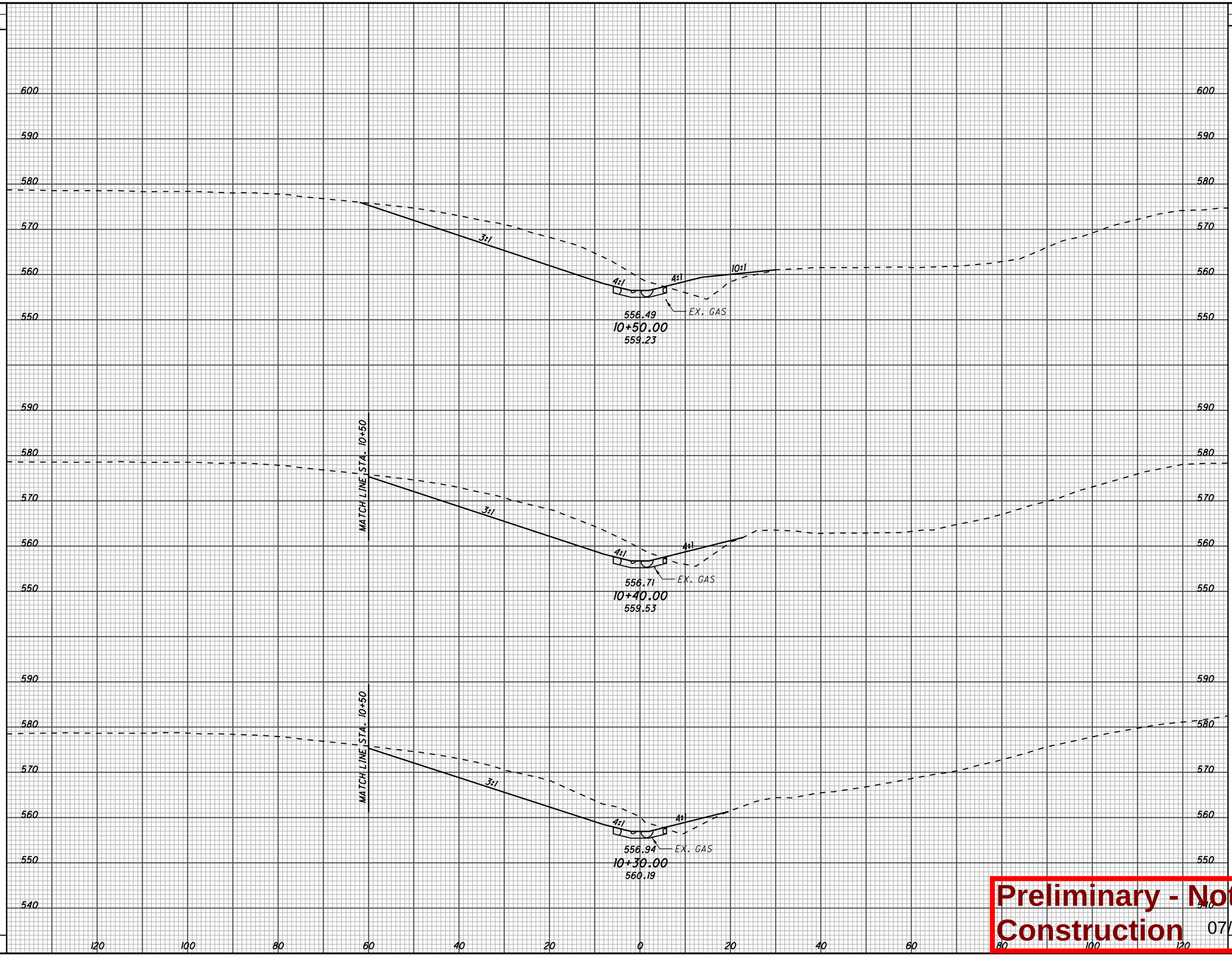
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED SLP

CHECKED ALB



CROSS SECTIONS CULVERT STA. 162+95.83 INLET CHANNEL STA. 10+30.00 TO STA. 10+50.00

LWA-7-2.17

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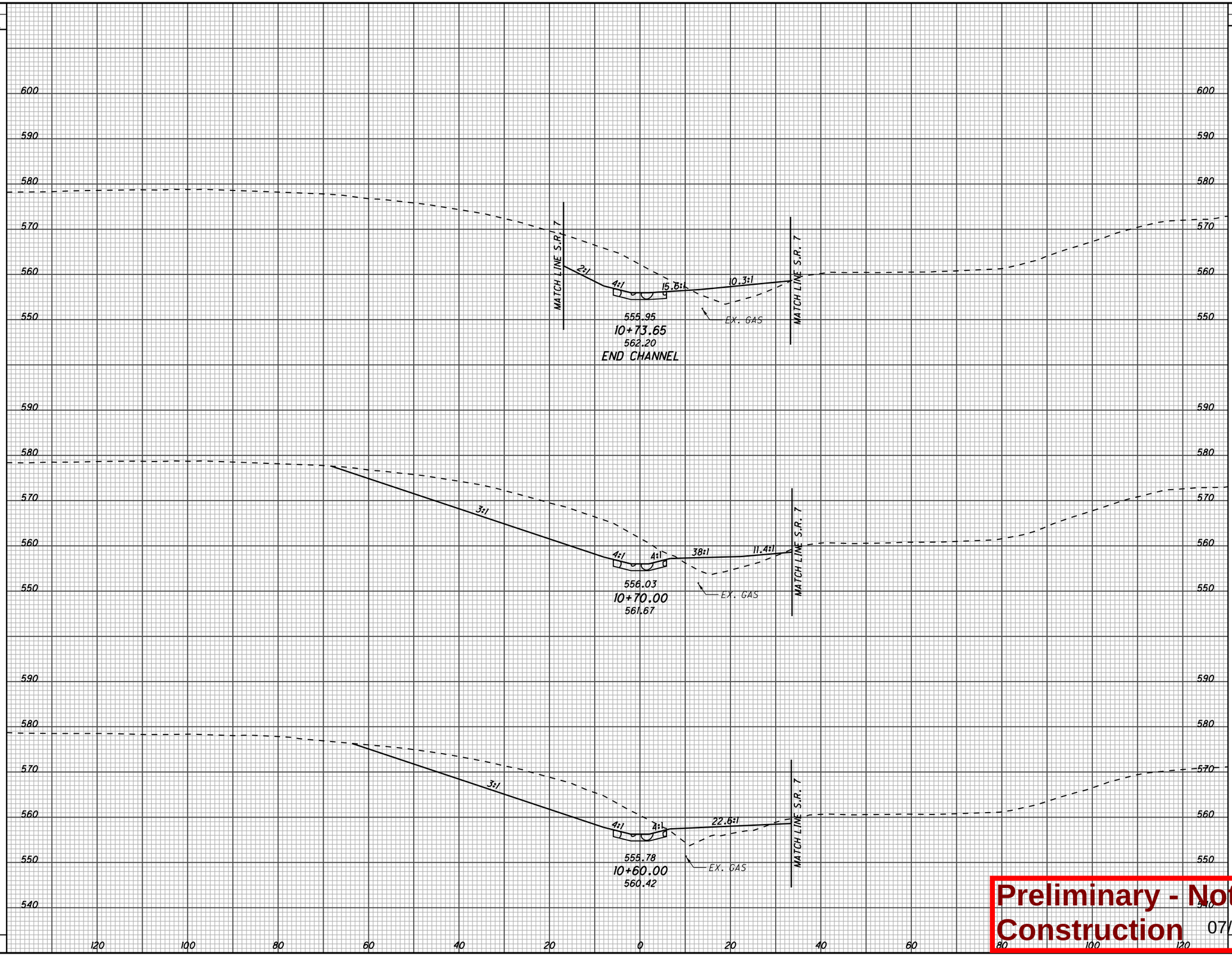
SEEDING	
END WIDTH	SQ. YDS.

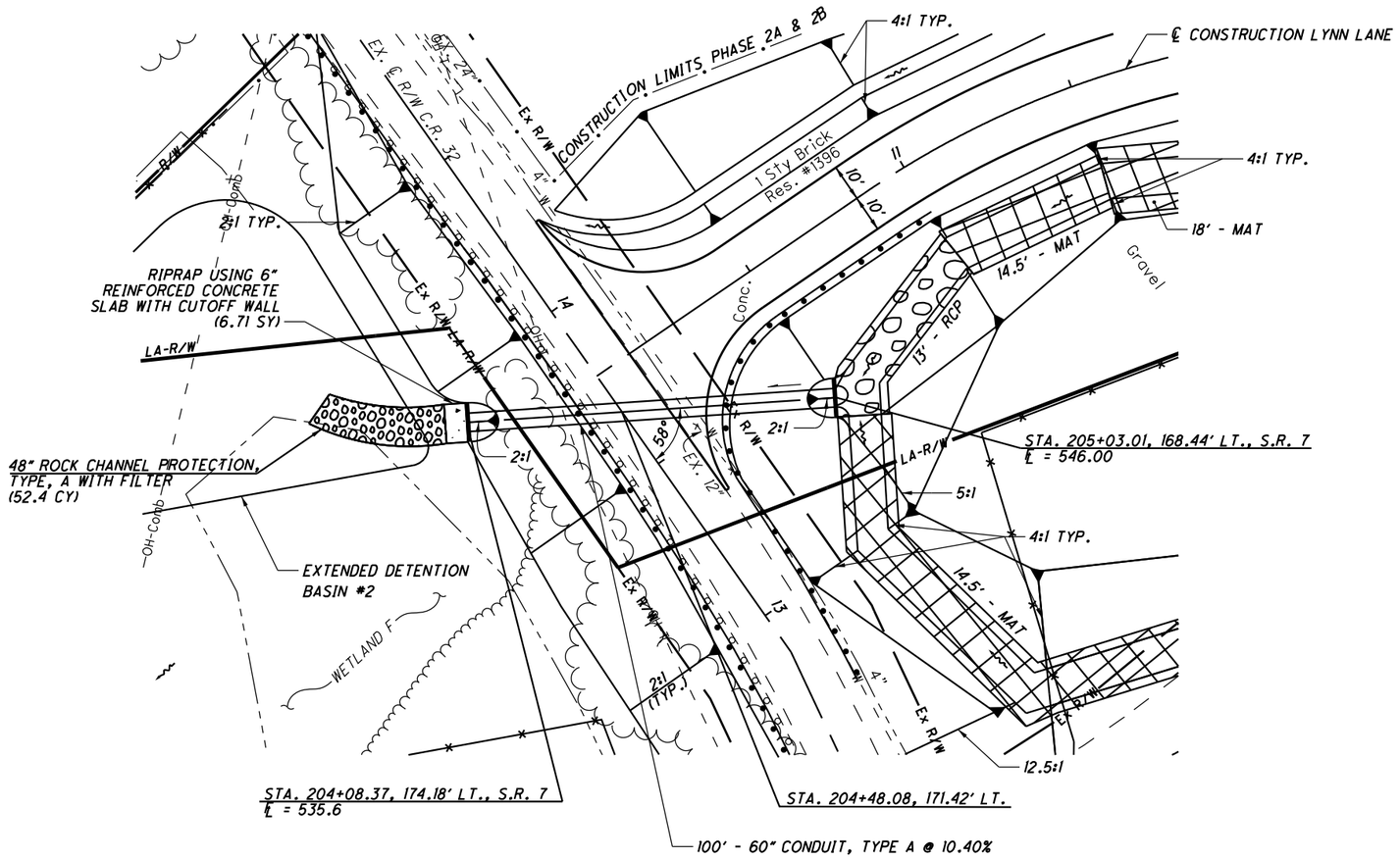
END AREA		VOLUME	
CUT	FILL	CUT	FILL

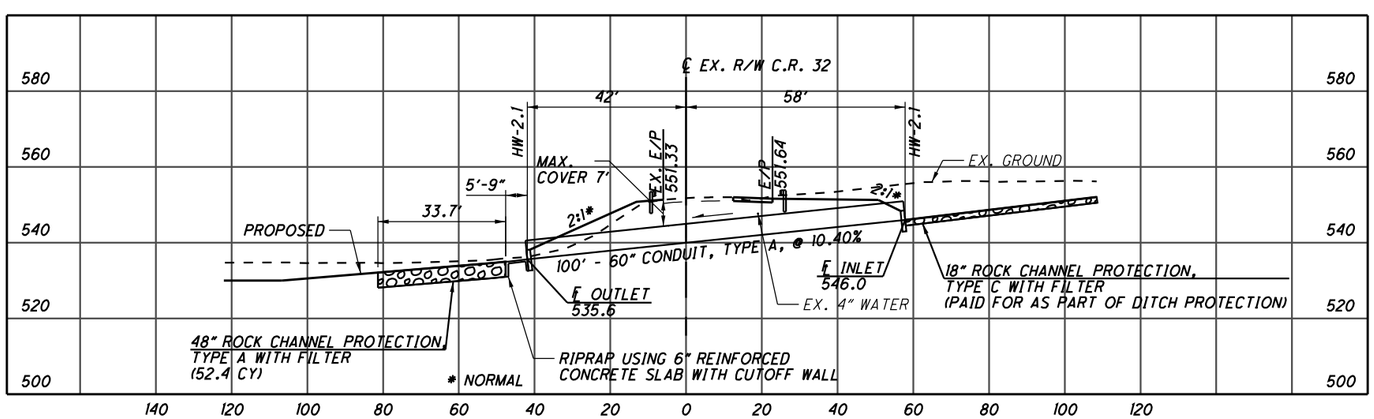
CALCULATED SLP
CHECKED ALB



CROSS SECTIONS CULVERT STA. 162+95.83 INLET CHANNEL STA. 10+60.00 TO STA. 10+73.65

LWA-7-2.17





HYDRAULIC DATA	
DRAINAGE AREA	= 29 AC.
Q25	= 98 CFS
Q100	= 133 CFS
25V	= 16.9 FPS
100V	= 18.4 FPS
25 HW	= 550.3
100 HW	= 551.4
OHWMi	= 547.9
OHWMo	= 536.2
pH	= 7.6
DESIGN SERVICE LIFE	= 75 YEARS
ABRASION LEVEL	=
CFN	=

ESTIMATE QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION

QUANTITIES CARRIED TO GENERAL SUMMARY, SHEETS

Preliminary - Not for Construction 07/29/2024

CULVERT DETAIL
S.R. 7 STA. 204+48.08

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED SLP
CHECKED ALB

LAW-7-2.17

279
297

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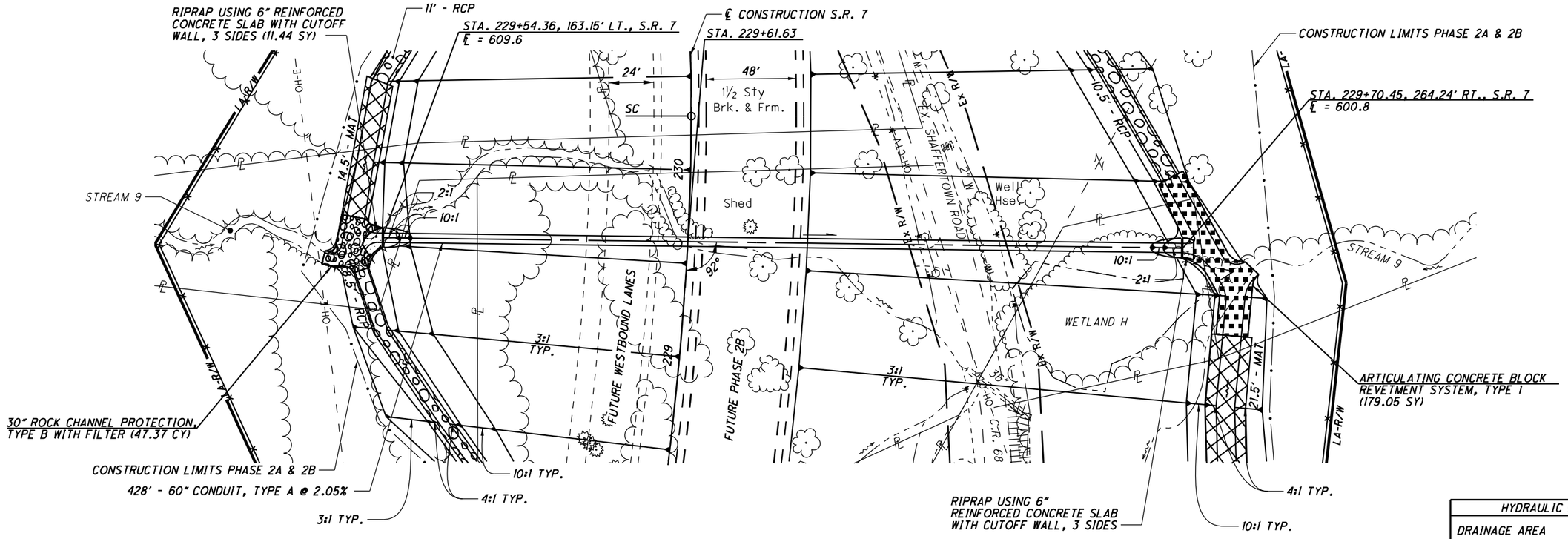
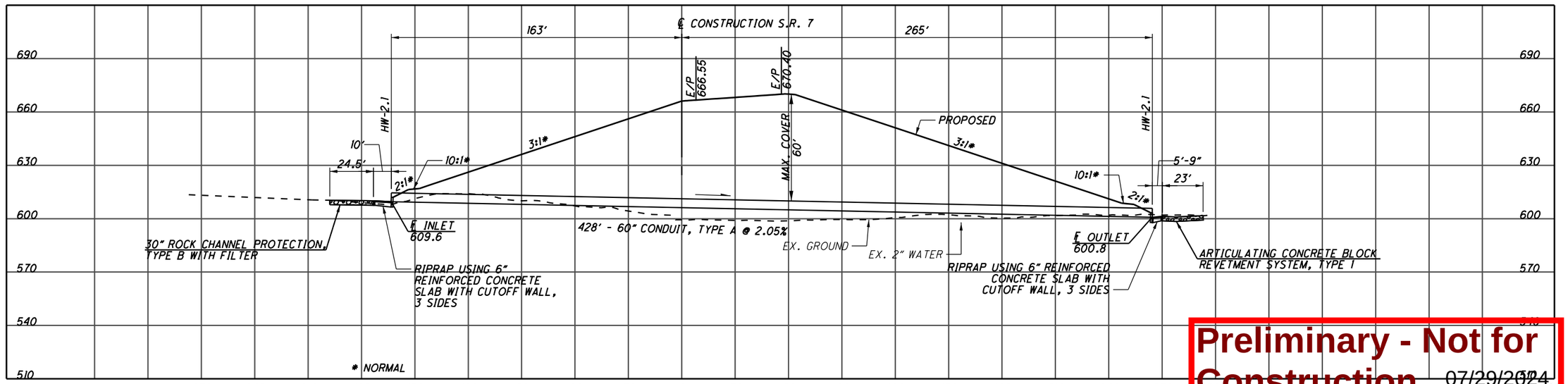


HYDRAULIC DATA	
DRAINAGE AREA	= 80 AC.
Q50	= 147 CFS
Q100	= 175 CFS
50V	= 9.8 FPS
100V	= 11.7 FPS
50 HW	= 617.9
100 HW	= 623.4
OHWMi	= 610.5
OHWMo	= 601.1
pH	= 7.6
DESIGN SERVICE LIFE	= 75 YEARS
ABRASION LEVEL	=
CFN	=

ESTIMATE QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION

QUANTITIES CARRIED TO GENERAL SUMMARY, SHEETS



HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED SLP
CHECKED ALB

CULVERT DETAIL
S.R. 7 STA. 229+61.63

LAW-7-2.17

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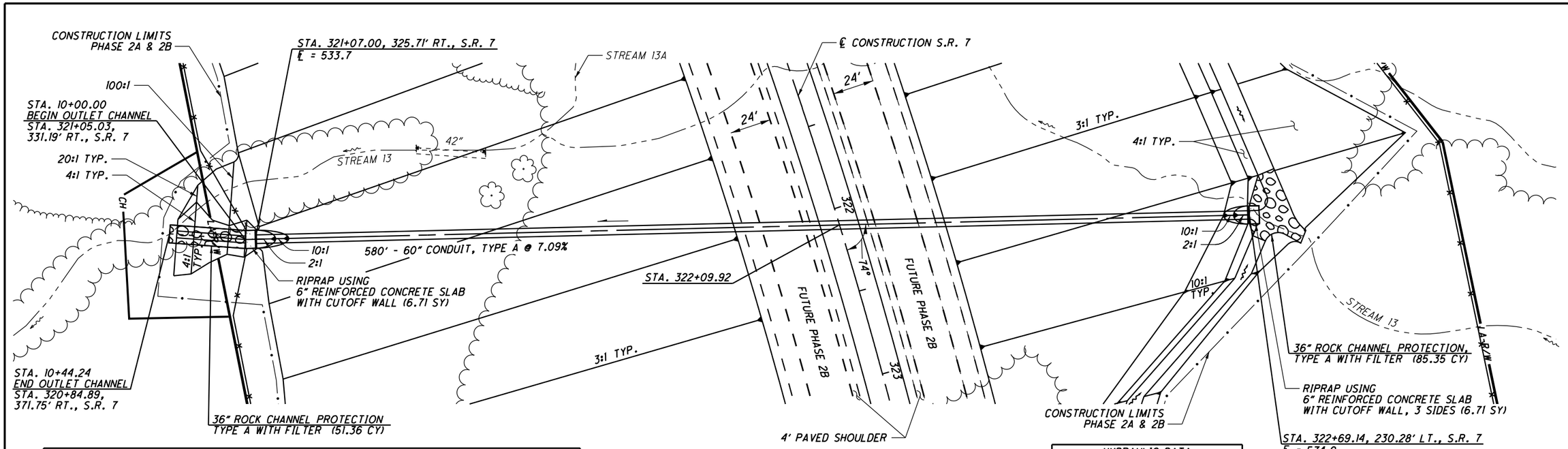
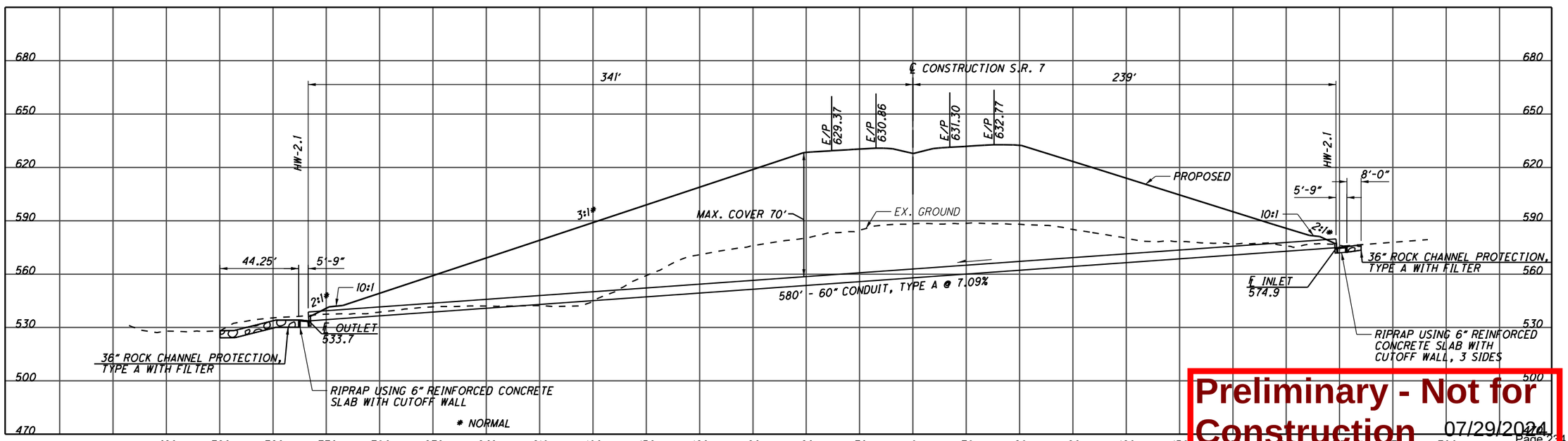


ESTIMATE QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION

QUANTITIES CARRIED TO GENERAL SUMMARY, SHEETS

HYDRAULIC DATA	
DRAINAGE AREA	= 81 AC.
Q50	= 166 CFS.
Q100	= 198 CFS
50V	= 16.8 FPS
100V	= 17.4 FPS
50 HW	= 583.1
100 HW	= 585.4
OHWMi	= 575.4
OHWMo	= 534.3
pH	= 7.6
DESIGN SERVICE LIFE	= 75 YEARS
ABRASION LEVEL	=
CFN	=



HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED SLP
CHECKED ALB

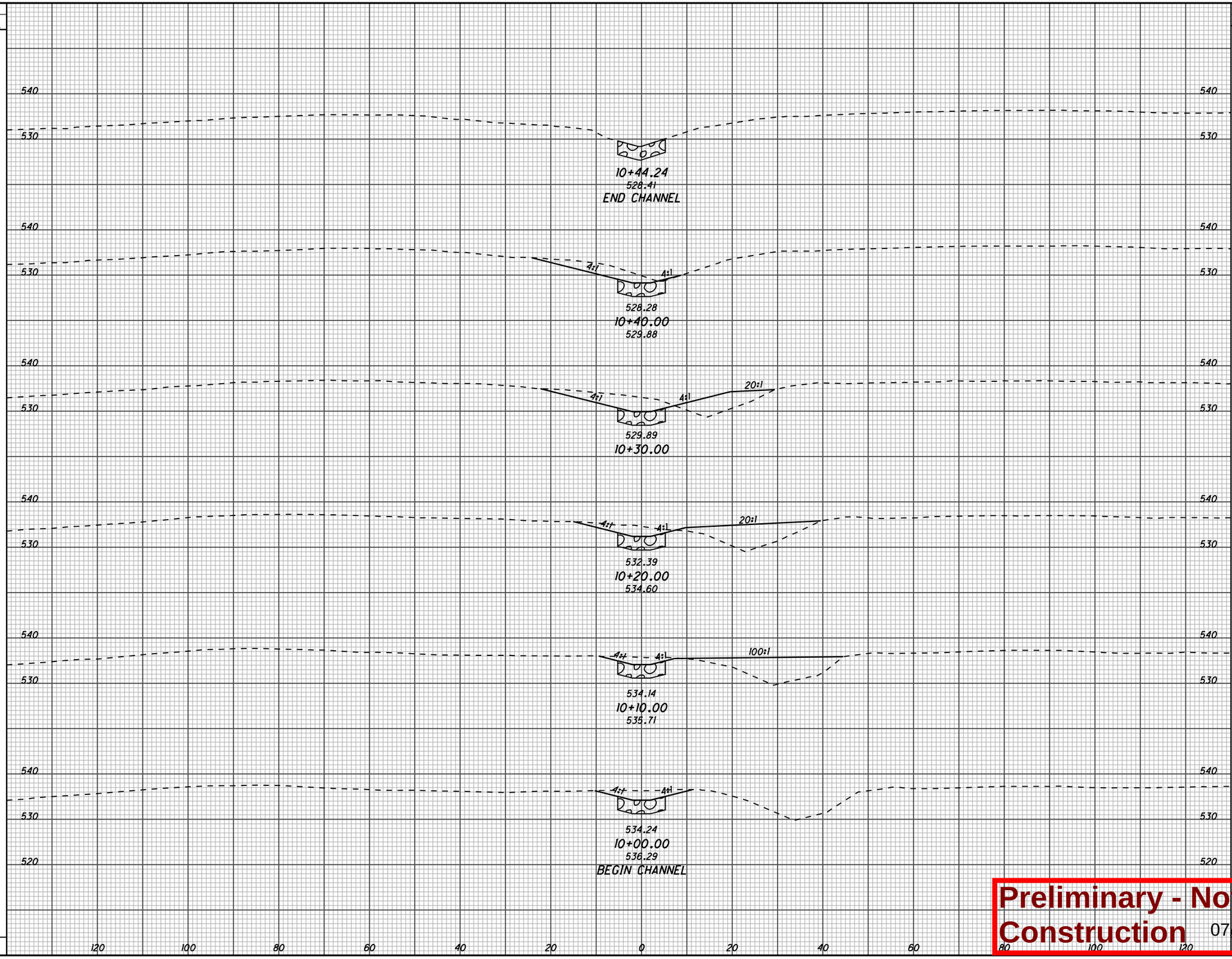
CULVERT DETAIL
S.R. 7 STA. 322+09.92

LAW-7-2.17

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

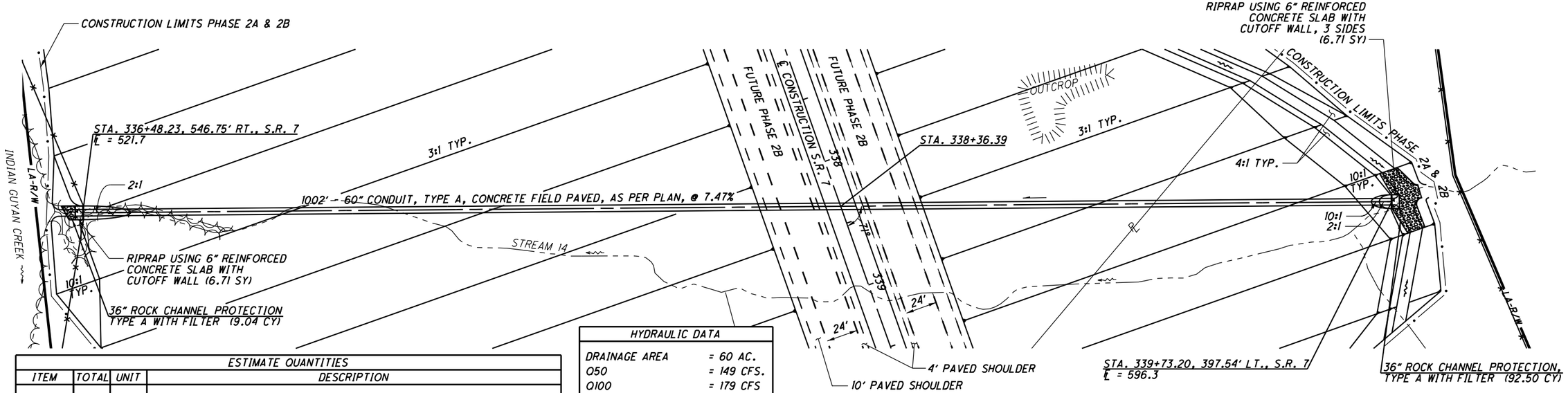
CALCULATED SLP
CHECKED ALB



CROSS SECTIONS CULVERT STA. 322+09.92 OUTLET CHANNEL STA. 10+00.00 TO STA. 10+44.24

LAW-7-2.17

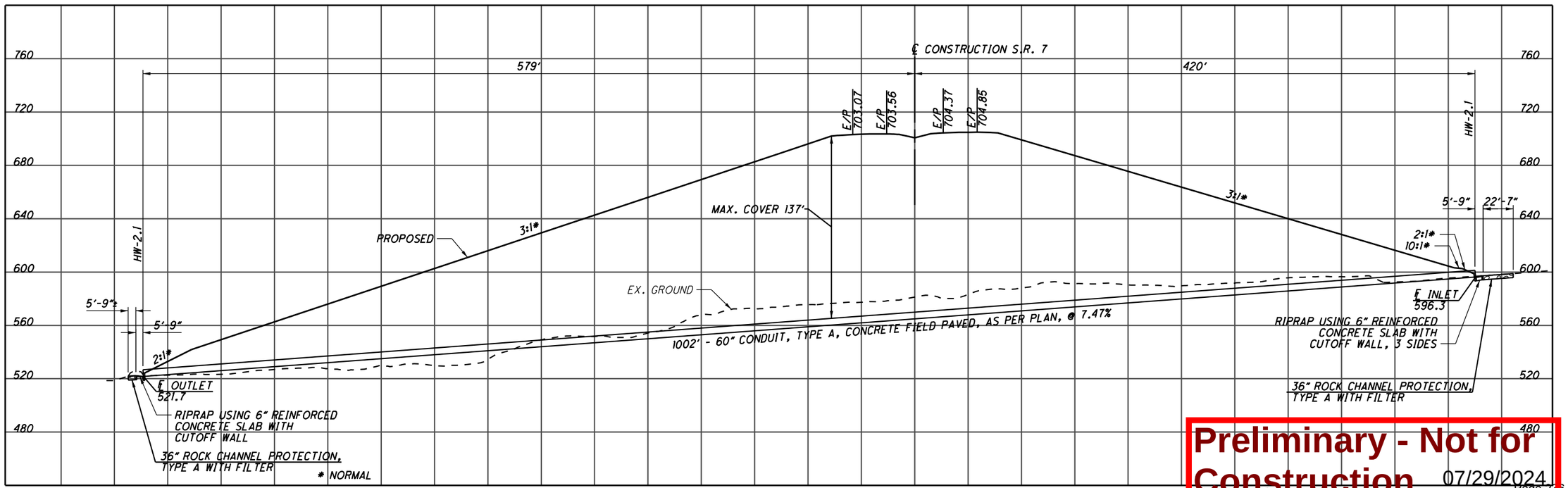
282
297



ESTIMATE QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION

QUANTITIES CARRIED TO GENERAL SUMMARY, SHEETS

HYDRAULIC DATA	
DRAINAGE AREA	= 60 AC.
Q50	= 149 CFS.
Q100	= 179 CFS
50V	= 16.7 FPS
100V	= 17.4 FPS
50 HW	= 603.5
100 HW	= 605.5
OHWMi	= 597.3
OHWMo	= 522.8
pH	= 7.6
DESIGN SERVICE LIFE	= 75 YEARS
ABRASION LEVEL	=
CFN	=



HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED ALB
CHECKED TCM

CULVERT DETAIL
S.R. 7 STA. 338+36.39

LAW-7-2.17

283
297

Preliminary - Not for Construction 07/29/2024

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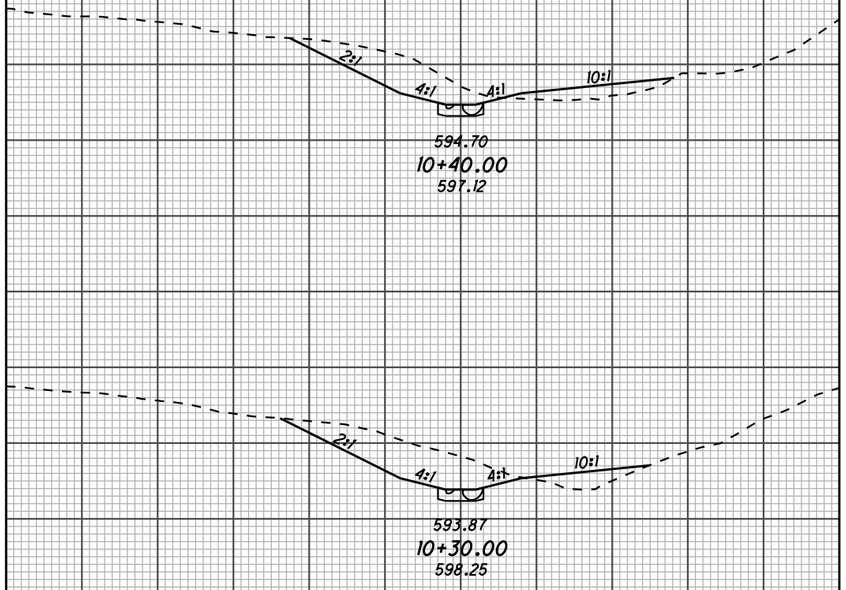
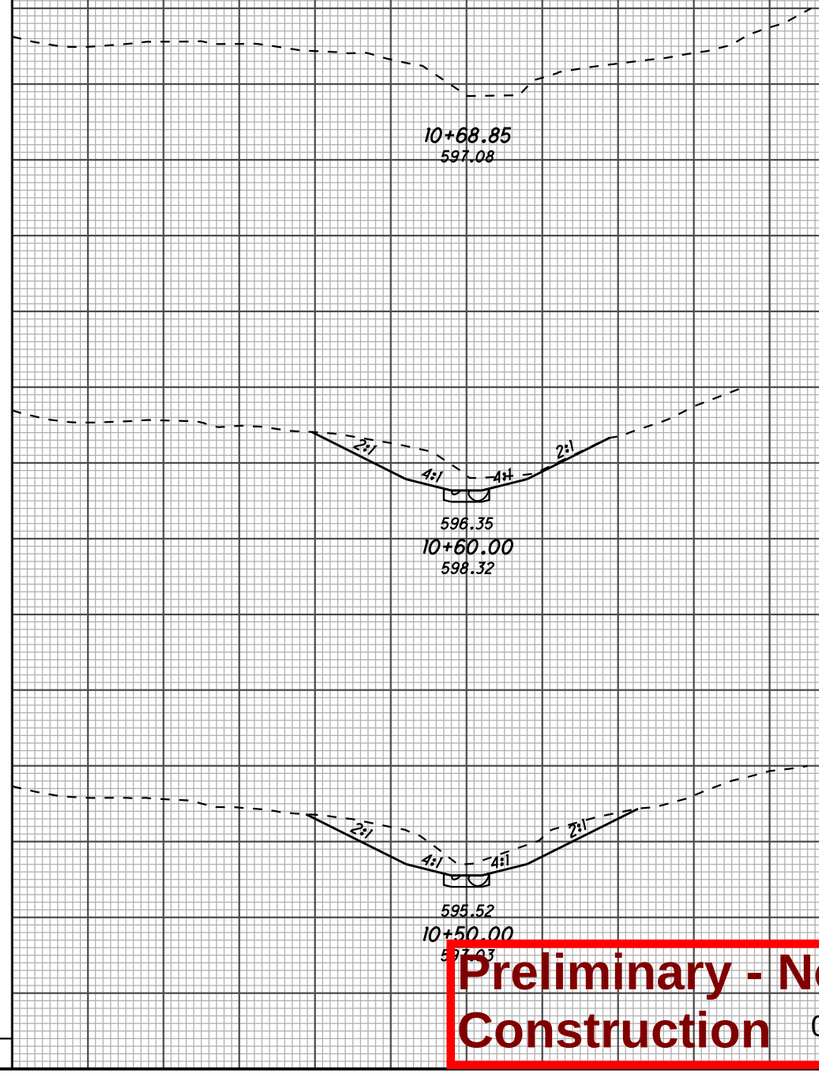
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL



CALCULATED ALB
CHECKED TCM

CROSS SECTIONS CULVERT STA. 338+36.39 INLET CHANEL STA. 10+11.60 TO STA. 10+68.85

LAW-7-2.17

284
297

Preliminary - Not for Construction

07/29/2024

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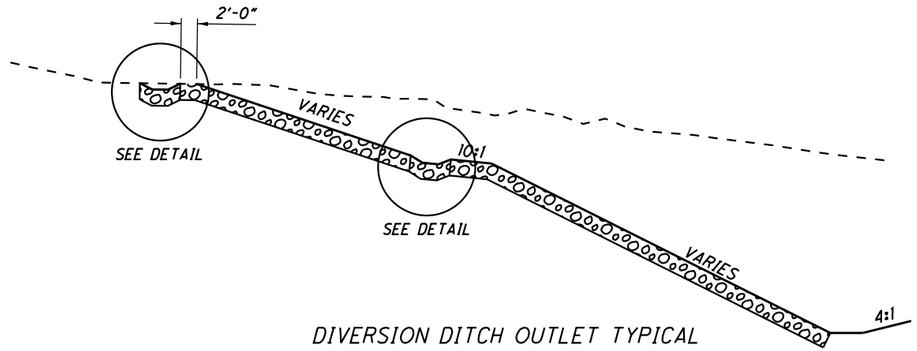
DIVERSION DITCH

THE CONTRACTOR IS TO PROVIDE A DIVERSION DITCH AS DETAILED ON THIS SHEET AND AS SHOWN IN THE CROSS SECTIONS. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE PLACEMENT OF THE DIVERSION DITCH.

ITEM 203 - EXCAVATION (FOR OUTLET CHANNELS ONLY)	XX CU YD
ITEM 204 - GEOTEXTILE FABRIC	XX SQ YD
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE D WITH FILTER	XX CU YD

EARTHWORK QUANTITIES FOR THE DIVERSION DITCHES HAVE BEEN INCLUDED IN THE CROSS SECTIONS.



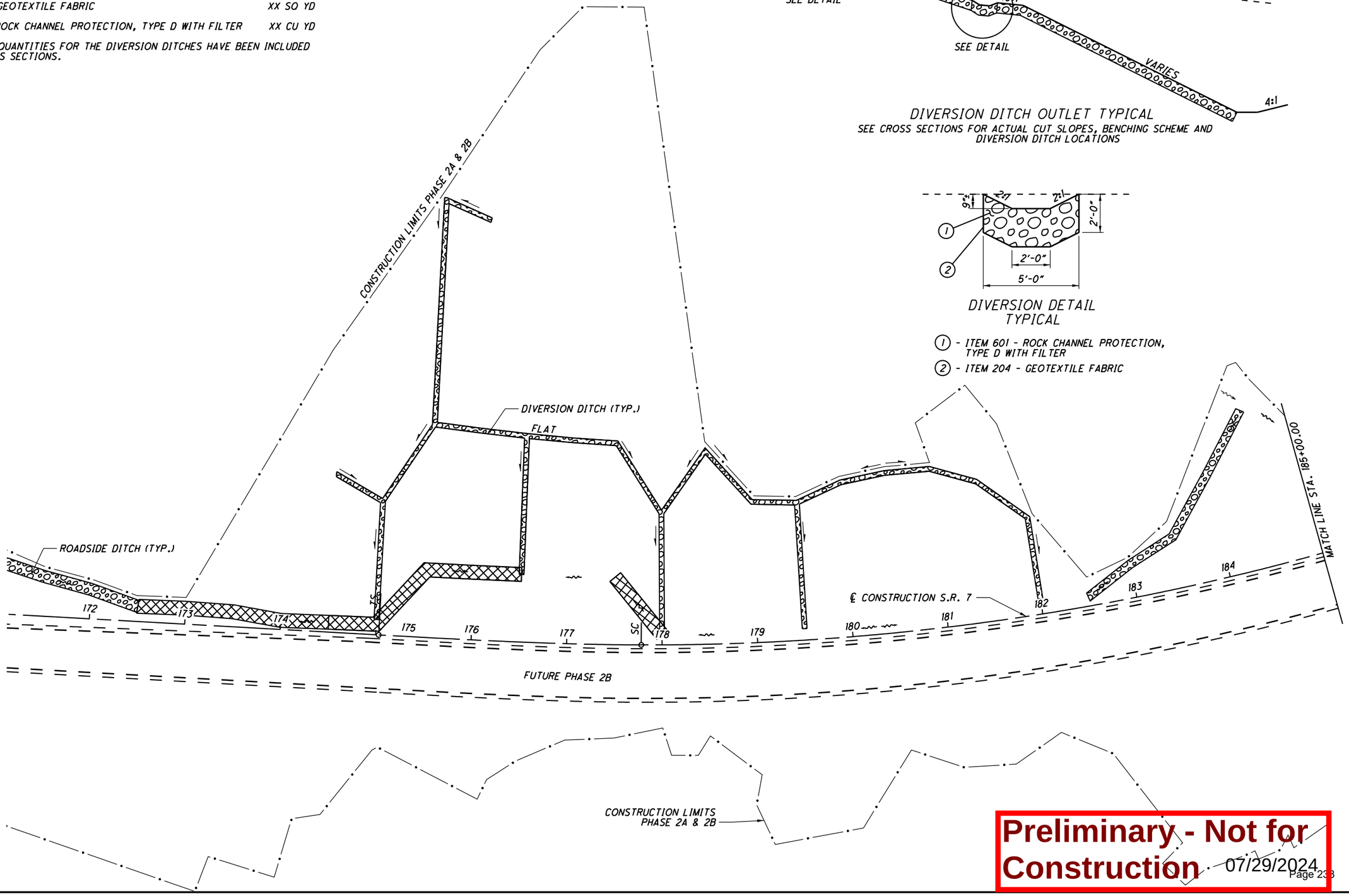
DIVERSION DITCH OUTLET TYPICAL

SEE CROSS SECTIONS FOR ACTUAL CUT SLOPES, BENCHING SCHEME AND DIVERSION DITCH LOCATIONS

DIVERSION DETAIL TYPICAL

(1) - ITEM 601 - ROCK CHANNEL PROTECTION, TYPE D WITH FILTER

(2) - ITEM 204 - GEOTEXTILE FABRIC



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

LAW-7-2.17

285
297

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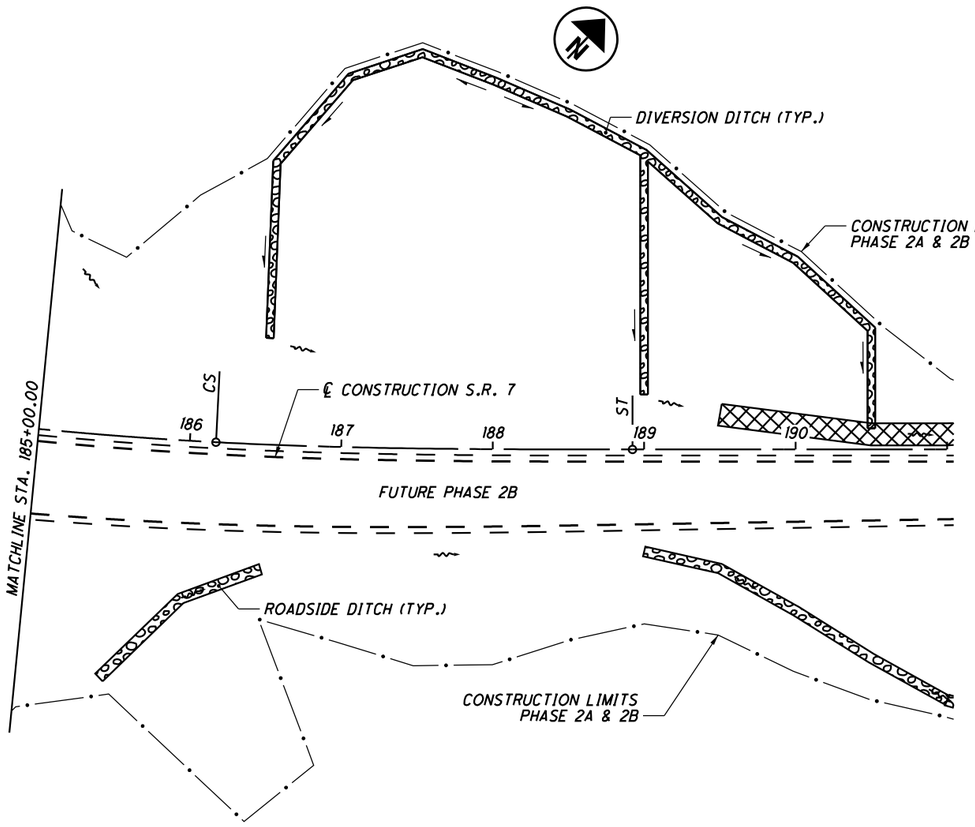

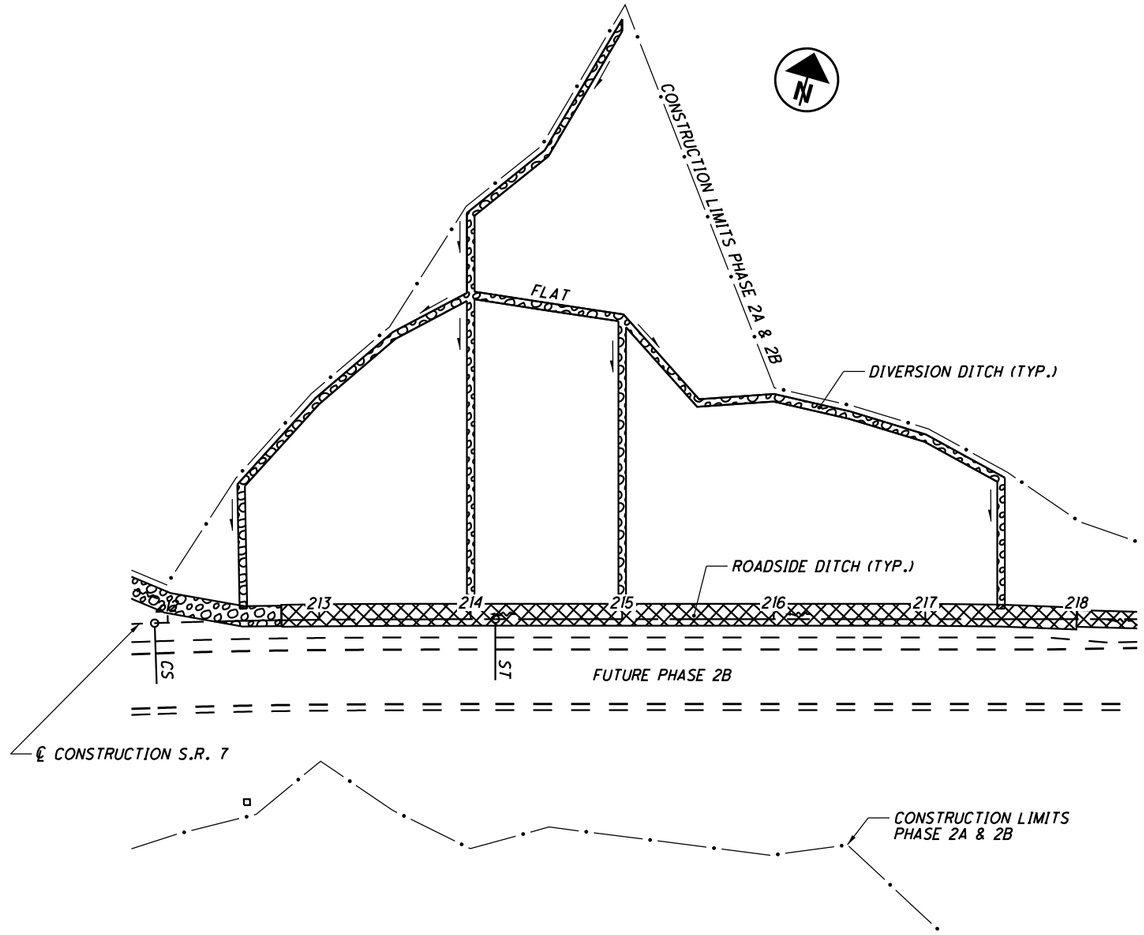

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

LAW-7-2.17

286
297

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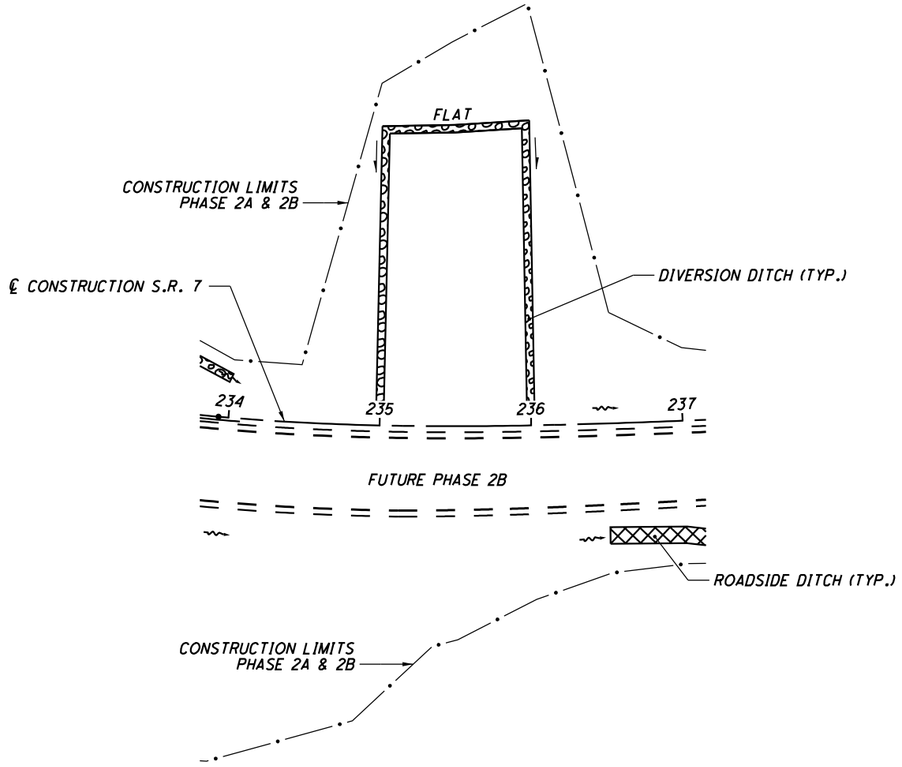

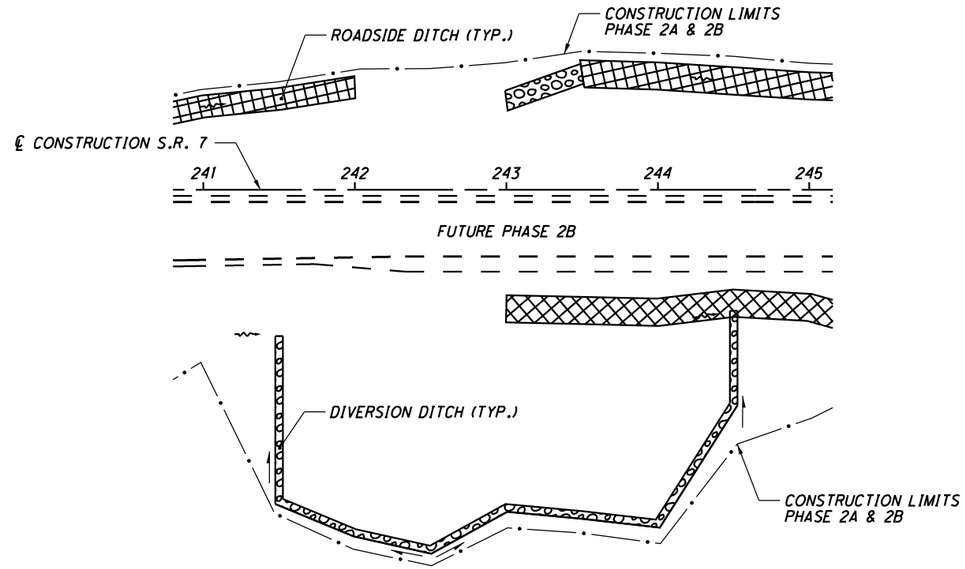

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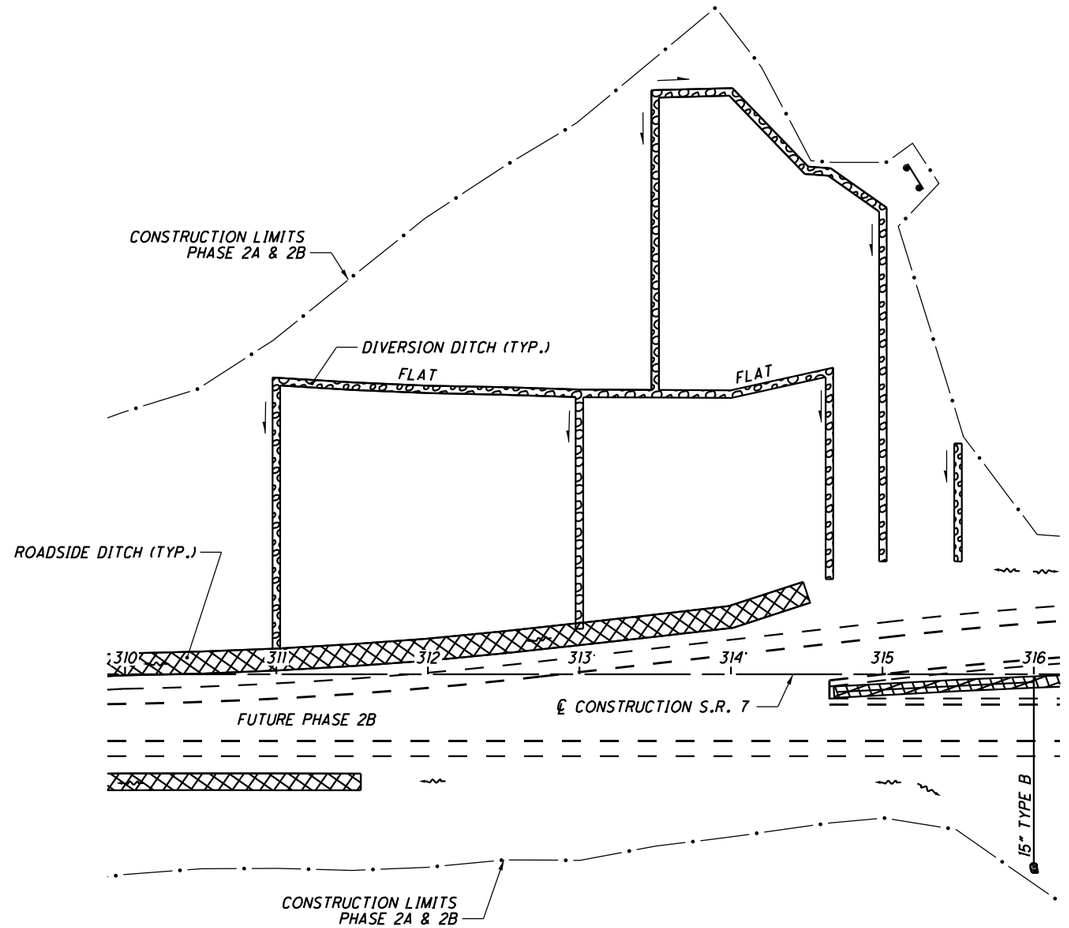
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

LAW-7-2.17



Preliminary - Not for Construction 07/29/2024

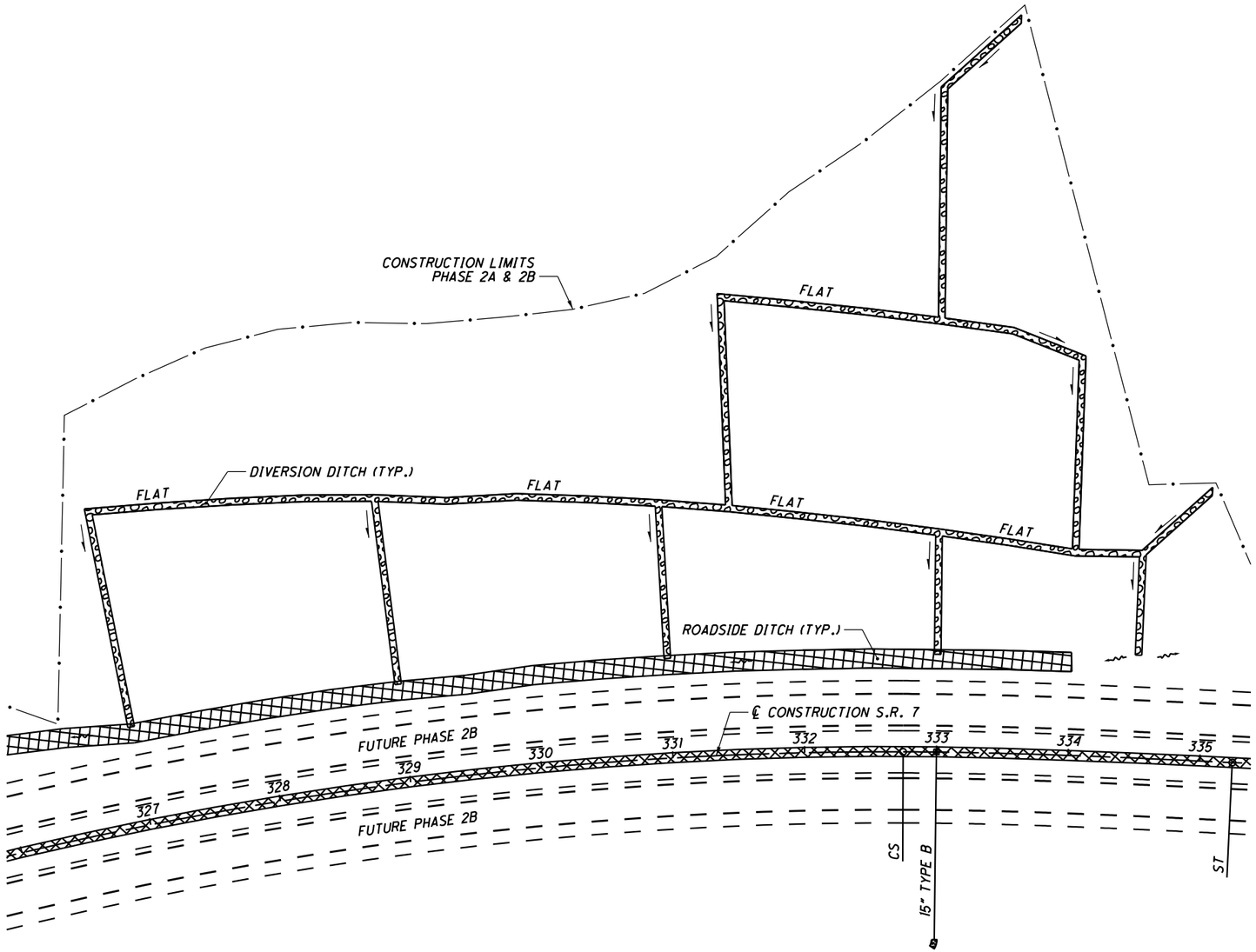
DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

CALCULATED SLP
CHECKED SLP

0 25 50 100
HORIZONTAL SCALE IN FEET

LAW-7-2.17

288
297



N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED SLP
CHECKED ALB

DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

LAW-7-2.17

289
297

Preliminary - Not for Construction 07/29/2024

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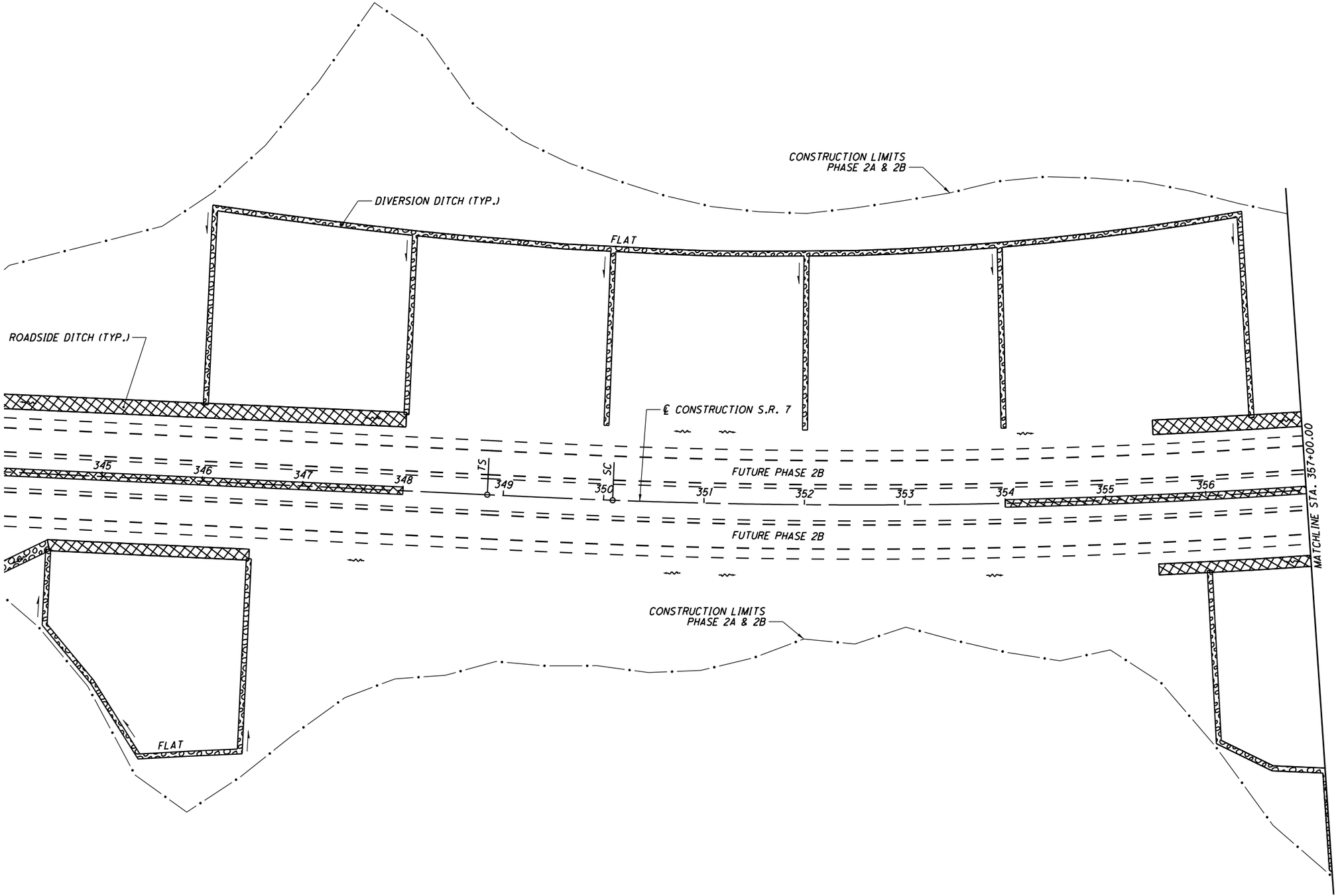

Preliminary - Not for Construction 07/29/2024

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

LAW-7-2.17

290
297

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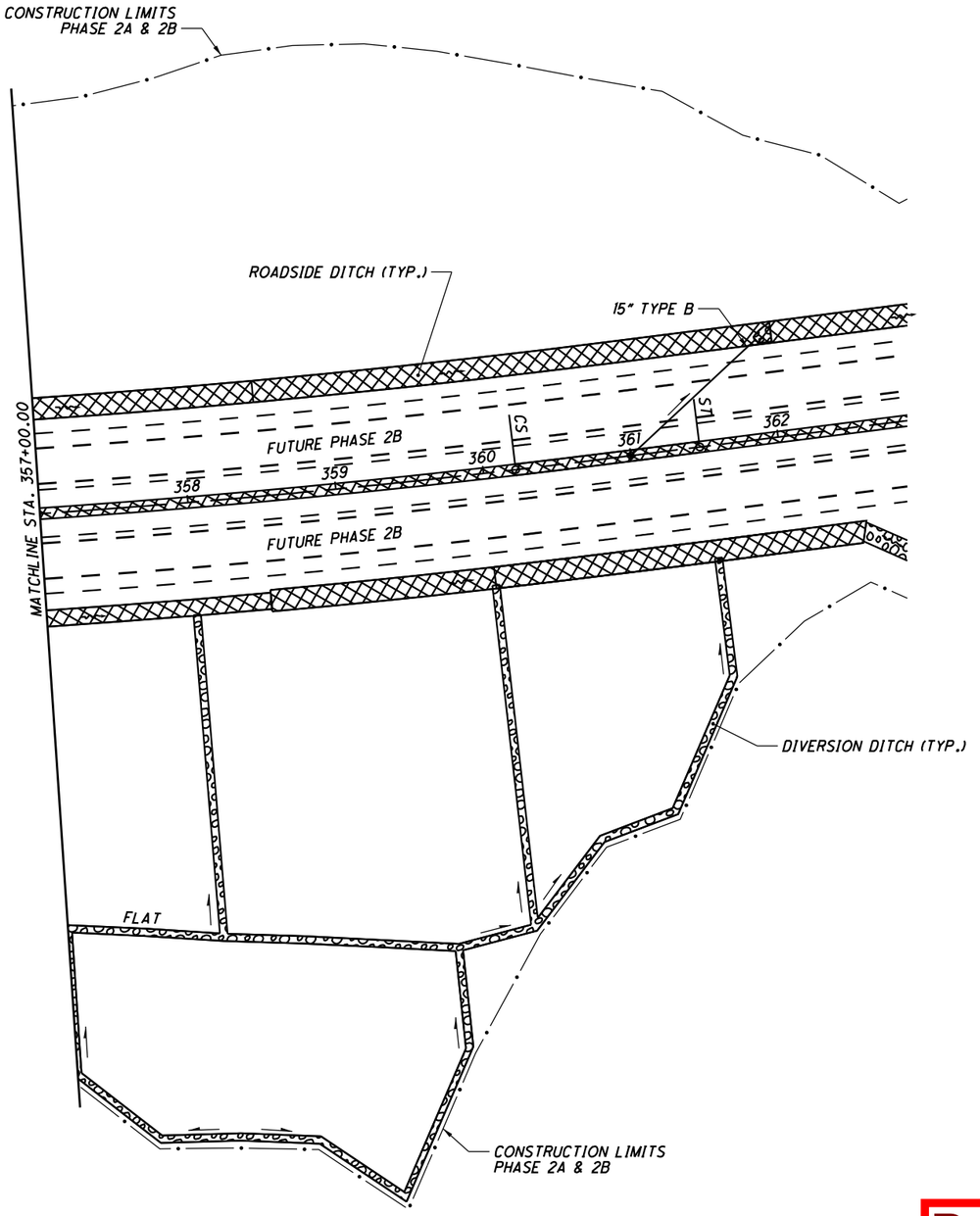

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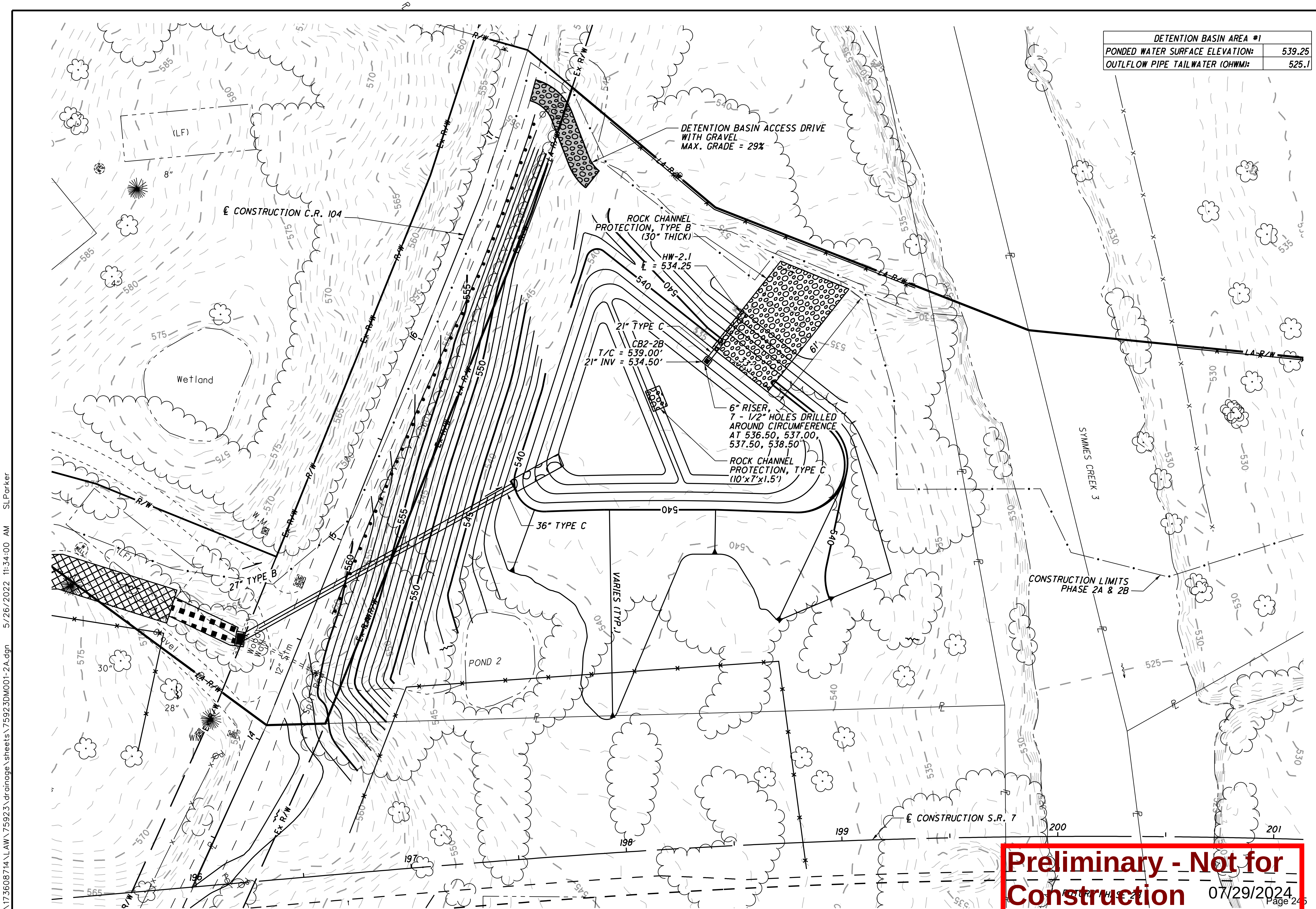
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

LAW-7-2.17


DETENTION BASIN AREA #1
PONDED WATER SURFACE ELEVATION: 539.25
OUTFLOW PIPE TAILWATER (OHWM): 525.1
DETENTION BASIN ACCESS DRIVE WITH GRAVEL MAX. GRADE = 29%
℄ CONSTRUCTION C.R. 104
ROCK CHANNEL PROTECTION, TYPE B (30" THICK)
HW-2.1
℄ = 534.25
21" TYPE C
CB2-2B
T/C = 539.00'
21" INV = 534.50'
6" RISER,
7 - 1/2" HOLES DRILLED AROUND CIRCUMFERENCE AT 536.50, 537.00, 537.50, 538.50'
ROCK CHANNEL PROTECTION, TYPE C (10'x7'x1.5')
36" TYPE C
27" TYPE B
VARIES (TYP.)
POND 2
Wetland
(LF)
SYMMES CREEK 3
CONSTRUCTION LIMITS PHASE 2A & 2B
℄ CONSTRUCTION S.R. 7
196
197
198
199
200
201
Ex R/W
LA R/W
Gravel
Wood Wall
12" Strm
HORIZONTAL SCALE IN FEET
0
25
50
100

CALCULATED EDA
CHECKED ALB

DRAINAGE DETAILS DETENTION BASIN #1

LAW-7-2.17

DETENTION BASIN AREA #2	
PONDED WATER SURFACE ELEVATION:	535
OUTLFLOW PIPE TAILWATER (OHWM):	525.1

STREAM 8

ROCK CHANNEL PROTECTION, TYPE C (10'x8'x1.5')

ROCK CHANNEL PROTECTION, TYPE B (30" THICK)

21" TYPE C

HW-2.1

℄ = 529.00

CONSTRUCTION LIMITS PHASE 2A & 2B

65'

35'

6" RISER, 8 - 1/2" HOLES DRILLED AROUND CIRCUMFERENCE AT 531.00, 531.50, 532.00, 532.50, 533.00, 533.50

CB2-2B
T/C = 534.00'
21" INV = 529.33'

DETENTION BASIN ACCESS DRIVE, WITH GRAVEL MAX. GRADE = 26%

℄ CONSTRUCTION C.R. 32 / EX. ℄ R/W C.R. 32

℄ CONSTRUCTION LYNN LANE

60" TYPE A

Abandonded Pole

Guy Pole

Guy Wire

WETLAND F

℄ CONSTRUCTION S.R. 7

FUTURE PHASE 2B

EX. ℄ R/W LYNN LANE

12" Cmp

T.R. 1489

Picket Fence

Asphalt

201 202 203 204 205 206

LA-R/W Ex R/W R/W

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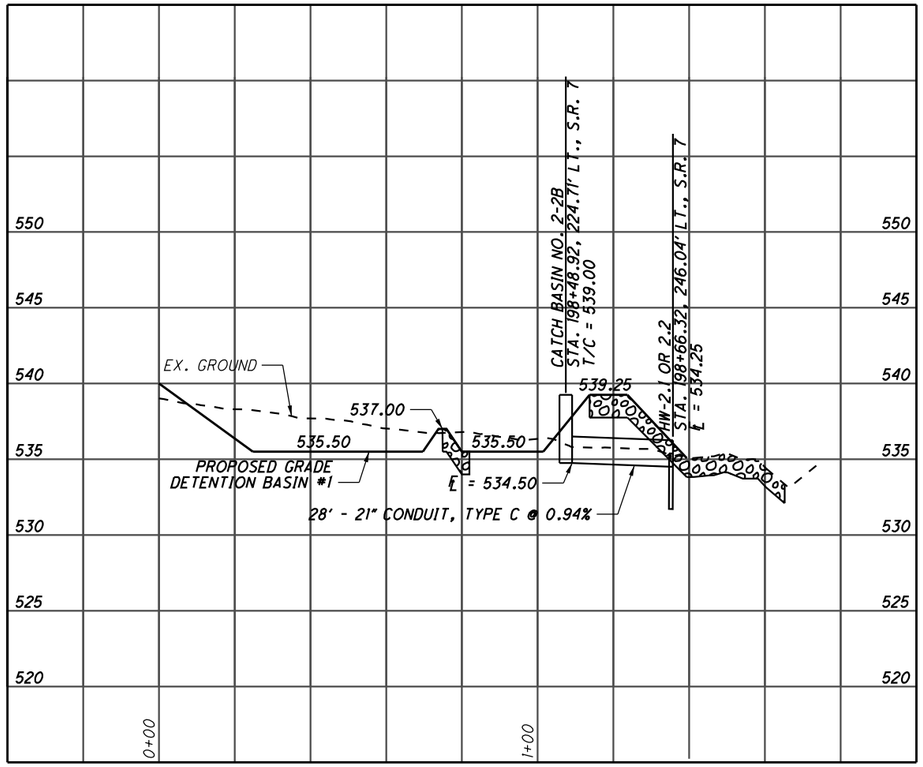
HORIZONTAL SCALE IN FEET 0 25 50 100

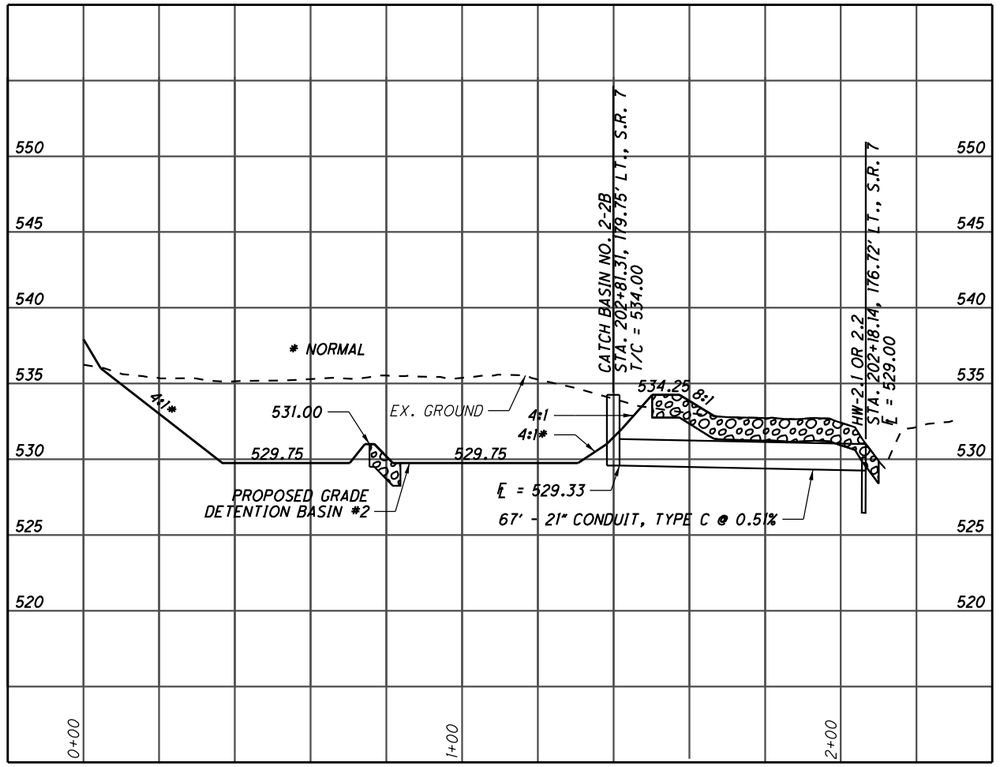
CALCULATED EDA CHECKED ALB

DRAINAGE DETAILS DETENTION BASIN #2

LAW-7-2.17

293 297





SCALE IN FEET
0 20 40

CALCULATED EDA
CHECKED ALB

DRAINAGE DETAILS
DETENTION BASIN PROFILES

LAW-7-2.17

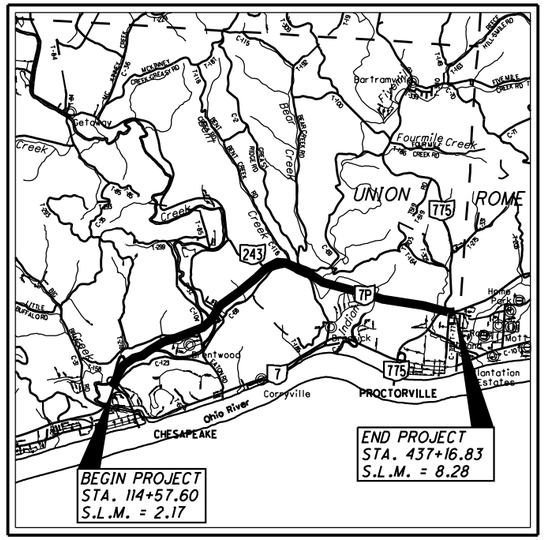
294
297

Preliminary - Not for Construction 07/29/2024

Project Plan Sheets (Phase 2B)

Cross Sections have been removed to manage the size of this application. A separate file of cross sections is located in the ODOT EnviroNet Project File.

Preliminary - Not for Construction 07/29/2024



LOCATION MAP

LATITUDE: N 38°27'16" LONGITUDE: W 82°25'19"

SCALE IN MILES

0 1 2 3 4

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

FOR DESIGN DESIGNATIONS AND DESIGN EXCEPTIONS, SEE SHEET 2.

UNDERGROUND UTILITIES

Contact Two Working Days Before You Dig

OHIO811.org Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764

(Non-members must be called directly)

PLAN PREPARED BY:

Stantec
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204
(614) 486-4383

OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT NINE
650 EASTERN AVENUE, P.O. BOX 467
CHILLICOTHE, OHIO 45601

ENGINEERS SEAL:

SIGNED:

DATE:

ENGINEERS SEAL:

SIGNED:

DATE:

ENGINEERS SEAL:

SIGNED:

DATE:

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LAW-7-2.17-PHASE 2B

VILLAGE OF CHESAPEAKE
VILLAGE OF PROCTORVILLE
UNION TOWNSHIP
ROME TOWNSHIP
LAWRENCE COUNTY

INDEX OF SHEETS:

STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS

PROJECT DESCRIPTION

THIS PROJECT IS THE THIRD PHASE OF THE LAW-7-2.17 STATE ROUTE 7 RELOCATION PROJECT. THIS PROJECT WILL CONSTRUCT 6.11 MILES OF THE EASTBOUND LANES OF STATE ROUTE 7 BETWEEN STATE ROUTE 527 AND STATE ROUTE 607/775. THIS PROJECT ALSO INCLUDES A PARTIAL GRADE SEPARATED INTERCHANGE AT STATE ROUTE 527 AND A FULL INTERCHANGE AT STATE ROUTE 607/775. ALSO INCLUDED WITH THIS PROJECT IS THE CONSTRUCTION OF A ROUNDABOUT AT THE INTERSECTION OF STATE ROUTE 7 AND STATE ROUTE 243. THIS IMPROVEMENT INCLUDES THE RELOCATION OF 1.91 MILES OF STATE ROUTES, COUNTY AND TOWNSHIP ROADS AS WELL AS THE ADDITION OF 1.25 MILES OF RAMP AND TWELVE (12) CUL-DE-SACS AND DRIVES. A TOTAL OF NINE (9) STRUCTURES WILL BE DEVELOPED WHICH INCLUDE TRAFFIC OVERPASS AND STREAM CROSSING BRIDGES. WORK WILL INCLUDE NEW STORM SEWERS, CULVERTS, TRAFFIC CONTROL, PAVEMENT MARKING AND LIGHTING.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS 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 EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEETS XX-XX 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. E035(921) E060(482)

PID NO. 75923

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

LAW-7-2.17

1 633

CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99
Δ = 53° 33' 53" (RT)
Dc = 1° 27' 15"
R = 3,940.00'
T = 1,880.13'
L = 3,508.44'
E = 425.60'
TS STA. 117+84.61
SC STA. 119+59.61

θs = 1° 16' 21"
Ls = 175.00'
Ts = 2,076.38'
LT = 116.67'
ST = 58.34'
e_{max} = 4.00%
CS STA. 154+68.05
ST STA. 156+43.05

CURVE DATA
S.R. 7
CURVE NO. 2

P.I. STA. 182+06.44
Δ = 24° 16' 14" (LT)
Dc = 2° 10' 43"
R = 2,630.00'
T = 423.13'
L = 839.08'
E = 33.82'
TS STA. 175+03.18
SC STA. 177+78.18

θs = 2° 59' 44"
Ls = 275.00'
Ts = 703.26'
LT = 183.36'
ST = 91.69'
e_{max} = 5.51%
CS STA. 186+17.26
ST STA. 188+92.26

CURVE DATA
S.R. 7
CURVE NO. 3

P.I. STA. 205+33.31
Δ = 27° 30' 45" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 683.24'
L = 1,347.14'
E = 70.53'
TS STA. 196+19.13
SC STA. 198+44.13

θs = 1° 58' 07"
Ls = 225.00'
Ts = 914.18'
LT = 150.01'
ST = 75.01'
e_{max} = 4.60%
CS STA. 211+91.27
ST STA. 214+16.27

CURVE DATA
S.R. 7
CURVE NO. 4

P.I. STA. 232+01.52
Δ = 34° 12' 59" (LT)
Dc = 4° 45' 00"
R = 1,206.23'
T = 161.12'
L = 320.35'
E = 10.71'
TS STA. 226+28.73
SC STA. 230+28.73

θs = 9° 30' 00"
Ls = 400.00'
Ts = 572.79'
LT = 267.05'
ST = 133.68'
e_{max} = 8.00%
CS STA. 233+49.08
ST STA. 237+49.08

CURVE DATA
S.R. 7
CURVE NO. 5

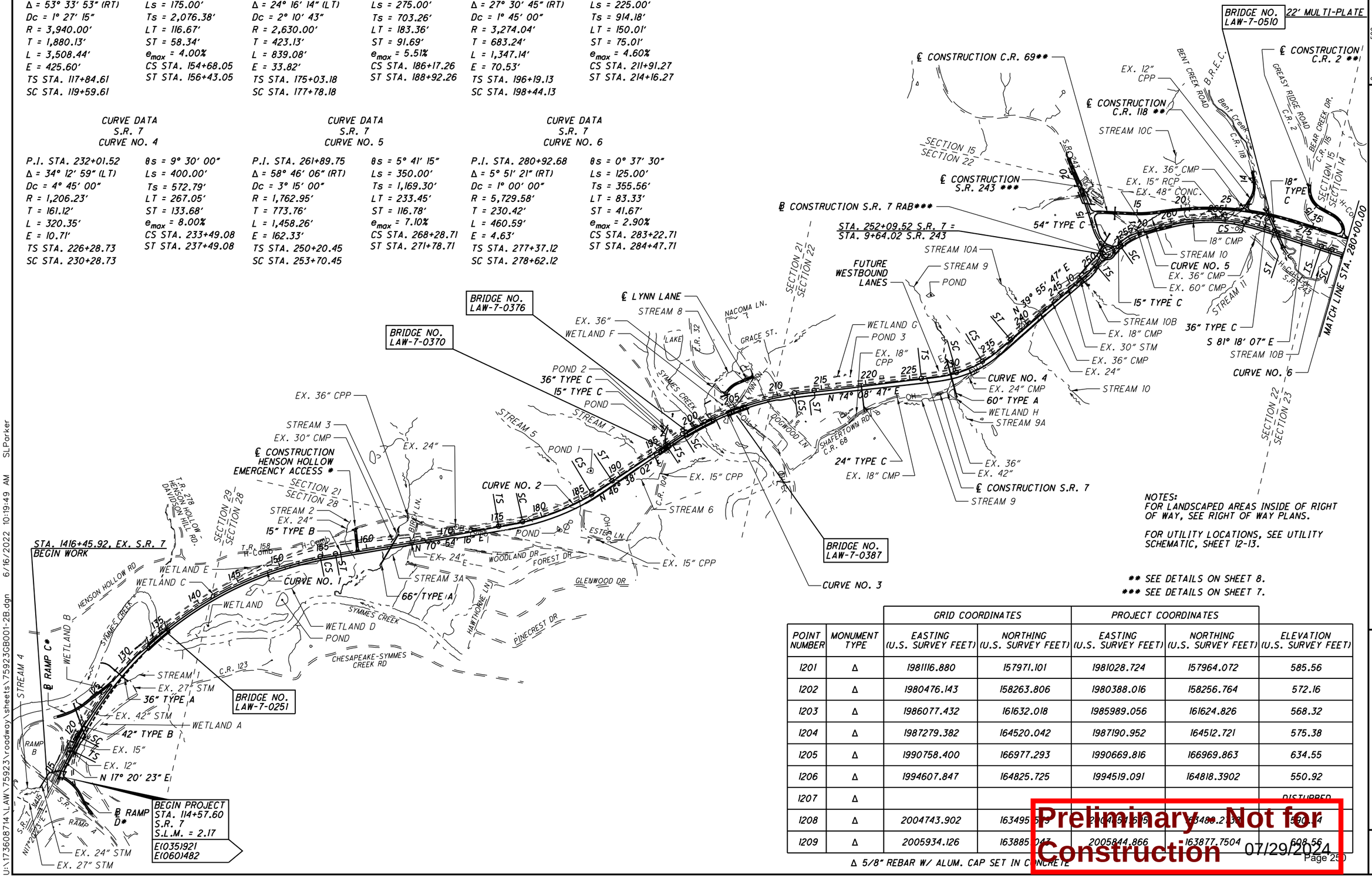
P.I. STA. 261+89.75
Δ = 58° 46' 06" (RT)
Dc = 3° 15' 00"
R = 1,762.95'
T = 773.76'
L = 1,458.26'
E = 162.33'
TS STA. 250+20.45
SC STA. 253+70.45

θs = 5° 41' 15"
Ls = 350.00'
Ts = 1,169.30'
LT = 233.45'
ST = 116.78'
e_{max} = 7.10%
CS STA. 268+28.71
ST STA. 271+78.71

CURVE DATA
S.R. 7
CURVE NO. 6

P.I. STA. 280+92.68
Δ = 5° 51' 21" (RT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 230.42'
L = 460.59'
E = 4.63'
TS STA. 277+37.12
SC STA. 278+62.12

θs = 0° 37' 30"
Ls = 125.00'
Ts = 355.56'
LT = 83.33'
ST = 41.67'
e_{max} = 2.90%
CS STA. 283+22.71
ST STA. 284+47.71



NOTES:
FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.

FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEET 12-13.

** SEE DETAILS ON SHEET 8.
*** SEE DETAILS ON SHEET 7.

POINT NUMBER	MONUMENT TYPE	GRID COORDINATES EASTING (U.S. SURVEY FEET)	GRID COORDINATES NORTHING (U.S. SURVEY FEET)	PROJECT COORDINATES EASTING (U.S. SURVEY FEET)	PROJECT COORDINATES NORTHING (U.S. SURVEY FEET)	ELEVATION (U.S. SURVEY FEET)
1201	Δ	1981116.880	157971.101	1981028.724	157964.072	585.56
1202	Δ	1980476.143	158263.806	1980388.016	158256.764	572.16
1203	Δ	1986077.432	161632.018	1985989.056	161624.826	568.32
1204	Δ	1987279.382	164520.042	1987190.952	164512.721	575.38
1205	Δ	1990758.400	166977.293	1990669.816	166969.863	634.55
1206	Δ	1994607.847	164825.725	1994519.091	164818.3902	550.92
1207	Δ					DISTURBED
1208	Δ	2004743.902	163495.5[illegible]	2004655.[illegible]	163488.2[illegible]	590.14
1209	Δ	2005934.126	163885.047	2005844.866	163877.7504	608.56

Δ 5/8" REBAR W/ ALUM. CAP SET IN CONCRETE

SCHEMATIC PLAN

LAW-7-2.17

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CURVE DATA
S.R. 7
CURVE NO. 6

P.I. STA. 280+92.68
Δ = 5° 51′ 21″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 230.42′
L = 460.59′
E = 4.63′
TS STA. 277+37.12
SC STA. 278+62.12
θs = 0° 37′ 30″
Ls = 125.00′
Ts = 355.56′
LT = 83.33′
ST = 41.67′
e_{max} = 2.90%
CS STA. 283+22.71
ST STA. 284+47.71

CURVE DATA
S.R. 7
CURVE NO. 7

P.I. STA. 326+36.08
Δ = 31° 21′ 41″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 670.91′
L = 1,318.07′
E = 77.51′
TS STA. 317+06.62
SC STA. 319+56.62
θs = 2° 30′ 00″
Ls = 250.00′
Ts = 929.46′
LT = 166.68′
ST = 83.35′
e_{max} = 5.10%
CS STA. 332+74.69
ST STA. 335+24.69

CURVE DATA
S.R. 7
CURVE NO. 8

P.I. STA. 355+16.90
Δ = 9° 56′ 13″ (LT)
Dc = 0° 52′ 24″
R = 6,560.00′
T = 507.37′
L = 1,012.73′
E = 19.59′
TS STA. 348+84.10
SC STA. 350+09.10
θs = 0° 32′ 45″
Ls = 125.00′
Ts = 632.80′
LT = 83.33′
ST = 41.67′
e_{max} = 2.60%
CS STA. 360+21.83
ST STA. 361+46.83

CURVE DATA
S.R. 7
CURVE NO. 9

P.I. STA. 387+47.15
Δ = 46° 04′ 34″ (LT)
Dc = 2° 29′ 28″
R = 2,300.00′
T = 805.51′
L = 1,549.62′
E = 136.98′
TS STA. 376+18.38
SC STA. 379+18.38
θs = 3° 44′ 12″
Ls = 300.00′
Ts = 1,128.77′
LT = 200.04′
ST = 100.04′
e_{max} = 6.20%
CS STA. 394+68.00
ST STA. 397+68.00

CURVE DATA
S.R. 7
CURVE NO. 10

P.I. STA. 403+74.19
Δ = 1° 29′ 03″ (RT)
Dc = 0° 16′ 56″
R = 20,306.35′
T = 263.02′
L = 526.00′
E = 1.70′
e_{max} = NC
PC STA. 401+11.17
PT STA. 406+37.18

CURVE DATA
S.R. 7
CURVE NO. 11

P.I. STA. 416+63.54
Δ = 18° 47′ 30″ (LT)
Dc = 1° 38′ 13″
R = 3,500.00′
T = 451.44′
L = 897.92′
E = 28.99′
TS STA. = 409+59.26
SC STA. = 412+09.26
θs = 2° 02′ 47″
Ls = 250.00′
Ts = 704.28′
LT = 166.68′
ST = 83.34′
e_{max} = 4.47%
CS STA. 421+07.18
ST STA. 423+57.18

CURVE DATA
S.R. 7
CURVE NO. 12

P.I. STA. 428+11.24
Δ = 3° 17′ 53″ (RT)
Dc = 1° 19′ 10″
R = 4,342.09′
T = 125.00′
L = 249.93′
E = 1.80′
e_{max} = 3.77%
PC STA. = 426+86.24
PT STA. = 429+36.17

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 1

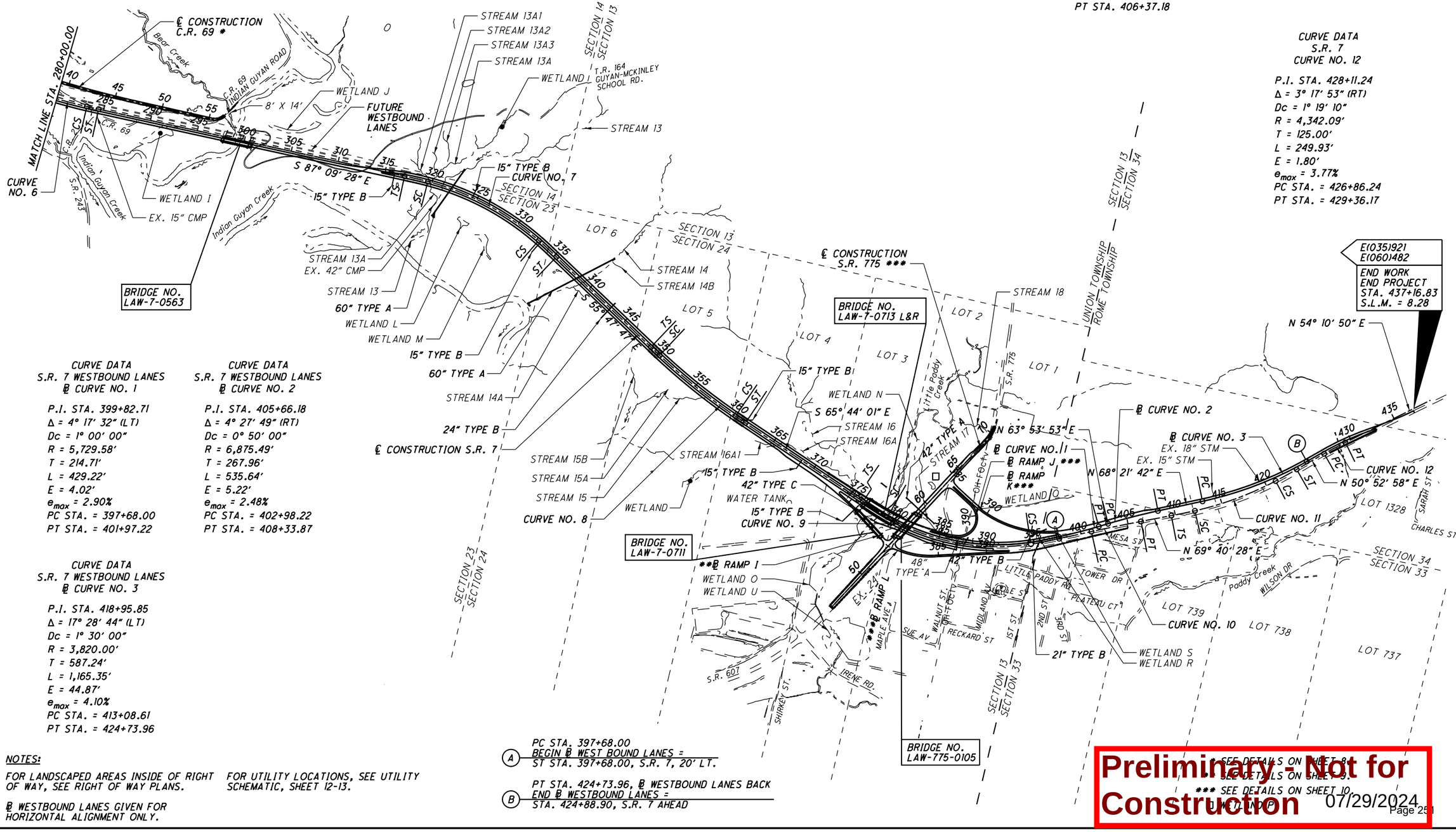
P.I. STA. 399+82.71
Δ = 4° 17′ 32″ (LT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 214.71′
L = 429.22′
E = 4.02′
e_{max} = 2.90%
PC STA. = 397+68.00
PT STA. = 401+97.22

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 2

P.I. STA. 405+66.18
Δ = 4° 27′ 49″ (RT)
Dc = 0° 50′ 00″
R = 6,875.49′
T = 267.96′
L = 535.64′
E = 5.22′
e_{max} = 2.48%
PC STA. = 402+98.22
PT STA. = 408+33.87

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 3

P.I. STA. 418+95.85
Δ = 17° 28′ 44″ (LT)
Dc = 1° 30′ 00″
R = 3,820.00′
T = 587.24′
L = 1,165.35′
E = 44.87′
e_{max} = 4.10%
PC STA. = 413+08.61
PT STA. = 424+73.96



NOTES:

FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.

℄ WESTBOUND LANES GIVEN FOR HORIZONTAL ALIGNMENT ONLY.

FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEET 12-13.

* SEE DETAILS ON SHEET 8.
** SEE DETAILS ON SHEET 9.
*** SEE DETAILS ON SHEET 10.

HORIZONTAL SCALE IN FEET
0 250 500 1000

SCHEMATIC PLAN

LAW-7-2.17

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CURVE DATA
RAMP C
CURVE NO. 1

P.I. STA. 121+46.57
Δ = 22° 43' 51" (LT)
Dc = 6° 55' 23"
R = 827.61'
T = 166.35'
L = 328.33'
E = 16.55'
e_{max} = 6.80%
PC STA. 119+80.21
PT STA. 123+08.55

CURVE DATA
RAMP C
CURVE NO. 2

P.I. STA. 127+45.87
Δ = 10° 02' 27" (LT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 111.22'
L = 222.19'
E = 3.24'
TS STA. 124+71.85
SC STA. 126+96.85

θs BACK = 3° 22' 30"
Ls = 225.00'
Ts = 274.02'
LT = 150.03'
ST = 75.02'
e_{max} (N.D.C.) = 6.00%
e_{max} = 2.22%

CURVE DATA
RAMP D
CURVE NO. 1

P.I. STA. 116+98.94
Δ = 37° 15' 49" (RT)
Dc = 12° 00' 00"
R = 477.46'
T = 160.98'
L = 310.53'
E = 26.41'
e_{max} = 7.30%
PC STA. 115+37.96
PT STA. 118+48.49

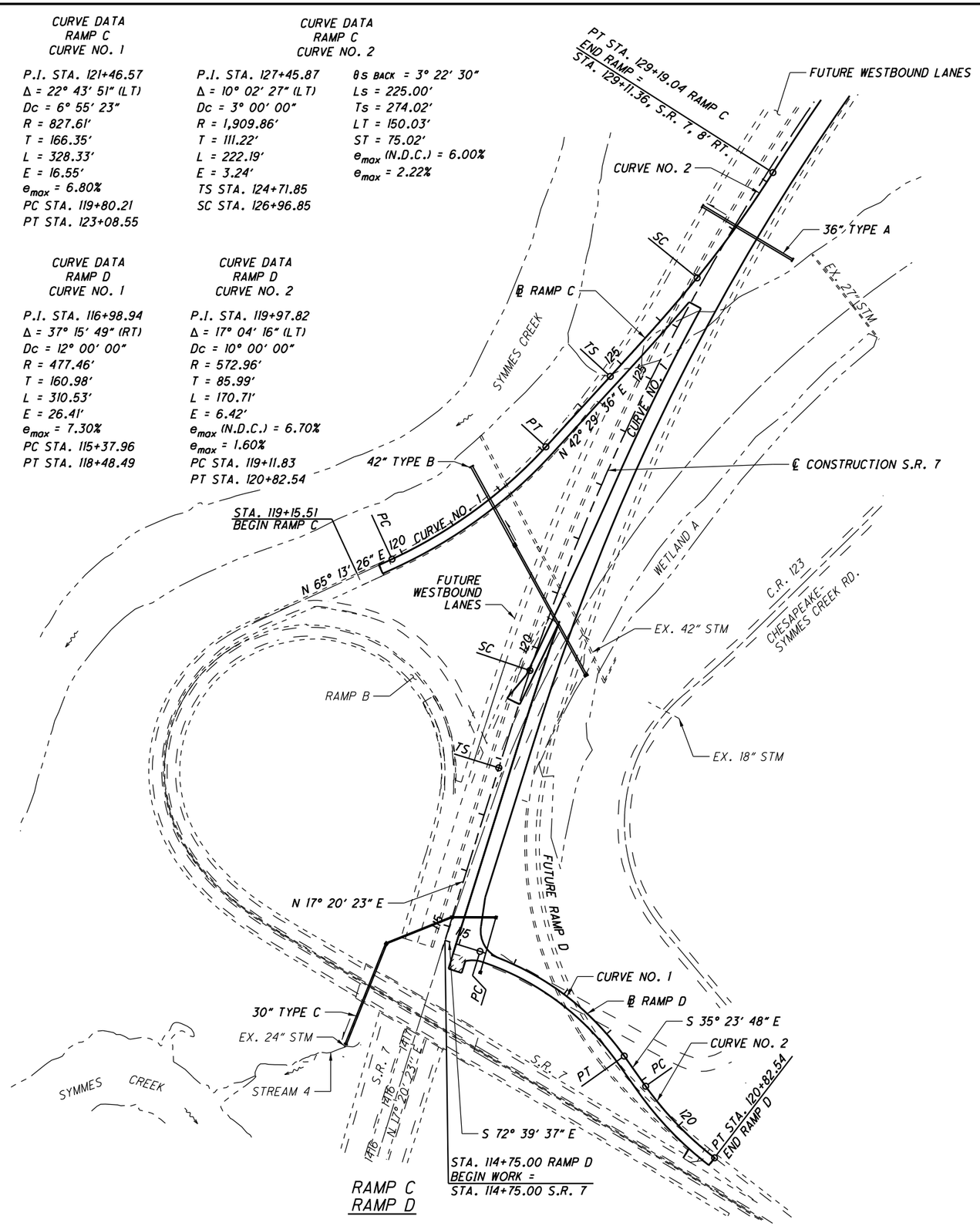
CURVE DATA
RAMP D
CURVE NO. 2

P.I. STA. 119+97.82
Δ = 17° 04' 16" (LT)
Dc = 10° 00' 00"
R = 572.96'
T = 85.99'
L = 170.71'
E = 6.42'
e_{max} (N.D.C.) = 6.70%
e_{max} = 1.60%
PC STA. 119+11.83
PT STA. 120+82.54

CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99
Δ = 53° 33' 53" (RT)
Dc = 1° 27' 15"
R = 3,940.00'
T = 1,880.13'
L = 3,508.44'
E = 425.60'
TS STA. 117+84.61
SC STA. 119+59.61

θs = 1° 16' 21"
Ls = 175.00'
Ts = 2,076.38'
LT = 116.67'
ST = 58.34'
e_{max} = 4.00%
CS STA. 154+68.05
ST STA. 156+43.05



RAMP C
RAMP D

HENSON HOLLOW EMERGENCY ACCESS
SCALE = 1:50

NOTES:
1. FOR LANDSCAPED AREAS, SEE RIGHT OF WAY, SEE RIGHT OF WAY PLANS.
2. FOR ILLUMINATION, SEE ILLUMINATION SCHEMATIC, SHEET 12-13.

07/29/2024

HORIZONTAL SCALE IN FEET
0 50 100 200

SCHEMATIC PLAN

LAW-7-2.17

5
633

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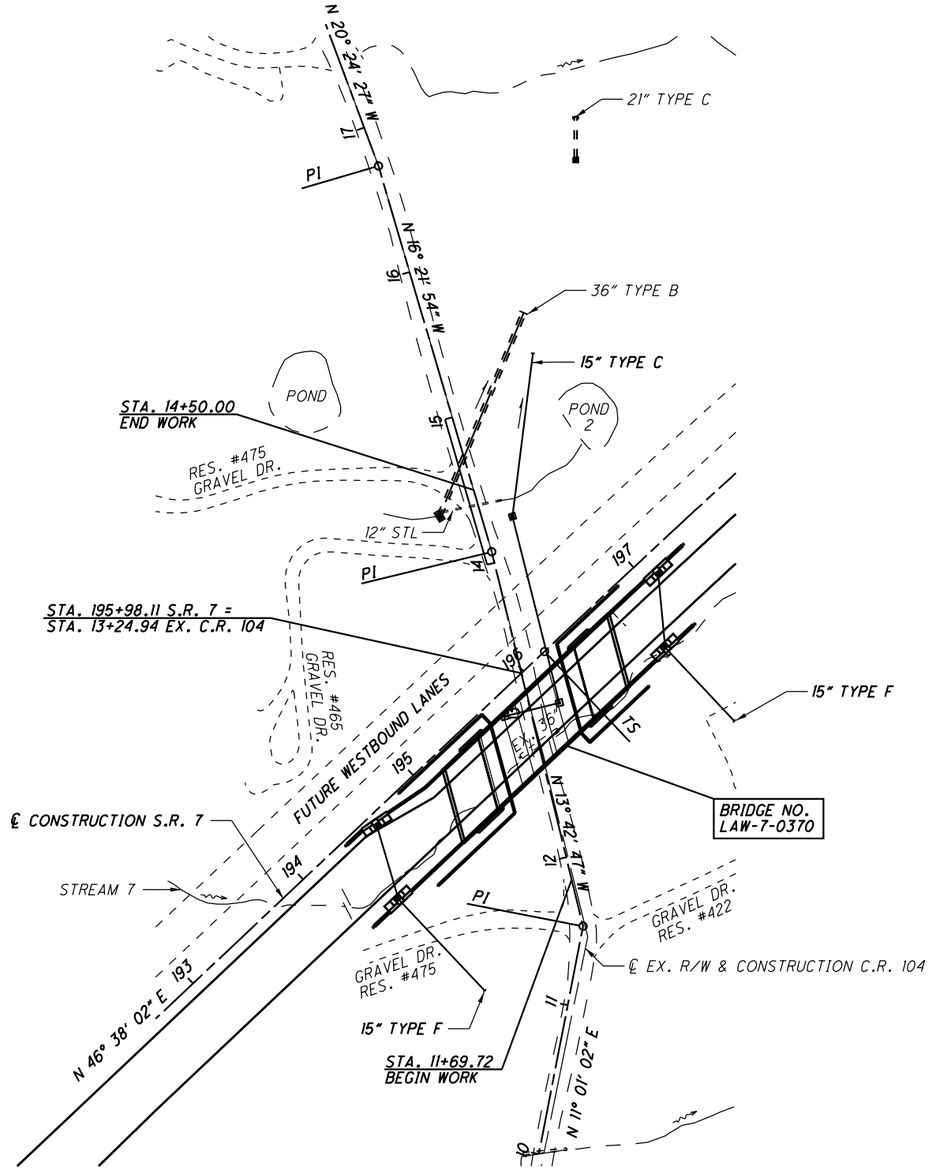
EX. C.R. 104

P.I. STA. 11+53.11
Δ = 2° 41' 45" (LT)
NO CURVE

P.I. STA. 14+07.46
Δ = 2° 39' 07" (LT)
NO CURVE

P.I. STA. 16+72.90
Δ = 4° 02' 33" (LT)
NO CURVE



C.R. 104

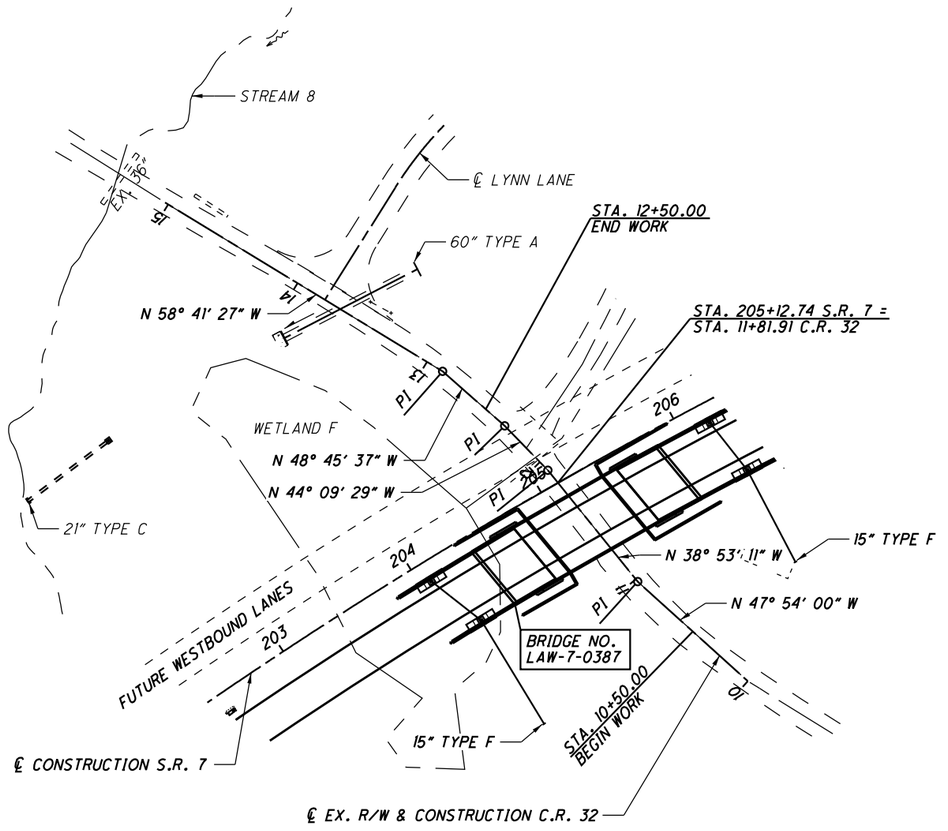
EX. C.R. 32

P.I. STA. 10+98.09
Δ = 9° 00' 49" (RT)
NO CURVE

P.I. STA. 11+92.44
Δ = 5° 16' 19" (LT)
NO CURVE

P.I. STA. 12+33.35
Δ = 4° 36' 07" (LT)
NO CURVE

P.I. STA. 12+87.96
Δ = 9° 55' 50" (LT)
NO CURVE



C.R. 32

NOTES:

FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.

FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEETS 12-13.

Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

SCHEMATIC PLAN

LAW-7-2.17

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633

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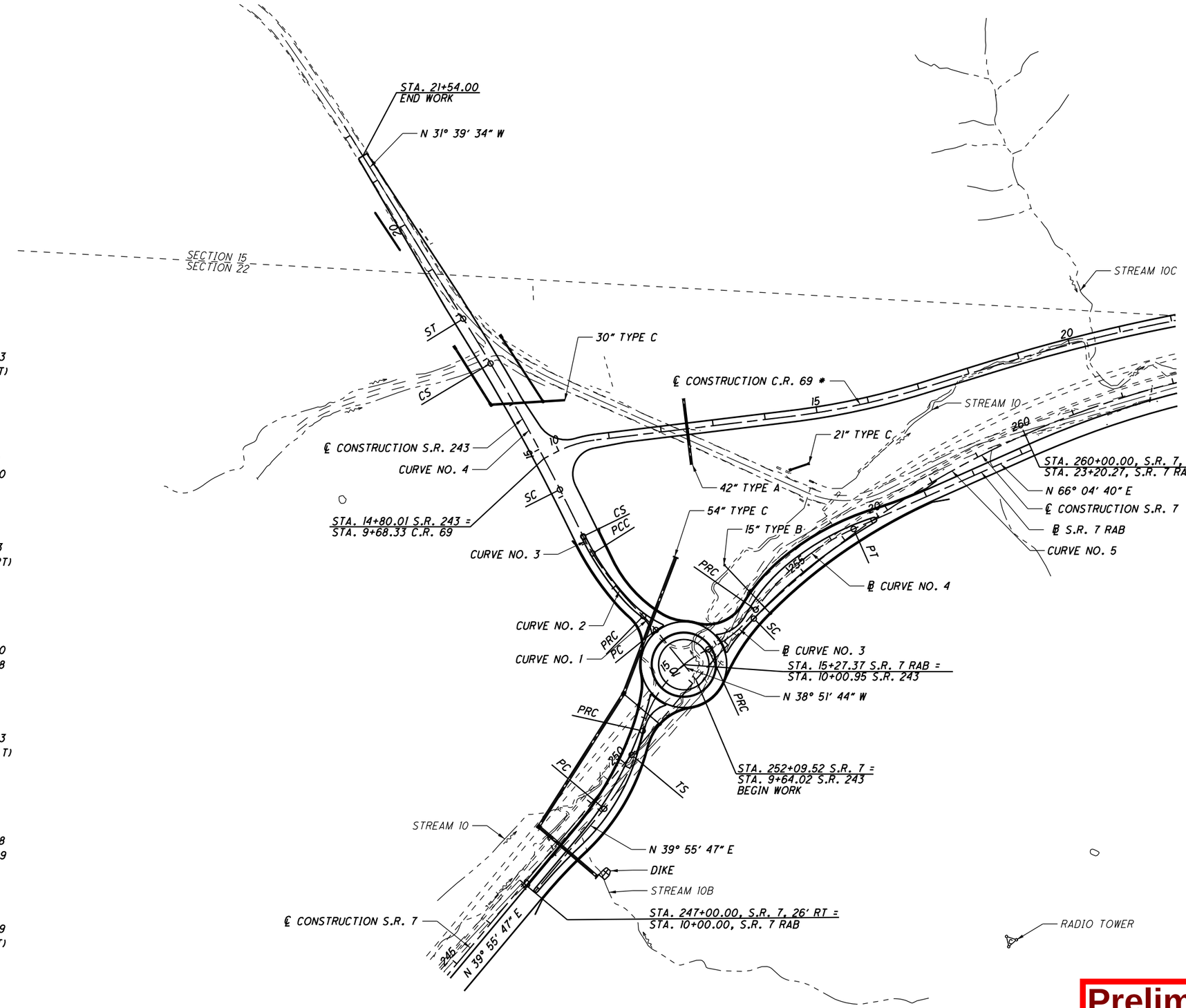

CURVE DATA
S.R. 243
CURVE NO. 1

P.I. Sta. 11+03.86
Δ = 6° 51' 57" (LT)
Dc = 19° 05' 55"
R = 300.00'
T = 18.00'
L = 35.95'
E = 0.54'
e_{max} = 1.60%
PC Sta. 10+85.87
PRC Sta. 11+21.82

CURVE DATA
S.R. 243
CURVE NO. 2

P.I. Sta. 11+99.38
Δ = 13° 36' 35" (RT)
Dc = 8° 48' 53"
R = 650.00'
T = 77.56'
L = 154.40'
E = 4.61'
e_{max} = 1.60%
PRC Sta. 11+21.82
PCC Sta. 12+76.21

CURVE DATA
S.R. 243
CURVE NO. 3

P.I. Sta. 12+94.82
Δ = 6° 05' 09" (RT)
Dc = 16° 22' 13"
R = 350.00'
T = 18.61'
L = 37.18'
E = 0.49'
e_{max} = 1.60%
PCC Sta. 12+76.21
CS Sta. 13+13.39

CURVE DATA
S.R. 243
CURVE NO. 4

P.I. Sta. 15+51.11
Δ = 5° 37' 36" (LT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 137.62'
L = 275.13'
E = 2.48'
TS STA. 13+13.39
SC STA. 14+13.39
θs = 00° 45' 00"
Ls = 100.00'
Ts = 237.72'
LT = 66.67'
ST = 33.33'
e_{max} = 3.50%
CS Sta. 16+88.52
ST Sta. 17+88.52

CURVE DATA
S.R. 7
CURVE NO. 5

P.I. STA. 261+89.75
Δ = 58° 46' 06" (RT)
Dc = 3° 15' 00"
R = 1,762.95'
T = 773.76'
L = 1,458.26'
E = 162.33'
TS STA. 250+20.45
SC STA. 253+70.45
θs = 5° 41' 15"
Ls = 350.00'
Ts = 1,169.30'
LT = 233.45'
ST = 116.78'
e_{max} = 7.10%
CS STA. 268+28.71
ST STA. 271+78.71

CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 1

P.I. Sta. 12+93.43
Δ = 27° 26' 21" (LT)
Dc = 16° 22' 13"
R = 350.00'
T = 85.45'
L = 167.62'
E = 10.28'
PC Sta. 12+07.99
PRC Sta. 13+75.60

CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 2

P.I. Sta. 14+87.13
Δ = 52° 43' 55" (RT)
Dc = 25° 27' 53"
R = 225.00'
T = 111.52'
L = 207.08'
E = 26.12'
PRC Sta. 13+75.60
PRC Sta. 15+82.68

CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 3

P.I. Sta. 16+43.83
Δ = 30° 24' 24" (LT)
Dc = 25° 27' 53"
R = 225.00'
T = 61.15'
L = 119.41'
E = 8.16'
PRC Sta. 15+82.68
PRC Sta. 17+02.09

CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 4

P.I. Sta. 18+27.99
Δ = 31° 15' 43" (RT)
Dc = 12° 43' 57"
R = 450.00'
T = 125.90'
L = 245.53'
E = 17.28'
PRC Sta. 17+02.09
PT Sta. 19+47.62

HORIZONTAL SCALE IN FEET
0 50 100 200

SCHEMATIC PLAN

LAW-7-2.17

NOTES:
FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.
FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEET 12-13.
* SEE DATA ON SHEET 8

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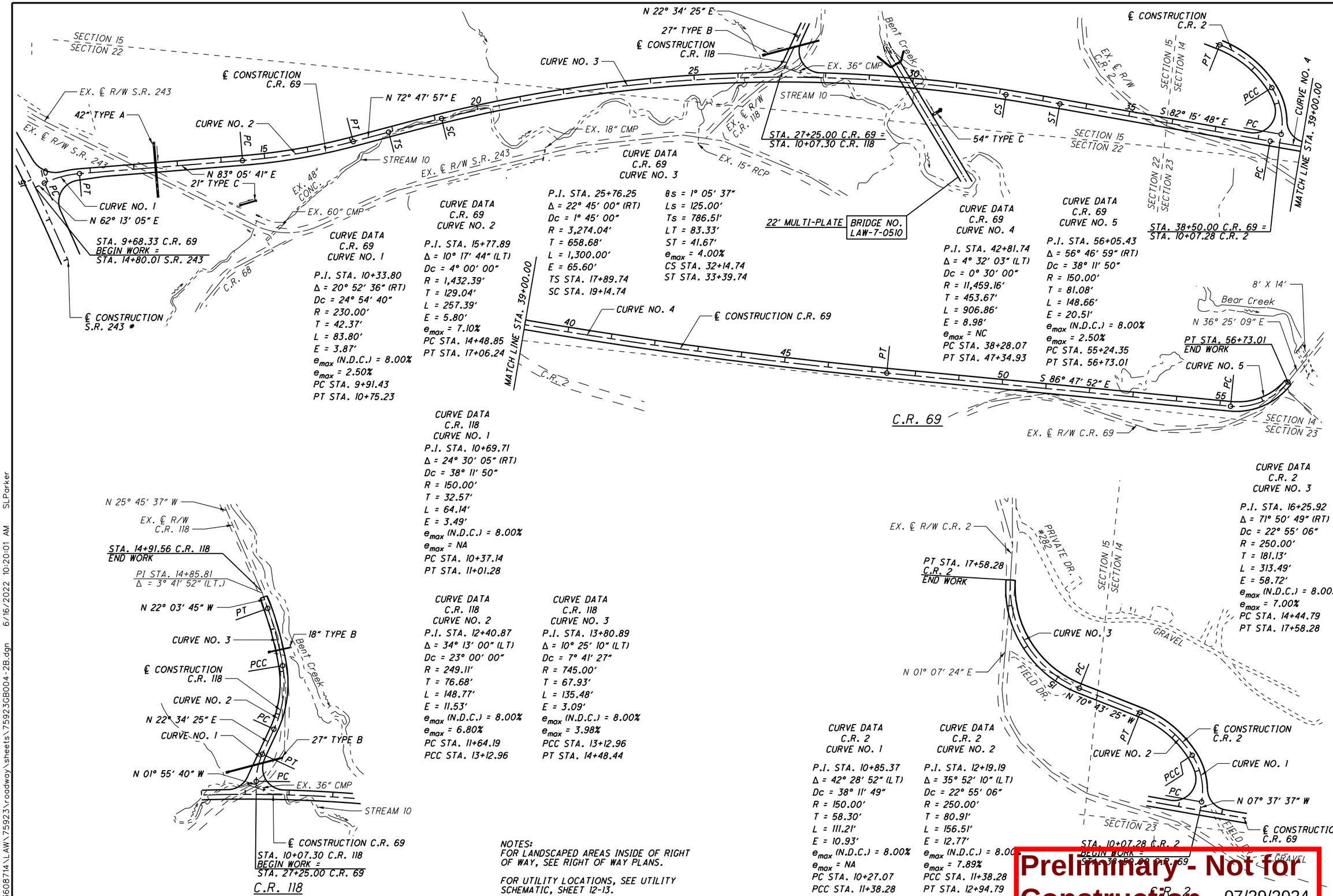

CURVE DATA
C.R. 69
CURVE NO. 1

P.I. STA. 10+33.80
Δ = 20° 52' 36" (RT)
Dc = 24° 54' 40"
R = 230.00'
T = 42.37'
L = 83.80'
E = 3.87'
e_{max} (N.D.C.) = 8.00%
e_{max} = 2.50%
PC STA. 9+91.43
PT STA. 10+75.23

CURVE DATA
C.R. 69
CURVE NO. 2

P.I. STA. 15+77.89
Δ = 10° 17' 44" (LT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 129.04'
L = 257.39'
E = 5.80'
e_{max} = 7.10%
PC STA. 14+48.85
PT STA. 17+06.24

CURVE DATA
C.R. 69
CURVE NO. 3

P.I. STA. 25+76.25
Δ = 22° 45' 00" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 658.68'
L = 1,300.00'
E = 65.60'
TS STA. 17+89.74
SC STA. 19+14.74
θs = 1° 05' 37"
Ls = 125.00'
Ts = 786.51'
LT = 83.33'
ST = 41.67'
e_{max} = 4.00%
CS STA. 32+14.74
ST STA. 33+39.74

CURVE DATA
C.R. 69
CURVE NO. 4

P.I. STA. 42+81.74
Δ = 4° 32' 03" (LT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 453.67'
L = 906.86'
E = 8.98'
e_{max} = NC
PC STA. 38+28.07
PT STA. 47+34.93

CURVE DATA
C.R. 69
CURVE NO. 5

P.I. STA. 56+05.43
Δ = 56° 46' 59" (RT)
Dc = 38° 11' 50"
R = 150.00'
T = 81.08'
L = 148.66'
E = 20.51'
e_{max} (N.D.C.) = 8.00%
e_{max} = 2.50%
PC STA. 55+24.35
PT STA. 56+73.01

CURVE DATA
C.R. 118
CURVE NO. 1

P.I. STA. 10+69.71
Δ = 24° 30' 05" (RT)
Dc = 38° 11' 50"
R = 150.00'
T = 32.57'
L = 64.14'
E = 3.49'
e_{max} (N.D.C.) = 8.00%
e_{max} = NA
PC STA. 10+37.14
PT STA. 11+01.28

CURVE DATA
C.R. 118
CURVE NO. 2

P.I. STA. 12+40.87
Δ = 34° 13' 00" (LT)
Dc = 23° 00' 00"
R = 249.11'
T = 76.68'
L = 148.77'
E = 11.53'
e_{max} (N.D.C.) = 8.00%
e_{max} = 6.80%
PC STA. 11+64.19
PCC STA. 13+12.96

CURVE DATA
C.R. 118
CURVE NO. 3

P.I. STA. 13+80.89
Δ = 10° 25' 10" (LT)
Dc = 7° 41' 27"
R = 745.00'
T = 67.93'
L = 135.48'
E = 3.09'
e_{max} (N.D.C.) = 8.00%
e_{max} = 3.98%
PCC STA. 13+12.96
PT STA. 14+48.44

CURVE DATA
C.R. 2
CURVE NO. 3

P.I. STA. 16+25.92
Δ = 71° 50' 49" (RT)
Dc = 22° 55' 06"
R = 250.00'
T = 181.13'
L = 313.49'
E = 58.72'
e_{max} (N.D.C.) = 8.00%
e_{max} = 7.00%
PC STA. 14+44.79
PT STA. 17+58.28

CURVE DATA
C.R. 2
CURVE NO. 1

P.I. STA. 10+85.37
Δ = 42° 28' 52" (LT)
Dc = 38° 11' 49"
R = 150.00'
T = 58.30'
L = 111.21'
E = 10.93'
e_{max} (N.D.C.) = 8.00%
e_{max} = NA
PC STA. 10+27.07
PCC STA. 11+38.28

CURVE DATA
C.R. 2
CURVE NO. 2

P.I. STA. 12+19.19
Δ = 35° 52' 10" (LT)
Dc = 22° 55' 06"
R = 250.00'
T = 80.91'
L = 156.51'
E = 12.77'
e_{max} (N.D.C.) = 8.00%
e_{max} = 7.89%
PCC STA. 11+38.28
PT STA. 12+94.79

NOTES:
FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.

FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEET 12-13.

* FOR DETAILS, SEE SHEET 7

HORIZONTAL SCALE IN FEET
0 50 100 200

SCHEMATIC PLAN

LAW-7-2.17

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CURVE DATA
S.R. 7
CURVE NO. 9

P.I. STA. 387+47.15
Δ = 46° 04' 34" (LT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 805.51'
L = 1,549.62'
E = 136.98'
TS STA. 376+18.38
SC STA. 379+18.38

θs = 3° 44' 12"
Ls = 300.00'
Ts = 1,128.77'
LT = 200.04'
ST = 100.04'
e_{max} = 6.20%
CS STA. 394+68.00
ST STA. 397+68.00

CURVE DATA
RAMP I
CURVE NO. 1

P.I. Sta. 373+25.29
Δ = 13° 38' 08" (RT)
Dc = 1° 50' 00"
R = 3,125.22'
T = 373.64'
L = 743.76'
E = 22.26'
e_{max} = 3.53%
PC Sta. 369+51.65
PT Sta. 376+95.41

BRIDGE NO. LAW-775-0105
BRIDGE NO. LAW-7-0713 L&R
BRIDGE NO. LAW-7-0711
STA. 56+77.91 S.R. 775 = STA. 381+38.36 S.R. 7
STREAM 16
STREAM 16A
STREAM 17
WETLAND N
WETLAND N
Ex LA-R/W
℄ CONSTRUCTION S.R. 7
S 65° 44' 01" E
PC STA. 369+51.65 RAMP I
BEGIN RAMP =
STA. 369+51.65, S.R. 7, 56' RT.
CURVE NO. 1
℄ RAMP I
PT
TS
SC
CURVE NO. 9
42" TYPE B
15" TYPE B
N 33° 21' 37" E
S 52° 05' 53" E
S 76° 38' 23" E
PC
℄ RAMP L*
S.R. 7
STA. 54+00.89 S.R. 775 = STA. 381+11.69 RAMP I END RAMP = STA. 379+57.36 RAMP L BEGIN RAMP
℄ CONSTRUCTION S.R. 775 *
Ex LA-R/W
Little Paddy Creek
LA-R/W
FIELD DRIVE
WATER TANK

RAMP I

NOTES:
FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.
FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC SHEET 2.
* SEE DETAILS ON SHEET 10.

HORIZONTAL SCALE IN FEET
0 25 50 100

SCHEMATIC PLAN

LAW-7-2.17

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633

WETLAND O

Little Paddy Creek

BRIDGE NO. LAW-7-0711

BRIDGE NO. LAW-7-0713 L&R

WETLAND N

STA. 56+77.91 S.R. 775 = STA. 381+38.36 S.R. 7

42" TYPE A

WETLAND P

STA. 63+36.00 S.R. 775 = STA. 384+75.66 RAMP K BEGIN RAMP

STREAM 18

DRIVE (TYP.)

PI Sta. 66+62.11

S.R. 775

PT

PC

N 1° 40' 02" E

N 34° 05' 09" E

STA. 70+75.00 S.R. 775 END WORK

S 52° 05' 53" E

STA. 54+00.89 S.R. 775 = STA. 381+11.69 RAMP I END RAMP = STA. 379+57.36 RAMP L BEGIN RAMP

EX. ℄ R/W S.R. 607

℄ CONSTRUCTION S.R. 775

N 33° 21' 37" E

STA. 45+30.85 S.R. 775 BEGIN WORK

S 76° 38' 23" E

EX. 24" STM

BRIDGE NO. LAW-775-0105

EX. ℄ R/W S.R. 775

STREAM 17

CURVE NO. 9

S 56° 38' 23" E

LOT 2

LOT 1

CURVE DATA S.R. 7 WESTBOUND LANES ℄ CURVE NO. 1

P.I. STA. 399+82.71
Δ = 4° 17' 32" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 214.71'
L = 429.22'
E = 4.02'
e_{max} = 2.90%
PC STA. = 397+68.00
PT STA. = 401+97.22

CURVE DATA S.R. 7 WESTBOUND LANES ℄ CURVE NO. 2

P.I. STA. 405+66.18
Δ = 4° 27' 49" (RT)
Dc = 0° 50' 00"
R = 6,875.49'
T = 267.96'
L = 535.64'
E = 5.22'
e_{max} = 2.48%
PC STA. = 402+98.22
PT STA. = 408+33.87

NOTE: ℄ WESTBOUND LANES GIVEN FOR HORIZONTAL ALIGNMENT ONLY.

℄ RAMP J

CURVE NO. 1

CURVE NO. 2

EX. 48" TYPE A

℄ RAMP L

CURVE NO. 10

WETLAND O

FIELD DR.

SECT. 13 / SECT. 34

WALNUT ST.

COLE ST.

N 77° 36' 16" E

℄ CONSTRUCTION S.R. 7

42" TYPE B

℄ RAMP K

UNION TWP. / ROME TWP.

FIELD DR.

MIDLAND AV.

LITTLE PADDY RD.

SECT. 13 / SECT. 33

SECT. 34 / SECT. 33

WETLAND R

WETLAND S

21" TYPE B

℄ WESTBOUND LANES

N 68° 11' 25" E

400 CURVE NO. 2

℄ CURVE NO. 1

PT STA. 403+59.10 RAMP K
END RAMP = STA. 403+54.87, S.R. 7, 85.31 LT.

℄ CURVE NO. 10

S.R. 7

CURVE NO. 10

HILLVIEW DR.

TOWER DR.

WEST ST.

STA. 392+40.09 RAMP L
END RAMP =
STA. 392+40.09, 69' RT., S.R. 7

Ⓐ ST STA. 383+90.72 RAMP J
BEGIN RAMP =
RAMP NOSE
STA. 383+90.72, S.R. 7, 69' LT.

Ⓑ PT STA. 391+20.45 RAMP J
END RAMP =
STA. 388+16.69, RAMP K, 42.02' RT.

RAMP J, K, L

CURVE DATA S.R. 7 CURVE NO. 9

P.I. STA. 387+47.15
Δ = 46° 04' 34" (LT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 805.51'
L = 1,549.62'
E = 136.98'
TS STA. 376+18.38
SC STA. 379+18.38

θ_s = 3° 44' 12"
Ls = 300.00'
Ts = 1,128.77'
LT = 200.04'
ST = 100.04'
e_{max} = 6.20%
CS STA. 394+68.00
ST STA. 397+68.00

CURVE DATA S.R. 7 CURVE NO. 10

P.I. STA. 403+74.19
Δ = 1° 29' 03" (RT)
Dc = 0° 16' 56"
R = 20,306.35'
T = 263.02'
L = 526.00'
E = 1.70'
e_{max} = NC
PC STA. 401+11.17
PT STA. 406+37.18

S.R. 775

P.I. STA. 66+62.11
Δ = 0° 43' 32" (RT)
NO CURVE

CURVE DATA S.R. 775

P.I. STA. 70+19.99
Δ = 32° 25' 06" (LT)
Dc = 11° 50' 00"
R = 484.19'
T = 140.75'
L = 273.96'
E = 20.04'
e_{max} (N.D.C.) = 4.00%
e_{max} = 1.60%
PC STA. = 68+79.23
PT STA. = 71+53.19

CURVE DATA RAMP J CURVE NO. 1

P.I. STA. 385+74.87
Δ = 13° 53' 07" (LT)
Dc = 7° 30' 00"
R = 763.94'
T = 42.61'
L = 85.14'
E = 1.19'
TS STA. 383+90.72
SC STA. 385+90.72

θ_{back} = 7° 30' 00"
L_{back} = 200.00'
T_{back} = 184.15'
LT = 133.45'
ST = 66.78'
e_{max} (N.D.C.) = 8.00%
e_{max} = 6.20%
PCC STA. 386+75.86

CURVE DATA RAMP J CURVE NO. 2

P.I. STA. 391+91.55
Δ = 141° 31' 04" (LT)
Dc = 31° 49' 52"
R = 180.00'
T = 515.70'
L = 444.59'
E = 366.21'
e_{max} = 7.66%
PCC STA. 386+75.86
PT STA. 391+20.45

CURVE DATA RAMP K CURVE NO. 1

P.I. STA. 393+97.26
Δ = 54° 19' 17" (LT)
Dc = 5° 00' 00"
R = 1145.92'
T = 587.93'
L = 1086.43'
E = 142.02'
e_{max} = 6.30%
PC STA. 388+09.33
PCC STA. 398+95.76

CURVE DATA RAMP K CURVE NO. 2

P.I. STA. 401+27.55
Δ = 4° 38' 00" (LT)
Dc = 1° 00' 00"
R = 5729.58'
T = 231.80'
L = 463.34'
E = 4.69'
e_{max} = 6.00%
PCC STA. 398+95.76
PT STA. 403+59.10

CURVE DATA RAMP L

P.I. STA. 382+67.06
Δ = 25° 45' 21" (LT)
Dc = 6° 44' 26"
R = 850.00'
T = 194.33'
L = 382.09'
E = 21.93'
e_{max} = 4.60%
PC STA. 380+72.73
PT STA. 384+54.82

NOTES:
FOR LANDSCAPED AREAS INSIDE OF RIGHT OF WAY, SEE RIGHT OF WAY PLANS.

FOR UTILITY LOCATIONS, SEE UTILITY SCHEMATIC, SHEET 12-13.

** SEE DETAILS ON SHEET 9.

HORIZONTAL SCALE IN FEET
0 50 100 200

SCHEMATIC PLAN

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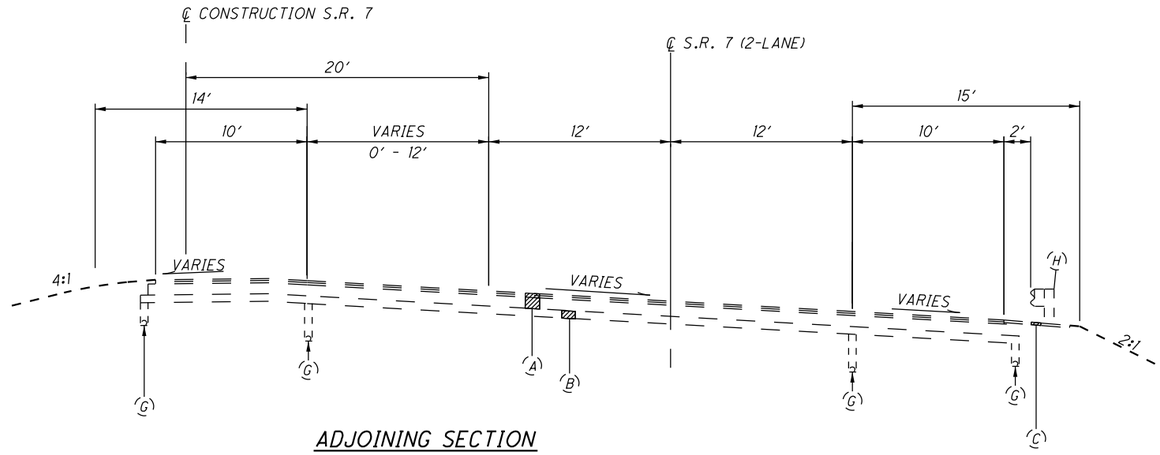
LEGEND

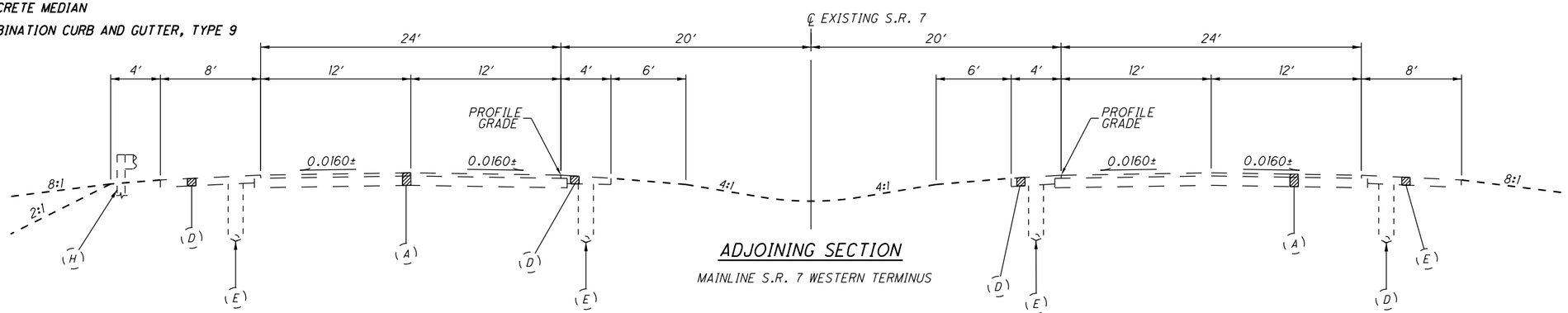
1. ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)
2. ITEM 442 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5MM, TYPE A (446)
3. ITEM 302 - 7" ASPHALT CONCRETE BASE, PG64-22, (449)
4. ITEM 304 - 6" AGGREGATE BASE
5. ITEM 407 - TACK COAT
6. ITEM 609 - CURB, TYPE 6
7. ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2
8. ITEM 605 - AGGREGATE DRAIN (SLOPE @ 0.04 MIN., 0.08 DESIRABLE)
9. ITEM 441 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), (UNDER GUARDRAIL), AS PER PLAN
10. ITEM 605 - 4" BASE PIPE UNDERDRAIN
11. ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN
12. ITEM 605 - 6" BASE PIPE UNDERDRAIN
13. ITEM 441 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
14. ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
15. ITEM 301 - 3" ASPHALT CONCRETE BASE PG64-22, (449)
16. ITEM 659 - SEEDING AND MULCHING
17. ITEM 204 - SUBGRADE COMPACTION
18. ITEM 204 - PROOF ROLLING
19. ITEM 606 - GUARDRAIL, TYPE MGS
20. ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS
21. ITEM 609 - CONCRETE MEDIAN
22. ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 9

(A) EX. 12"± ASPHALT CONCRETE
(B) EX. 6"± SUBBASE
(C) 2" ASPHALT CONCRETE
(D) ASPHALT CONCRETE BERM
(E) UNDERDRAIN
(F) GUARDRAIL, TYPE 5



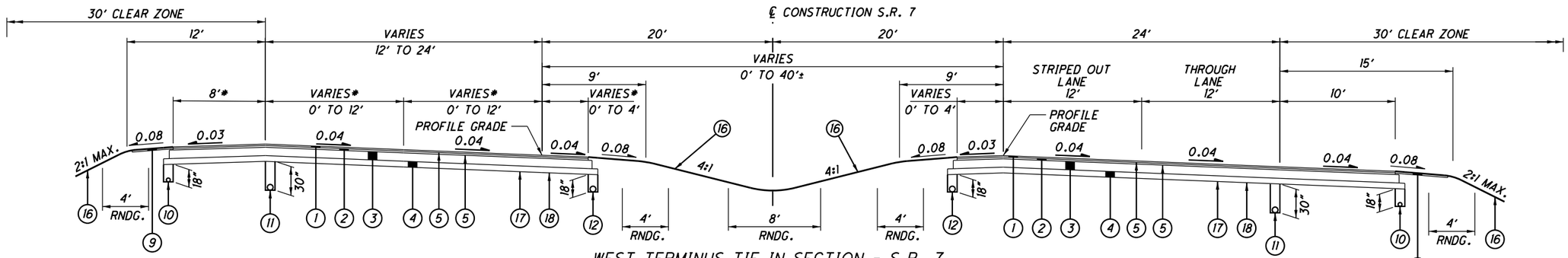
ADJOINING SECTION

MAINLINE S.R. 7 EASTERN TERMINUS



ADJOINING SECTION

MAINLINE S.R. 7 WESTERN TERMINUS



WEST TERMINUS TIE IN SECTION - S.R. 7

SECTION APPLIES:

STA. 114+30.42 TO STA. 120+56.37

* MILL/FILL EXISTING SECTION FROM STA. 114+30.42 TO STA. 118+99.14

NOTES:

FOR DITCH DETAILS, SEE SHEET 23

FOR EDGE COURSE DETAILS, SEE SHEET 24

FOR EXACT LOCATION OF SIDEROAD, SEE UNDERDRAIN TABLE SHEET 29

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TYPICAL SECTIONS - S.R. 7

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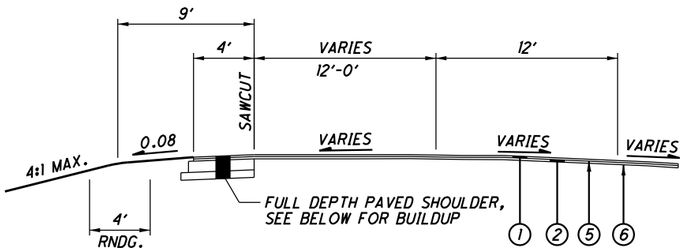
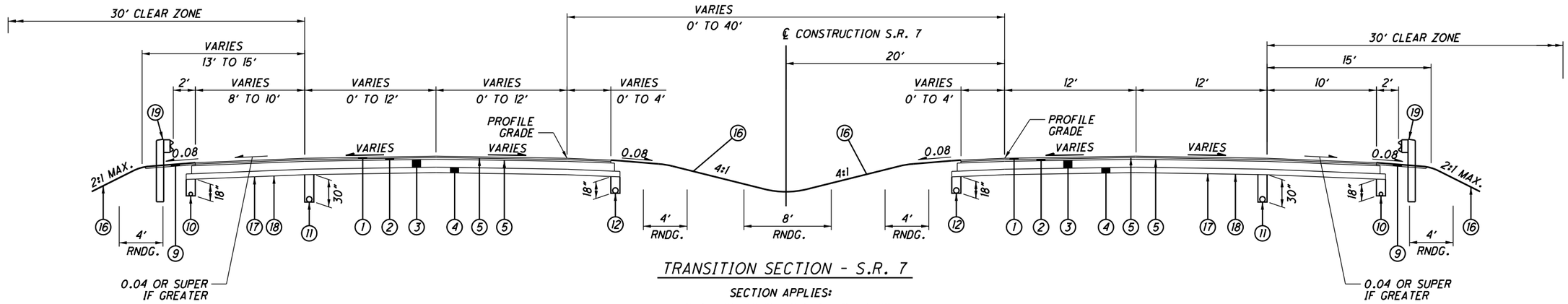


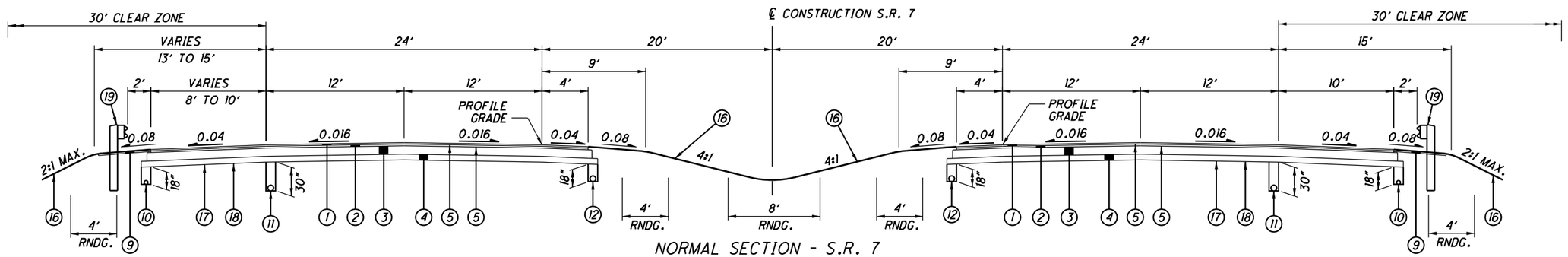
OVERLAY SECTION - S.R. 7

SECTION APPLIES:
STA. 427+42.37 TO STA. 437+16.83



TRANSITION SECTION - S.R. 7

SECTION APPLIES:
STA. 309+49.89 TO STA. 319+56.62
STA. 424+88.90 TO STA. 437+16.83



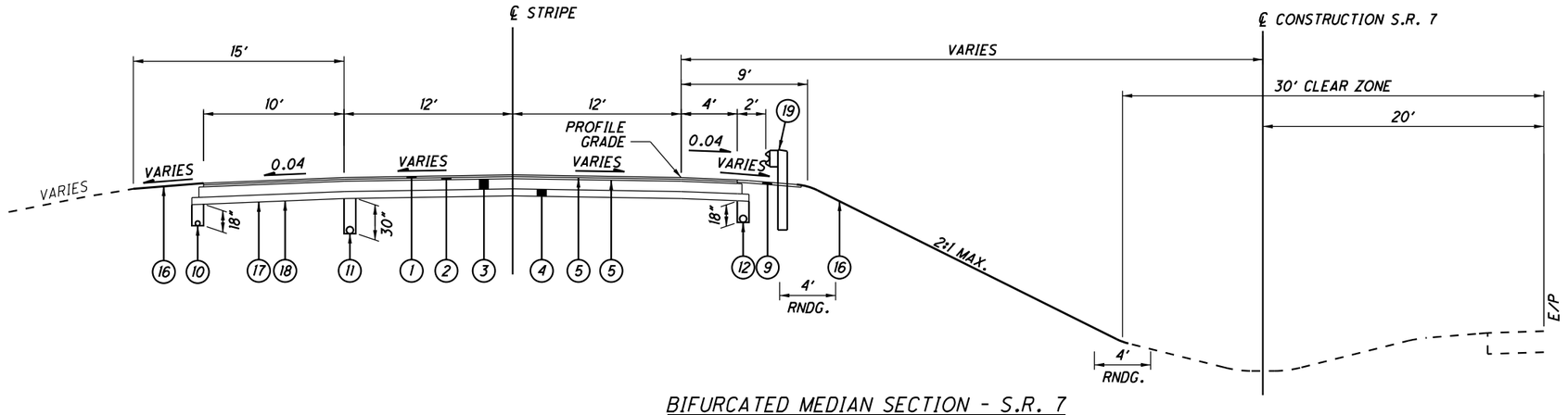
NORMAL SECTION - S.R. 7

SECTION APPLIES:
STA. 335+67.69 TO STA. 348+41.10
STA. 361+89.83 TO STA. 375+75.38

NOTES:
SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN
FOR LEGEND, SEE SHEET 14
FOR DITCH DETAILS, SEE SHEET 23
FOR EDGE COURSE DETAILS, SEE SHEET 24
FOR SUPERELEVATION TABLE, SEE DETAIL A, SHEET 31
FOR EXACT LOCATION OF UNDERDRAINS, SEE UNDERDRAIN TABLE SHEETS 579-583

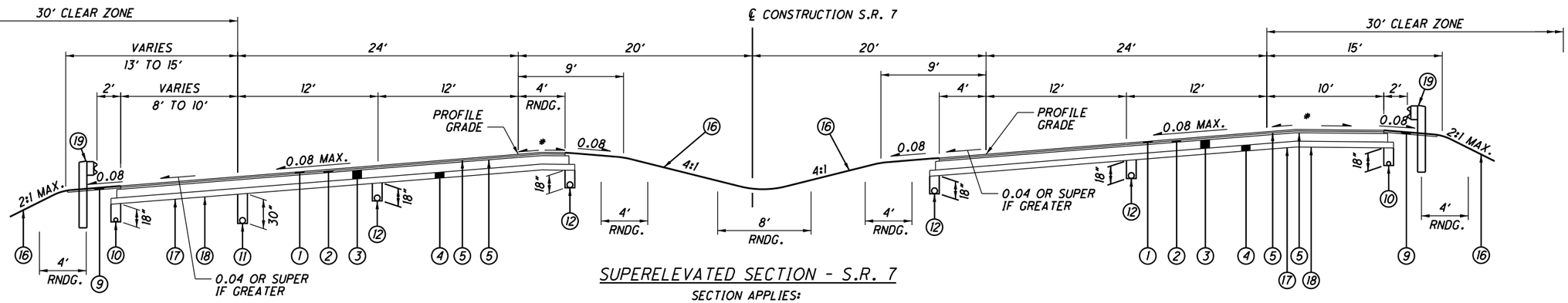
TYPICAL SECTION - S.R. 7

LAW-7-2.17



BIFURCATED MEDIAN SECTION - S.R. 7

SECTION APPLIES:
STA. 397+68.00 TO STA. 424+88.90



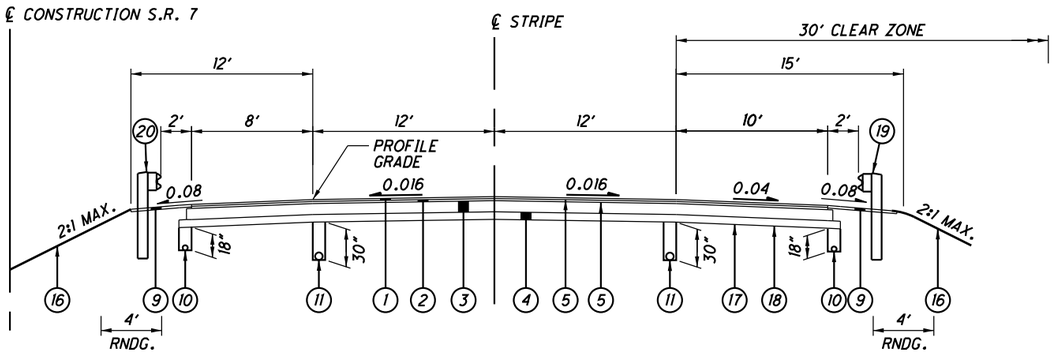
SUPERELEVATED SECTION - S.R. 7

SECTION APPLIES:
+ STA. 319+56.52 TO STA. 335+67.69
STA. 348+41.10 TO STA. 361+89.83
STA. 375+75.38 TO STA. 397+68.00

NOTES:
+ SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN
FOR LEGEND, SEE SHEET 14
FOR DITCH DETAILS, SEE SHEET 23
FOR EDGE COURSE DETAILS, SEE SHEET 24
* FOR SUPERELEVATION TRANSITION DETAIL, SEE SHEET 23
FOR EXACT LOCATION OF UNDERDRAINS, SEE UNDERDRAIN TABLE SHEETS 57 - 583

TYPICAL SECTION - S.R. 7

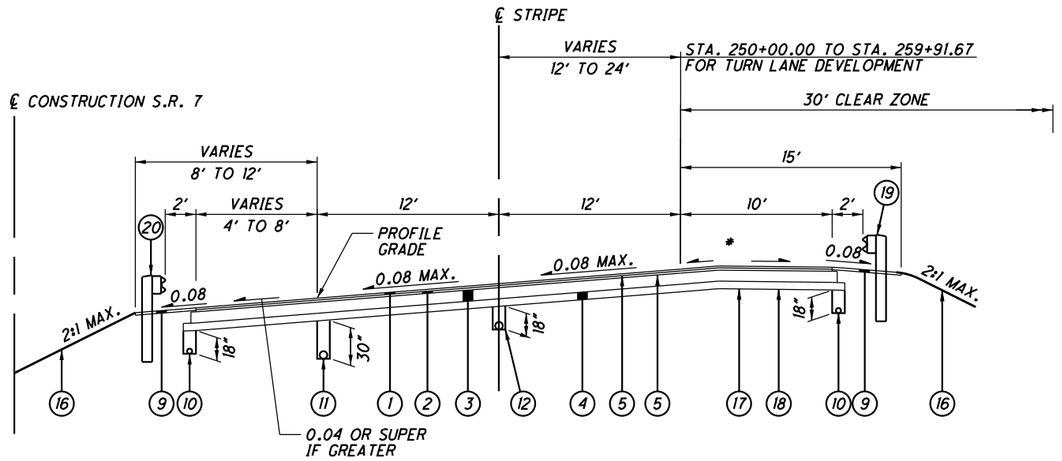
LAW-7-2.17



NORMAL SECTION - S.R. 7

SECTION APPLIES:

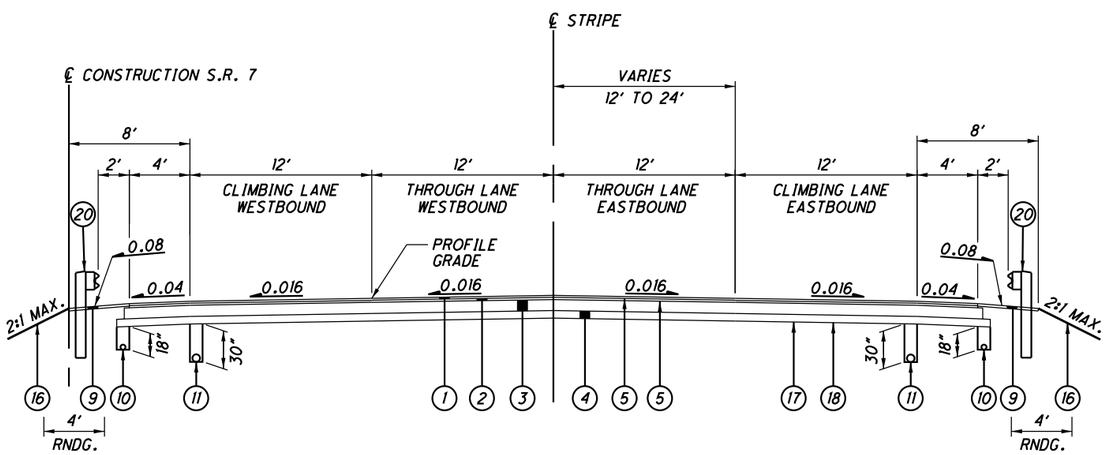
STA. 156+86.05 TO STA. 167+72.52
STA. 195+00.00 TO STA. 195+76.13
STA. 272+21.71 TO STA. 276+94.12
STA. 284+90.71 TO STA. 309+49.89



SUPERELEVATED SECTION - S.R. 7

SECTION APPLIES:

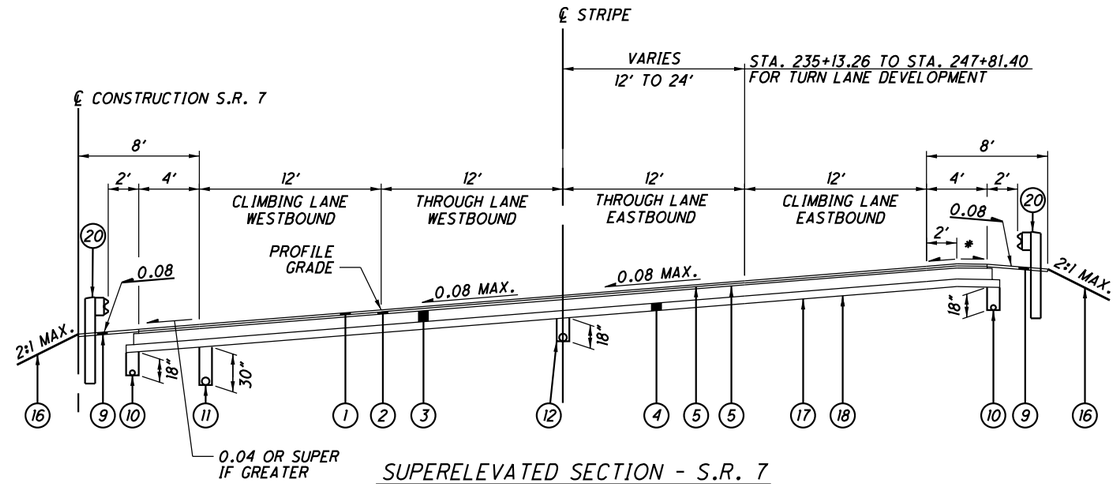
+ STA. 120+56.37 TO STA. 156+86.05
STA. 195+76.13 TO STA. 209+79.72
+ STA. 257+84.54 TO STA. 272+21.71
STA. 276+94.12 TO STA. 284+90.71
STA. 376+00.00 TO STA. 390+75.00



NORMAL SECTION - S.R. 7
WITH CLIMBING LANES

SECTION APPLIES:

STA. 167+72.52 TO STA. 174+60.18
STA. 189+35.26 TO STA. 195+00.00
STA. 214+59.27 TO STA. 225+85.73
STA. 237+92.08 TO STA. 247+00.00



SUPERELEVATED SECTION - S.R. 7
WITH CLIMBING LANES

SECTION APPLIES:

STA. 174+60.18 TO STA. 189+35.26
+ STA. 209+79.72 TO STA. 214+59.27
STA. 225+85.73 TO STA. 237+92.08

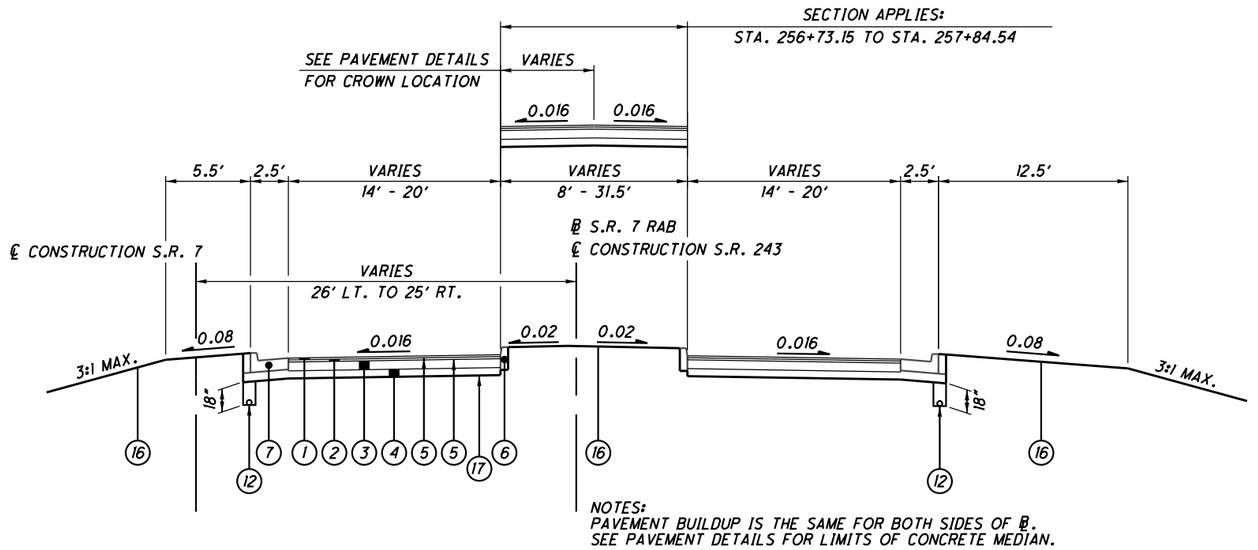
NOTES:

+ SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN
FOR LEGEND, SEE SHEET 14
FOR DITCH DETAILS, SEE SHEET 23
FOR EDGE COURSE DETAILS, SEE SHEET 24
* FOR SUPERELEVATED SHOULDER DETAILS, SEE DETAIL A, SHEET 24
FOR EXACT LOCATION OF UNDERDRAINS, SEE UNDERDRAIN TABLE SHEETS 579-583

Preliminary - Not for Construction 07/29/2024

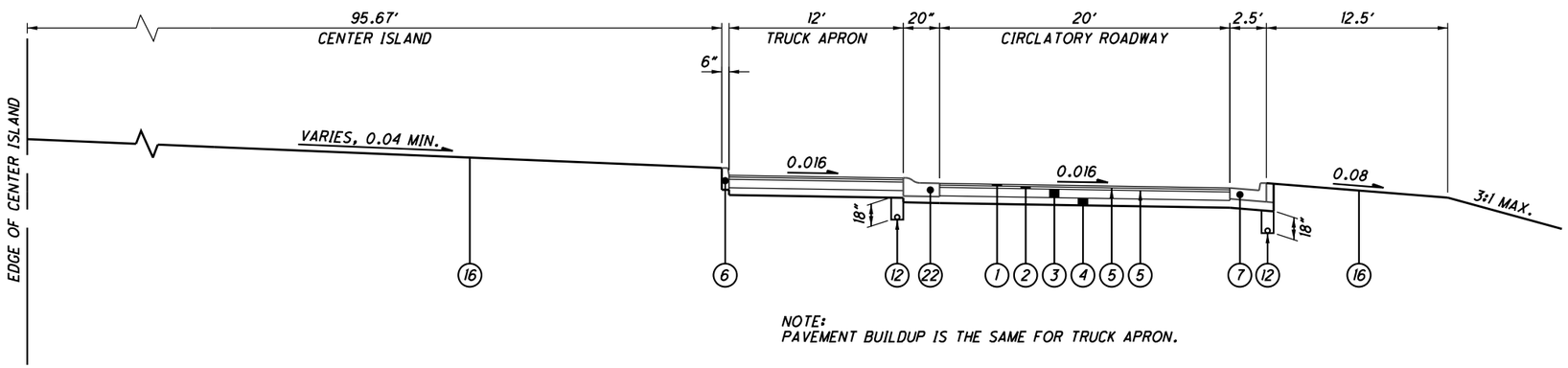
TYPICAL SECTION - S.R. 7

LAW-7-2.17



NORMAL SECTION - S.R. 7 RAB & S.R. 243

SECTION APPLIES:
S.R. 7 STA. 247+00.00 TO STA. 251+00.00
S.R. 7 STA. 253+00.00 TO STA. 257+84.54
S.R. 243 STA. 11+00.00 TO STA. 13+07.05

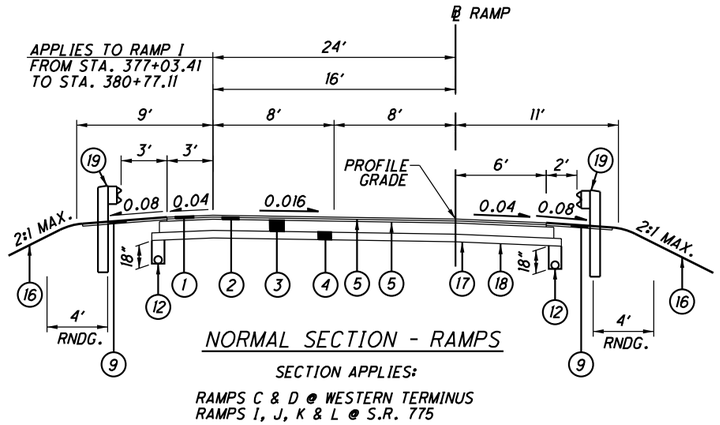


ROUNDABOUT SECTION

NOTES:
FOR DITCH DETAILS, SEE SHEET 23
FOR EDGE COURSE DETAILS, SEE SHEET 27
FOR EXACT LOCATION OF UNDERDRAINS, SEE UNDERDRAIN TABLE SHEETS 579-583

TYPICAL SECTION - S.R. 7

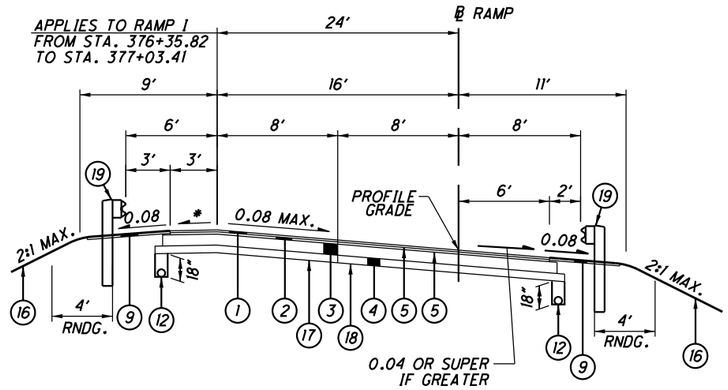
LAW-7-2.17



NORMAL SECTION - RAMPS

SECTION APPLIES:

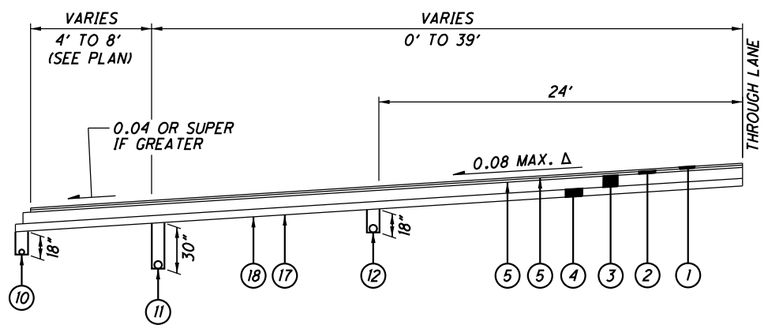
RAMPS C & D @ WESTERN TERMINUS
RAMPS I, J, K & L @ S.R. 775



SUPERELEVATED SECTION - RAMPS

SECTION APPLIES:

RAMPS C & D @ WESTERN TERMINUS
RAMPS I, J, K & L @ S.R. 775



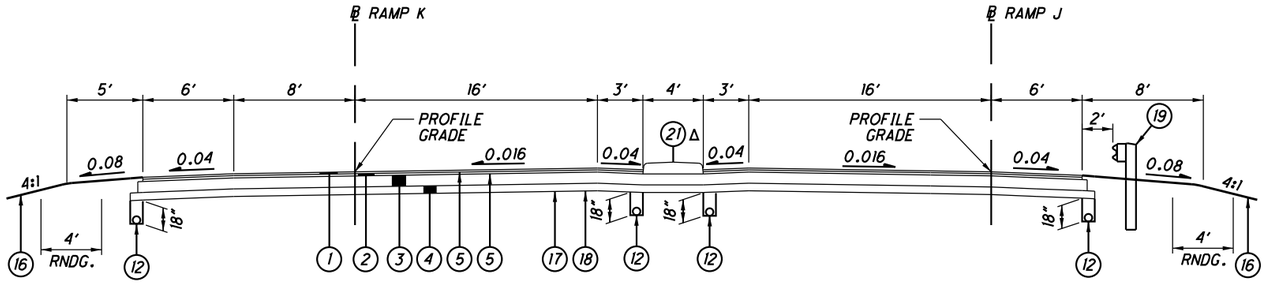
SPEED LANE CHANGE

SECTION APPLIES:

STA. 126+47.37 TO STA. 132+00.00

NOTES:

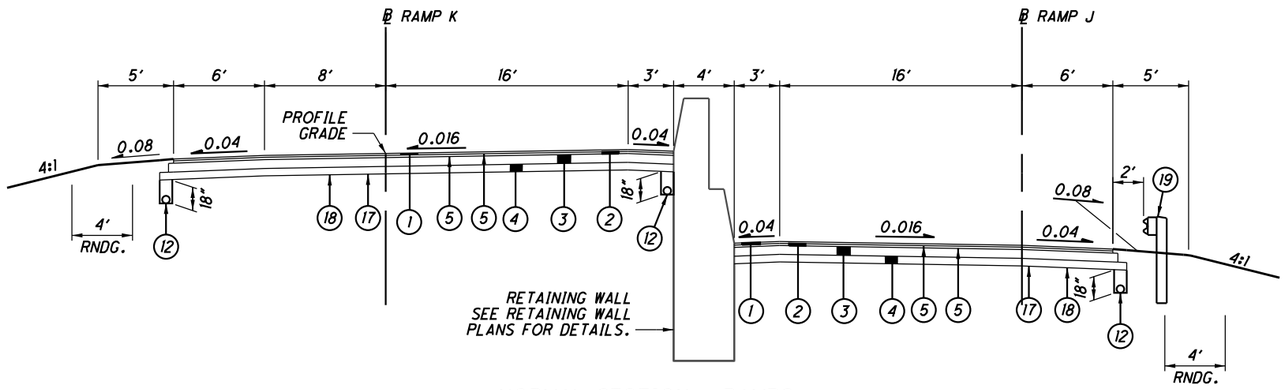
PROFILE GRADE ON RIGHT SIDE OF DIRECTION OF TRAVEL
\+ SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN
FOR LEGEND, SEE SHEET 14
FOR DITCH DETAILS, SEE SHEET 23
FOR EDGE COURSE DETAILS, SEE SHEET 14
* FOR SUPERELEVATED SHOULDER DETAILS, SEE DETAIL A, SHEET 24
FOR EXACT LOCATION OF UNDERDRAINS, SEE UNDERDRAIN TABLE SHEET 24
Δ DENOTES MAXIMUM FOR ENTIRE PROJECT, FOR SPECIFIC CURVE SUPERELEVATION, SEE PLANS



NORMAL SECTION - RAMPS J & K CONCRETE MEDIAN

SECTION APPLIES:

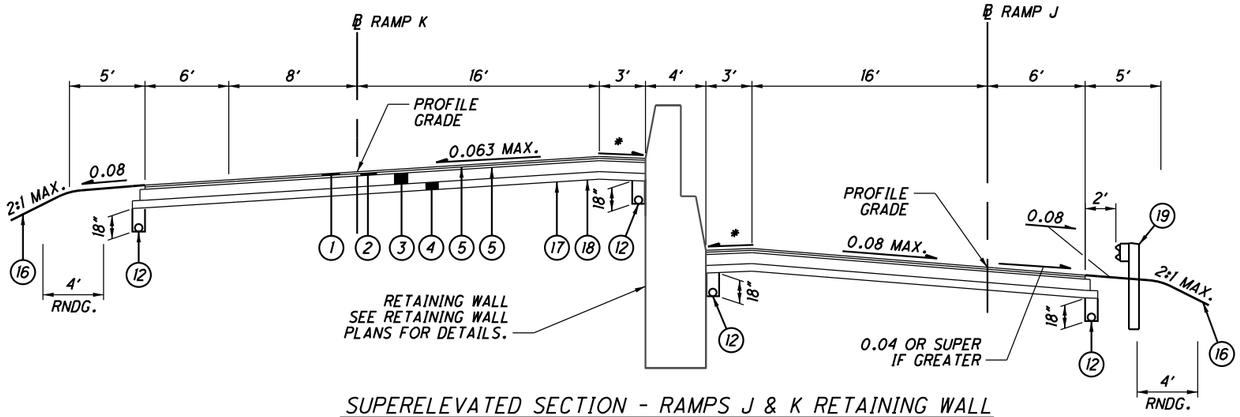
STA. 384+75.56 TO STA. 385+75.77
Δ STA. 385+48.00 TO STA. 385+75.77



NORMAL SECTION - RAMPS

SECTION APPLIES:

STA. 385+75.77 TO STA. 387+63.83



SUPERELEVATED SECTION - RAMPS J & K RETAINING WALL

SECTION APPLIES:

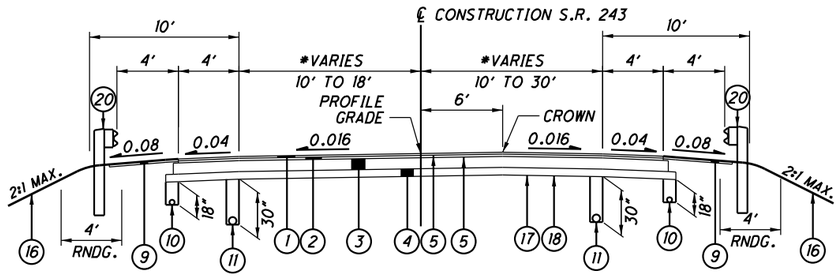
STA. 387+63.83 TO STA. 388+64.51

NOTES:

+ SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN
FOR LEGEND, SEE SHEET 4
FOR DITCH DETAILS, SEE SHEET 23
FOR EDGE COURSE DETAILS, SEE SHEET 24
* FOR SUPERELEVATED SHOULDER DETAILS, SEE DETAIL A, SHEET 24
FOR EXACT LOCATION OF UNDERDRAINS, SEE UNDERDRAIN TABLE SHEETS 599-603

TYPICAL SECTIONS - RAMPS

LAW-7-2.17

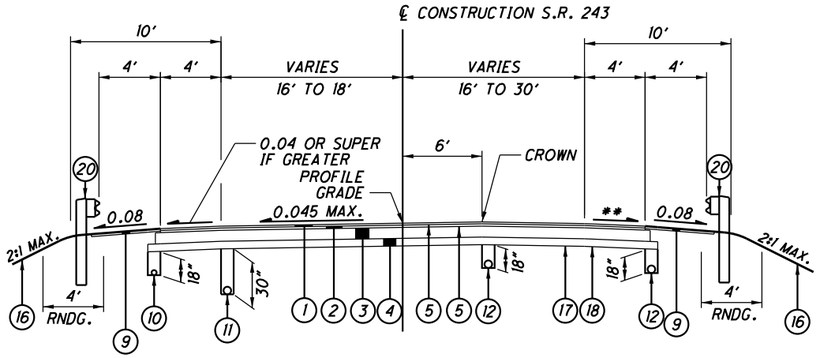


NORMAL SECTION - S.R. 243

SECTION APPLIES:

STA. 12+51.68 TO STA. 12+67.39
STA. 18+34.52 TO STA. 21+54.00

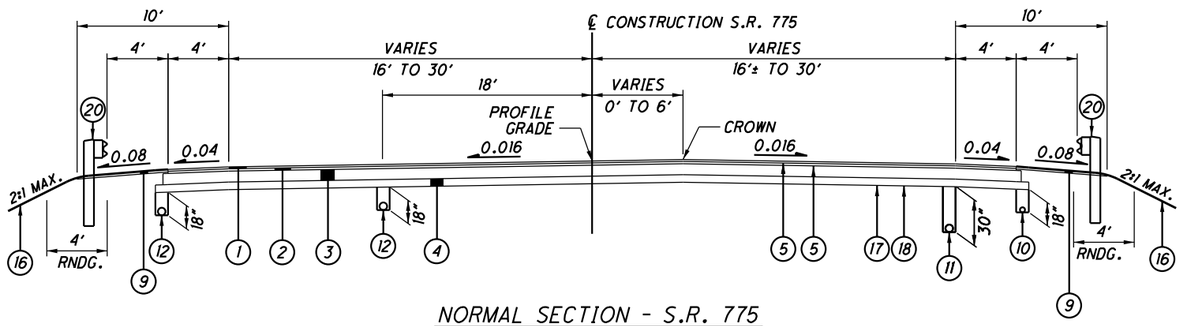
* OVERLAY EXISTING SECTION FROM STA. 19+05.08 TO STA. 21+54.00



SUPERELEVATED SECTION - S.R. 243

SECTION APPLIES:

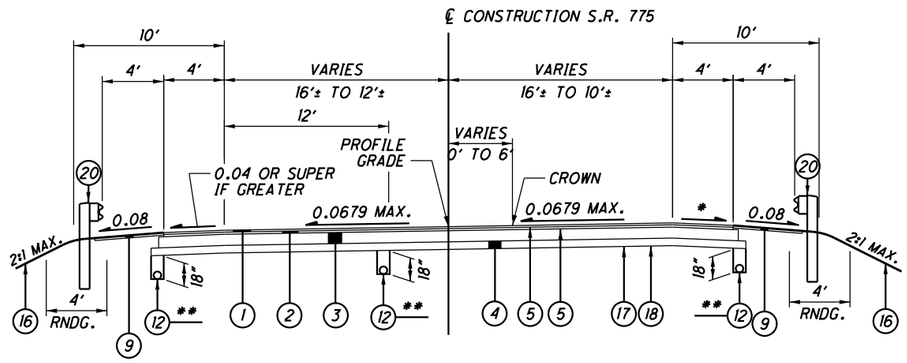
+ STA. 9+36.00 TO STA. 12+51.68
STA. 12+67.39 TO STA. 18+34.52



NORMAL SECTION - S.R. 775

SECTION APPLIES:

STA. 45+42.93 TO STA. 68+10.76



SUPERELEVATED SECTION - S.R. 775

SECTION APPLIES:

STA. 68+10.76 TO STA. 70+75.00

** AGGREGATE DRAINS TO BE USED
FROM STA. 65+50.37 TO STA. 70+75.00.

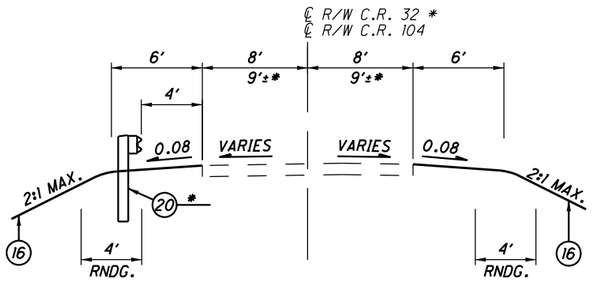
NOTES:

+ SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN
FOR LEGEND, SEE SHEET 14
FOR DITCH DETAILS, SEE SHEET 23
FOR EDGE COURSE DETAILS, SEE SHEET 24
* FOR SUPERELEVATED SHOULDER DETAILS, SEE DETAIL A, SHEET 24
FOR EXACT LOCATION OF UNDERDRAINS, SEE UNDERDRAIN TABLE SHEETS 579-583

Preliminary - Not for Construction 07/29/2024

TYPICAL SECTIONS - S.R. 243 & S.R. 775

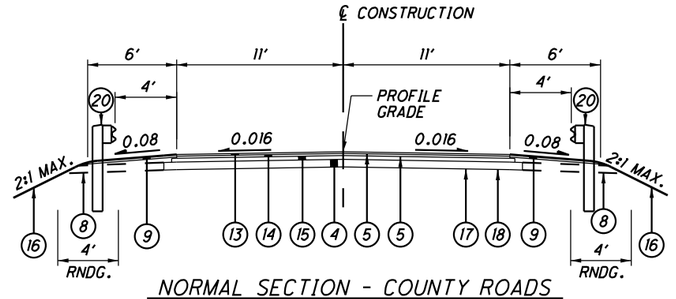
LAW-7-2.17



NORMAL SECTION - SIDE ROADS

SECTION APPLIES

C.R. 104
C.R. 32

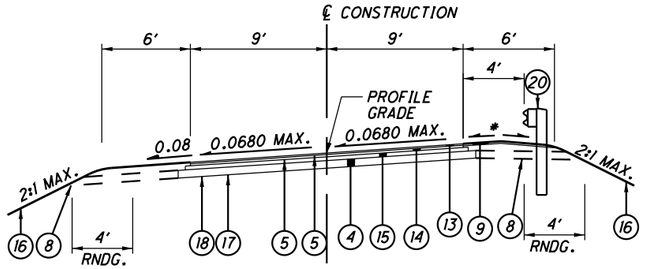


NORMAL SECTION - COUNTY ROADS

SECTION APPLIES:

C.R. 69

STA. 9+90.51 TO STA. 13+27.35
STA. 33+77.74 TO STA. 54+56.85

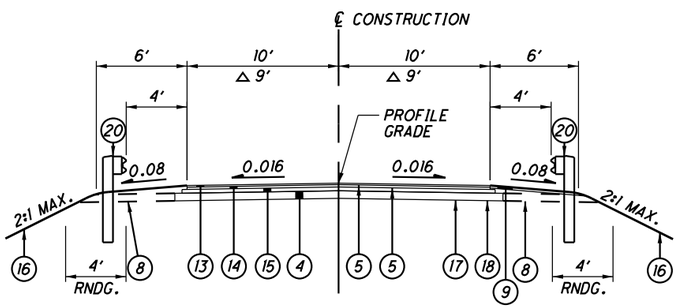


SUPERELEVATED SECTION - SIDE ROADS

SECTION APPLIES

C.R. 118

STA. 10+99.19 TO STA. 14+76.01



NORMAL SECTION - SIDE ROADS

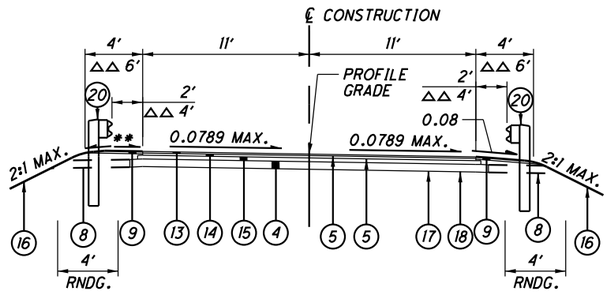
SECTION APPLIES

HENSON HOLLOW EMERGENCY ACCESS

STA. 10+00.00 TO STA. 12+60.04

△ **C.R. 118**

STA. 10+18.30 TO STA. 10+99.19



SUPERELEVATED SECTION - COUNTY ROADS

SECTION APPLIES:

△△ **C.R. 69**

STA. 13+27.35 TO STA. 33+77.74
STA. 54+56.85 TO STA. 56+73.01

C.R. 2

\+ STA. 10+28.28 TO STA. 12+40.34
STA. 12+40.34 TO STA. 17+58.28

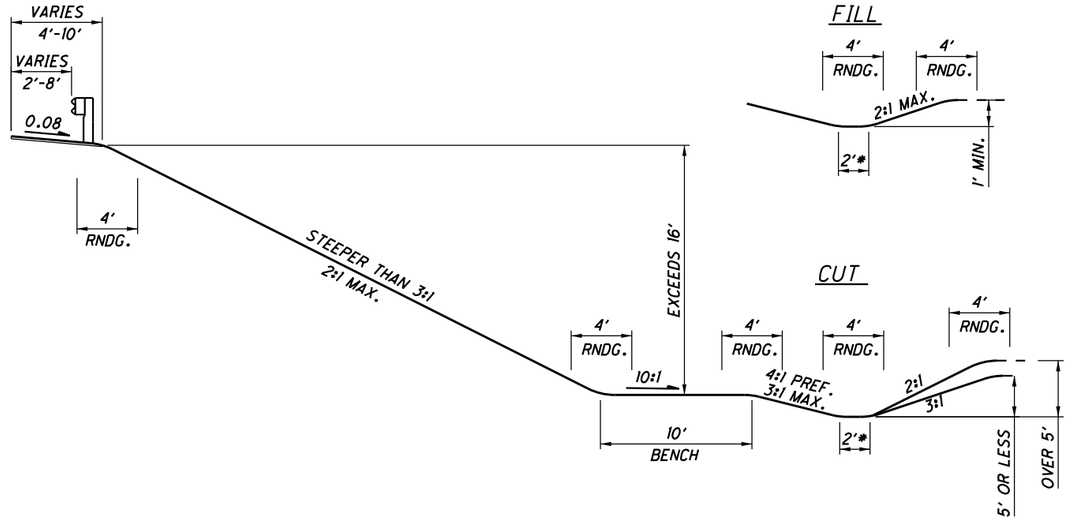
NOTES:

\+ SUPERELEVATION TO BE OPPOSITE HAND TO TYPICAL SHOWN
FOR LEGEND, SEE SHEET 14
FOR DITCH DETAILS, SEE SHEET 23
FOR EDGE COURSE DETAILS, SEE SHEET 24
* FOR SUPERELEVATED SHOULDER DETAILS, SEE DETAIL A, SHEET 24
FOR EXACT LOCATION OF UNDERDRAINS, SEE UNDERDRAIN TABLE SHEETS 579-583

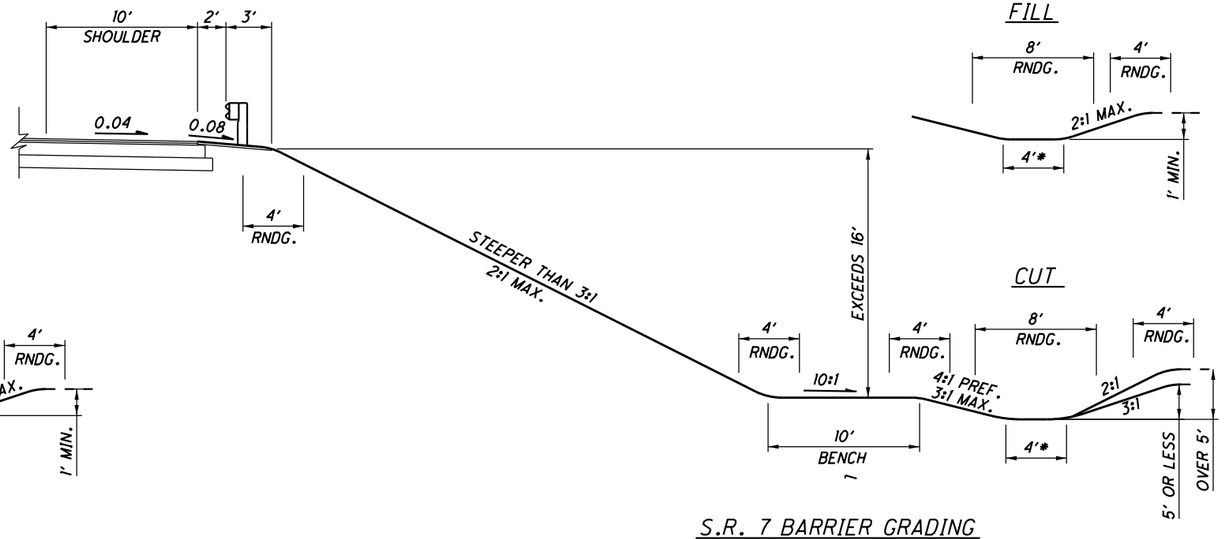
Preliminary - Not for Construction 07/29/2024

TYPICAL SECTIONS - COUNTY ROADS AND SIDE ROADS

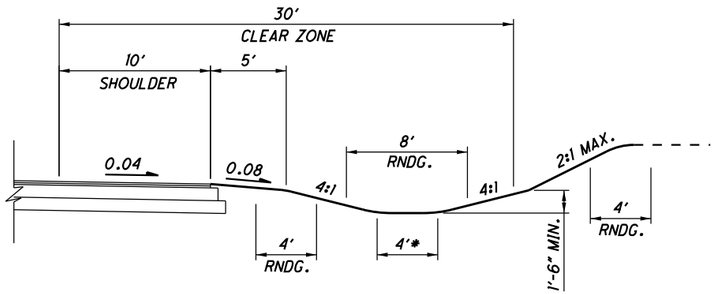
LAW-7-2.17



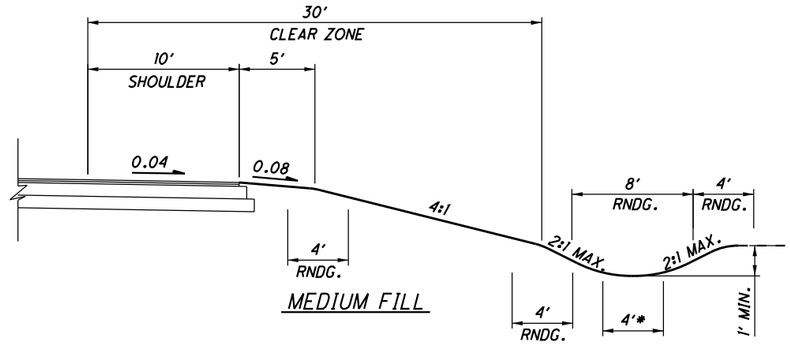
SIDE ROAD BARRIER GRADING



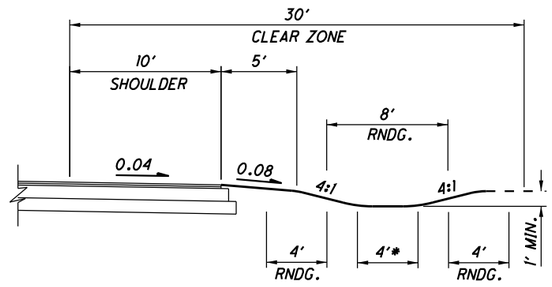
S.R. 7 BARRIER GRADING



CUT SECTION



MEDIUM FILL

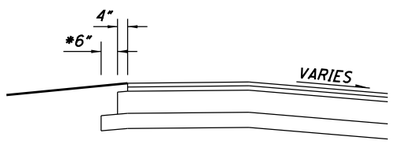


LOW FILL

NOTES:
* SEE CROSS SECTIONS FOR POST CONSTRUCTION ENHANCED BANKFULL WIDTHS
ROUNDING SMALLER THAN 1' WIDER THAN ACTUAL WIDTH SHOWN

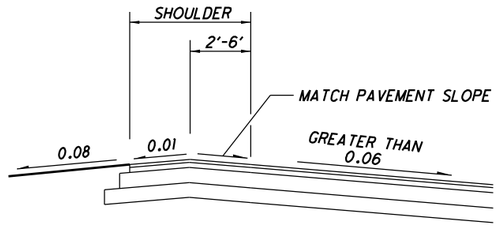
TYPICAL SECTIONS - DITCH DETAILS

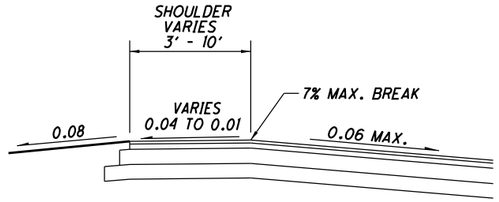
LAW-7-2.17

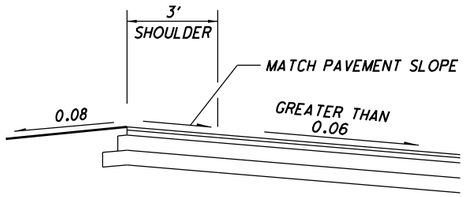


EDGE COURSE DETAIL
FOR ALL TYPICALS

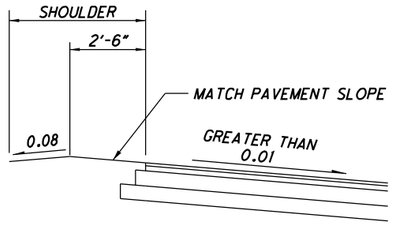
* 6" OR THE THICKNESS OF OVERLYING LIFT, WHICHEVER IS GREATER.

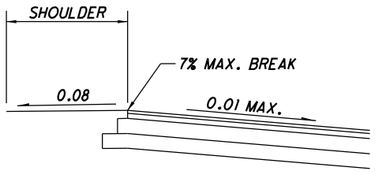






DETAIL A
PAVED SHOULDERS





DETAIL B
TURF SHOULDERS

TYPICAL SECTIONS - MISCELLANEOUS DETAILS

LAW-7-2.17

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:

FRONTIER COMMUNICATIONS
1315 ALBERT STREET
PORTSMOUTH, OHIO 45662
PHONE: (740) 354-0521
MS. DENA MARTIN

AMERICAN ELECTRIC POWER (DISTRIBUTION)
38831 STATE ROUTE 7
REEDSVILLE, OHIO 45772
PHONE: (740) 985-3054
MR. CLARKE SAUNDERS

AMERICAN ELECTRIC POWER (TRANSMISSION)
8600 SMITHS HILL ROAD
NEW ALBANY, OHIO 43054
PHONE: (380) 205-5072
MR. MICHAEL CARR

BUCKEYE RURAL ELECTRIC CO-OP, INC.
P.O. BOX 200
RIO GRANDE, OHIO 45674
PHONE: (740) 379-9658
MS. MARTINE-DENISE LONG

HECLA WATER ASSOCIATION, INC.
3190 SR 141
IRONTON, OHIO 45638
PHONE: (740) 533-0526, EXT. 5
MR. TIM DALTON

AQUA OHIO (FORMERLY OHIO-AMERICAN WATER COMPANY)
6650 SOUTH AVENUE
BOARDMAN, OHIO 44512
PHONE: (330) 397-0776
MR. ANDY HIPPLEY

COLUMBIA GAS OF OHIO
843 PIATT AVENUE
CHILLICOTHE, OHIO 45601
PHONE: (740) 656-7401
MR. JOSEPH DiBENEDETTO

MYERS DRILLING COMPANY
P.O. BOX 290
BARBOURSVILLE, WV. 25504
PHONE: (304) 736-7431
MR. JOHN DIAL

ARMSTRONG CABLE SERVICES
9651 COUNTY ROAD 1
SOUTH POINT, OHIO 45680
PHONE: (740) 451-1833
MR. NATHAN ITTIG

UNION-ROME TOWNSHIPS
SUBSEWER DISTRICT
P.O. BOX 430
CHESAPEAKE, OHIO 45619
PHONE: (740) 867-8700
MR. JAROD LEFFINGWELL

CHARTER COMMUNICATIONS
(AKA SPECTRUM FKA TIME WARNER CABLE)
1617 FOXHAVEN DRIVE
RICHMOND, KENTUCKY 40475
PHONE: (859) 626-4899
MR. MARK HARLOW

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.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE TABLE CONTAINING PROJECT CONTROL INFORMATION.

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

PROJECT CONTROL

POSITIONING METHOD: STATIC GPS (2011)
MONUMENT TYPE: TYPE A

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM:	NAVD88
GEOID:	GEOID09

HORIZONTAL POSITIONING

REFERENCE FRAME:	NAD83 (CORS 96)
ELLIPSOID:	GRS80
MAP PROJECTION:	LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM:	OHIO STATE PLANE, SOUTH ZONE
COMBINED SCALE FACTOR:	1.000044500000 (FROM GROUND TO SPC)
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.

CALCULATED SLP
CHECKED ALB

GENERAL NOTES

LAW-7-2.17

25
633

Preliminary - Not for Construction 07/29/2024

CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99
Δ = 53° 33' 53" (RT)
Dc = 1° 27' 15"
R = 3,940.00'
T = 1,880.13'
L = 3,508.44'
E = 425.60'
TS STA. 117+84.61
SC STA. 119+59.61

θs = 1° 16' 21"
Ls = 175.00'
Ts = 2,076.38'
LT = 116.67'
ST = 58.34'
e_{max} = 4.00%
CS STA. 154+68.05
ST STA. 156+43.05

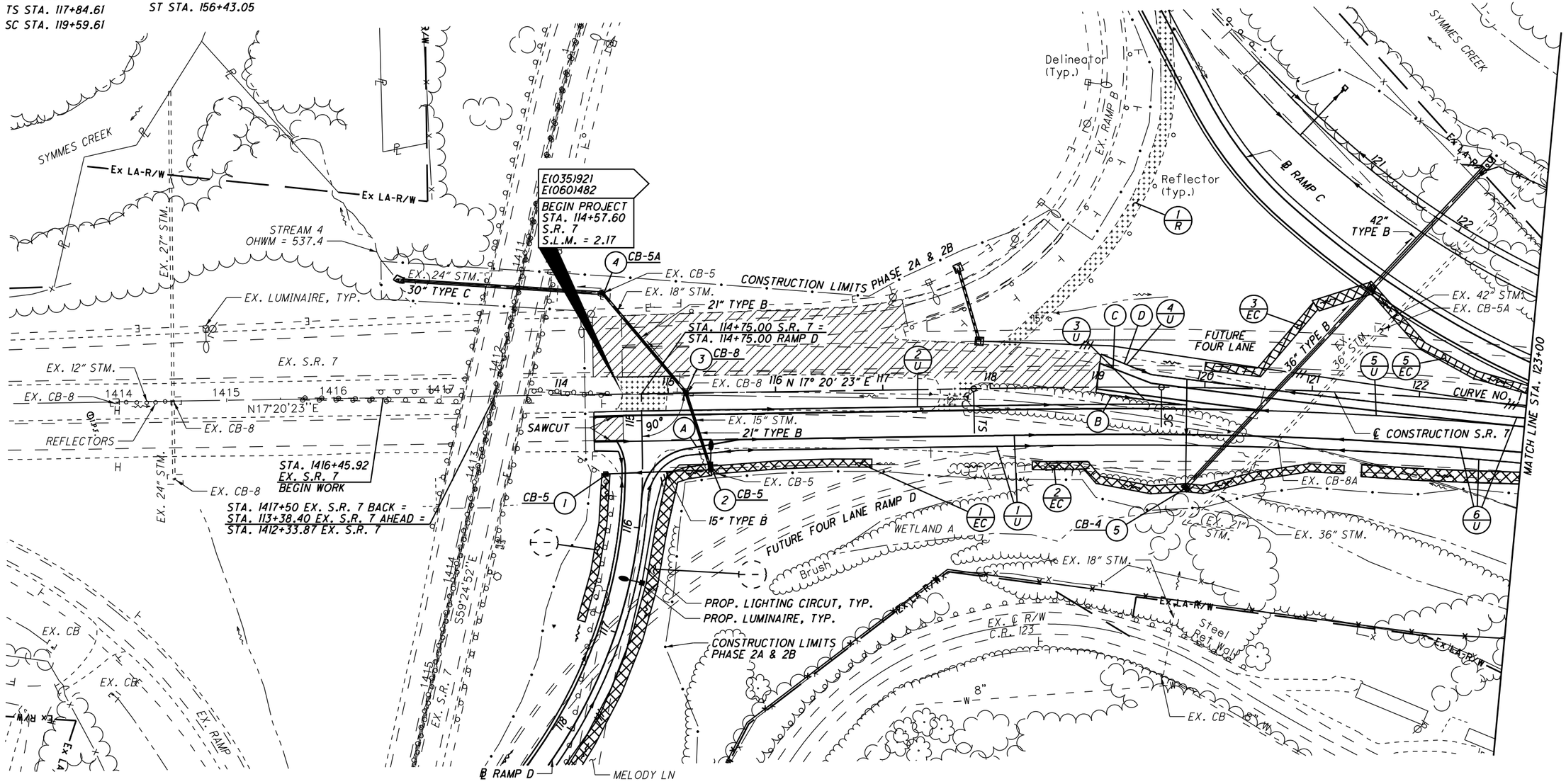
(1/EC) DITCH EROSION PROTECTION
(150' x 7.5' / 9) = 125 SY

(2/EC) DITCH EROSION PROTECTION
MAT, TYPE B
(2 x (150' x 7.5' / 9) = 250 SY)

(3/EC) SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE T
(132' x 7.5' / 9 = 110 SY)

(4/EC) SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE T
(55' x 11' / 9 = 67.22 SY)

(5/EC) DITCH EROSION PROTECTION
MAT, TYPE B
(180' x 7.5' / 9 = 150 SY)



(A) - STA. 115+15.70 BEGIN PAVEMENT TAPER, 52' RT.
STA. 115+65.70 END PAVEMENT TAPER, 44' RT.

(B) - STA. 118+98.44 BEGIN SHOULDER TAPER, 4.95' RT.
STA. 119+11.42 END SHOULDER TAPER, 7.31' RT.

(C) - STA. 119+02.31 BEGIN PAVEMENT TAPER, 22.25' LT.
STA. 119+50.10 END PAVEMENT TAPER, 3.66' LT.

(D) - STA. 119+03.51 BEGIN SHOULDER TAPER, 30.74' LT.
STA. 119+50.10 END SHOULDER TAPER, 11.73' LT.

(VBF) DENOTES LOCATION OF VEGETATED BIOFILTER
(VFS) DENOTES LOCATION OF VEGETATED FILTER STRIP

3-1/4" MILL/FILL

QUANTITIES ARE INCLUDED IN REFERENCE NUMBER 1-R FOR THE REMOVAL OF EXISTING PAVEMENT, REGRADING TO ENSURE A DRAINABLE SURFACE AND SEEDING AND MULCHING OF THE AREA SHOWN.

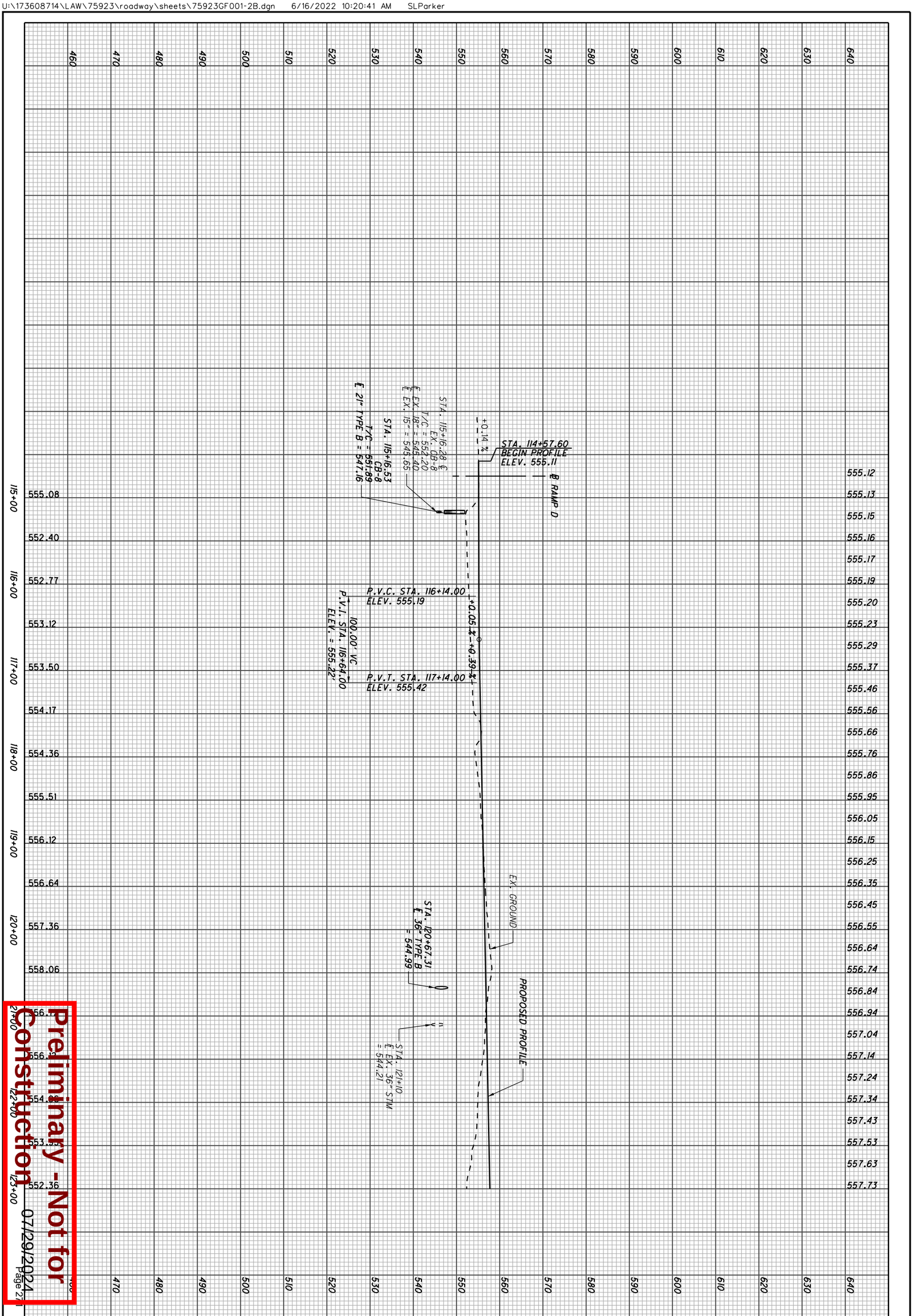
FOR PROFILE, SEE SHEET 47
FOR RAMP C PLAN & PROFILE, SEE SHEET 367
FOR RAMP D PLAN & PROFILE, SEE SHEET 373
FOR PAVEMENT DETAILS, SEE SHEET 532
FOR INTERCHANGE DETAILS, SEE SHEETS 547-548
FOR INTERSECTION DETAILS, SEE SHEET 549
FOR STORM SEWER TABLES, SEE SHEETS 561-565
FOR UNDERDRAIN TABLES, SEE SHEETS 581-585
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-600

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 114+57.60 TO STA. 123+00

LAW-7-2.17



47
633

LAW-7-2.17

PROFILE - S.R. 7
STA. 114+57.60 TO STA. 123+00

CALCULATED SLP
CHECKED ALB

CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99
Δ = 53° 33' 53" (RT)
Dc = 1° 27' 15"
R = 3,940.00'
T = 1,880.13'
L = 3,508.44'
E = 425.60'
TS STA. 117+84.61
SC STA. 119+59.61

θs = 1° 16' 21"
Ls = 175.00'
Ts = 2,076.38'
LT = 116.67'
ST = 58.34'
e_{max} = 4.00%
CS STA. 154+68.05
ST STA. 156+43.05

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 123+00 TO STA. 135+00

LAW-7-2.17

48
635

Ex R/W
SYMMES CREEK 1
DO NOT DISTURB CREEK
Wooded Area
STA. 126+47.37 S.R. 7, 3' LT. =
STA. 126+56.39 RAMP C, 16' RT.
RAMP NOSE
STA. 129+11.36 S.R. 7, 8' RT. =
PT STA. 129+19.04 RAMP C
END RAMP
LA-R/W
PROP. LIGHTING CIRCUIT, TYP.
Ex R/W
CH
℄ RAMP C
CONSTRUCTION LIMITS PHASE 2A & 2B
℄ CONSTRUCTION S.R. 7
FUTURE FOUR LANE
WETLAND B
CURVE NO. 1
Ex LA-R/W
TYPE E PON
+98.59
PROP. LUMINAIRE, TYP.
A
BTA, TYPE 1
+54.10
BTA, TYPE 1
+33.08
9 U
MATCH LINE STA. 123+00
MATCH LINE STA. 135+00
Brush
FUTURE FOUR LANE
PRECAST REINFORCED CONCRETE OUTLET WITH TIED CONCRETE BLOCK MAT (TYP.)
BRIDGE NO. LAW-7-0251
SYMMES CREEK 2
5 U
6 U
DITCH EROSION PROTECTION MAT, TYPE B
(100' x 7.5' / 9 = 83.33 SY)
1 EC
WETLAND A
STREAM 1
CONSTRUCTION LIMITS PHASE 2A & 2B
Wooded Area
EX. 24" STM.
EX. 27" STM.
CB
2 EC
ROCK CHANNEL PROTECTION TYPE C WITH FILTER
(105' x 7.5' x 1.5' / 27 = 43.75 CY)

(A) -
STA. 131+00.00
BEGIN PAVEMENT TAPER, 8' RT.
BEGIN SHOULDER TAPER, 0' RT./LT.

STA. 132+00.00
END PAVEMENT TAPER, 20' RT.
END SHOULDER TAPER, 16' RT.

(VBF) DENOTES LOCATION OF VEGETATED BIOFILTER

FOR PROFILE, SEE SHEET 49
FOR RAMP C PLAN & PROFILE, SEE SHEET 367
FOR PAVEMENT DETAILS, SEE SHEET 532
FOR INTERCHANGE DETAILS, SEE SHEETS 543-548
FOR CULVERT DETAILS, SEE SHEETS 568-570
FOR UNDERDRAIN TABLES, SEE SHEETS 581-585
FOR PIPE CULVERT PLAN, SEE SHEETS 589-608

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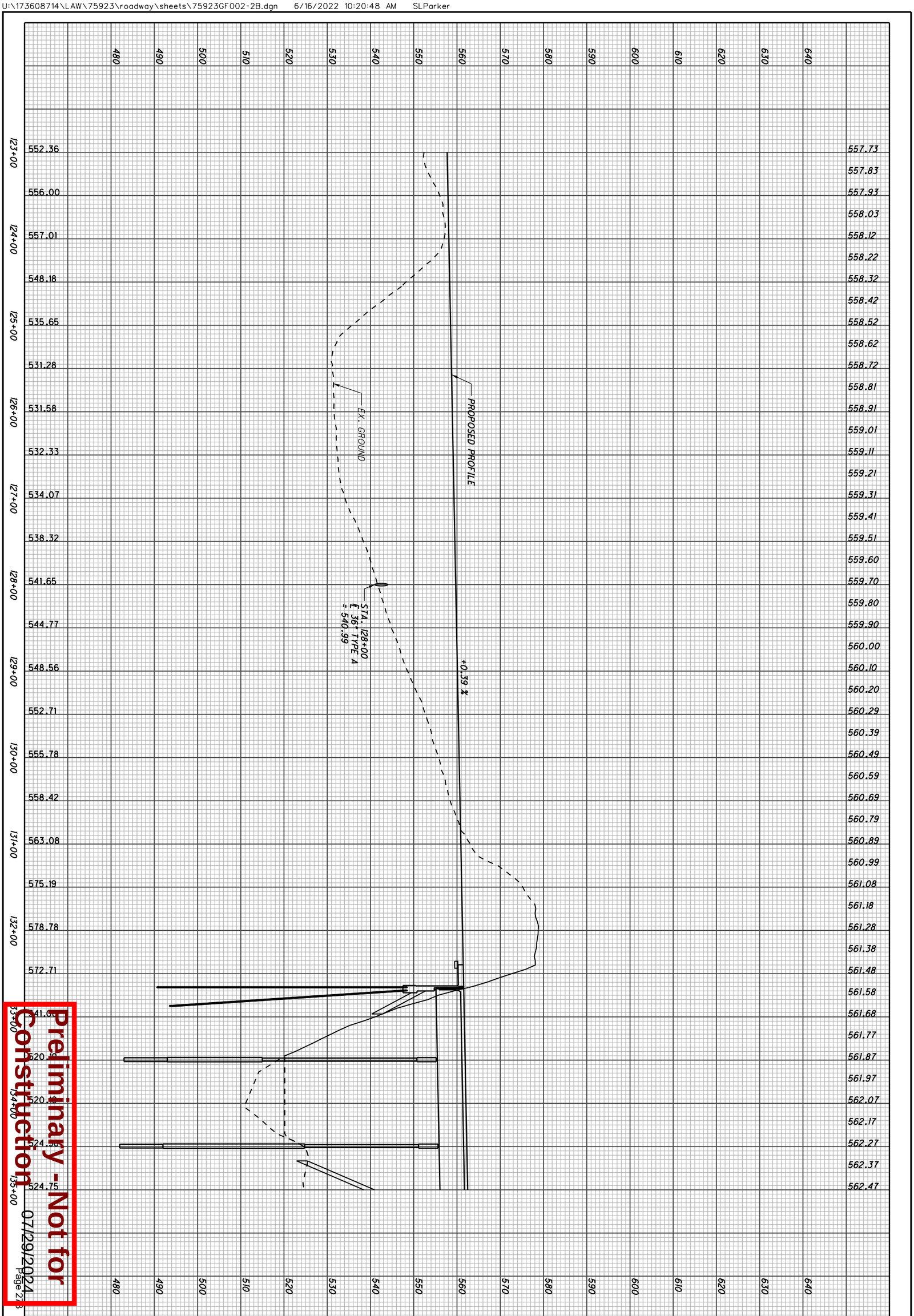
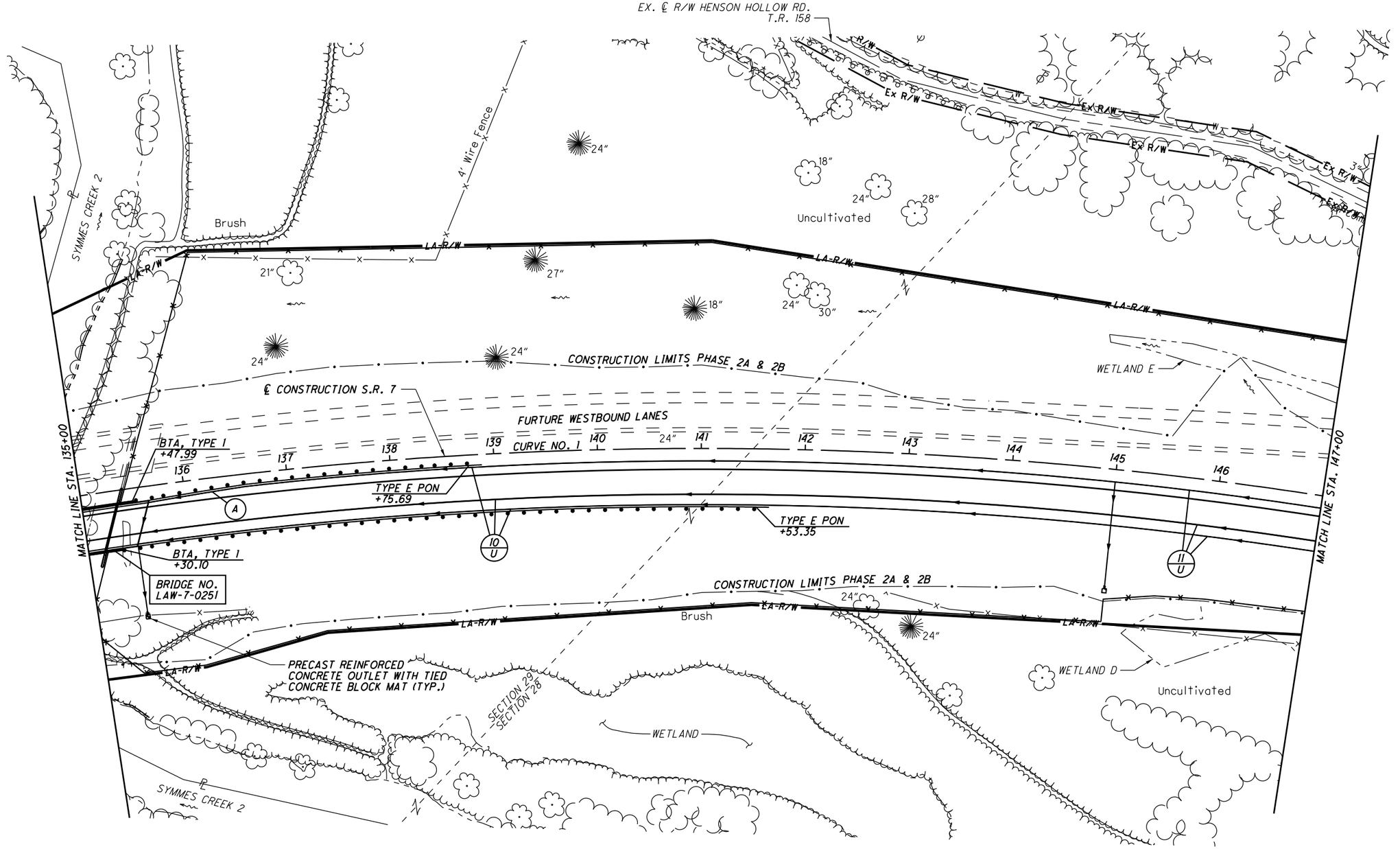


PROFILE - S.R. 7
STA. 123+00 TO STA. 135+00

CALCULATED SLP
CHECKED ALB



CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99
Δ = 53° 33' 53" (RT)
Dc = 1° 27' 15"
R = 3,940.00'
T = 1,880.13'
L = 3,508.44'
E = 425.60'
TS STA. 117+84.61
SC STA. 119+59.61

θs = 1° 16' 21"
Ls = 175.00'
Ts = 2,076.38'
LT = 116.67'
ST = 58.34'
e_{max} = 4.00%
CS STA. 154+68.05
ST STA. 156+43.05

(A) - STA. 135+59.43
BEGIN SHOULDER TAPER, 16' RT.

STA. 136+59.43
END SHOULDER TAPER, 12' RT.

FOR PROFILE, SEE SHEET 51
FOR UNDERDRAIN TABLES, SEE SHEETS 581-585
FOR PAVEMENT COVERAGE, SEE SHEETS XXX-XXX
FOR STRUCTURES 20' AND OVER, SEE SHEETS XXX-XXX

Preliminary - Not for Construction 07/29/2024

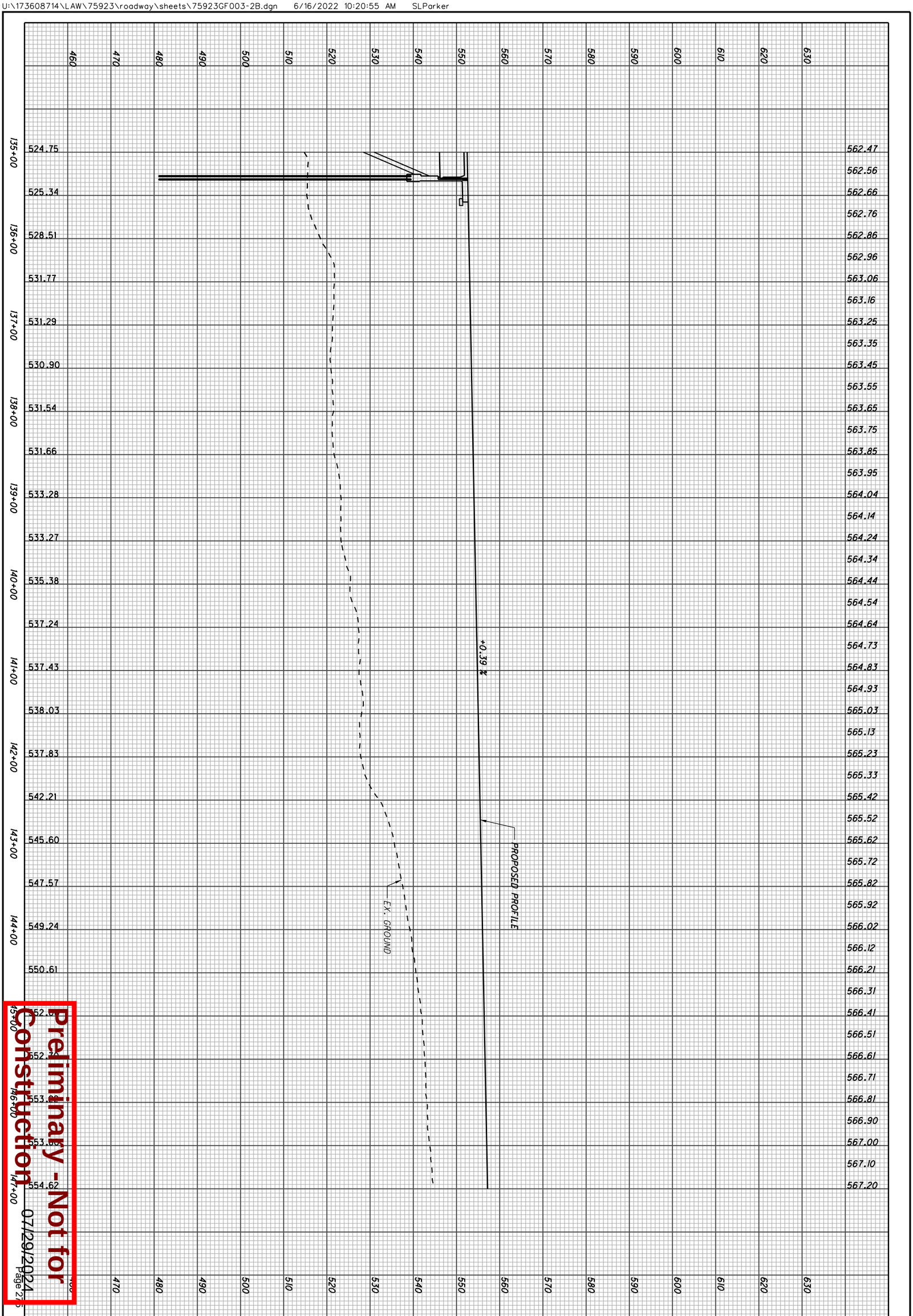
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

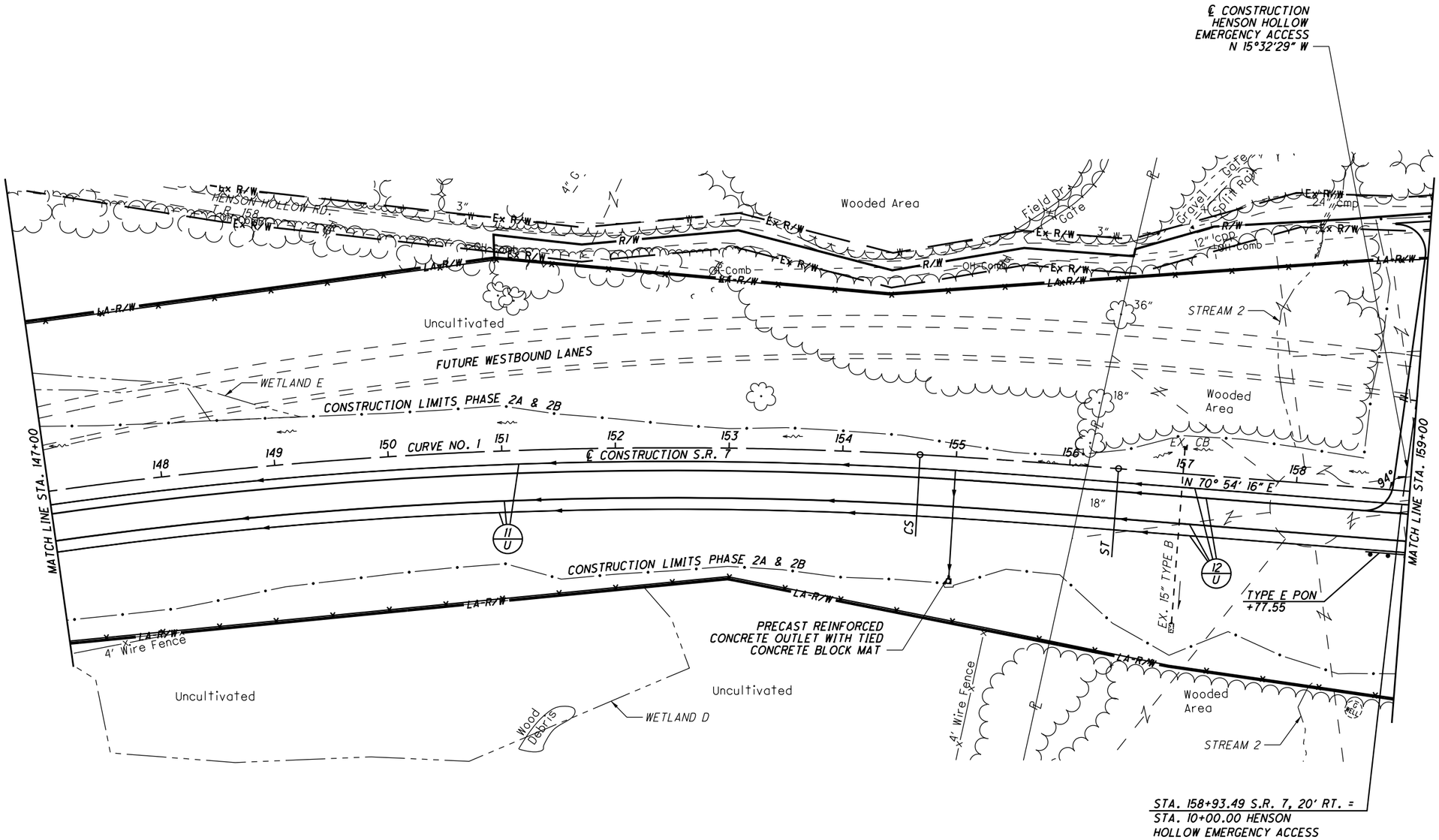
PLAN - S.R. 7
STA. 135+00 TO STA. 147+00

LAW-7-2.17

50
635



51 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 135+00 TO STA. 147+00	CALCULATED SLP CHECKED ALB



CURVE DATA
S.R. 7
CURVE NO. 1

P.I. STA. 138+60.99	θs = 1° 16' 21"
Δ = 53° 33' 53" (RT)	Ls = 175.00'
Dc = 1° 27' 15"	Ts = 2,076.38'
R = 3,940.00'	LT = 116.67'
T = 1,880.13'	ST = 58.34'
L = 3,508.44'	e_{max} = 4.00%
E = 425.60'	CS STA. 154+68.05
TS STA. 117+84.61	ST STA. 156+43.05
SC STA. 119+59.61	

FOR PROFILE, SEE SHEET 53
FOR STORM SEWER PROFILE, SEE SHEET 135
FOR UNDERGROUND UTILITIES, SEE SHEETS 58996127 & 58996128
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 58996197 & 58996198

Preliminary - Not for Construction 07/29/2024

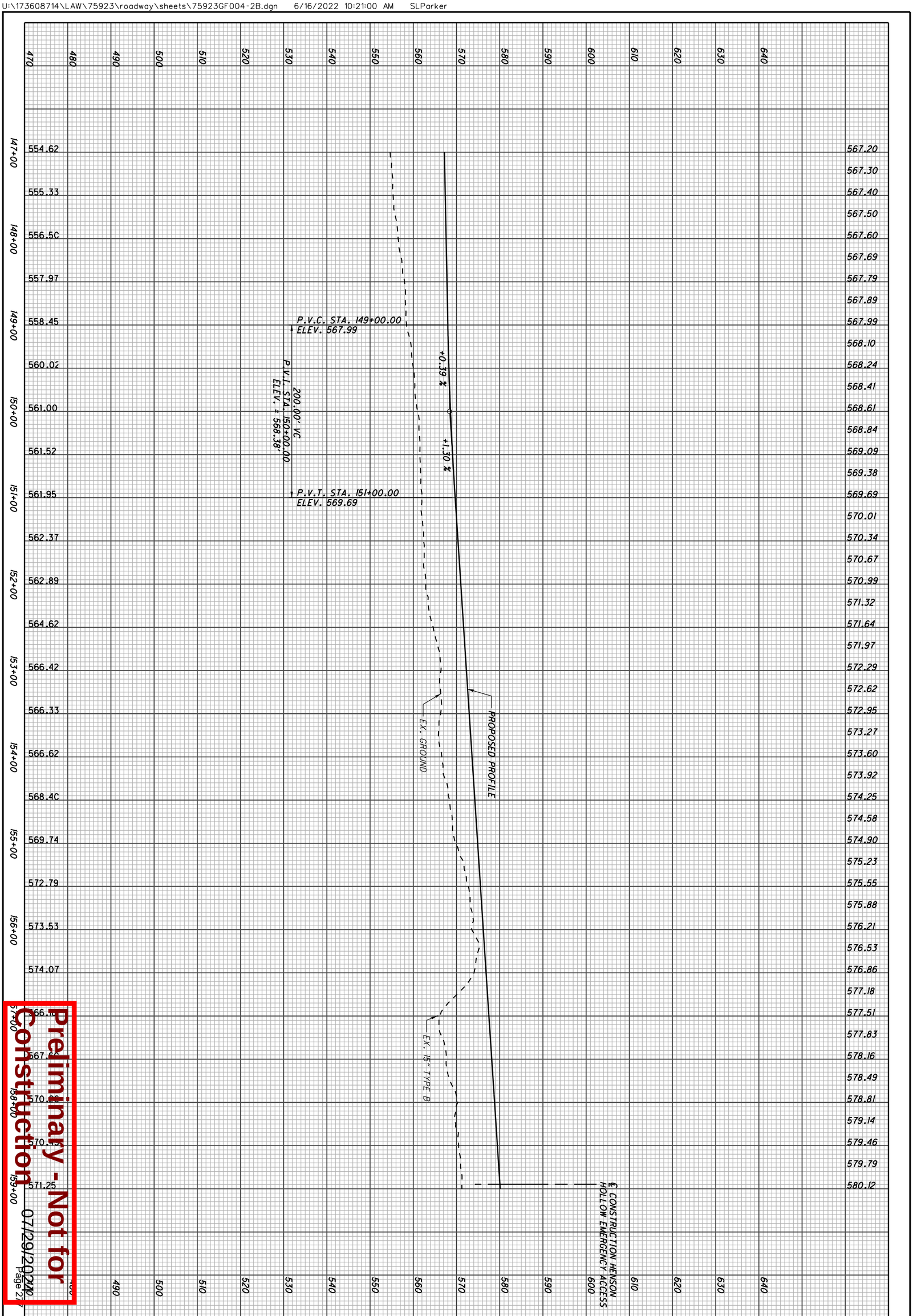
N

HORIZONTAL SCALE IN FEET
0 25 50 100

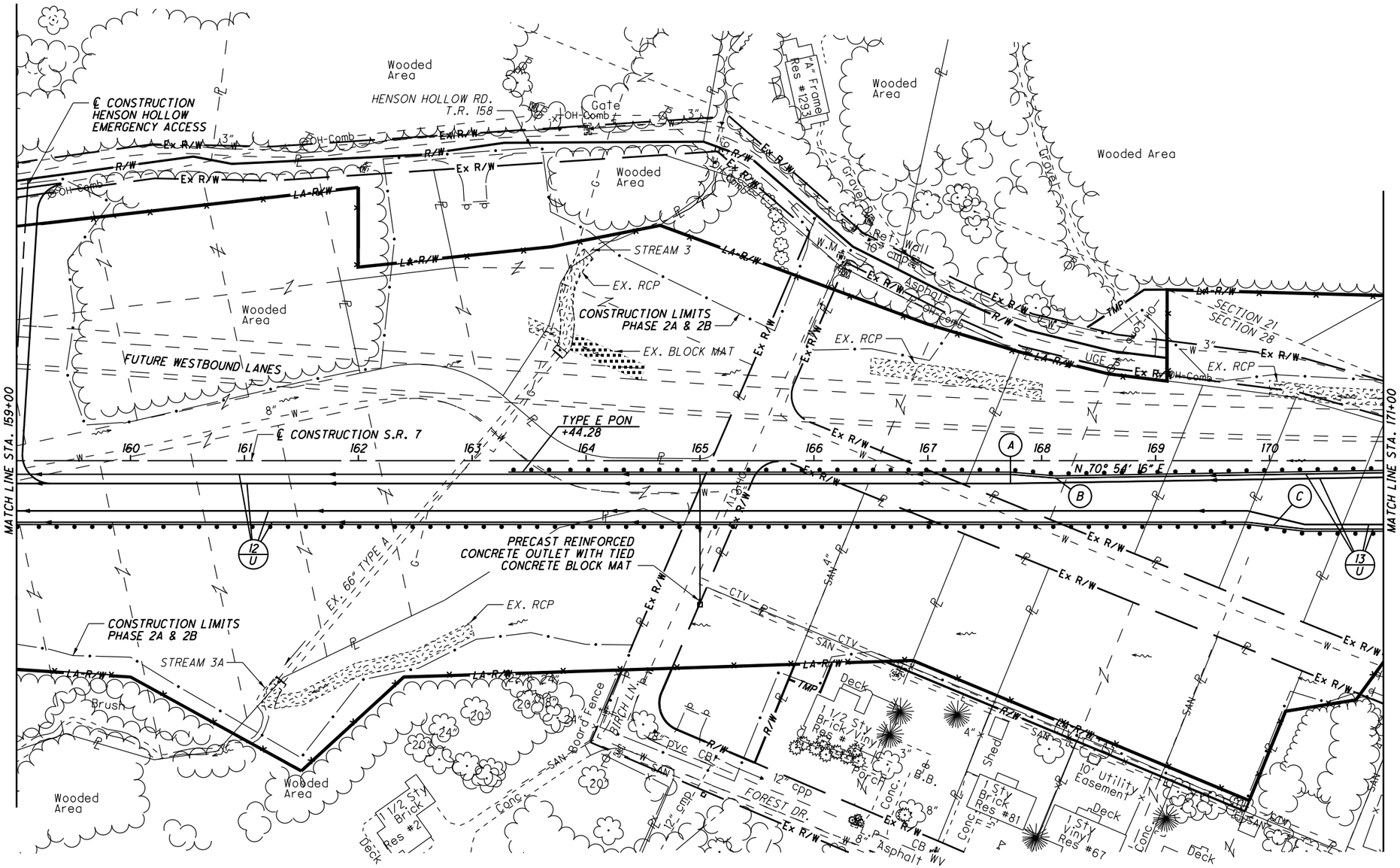
CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 147+00 TO STA. 159+00

LAW-7-2.17



53 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 147+00 TO STA. 159+00	CALCULATED SLP CHECKED ALB



(A) - STA. 167+72.52
BEGIN PAVEMENT TAPER, 20' RT.
BEGIN SHOULDER TAPER, 12' RT.

(B) - STA. 168+12.52
END SHOULDER TAPER, 15.33' RT.

(C) - STA. 169+80.98
BEGIN PAVEMENT TAPER, 44' RT.
BEGIN SHOULDER TAPER, 54' RT.

STA. 170+30.98
END PAVEMENT TAPER, 56' RT.
END SHOULDER TAPER, 60' RT.

FOR PROFILE, SEE SHEET 55
FOR DRIVE DETAILS, SEE SHEETS 553-557
FOR UNDERDRAIN TABLES, SEE SHEETS 578-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-644

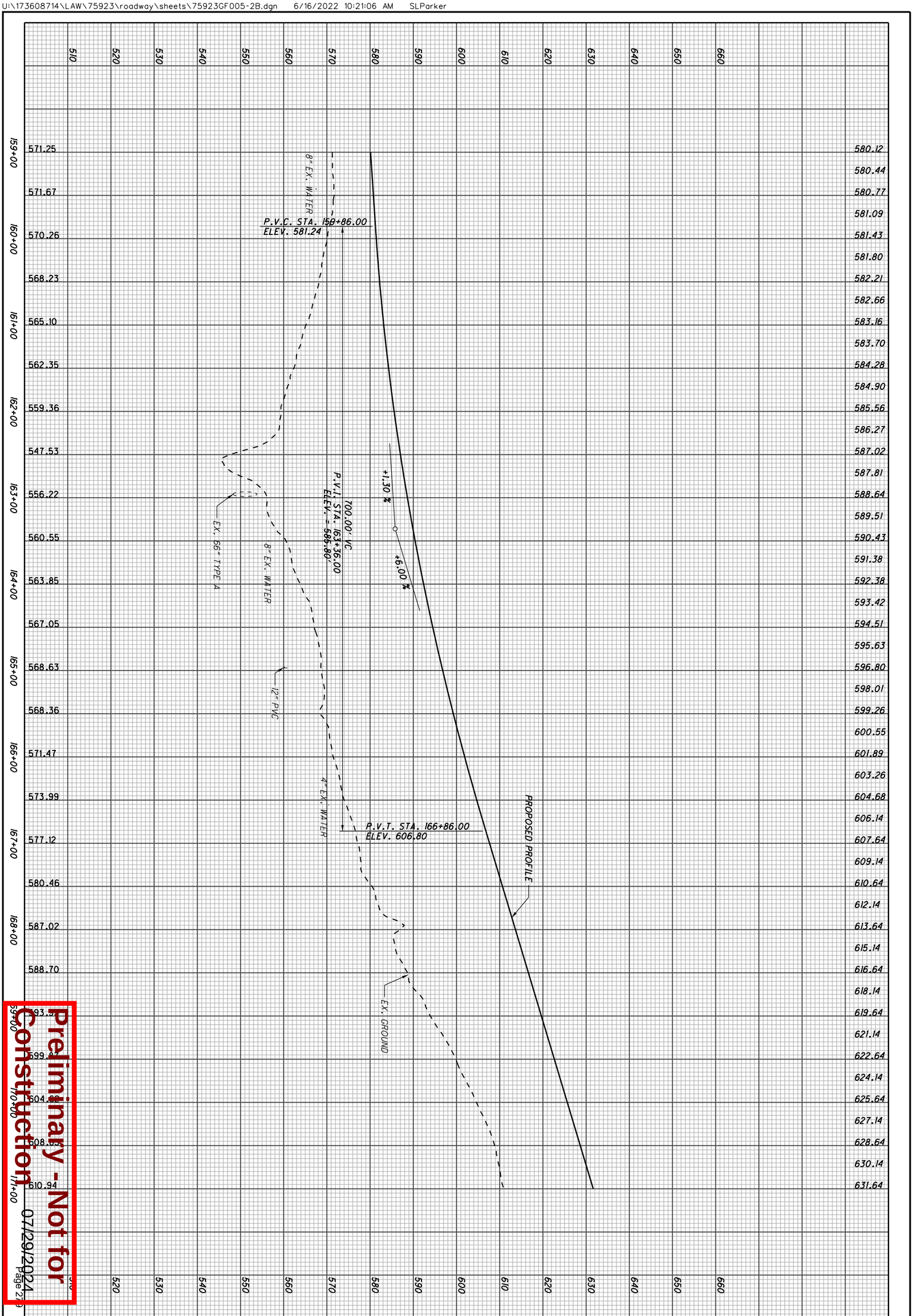
Preliminary - Not for Construction 01/30/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 159+00 TO STA. 171+00

LAW-7-2.17



LAW-7-2.17

PROFILE - S.R. 7
STA. 159+00 TO STA. 171+00

CALCULATED SLP
CHECKED ALB

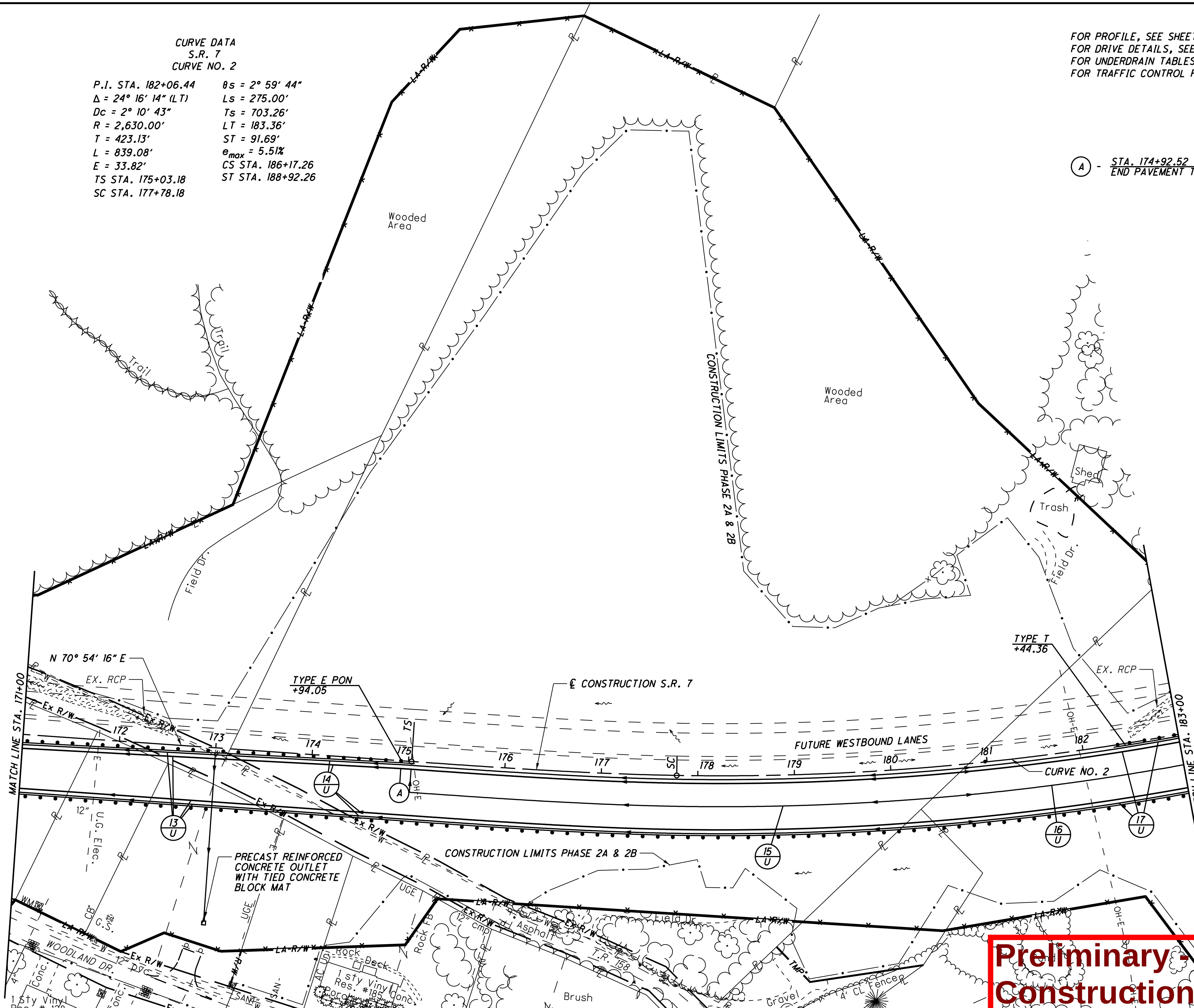
CURVE DATA
S.R. 7
CURVE NO. 2

P.I. STA. 182+06.44	θs = 2° 59′ 44″
Δ = 24° 16′ 14″ (LT)	Ls = 275.00′
Dc = 2° 10′ 43″	Ts = 703.26′
R = 2,630.00′	LT = 183.36′
T = 423.13′	ST = 91.69′
L = 839.08′	e_{max} = 5.51%
E = 33.82′	CS STA. 186+17.26
TS STA. 175+03.18	ST STA. 188+92.26
SC STA. 177+78.18	

FOR PROFILE, SEE SHEET 57
FOR DRIVE DETAILS, SEE SHEETS 553-557
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

(A) - STA. 174+92.52
END PAVEMENT TAPER, 8′ RT.

(LF) DESIGNATES LEACH FIELD


Wooded Area
Wooded Area
Trail
Field Dr.
Shed
Trash
CONSTRUCTION LIMITS PHASE 2A & 2B
N 70° 54′ 16″ E
EX. RCP
TYPE E PON +94.05
℄ CONSTRUCTION S.R. 7
TYPE T +44.36
FUTURE WESTBOUND LANES
CURVE NO. 2
MATCH LINE STA. 171+00
MATCH LINE STA. 183+00
PRECAST REINFORCED CONCRETE OUTLET WITH TIED CONCRETE BLOCK MAT
WOODLAND DR.
1 Sty Vinyl Res. # 128
1 Sty Vinyl Res. #185
Brush
Gravel
4′ CL Fence
Asphalt
Rock Deck
12″ cmp
U.G. Elec.
LA-R/W
Ex R/W

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 171+00 TO STA. 183+00

LAW-7-2.17

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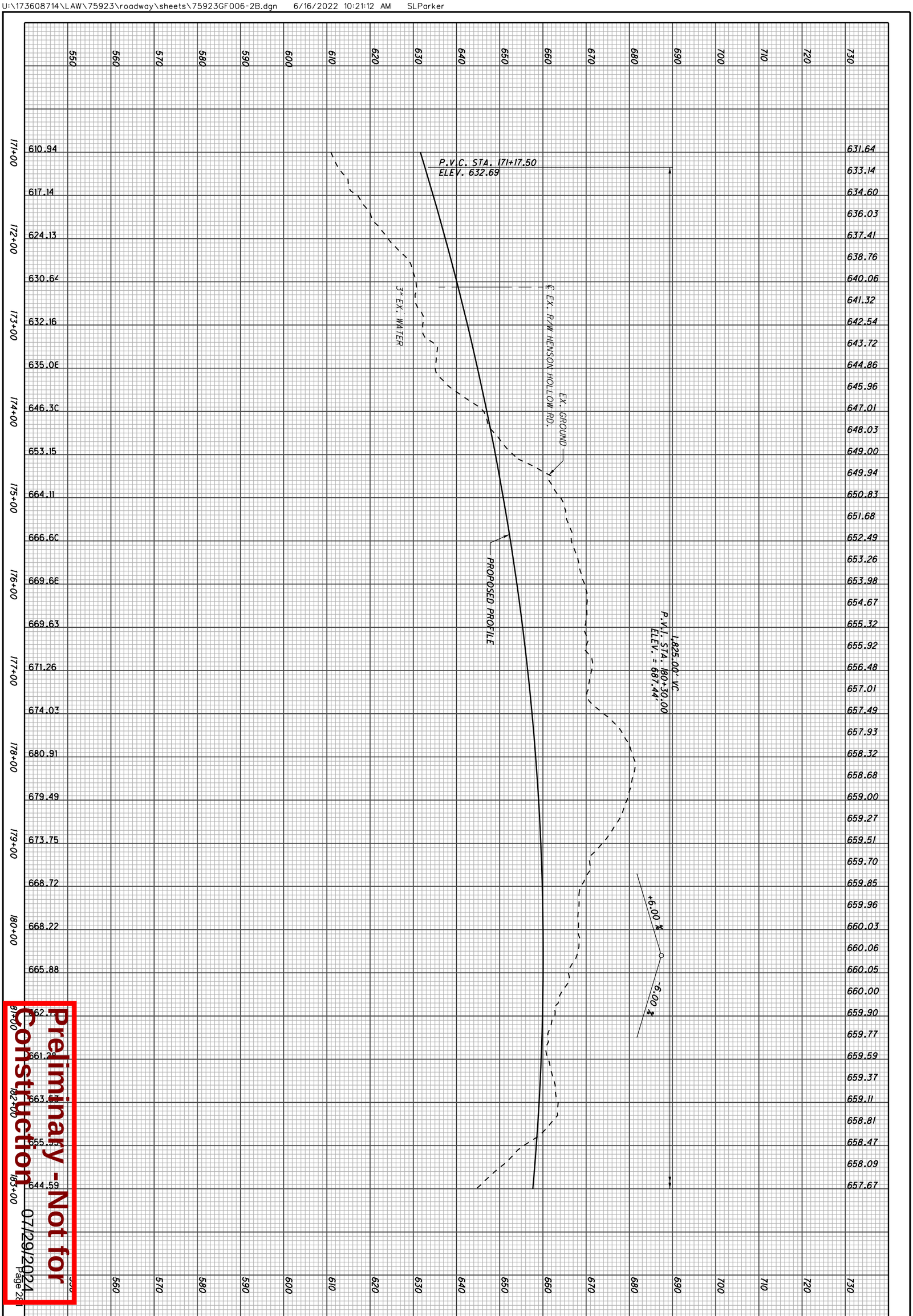


57 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 171+00 STA. 183+00	CALCULATED SLP CHECKED ALB

CURVE DATA
S.R. 7
CURVE NO. 2

P.I. STA. 182+06.44
Δ = 24° 16' 14" (LT)
Dc = 2° 10' 43"
R = 2,630.00'
T = 423.13'
L = 839.08'
E = 33.82'
TS STA. 175+03.18
SC STA. 177+78.18

θs = 2° 59' 44"
Ls = 275.00'
Ts = 703.26'
LT = 183.36'
ST = 91.69'
e_{max} = 5.51%
CS STA. 186+17.26
ST STA. 188+92.26

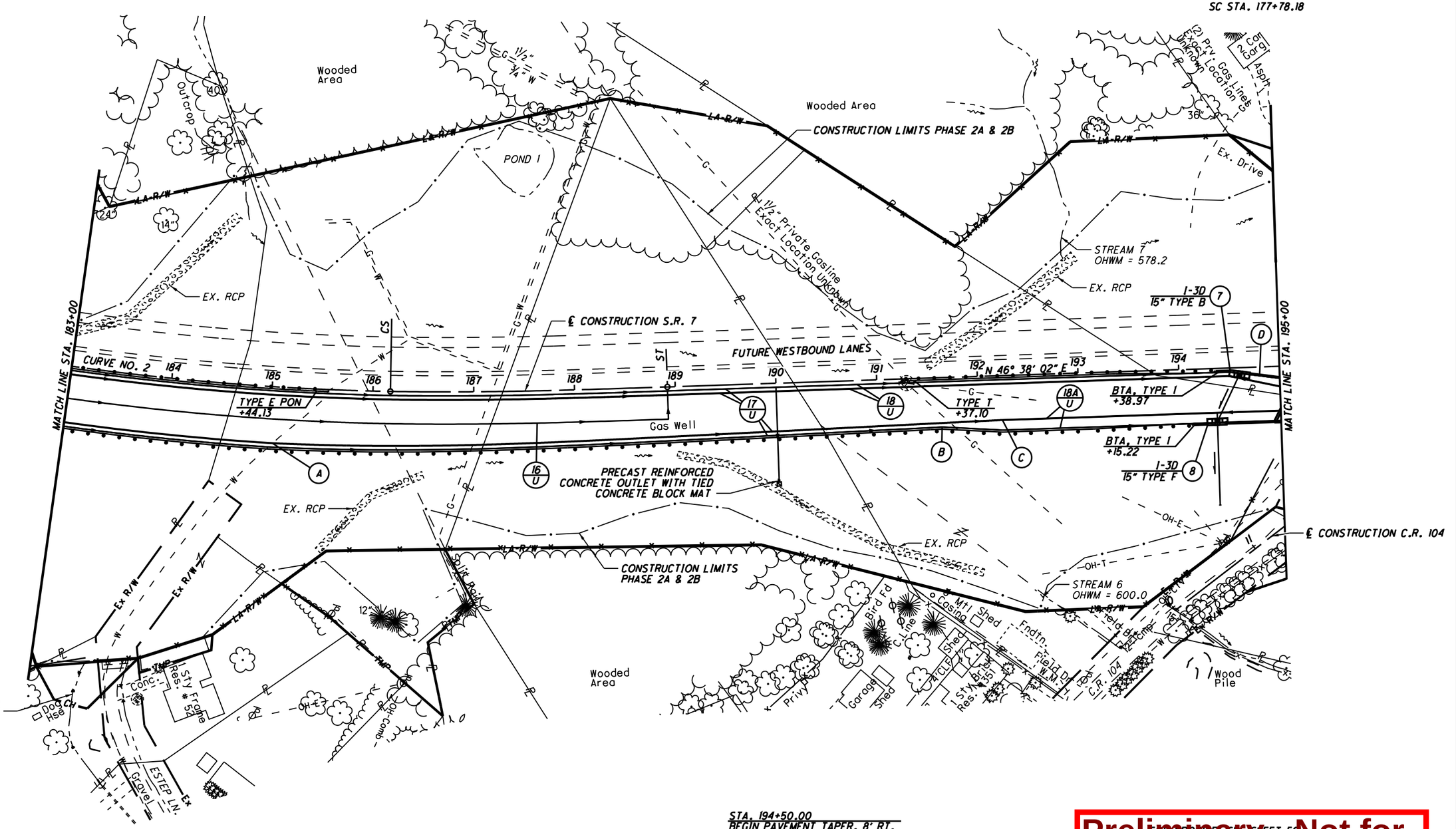
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 183+00 TO STA. 195+00

LAW-7-72.17

58
635



(A) - STA. 185+03.46
BEGIN PAVEMENT TAPER, 56' RT.

(B) - STA. 191+63.46
BEGIN SHOULDER TAPER, 49' RT.

(C) - STA. 192+23.46
END PAVEMENT TAPER, 44' RT.
END SHOULDER TAPER, 54' RT.

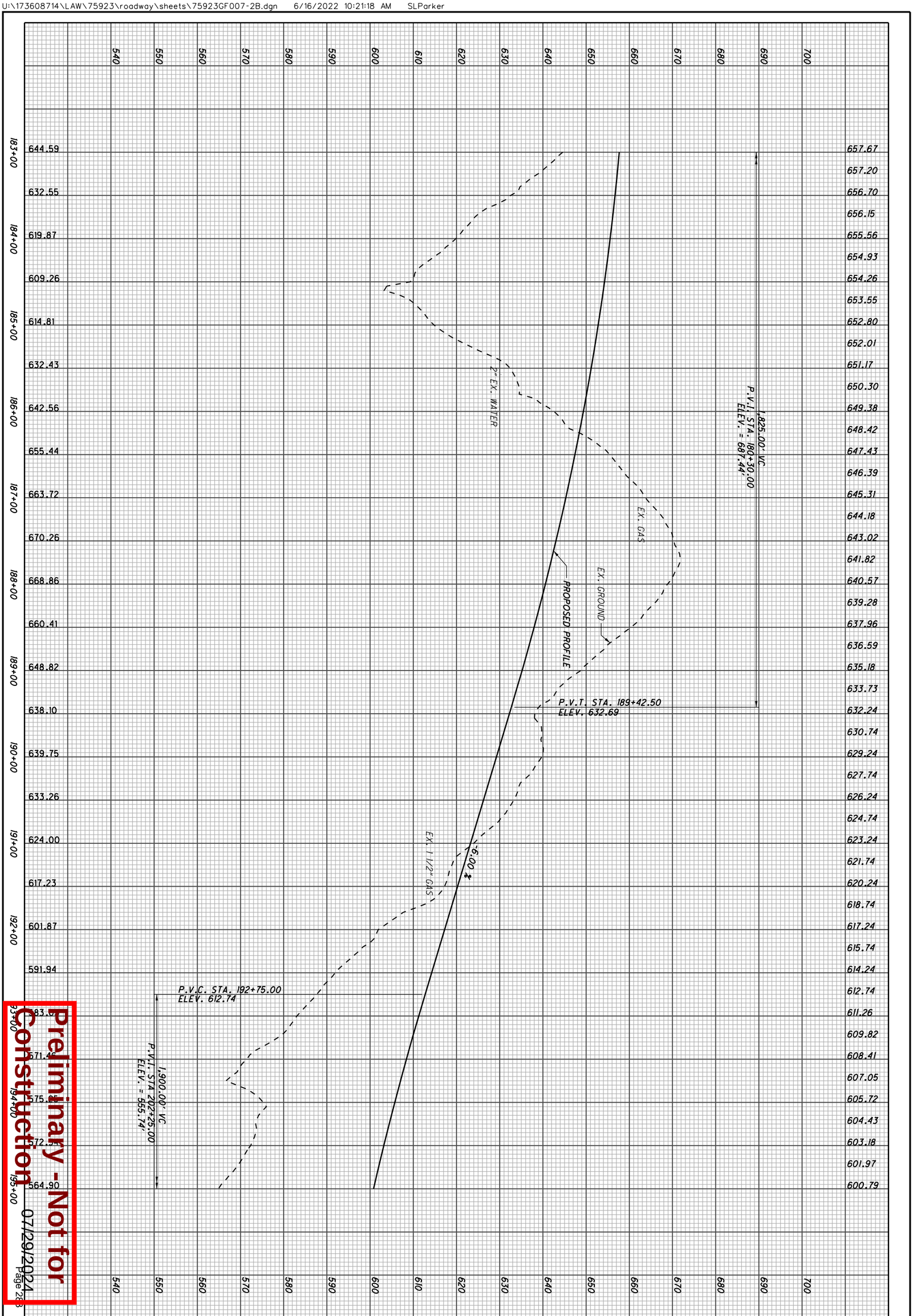
(D) - STA. 194+50.00
BEGIN PAVEMENT TAPER, 8' RT.
BEGIN SHOULDER TAPER, 4' RT.

STA. 195+00.00
END PAVEMENT TAPER, 20' RT.
END SHOULDER TAPER, 12' RT.

UNDERDRAIN SEE SHEET 59
FOR DRIVE DETAILS, SEE SHEETS 555-559
FOR UNDERDRAIN TABLES, SEE SHEETS 581-585
FOR TYPICAL SECTION, SEE SHEETS 201-249

U:\173608714\LAW\75923\roadway\sheets\75923GP007-2B.dgn Sheet 9/19/2023 2:56:15 PM aboyce

U:\173608714\LAW\75923\roadway\sheets\75923GF007-2B.dgn 6/16/2022 10:21:18 AM SLParker

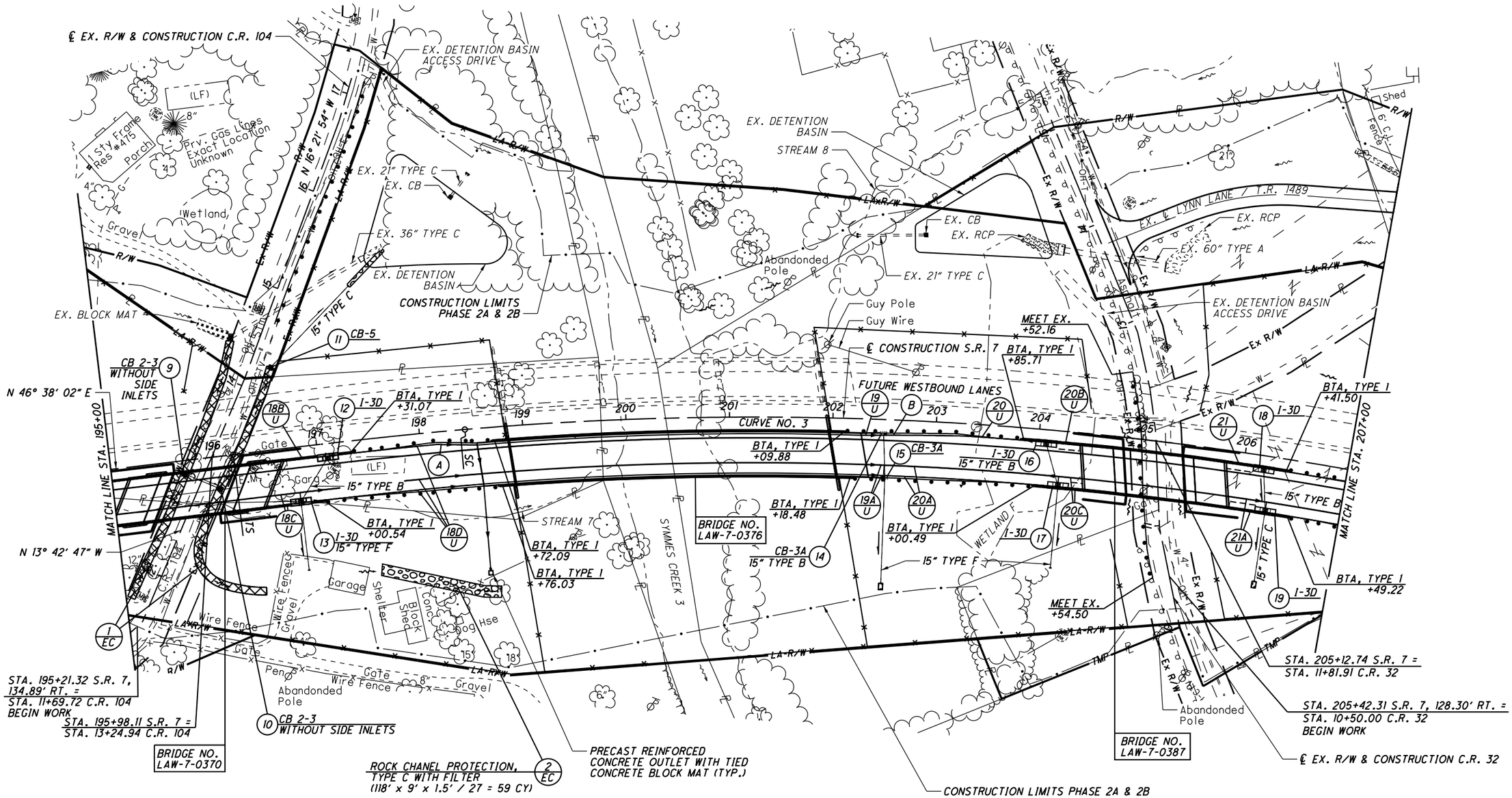


Preliminary - Not for Construction

07/20/2022

Page 283

59 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 183+00 TO STA. 195+00	CALCULATED SLP CHECKED ALB



CURVE DATA
S.R. 7
CURVE NO. 3

P.I. STA. 205+33.31	θs = 1° 58' 07"
Δ = 27° 30' 45" (RT)	Ls = 225.00'
Dc = 1° 45' 00"	Ts = 914.18'
R = 3,274.04'	LT = 150.01'
T = 683.24'	ST = 75.01'
L = 1,347.14'	e_{max} = 4.60%
E = 70.53'	CS STA. 211+91.27
TS STA. 196+19.13	ST STA. 214+16.27
SC STA. 198+44.13	

(1 EC) DITCH EROSION PROTECTION
(231' x 7.5' / 9 = 192.5 SY) LT.
(277' x 7.5' / 9 = 230.83 SY) RT.

(A) - STA. 198+14.83 BEGIN SHOULDER TAPER, 12' RT.
STA. 198+54.83 END SHOULDER TAPER, 16' RT.

(B) - STA. 202+27.86 BEGIN SHOULDER TAPER, 16' RT.
STA. 203+27.86 BEGIN SHOULDER TAPER, 12' RT.

(LF) DESIGNATES LEACH FIELD

REFER TO SHEET SEE SHEET 61 FOR STORM SEWER PROFILE, SEE SHEET 563 FOR UNDERDRAIN TABLES, SEE SHEETS 579-583 FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-599

Preliminary - Not for Construction 6/29/2024

PLAN - S.R. 7
STA. 195+00 TO STA. 207+00

LAW-7-2.17

60
633

CALCULATED SLP
CHECKED ALB

HORIZONTAL SCALE IN FEET
0 25 50 100

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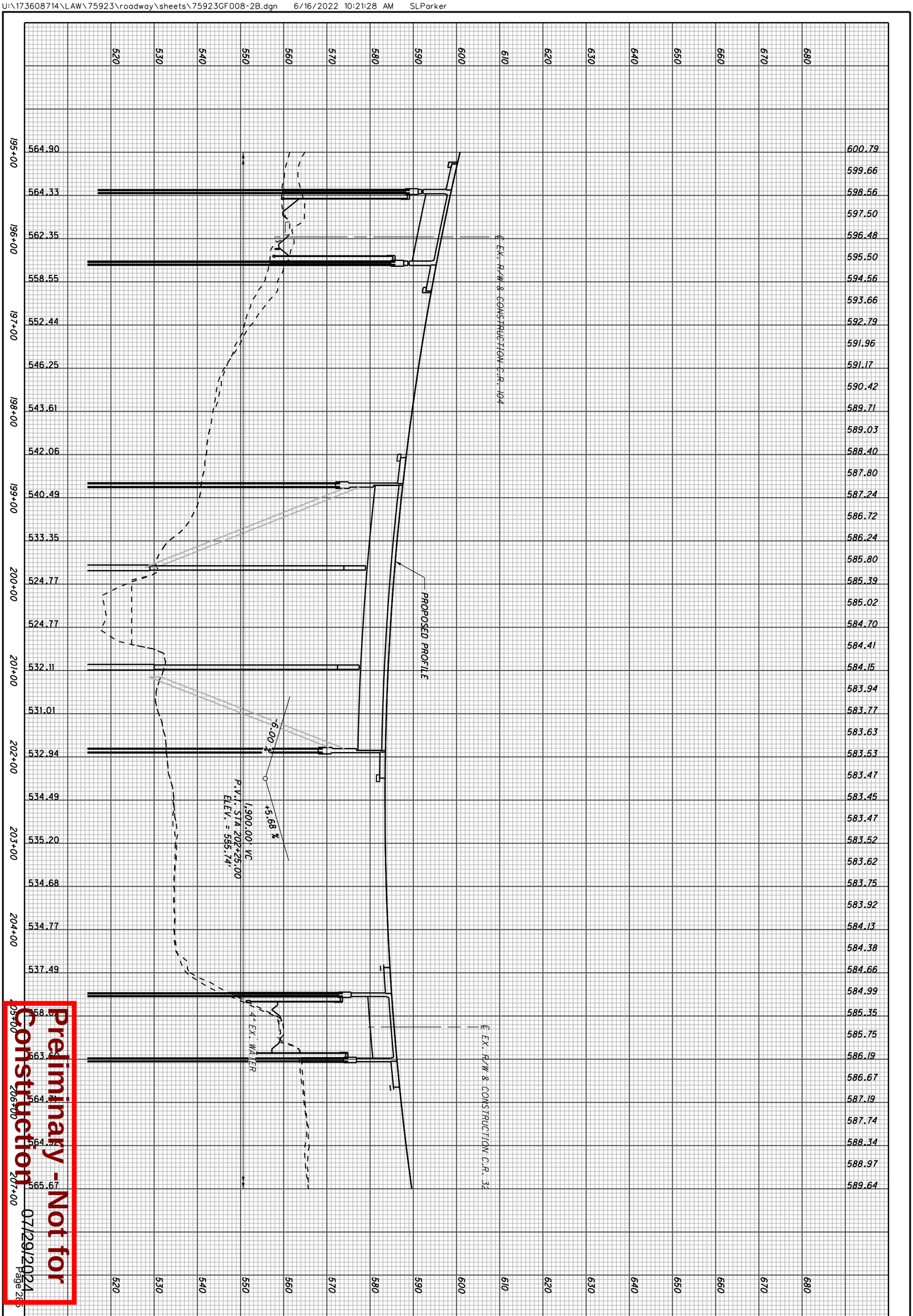
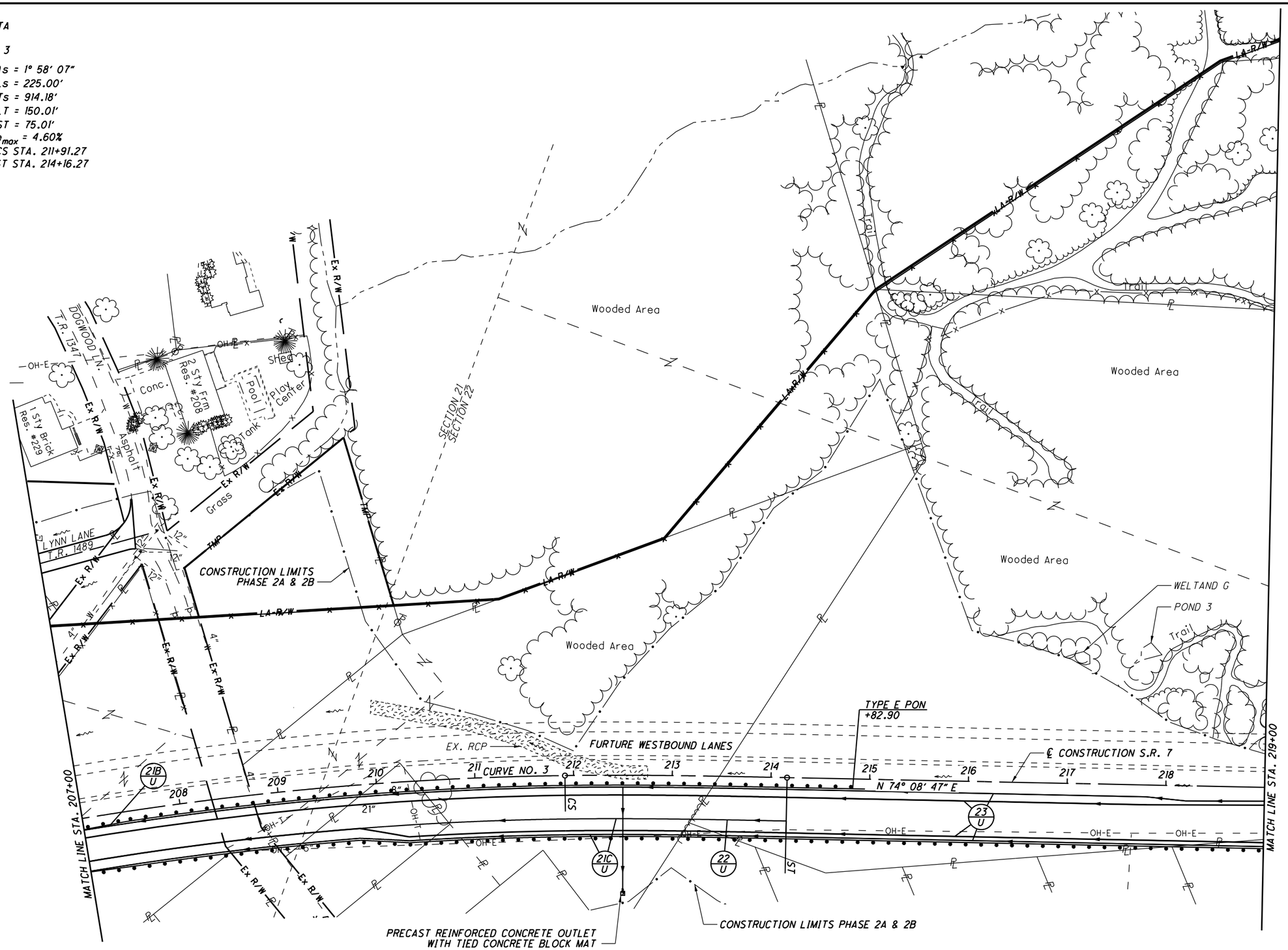


61 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 195+00 STA. 207+00	CALCULATED SLP CHECKED ALB

CURVE DATA
S.R. 7
CURVE NO. 3

P.I. STA. 205+33.31
Δ = 27° 30' 45" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 683.24'
L = 1,347.14'
E = 70.53'
TS STA. 196+19.13
SC STA. 198+44.13

θs = 1° 58' 07"
Ls = 225.00'
Ts = 914.18'
LT = 150.01'
ST = 75.01'
e_{max} = 4.60%
CS STA. 211+91.27
ST STA. 214+16.27



FOR PROFILE, SEE SHEET 64
FOR INDIRECT CABLES, SEE SHEETS 575-587
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

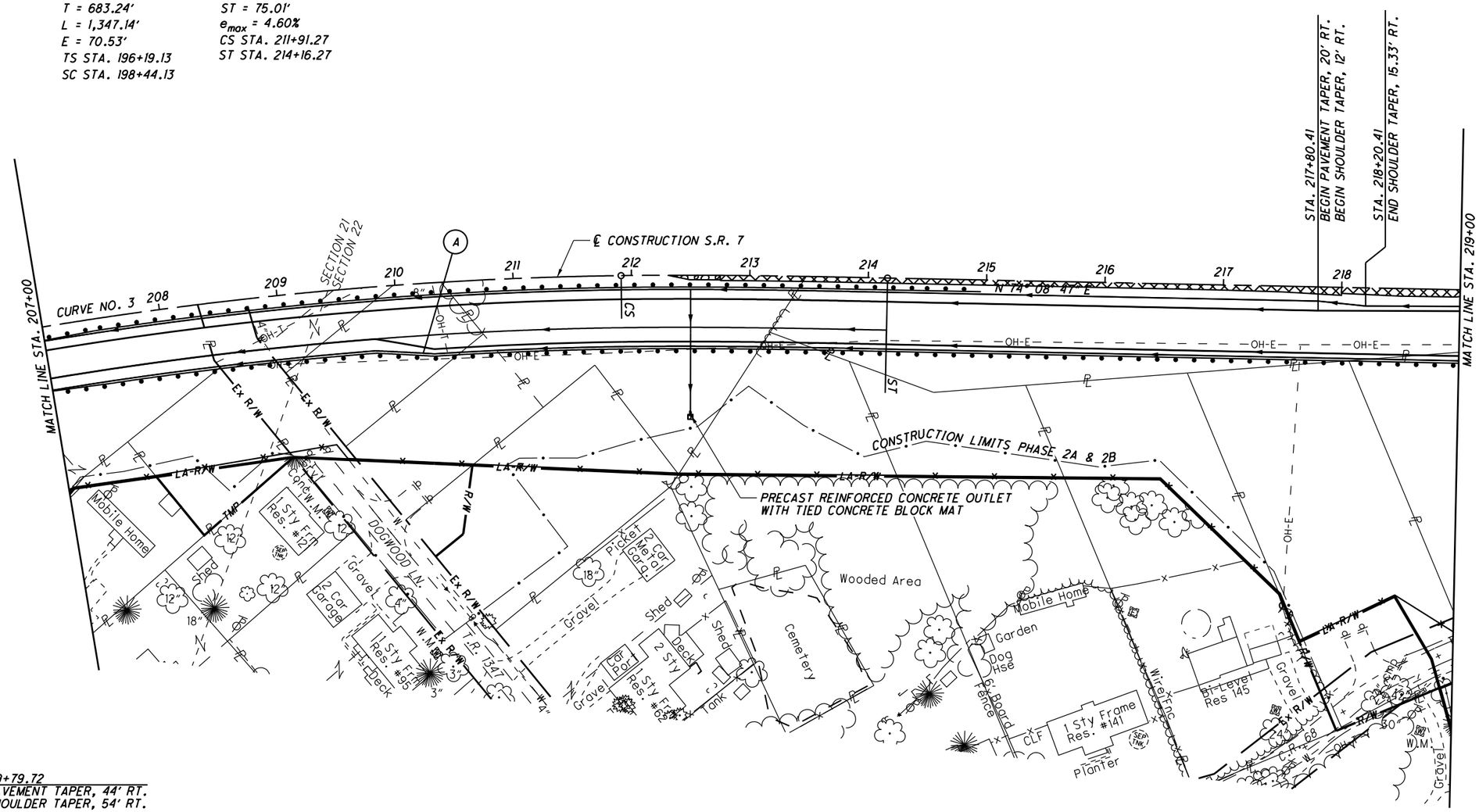
PLAN - S.R. 7
STA. 207+00 TO STA. 219+00 (NORTH)

LAW-7-2.17

CURVE DATA
S.R. 7
CURVE NO. 3

P.I. STA. 205+33.31
Δ = 27° 30' 45" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 683.24'
L = 1,347.14'
E = 70.53'
TS STA. 196+19.13
SC STA. 198+44.13

θs = 1° 58' 07"
Ls = 225.00'
Ts = 914.18'
LT = 150.01'
ST = 75.01'
e_{max} = 4.60%
CS STA. 211+91.27
ST STA. 214+16.27



A - STA. 209+79.72
BEGIN PAVEMENT TAPER, 44' RT.
BEGIN SHOULDER TAPER, 54' RT.

STA. 210+29.72
END PAVEMENT TAPER, 56' RT.
END SHOULDER TAPER, 60' RT.

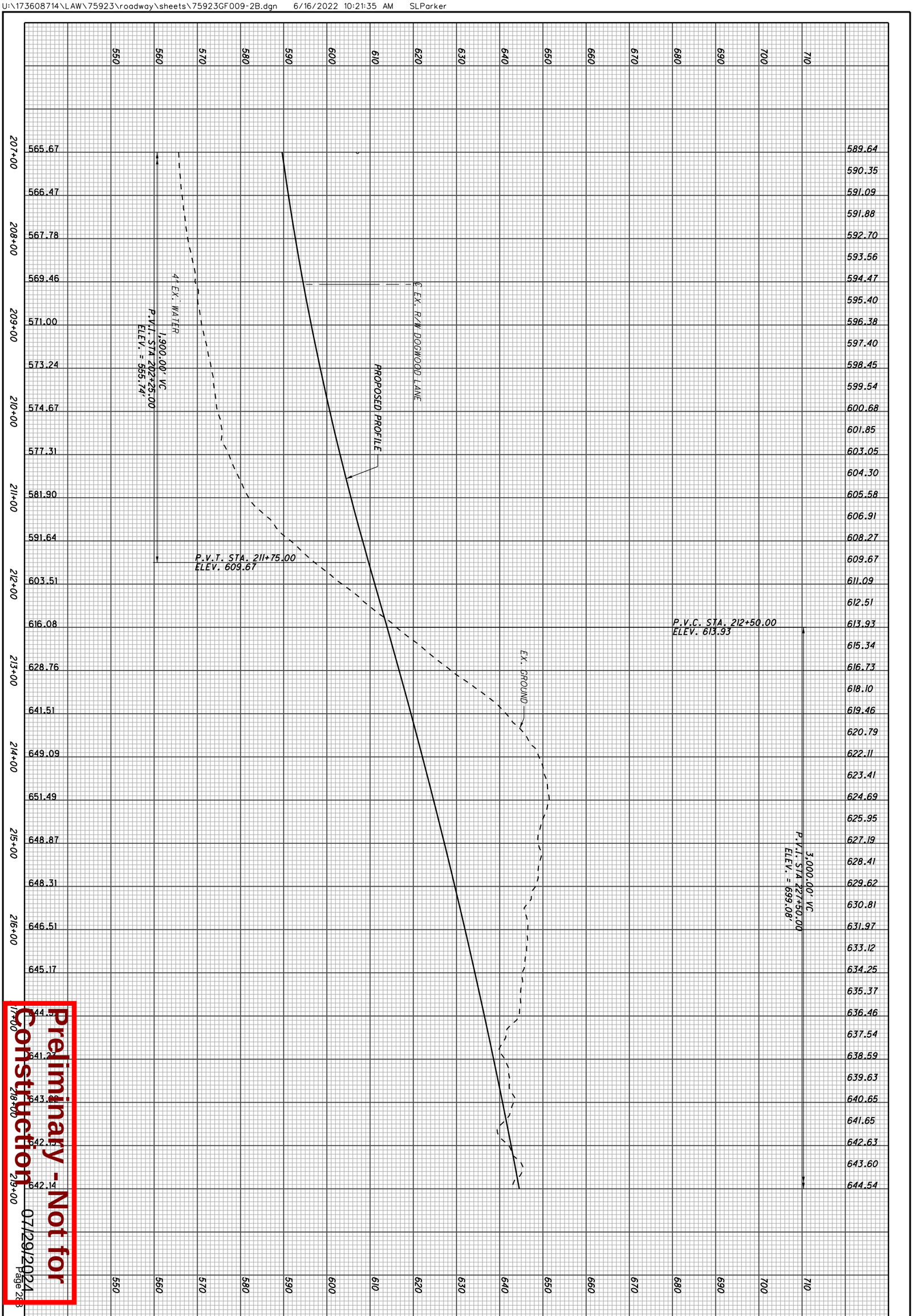
FOR PROFILE, SEE SHEET 64
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 207+00 TO STA. 219+00 (SOUTH)

LAW-7-2.17



64 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 207+00 TO STA. 219+00	CALCULATED SLP CHECKED ALB

FOR PROFILE, SEE SHEET 67
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 219+00 TO STA. 231+00 (NORTH)

LAW-7-2.17

65
633

Wooded Area
Wooded Area
Wooded Area
Open Field
Trail
Trail
Wire Fence
Wire Fence
Wire Fence
Wire Fence
Brush Board Fence
Chain Link Fence
L.A. R/W
L.A. R/W
L.A. R/W
L.A. R/W
B.R.E.C. ESMT
OH-E
OH-E
CONSTRUCTION LIMITS PHASE 2A & 2B
FUTURE WESTBOUND LANES
℄ CONSTRUCTION S.R. 7
N 74° 08' 47" E
MATCH LINE STA. 219+00
MATCH LINE STA. 231+00
Pond 1
4' x 6' Overflow
(2) 12" cmp
30"
STREAM 9
EX. RCP
EX. RCP
CURVE NO. 4
EX. 60.0' TYPE A
TYPE T +46.11
EX. CB-4
TYPE E PON +62.42
EX. 24" TYPE B
TYPE E PON +24.33
TS
SC
CS
ST
220
221
222
223
224
225
226
227
228
229
230
23 U
24 U
25 U

CURVE DATA
S.R. 7
CURVE NO. 4

P.I. STA. 232+01.52	θs = 9° 30' 00"
Δ = 34° 12' 59" (LT)	Ls = 400.00'
Dc = 4° 45' 00"	Ts = 572.79'
R = 1,206.23'	LT = 267.05'
T = 161.12'	ST = 133.68'
L = 520.36'	θmax = 8.00°
CS STA. 226+28.73	CT STA. 233+41.08
TS STA. 226+28.73	ST STA. 237+41.08
SC STA. 230+28.73	

Preliminary - Not for Construction 07/29/2024

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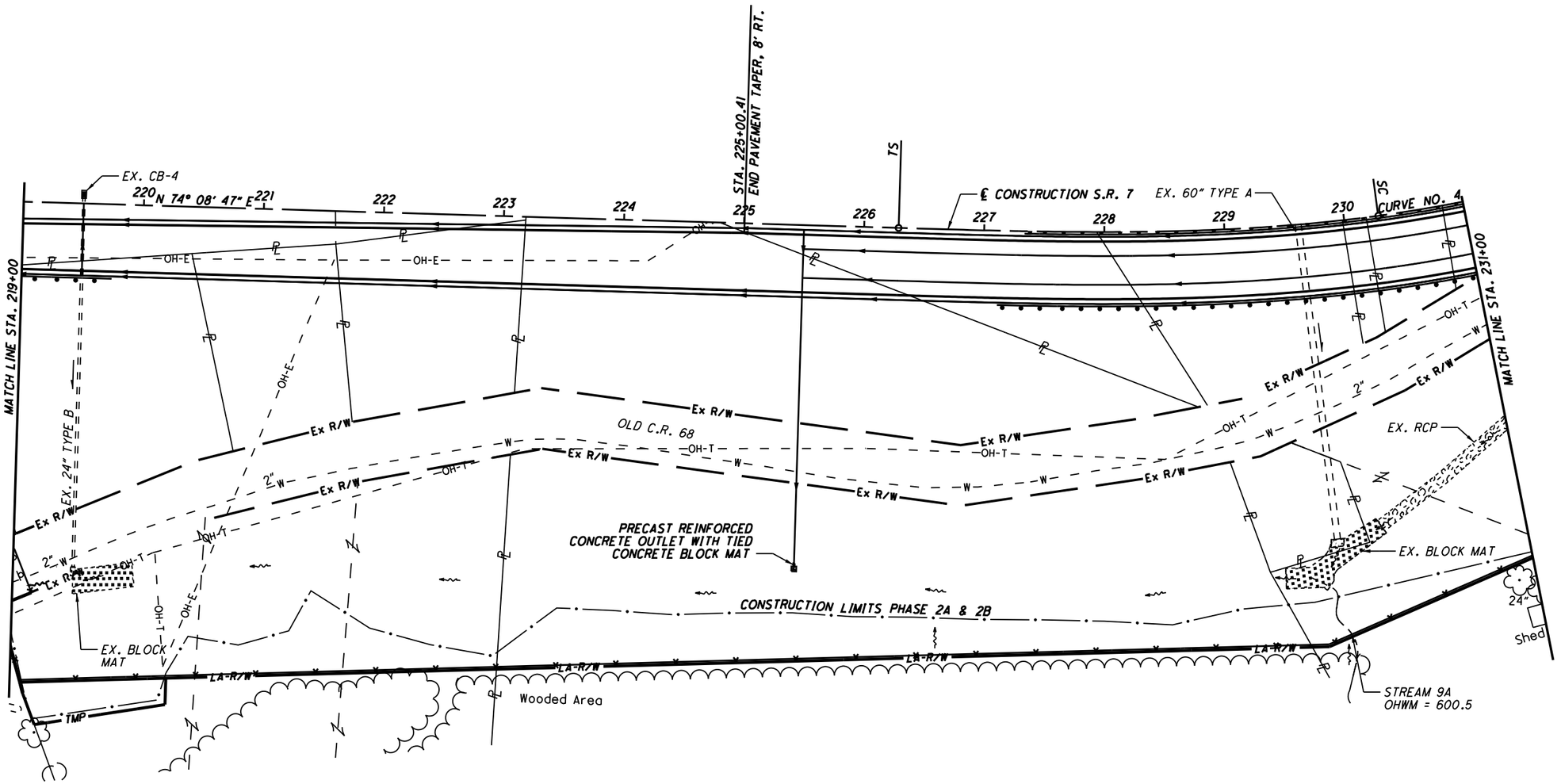
CURVE DATA
S.R. 7
CURVE NO. 4

P.I. STA. 232+01.52
Δ = 34° 12' 59" (LT)
Dc = 4° 45' 00"
R = 1,206.23'
T = 161.12'
L = 320.35'
E = 10.71'
TS STA. 226+28.73
SC STA. 230+28.73

θs = 9° 30' 00"
Ls = 400.00'
Ts = 572.79'
LT = 267.05'
ST = 133.68'
e_{max} = 8.00%
CS STA. 233+49.08
ST STA. 237+49.08



FOR TYPICAL SECTIONS, SEE SHEETS 581-582
FOR UNDERDRAIN TABLES, SEE SHEETS 581-585
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

Preliminary - Not for Construction 07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 219+00 TO STA. 231+00 (SOUTH)

LAW-7-2.17

66
635

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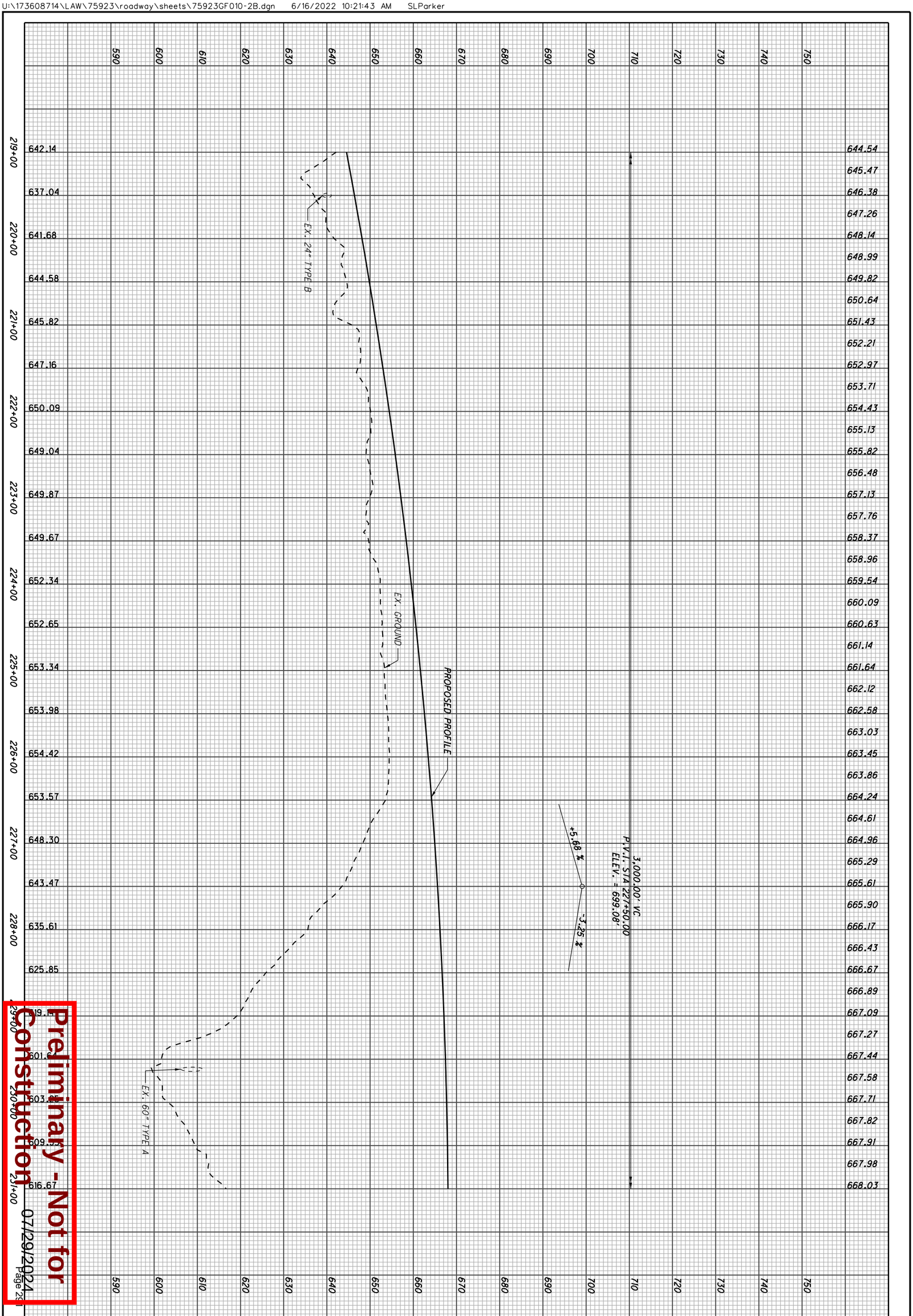
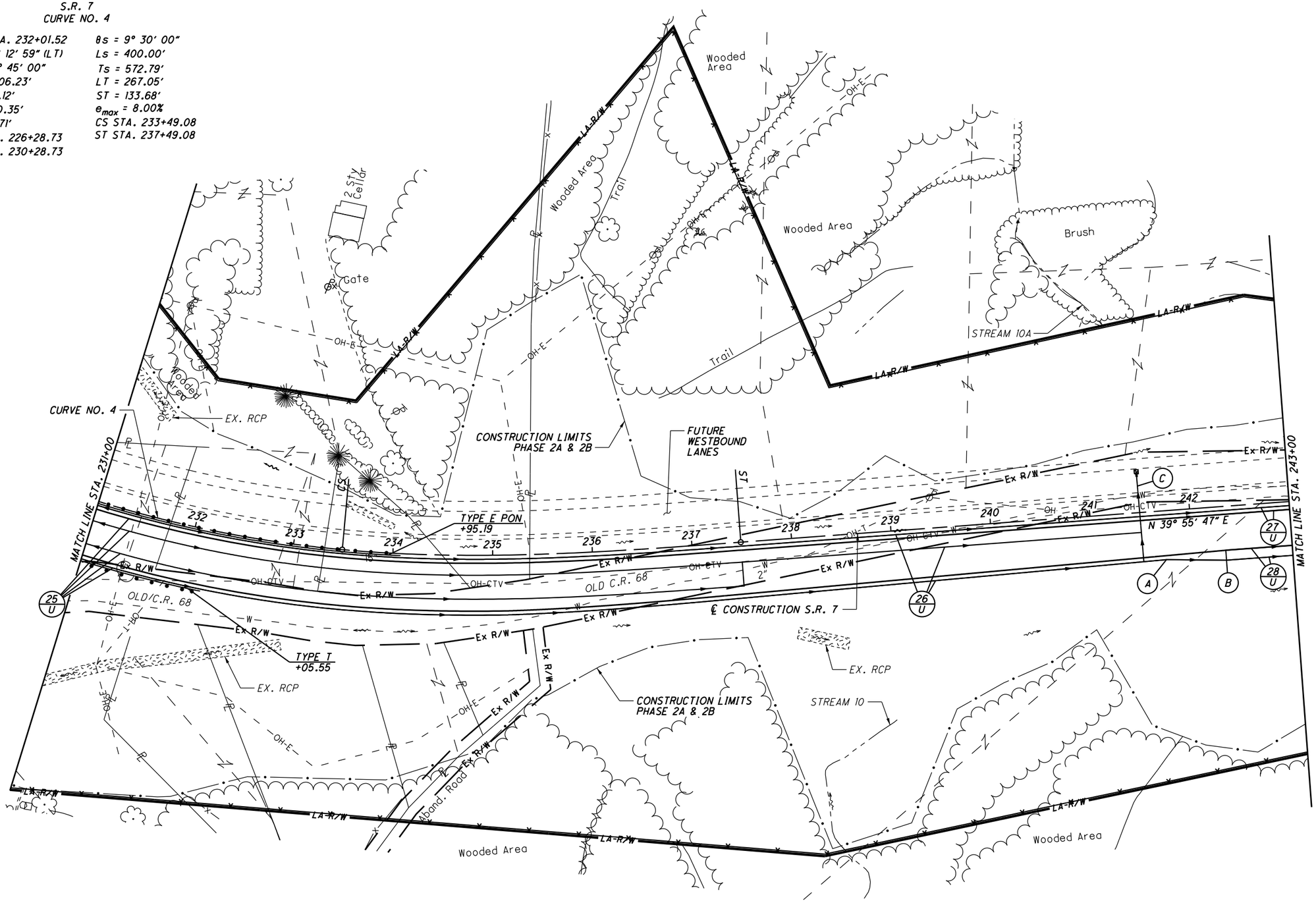


67 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 219+00 TO STA. 231+00	CALCULATED SLP CHECKED ALB

CURVE DATA
S.R. 7
CURVE NO. 4

P.I. STA. 232+01.52
Δ = 34° 12' 59" (LT)
Dc = 4° 45' 00"
R = 1,206.23'
T = 161.12'
L = 320.35'
E = 10.71'
TS STA. 226+28.73
SC STA. 230+28.73

θs = 9° 30' 00"
Ls = 400.00'
Ts = 572.79'
LT = 267.05'
ST = 133.68'
e_{max} = 8.00%
CS STA. 233+49.08
ST STA. 237+49.08



(A) - STA. 241+73.20
BEGIN SHOULDER TAPER, 49' RT.

(B) - STA. 242+33.20
END PAVEMENT TAPER, 44' RT.
(FOR CLIMBING LANE)
END SHOULDER TAPER, 54' RT.

(C) - PRECAST REINFORCED OUTLET WITH TIED CONCRETE BLOCK MAT

(LF) DESIGNATES LEACH FIELD

Preliminary - Not for Construction 9/12/2024

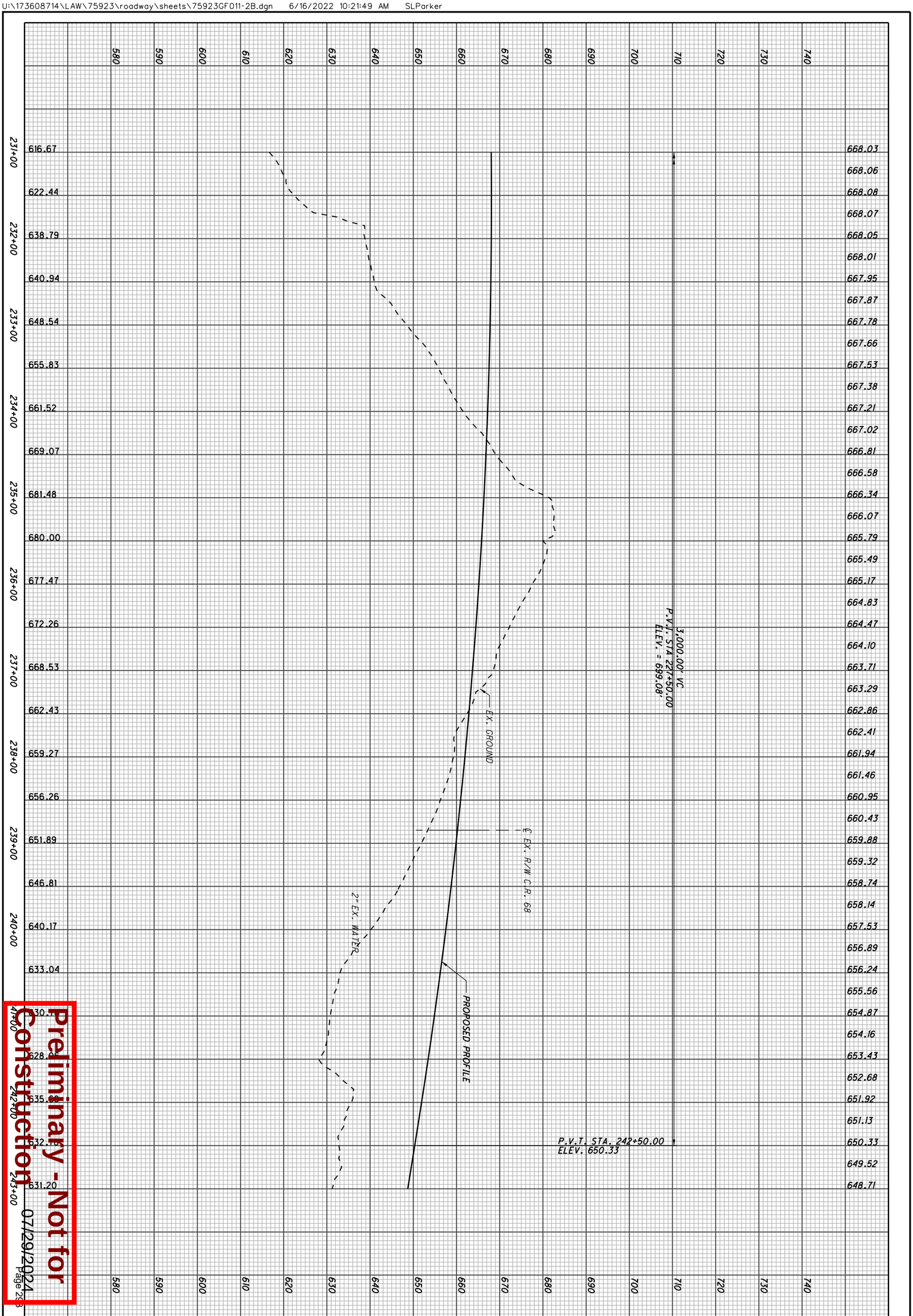
FOR PROFILE, SEE SHEET 69
FOR UNDERDRAIN TABLES, SEE SHEETS 570-583
FOR TYPICAL SECTION, SEE SHEETS 589 & 592

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

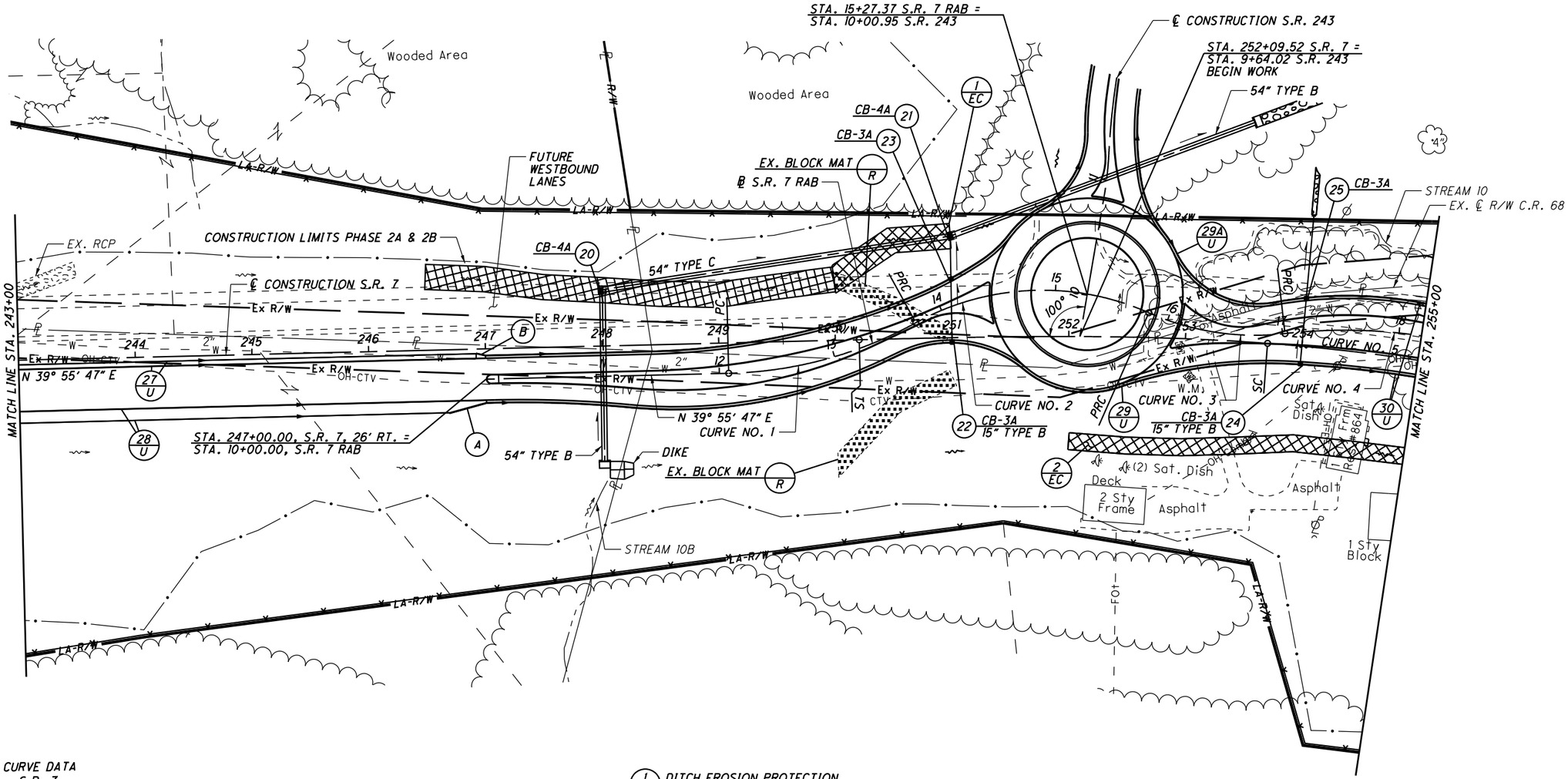
PLAN - S.R. 7
STA. 231+00 TO STA. 243+00

LAW-7-2.17



69 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 231+00 TO STA. 243+00	CALCULATED SLP CHECKED ALB

CURVE DATA @ S.R. 7 RAB CURVE NO. 1	CURVE DATA @ S.R. 7 RAB CURVE NO. 2	CURVE DATA @ S.R. 7 RAB CURVE NO. 3	CURVE DATA @ S.R. 7 RAB CURVE NO. 4
P.I. Sta. 12+93.43	P.I. Sta. 14+87.13	P.I. Sta. 16+43.83	P.I. Sta. 18+27.99
Δ = 27° 26′ 21″ (LT)	Δ = 52° 43′ 55″ (RT)	Δ = 30° 24′ 24″ (LT)	Δ = 31° 15′ 43″ (RT)
Dc = 16° 22′ 13″	Dc = 25° 27′ 53″	Dc = 25° 27′ 53″	Dc = 12° 43′ 57″
R = 350.00′	R = 225.00′	R = 225.00′	R = 450.00′
T = 85.45′	T = 111.52′	T = 61.15′	T = 125.90′
L = 167.62′	L = 207.08′	L = 119.41′	L = 245.53′
E = 10.28′	E = 26.12′	E = 8.16′	E = 17.28′
PC Sta. 12+07.99	PRC Sta. 13+75.60	PRC Sta. 15+82.68	PRC Sta. 17+02.09
PRC Sta. 13+75.60	PRC Sta. 15+82.68	PRC Sta. 17+02.09	PT Sta. 19+47.62



CURVE DATA S.R. 7 CURVE NO. 5	
P.I. STA. 261+89.75	θs = 5° 41′ 15″
Δ = 58° 46′ 06″ (RT)	Ls = 350.00′
Dc = 3° 15′ 00″	Ts = 1,169.30′
R = 1,762.95′	LT = 233.45′
T = 773.76′	ST = 116.78′
L = 1,458.26′	e_{max} = 7.10%
E = 162.33′	CS STA. 268+28.71
TS STA. 250+20.45	ST STA. 271+78.71
SC STA. 253+70.45	

* (A) - STA. 246+68.00 BEGIN SHOULDER TAPER, 54′ RT. / STA. 247+00.00 END SHOULDER TAPER, 58′ RT.

* (B) - STA. 246+92.00 BEGIN SHOULDER TAPER, 4′ LT. / STA. 247+00.00 END SHOULDER TAPER, 6′ LT.

(1 EC) DITCH EROSION PROTECTION (100′ X 21.5′ /9 = 238.89 SY)

(2 EC) SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE I (288′ x 14.5′ / 9 = 464 SY)

* USE TYPE 6 CURB TO TAPER SHOULDER. TAPER CURB HEIGHT FROM 0" TO 6" IN 10′.

FOR TYPICAL SECTIONS, SEE SHEETS 31 & 32
FOR S.R. 243 PLAN AND PROFILE, SEE SHEETS 418-418A
FOR STORM SEWER PROFILES, SEE SHEETS 207 & 564
FOR DRAINAGE TIES, SEE SHEETS 649-683
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

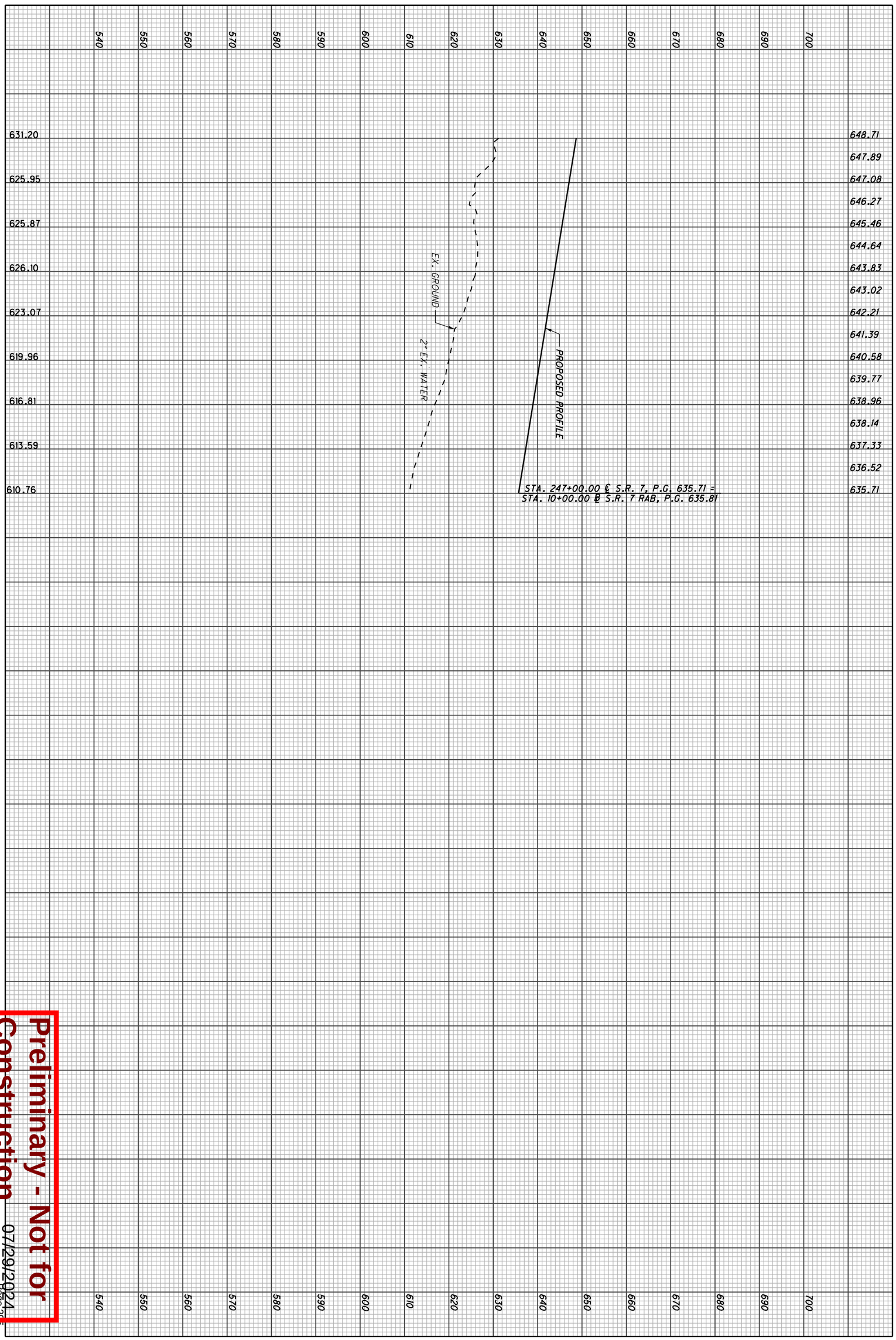
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED SLP CHECKED ALB

PLAN - S.R. 7 STA. 243+00 TO STA. 255+00

LAW-7-2.17

70 633



71 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 243+00.00 TO STA. 247+00.00	CALCULATED SLP CHECKED ALB

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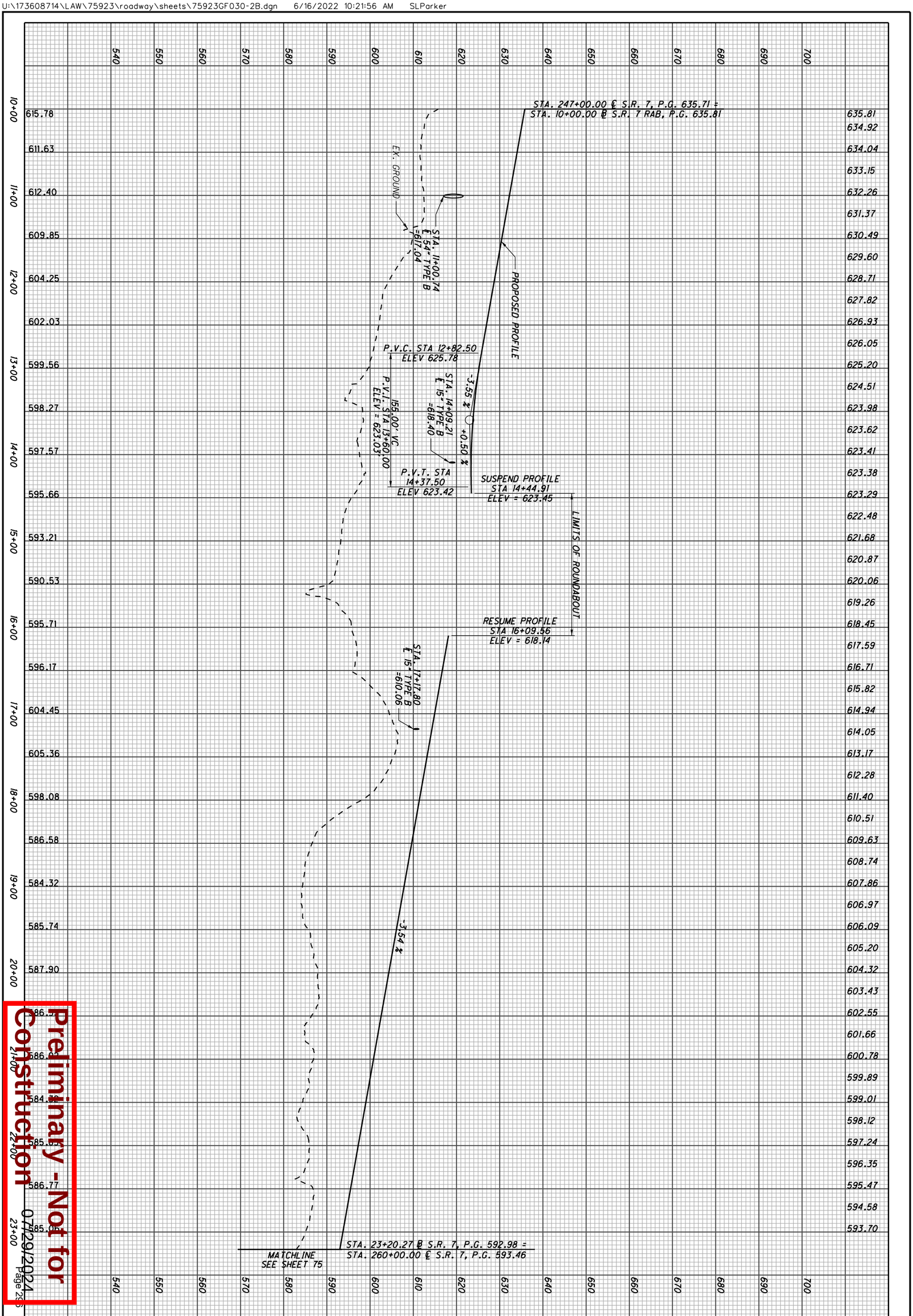
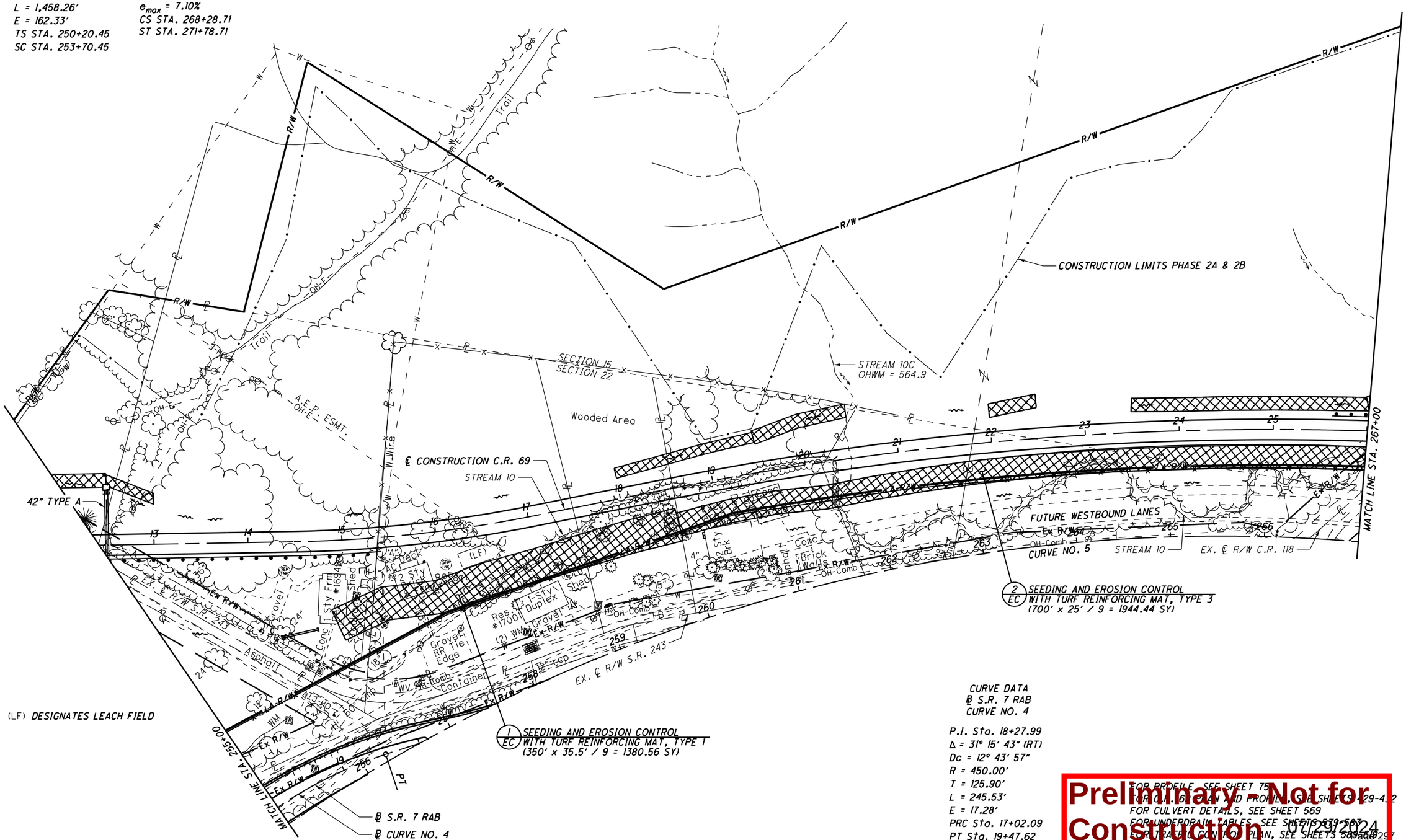


72 / 633	LAW-7-2.17	PROFILE - S.R. 7 RAB STA. 10+00 TO STA. 23+20.27	CALCULATED SLP CHECKED ALB

CURVE DATA
S.R. 7
CURVE NO. 5

P.I. STA. 261+89.75
Δ = 58° 46' 06" (RT)
Dc = 3° 15' 00"
R = 1,762.95'
T = 773.76'
L = 1,458.26'
E = 162.33'
TS STA. 250+20.45
SC STA. 253+70.45

θs = 5° 41' 15"
Ls = 350.00'
Ts = 1,169.30'
LT = 233.45'
ST = 116.78'
e_{max} = 7.10%
CS STA. 268+28.71
ST STA. 271+78.71



1 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (350' x 35.5' / 9 = 1380.56 SY)

2 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3 (700' x 25' / 9 = 1944.44 SY)

CURVE DATA
℄ S.R. 7 RAB
CURVE NO. 4

P.I. Sta. 18+27.99
Δ = 31° 15' 43" (RT)
Dc = 12° 43' 57"
R = 450.00'
T = 125.90'
L = 245.53'
E = 17.28'
PRC Sta. 17+02.09
PT Sta. 19+47.62

FOR PROFILE, SEE SHEET 75
FOR CLOSURE, SEE SHEETS 429-432
FOR CULVERT DETAILS, SEE SHEET 569
FOR UNDERDRAIN TABLES, SEE SHEETS 579-587
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-629

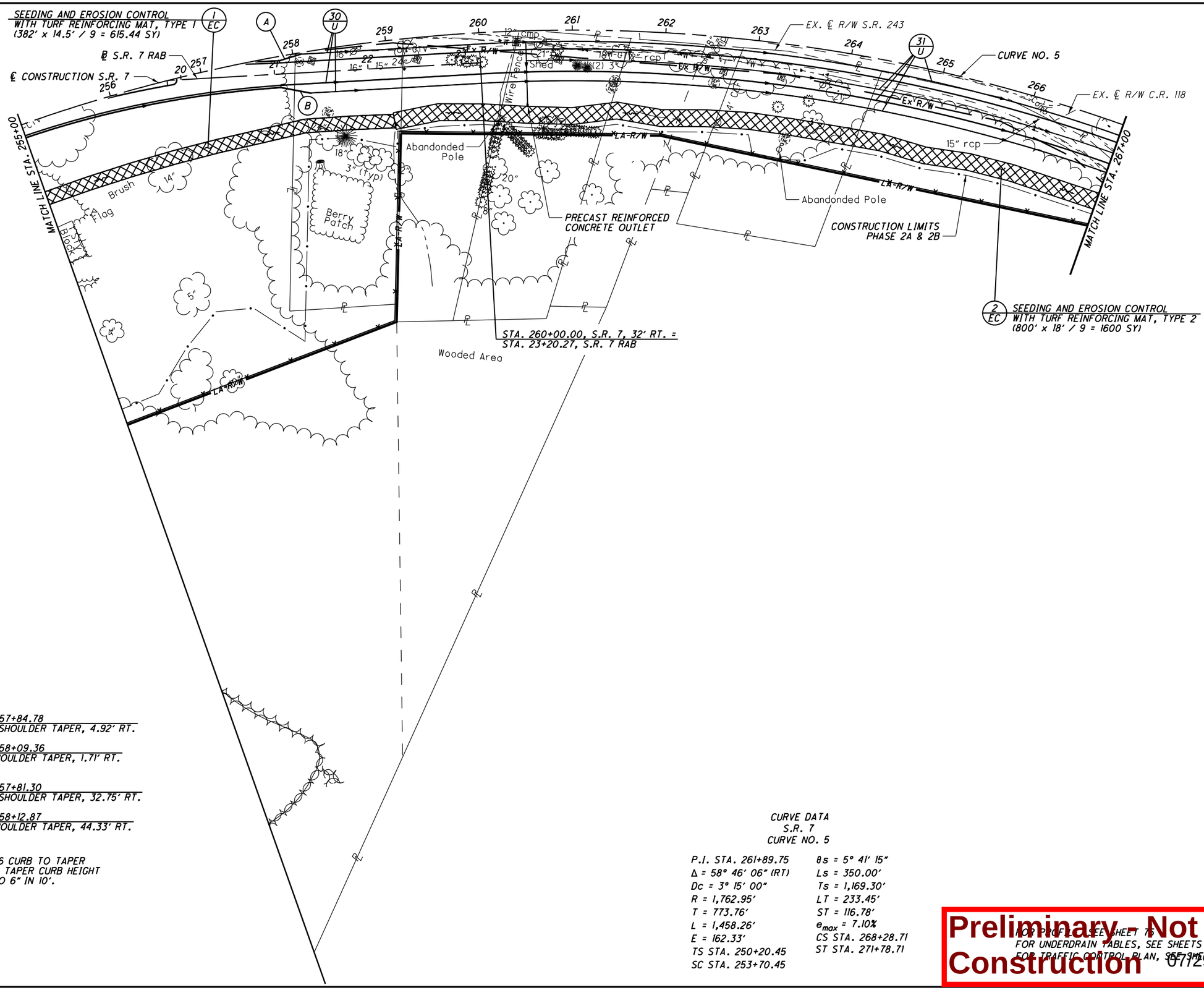
N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 255+00 TO STA. 267+00 (NORTH)

LAW-7-2.17



* (A) - STA. 257+84.78
BEGIN SHOULDER TAPER, 4.92' RT.
STA. 258+09.36
END SHOULDER TAPER, 1.71' RT.

* (B) - STA. 257+81.30
BEGIN SHOULDER TAPER, 32.75' RT.
STA. 258+12.87
END SHOULDER TAPER, 44.33' RT.

* USE TYPE 6 CURB TO TAPER SHOULDER. TAPER CURB HEIGHT FROM 0" TO 6" IN 10'.

CURVE DATA
S.R. 7
CURVE NO. 5

P.I. STA. 261+89.75	θs = 5° 41' 15"
Δ = 58° 46' 06" (RT)	Ls = 350.00'
Dc = 3° 15' 00"	Ts = 1,169.30'
R = 1,762.95'	LT = 233.45'
T = 773.76'	ST = 116.78'
L = 1,458.26'	e_{max} = 7.10%
E = 162.33'	CS STA. 268+28.71
TS STA. 250+20.45	ST STA. 271+78.71
SC STA. 253+70.45	

FOR PROFILE, SEE SHEET 75
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

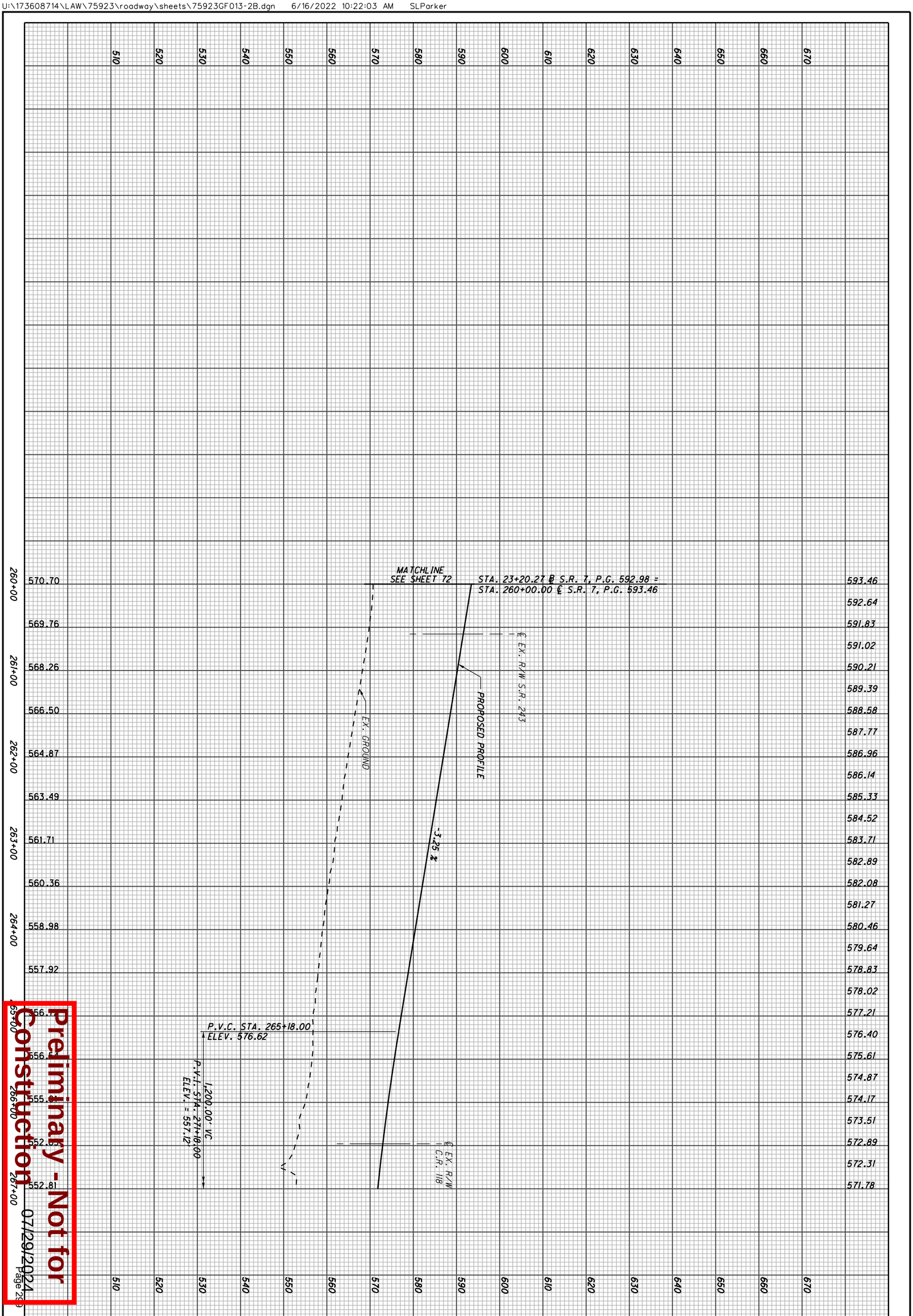
07/29/2022

PLAN - S.R. 7
STA. 255+00 TO STA. 267+00 (SOUTH)

LAW-7-2.17

CALCULATED SLP
CHECKED ALB

HORIZONTAL SCALE IN FEET
0 25 50 100



75 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 260+00 TO 267+00	CALCULATED SLP CHECKED ALB

2 EC DITCH EROSION PROTECTION MAT, TYPE B (300' x 35' / 9 = 1166.67 SY)

4 EC DITCH EROSION PROTECTOIN MAT, TYPE B (50' x 14.5' / 9 = 80.56 SY)

SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3 (1 EC) (150' x 25' / 9 = 416.67 SY)

℄ CONSTRUCTION C.R. 118

BENT CREEK OHWM = 539.1

R/W

EX. ℄ R/W C.R. 118

CONSTRUCTION LIMITS PHASE 2A & 2B

Wooded Area

Asphalt

EX. ℄ R/W C.R. 2

SECTION 14
SECTION 15

℄ CONSTRUCTION C.R. 2

Brush

Ex R/W

16" W

3" W

OH-E

STREAM 10

21" TYPE B

36" cmp

2 EC

℄ CONSTRUCTION C.R. 69

26 CB-4A 54" TYPE C

LA-R/W

SECTION 15
SECTION 22

FUTURE WESTBOUND LANES

4 EC

TS

SC

S 81° 18' 07" E

℄ CONSTRUCTION S.R. 7

MATCH LINE STA. 267+00

MATCH LINE STA. 279+00

STREAM 11
OHWM = 544.1

31 U

32 U

33 U

CURVE NO. 6

3 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE T (604' x 14.5' / 9 = 973.11 SY)

138 kV O.P.C. 100' ESMT.

Wooded Area

CONSTRUCTION LIMITS PHASE 2A & 2B

Shed

(LF) DESIGNATES LEACH FIELD

CURVE NO. 5

TYPE E PON +62.82

1

Gravel Drive

Asphalt

Comb

EX. ℄ R/W C.R. 243

Brush

BENT CREEK OHWM = 529.9

100' ESMT.

PRECAST REINFORCE CONCRETE OUTLET WITH TURF REINFORCING MAT (TYP.)

STREAM 12
OHWM = 538.7

5 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (400' x 18' / 9 = 800 SY)

BRIDGE NO. LAW-7-0510 22' MULTI-PLATE

6 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (267' x 18' x 1.5' / 27 = 267 CY)

CURVE DATA
S.R. 7
CURVE NO. 5

P.I. STA. 261+89.75	θs = 5° 41' 15"
Δ = 58° 46' 06" (RT)	Ls = 350.00'
Dc = 3° 15' 00"	Ts = 1,169.30'
R = 1,762.95'	LT = 233.45'
T = 773.76'	ST = 116.78'
L = 1,458.26'	e_{max} = 7.10%
E = 162.33'	CS STA. 268+28.71
TS STA. 250+20.45	ST STA. 271+78.71
SC STA. 253+70.45	

CURVE DATA
S.R. 7
CURVE NO. 6

P.I. STA. 280+92.68	θs = 0° 37' 30"
Δ = 5° 51' 21" (RT)	Ls = 125.00'
Dc = 1° 00' 00"	Ts = 355.56'
R = 5,729.58'	LT = 83.33'
T = 230.42'	ST = 41.67'
L = 460.59'	e_{max} = 2.90%
E = 4.63'	CS STA. 283+22.71
TS STA. 277+37.12	ST STA. 284+47.71
SC STA. 278+62.12	

FOR PROFILE, SEE SHEET 77
FOR C.R. 69 PLAN AND PROFILE, SEE SHEETS 429-432
FOR C.R. 118 PLAN AND PROFILE, SEE SHEET 472
FOR C.R. 2 PLAN AND PROFILE, SEE SHEET 479
FOR DRIVE DETAILS, SEE SHEETS 563 & 564
FOR EROSION SECTIONALIES, SEE SHEET 558
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 699-710
FOR STRUCTURE DETAILS, SEE SHEETS XXX-XXX

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 267+00 TO STA. 279+00

LAW-7-2.17

76
633

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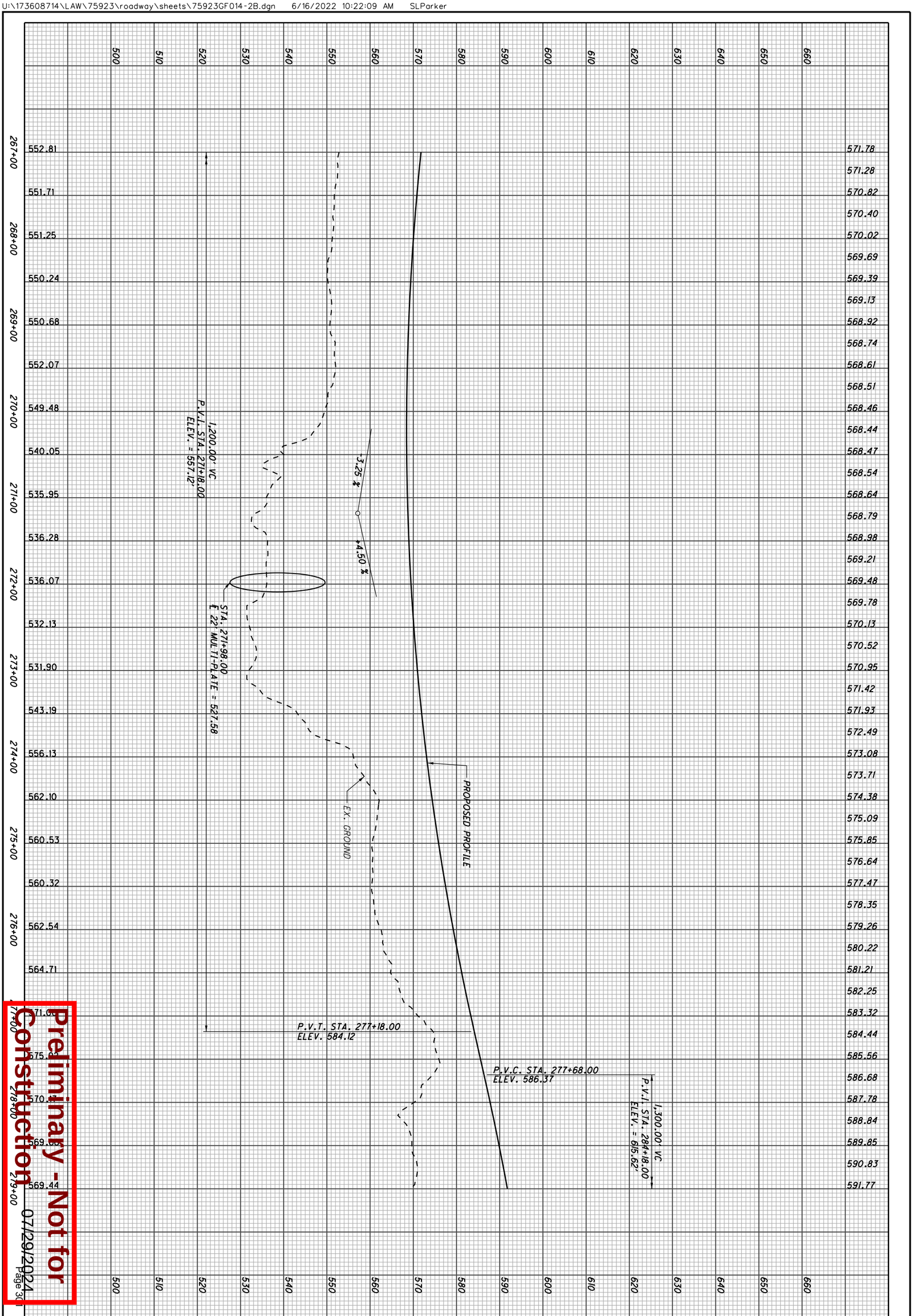
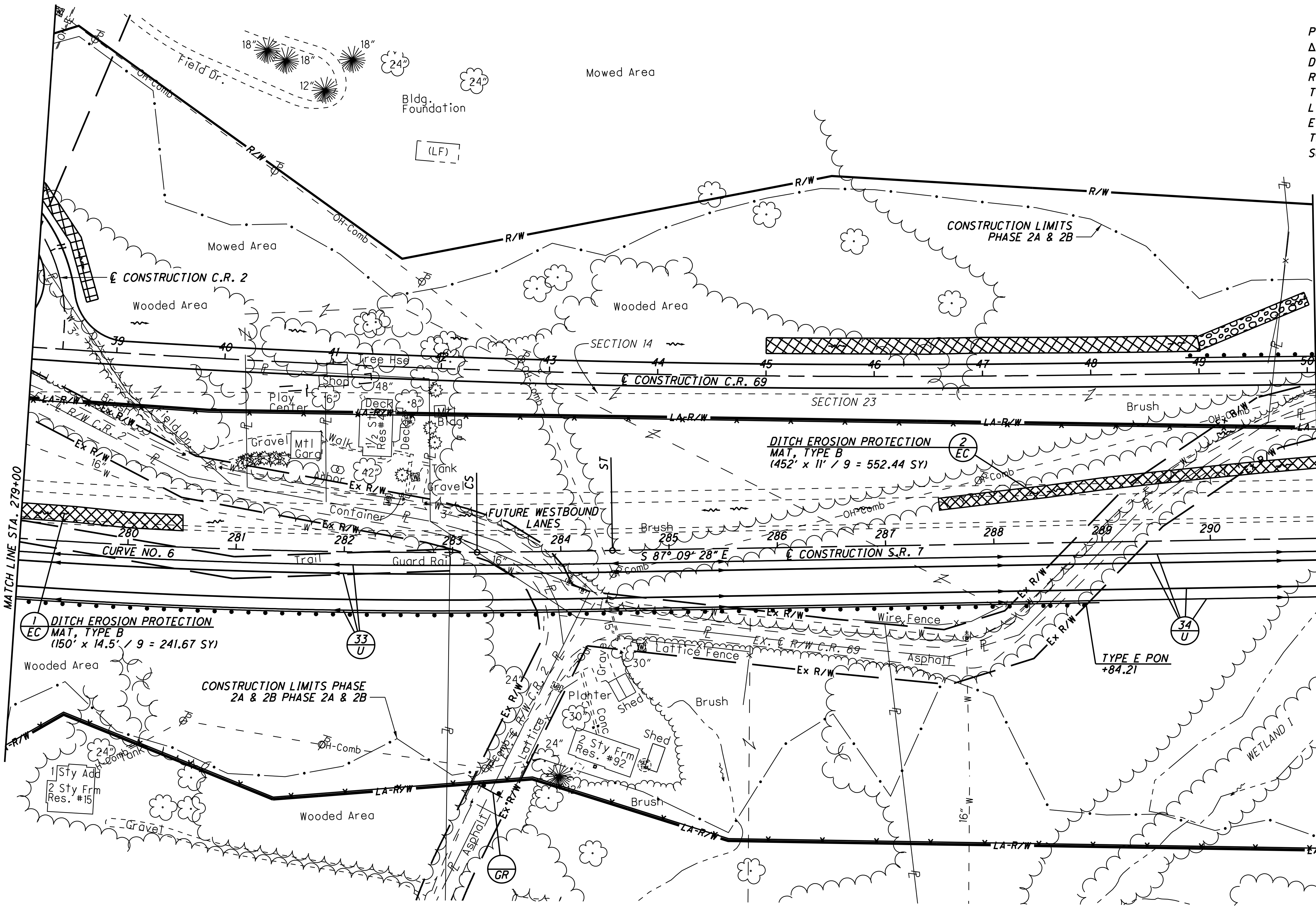


Preliminary - Not for Construction

07/29/2024

77 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 267+00 TO STA. 279+00	CALCULATED SLP CHECKED ALB

(LF) DESIGNATES LEACH FIELD



Mowed Area
Bldg. Foundation
(LF)
Field Dr.
OH-Comb
R/W
Mowed Area
℄ CONSTRUCTION C.R. 2
Wooded Area
Wooded Area
CONSTRUCTION LIMITS PHASE 2A & 2B
SECTION 14
℄ CONSTRUCTION C.R. 69
SECTION 23
Brush
LA-R/W
DITCH EROSION PROTECTION MAT, TYPE B (452' x 11' / 9 = 552.44 SY)
2 EC
Tree Hse
Shop
Play Center
Deck
Mtl Bldg
Gravel
Mtl Gar
Walk
Arbor
Tank
Gravel
Container
FUTURE WESTBOUND LANES
Ex R/W
R/W C.R. 2
MATCH LINE STA. 279+00
MATCH LINE STA. 291+00
CURVE NO. 6
Trail
Guard Rail
S 87° 09' 28" E
℄ CONSTRUCTION S.R. 7
Brush
DITCH EROSION PROTECTION MAT, TYPE B (150' x 14.5' / 9 = 241.67 SY)
1 EC
33 U
34 U
Wire Fence
EX. ℄ R/W C.R. 69
Lattice Fence
Asphalt
TYPE E PON +84.21
Wooded Area
CONSTRUCTION LIMITS PHASE 2A & 2B PHASE 2A & 2B
Planter
Shed
Brush
Shed
2 Sty Frm Res. #92
1 Sty Add
2 Sty Frm Res. #15
Gravel
Wooded Area
Brush
WETLAND I
GR

CURVE DATA
S.R. 7
CURVE NO. 6

P.I. STA. 280+92.68
Δ = 5° 51' 21" (RT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 230.42'
L = 460.59'
E = 4.63'
TS STA. 277+37.12
SC STA. 278+62.12

θs = 0° 37' 30"
Ls = 125.00'
Ts = 355.56'
LT = 83.33'
ST = 41.67'
e_{max} = 2.90%
CS STA. 283+22.71
ST STA. 284+47.71

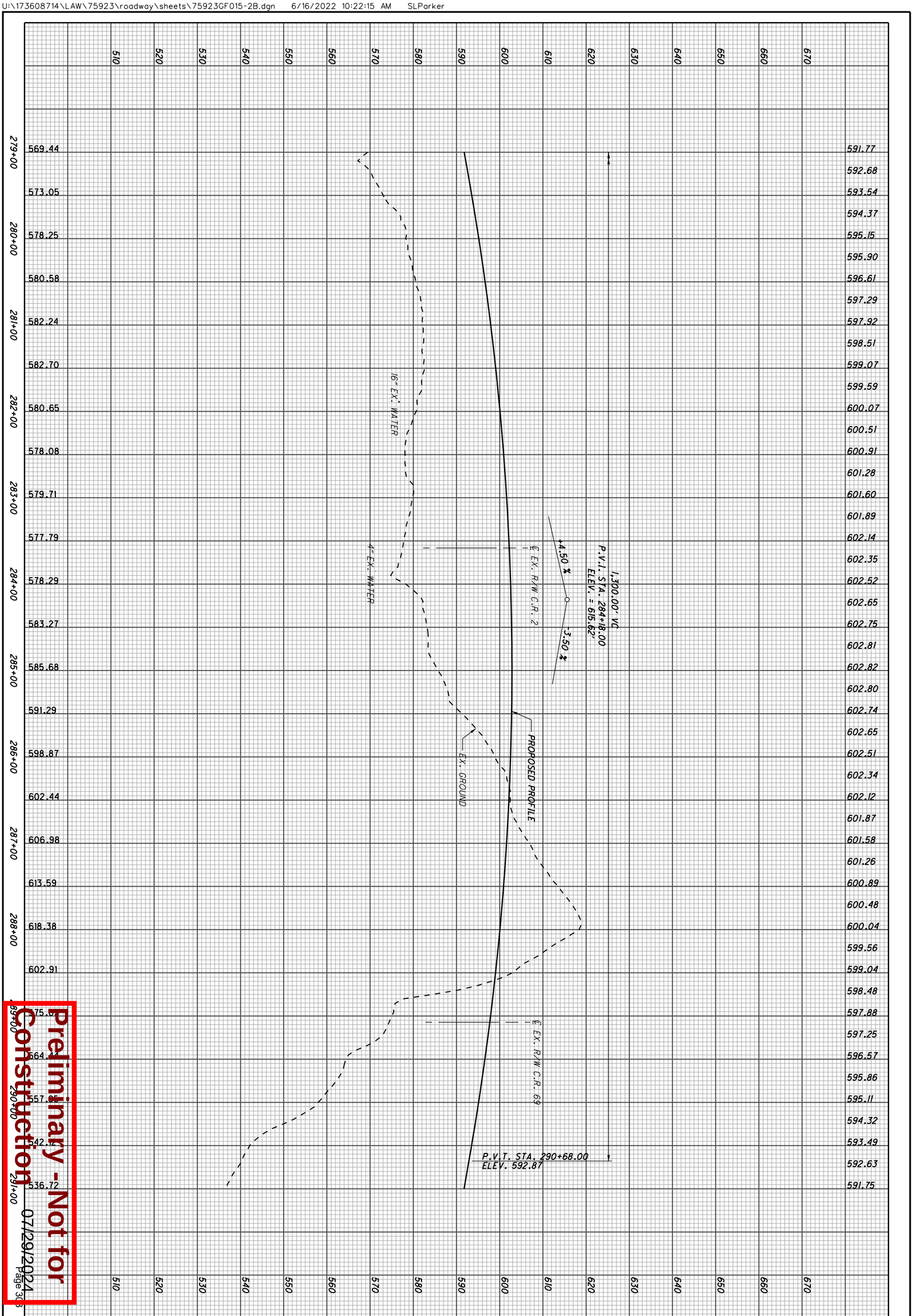
HORIZONTAL SCALE IN FEET (0 25 50 100)

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 279+00 TO STA. 291+00

LAW-7-2.17

FOR PROFILE, SEE SHEET 79
FOR C.R. 69 PLAN AND PROFILE, SEE SHEETS 429-432
FOR C.R. 2 PLAN AND PROFILE, SEE SHEET 478
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-...



79 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 279+00 TO STA. 291+00	CALCULATED SLP CHECKED ALB

1 EC DITCH EROSION PROTECTION MAT, TYPE B (100' x 11' / 9 = 122.22 SY)

2 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE I (251' x 14.5' / 9 = 404.39 SY)

3 EC DITCH EROSION PROTECTION MAT, TYPE B (200' x 14.5' / 9 = 322.22 SY)

4 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (192' x 11.5' x 1.5' / 27 = 123 CY)

Wooded Area

BEAR CREEK

R/W

CONSTRUCTION LIMITS PHASE 2A & 2B

OH-Comb

Ex R/W

8'x14'

EX. ℄ R/W C.R. 69

EX. ℄ R/W GUYAN-MCKINLEY SCHOOL RD. T.R. 164

WETLAND J

LA-R/W

℄ CONSTRUCTION C.R. 69

SECTION 14
SECTIONS 23

Gravel

Overgrown Gravel Dr

Bush

Dirt & Gravel

River Ford

EX. RCP

30"

22"

℄ CONSTRUCTION S.R. 7

FUTURE WESTBOUND LANES

MATCH LINE STA. 291+00

MATCH LINE STA. 303+00

S 87° 09' 28" E

TYPE E PON +14.62 (A)

BTA, TYPE 1 +78.80

TYPE E PON +09.21

BTA, TYPE 1 +61.10

BRIDGE NO. LAW-7-0563

27 CB-3A 15" TYPE B

36A U

B

36 U

37A U

37 U

34 U

35 U

BTA, TYPE 1 +66.85

TYPE E PON +73.25

28 CB-3A 15" TYPE C

BTA, TYPE 1 +58.85

WETLAND I

Open Field

PRECAST REINFORCED CONCRETE OUTLET WITH TIED CONCRETE BLOCK MAT (TYP.)

INDIAN GUYAN CREEK

Field Dr.

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (162' x 11.5' x 1.5' / 27 = 103.5 CY) 5 EC

(A) - STA. 297+25.66 BEGIN SHOULDER TAPER, 12' RT.
STA. 297+65.66 END SHOULDER TAPER, 16' RT.

(B) - STA. 300+78.70 BEGIN SHOULDER TAPER, 16' RT.
STA. 301+78.70 END SHOULDER TAPER, 12' RT.

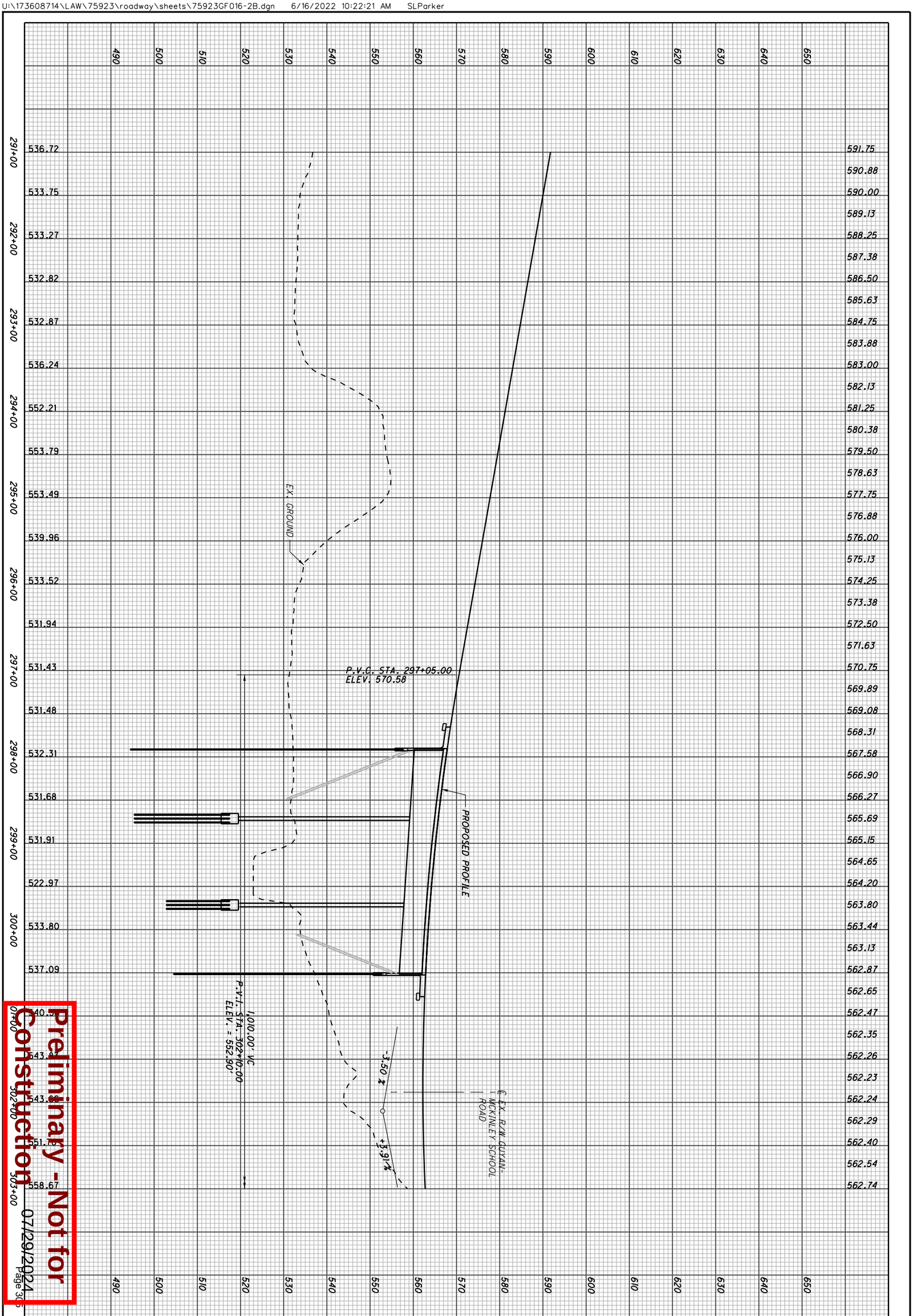
FOR PROFILE, SEE SHEET 84
FOR C.R. 69 PLAN AND PROFILE, SEE SHEETS 429-432
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 588-612

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 291+00 TO 303+00

LAW-7-2.17

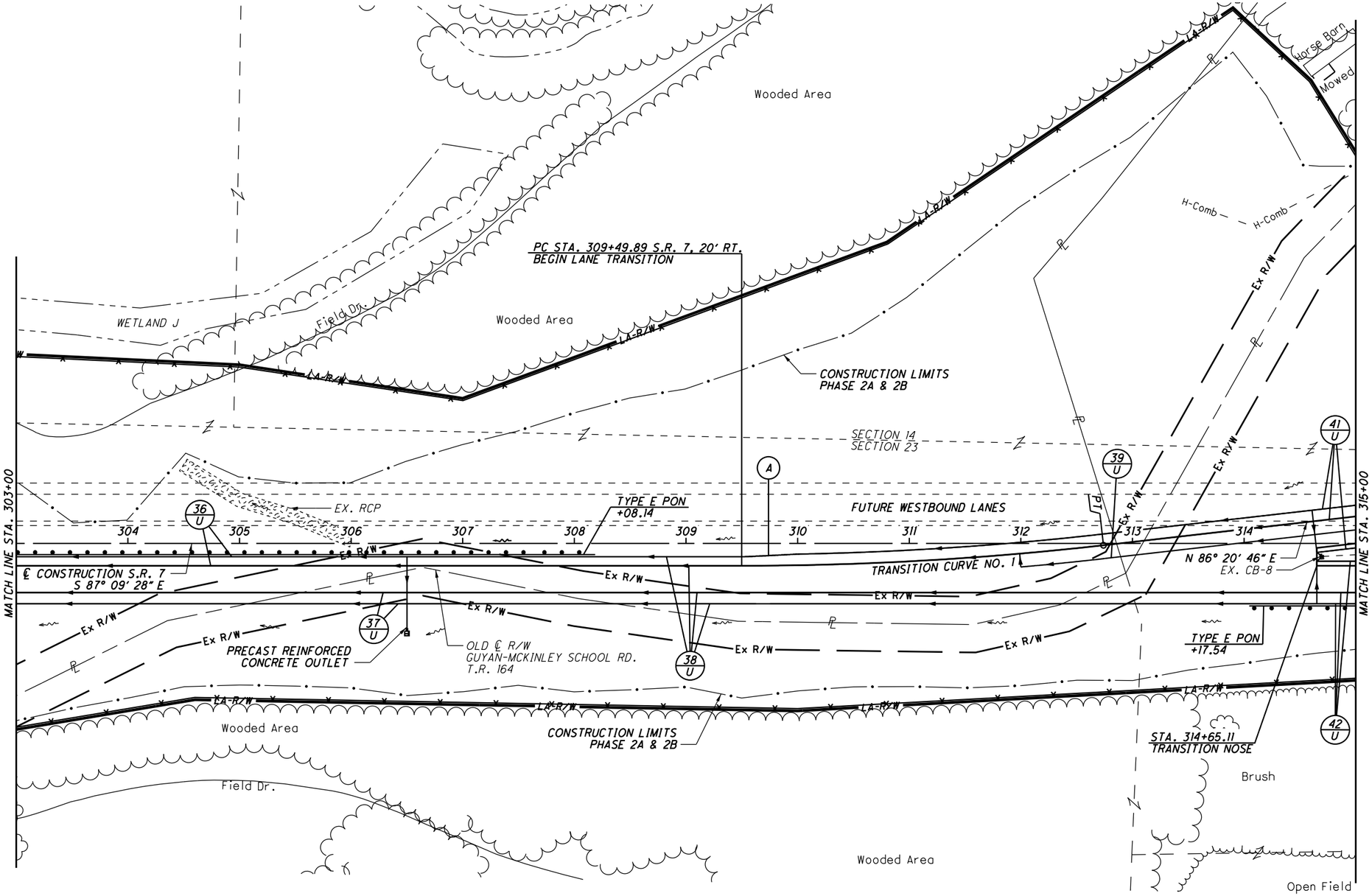


81
633

LAW-7-2.17

PROFILE - S.R. 7
STA. 291+00 TO STA. 303+00

CALCULATED SLP
CHECKED ALB



CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 1
(FOR HORIZONTAL LAYOUT ONLY)

P.I. Sta. 311+12.46, S.R. 7, 20' RT.
Δ = 6° 29' 46" (LT)
Dc = 2° 00' 00"
R = 2,864.79'
T = 162.58'
L = 324.81'
E = 4.61'
e_{max} = NC
PC STA. = 309+49.89, S.R. 7, 20' RT.
PT STA. = 312+74.00, S.R. 7, 1.61' RT.

(A) - STA. 309+49.89
BEGIN SHOULDER TAPER, 12' RT.

STA. 309+99.71
END SHOULDER TAPER, 9.57' RT.

FOR PROFILE, SEE SHEET 83
FOR UNDERDRAIN TABLES, SEE SHEET 82
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 585 & 586

Preliminary - Not for Construction

10/15/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 303+00 TO STA. 315+00

LAW-7-2.17

82
633

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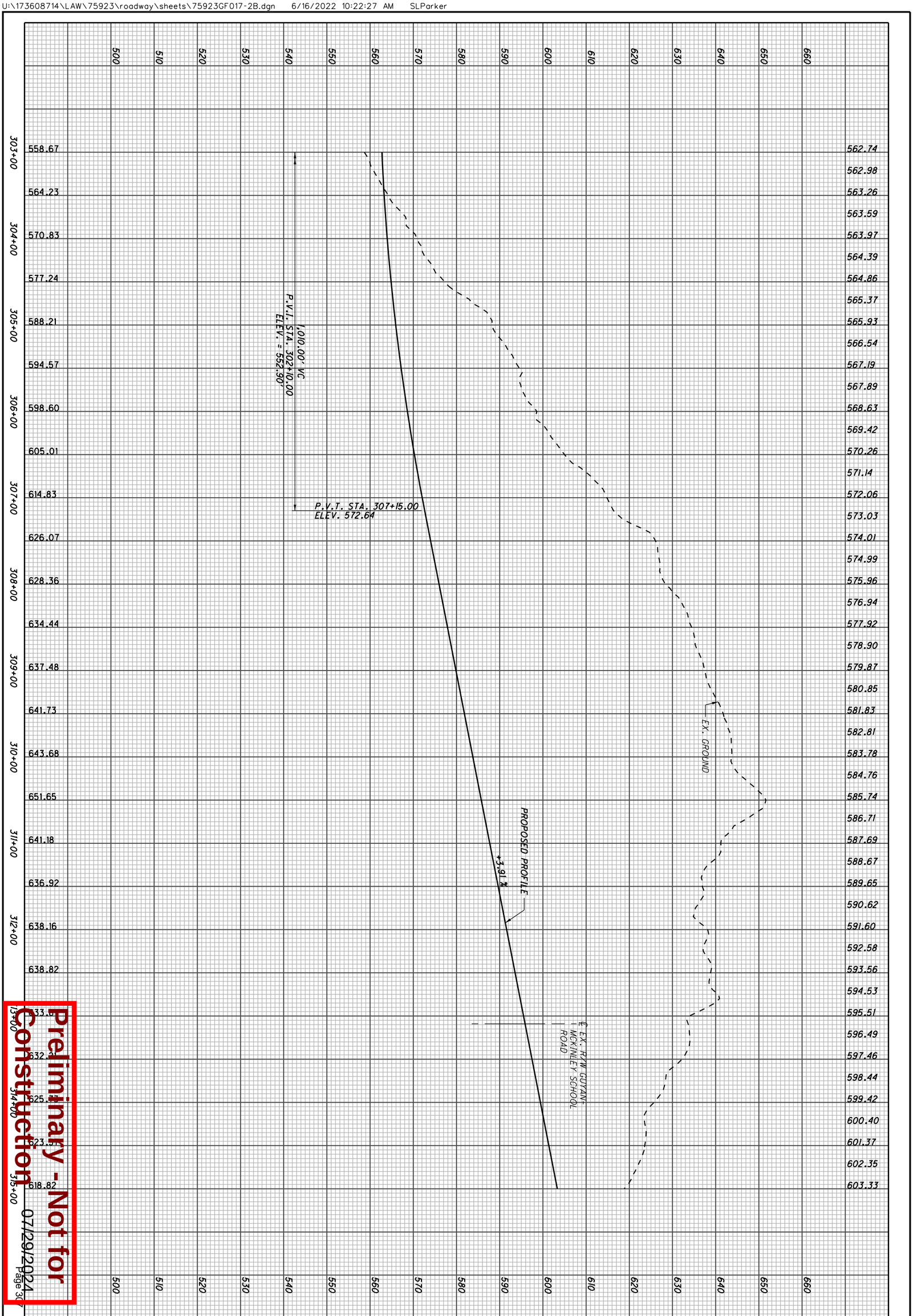
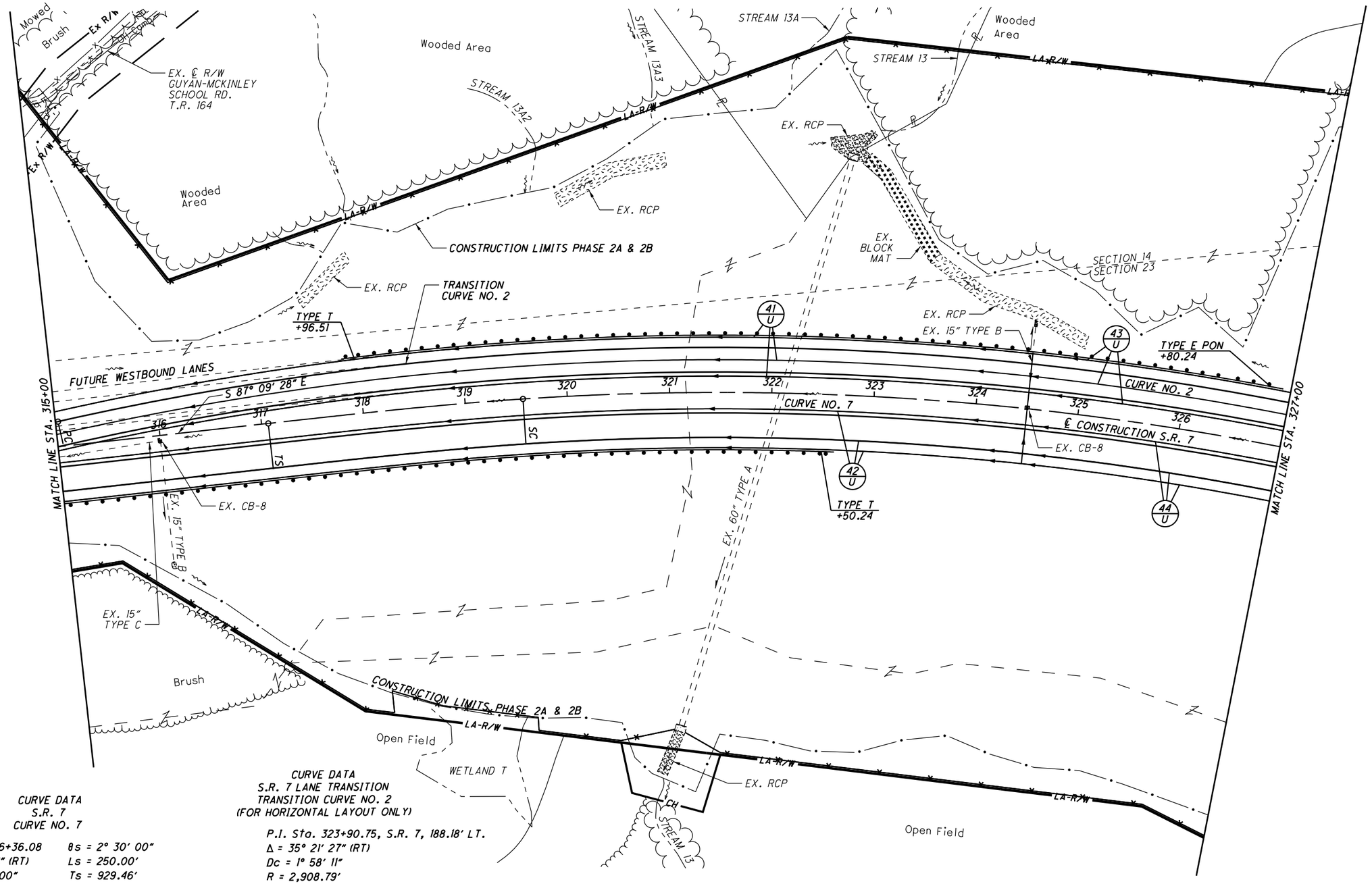


83 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 303+00 TO STA. 315+00	CALCULATED SLP CHECKED ALB



CURVE DATA
S.R. 7
CURVE NO. 7

P.I. STA. 326+36.08
Δ = 31° 21' 41" (RT)
Dc = 2° 00' 00"
R = 2,864.79'
T = 670.91'
L = 1,318.07'
E = 77.51'
TS STA. 317+06.62
SC STA. 319+56.62

θs = 2° 30' 00"
Ls = 250.00'
Ts = 929.46'
LT = 166.68'
ST = 83.35'
e_{max} = 5.10%
CS STA. 332+74.69
ST STA. 335+24.69

CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 2
(FOR HORIZONTAL LAYOUT ONLY)

P.I. Sta. 323+90.75, S.R. 7, 188.18' LT.
Δ = 35° 21' 27" (RT)
Dc = 1° 58' 11"
R = 2,908.79'
T = 927.12'
L = 1,795.03'
E = 144.18'
e_{max} = 5.10%
PC STA. = 315+02.52, S.R. 7, 24.41' LT.
PT STA. = 332+74.69, S.R. 7, 44' LT.

FOR TRACKS, SEE SHEET 58
FOR UNDERGROUND CABLES, SEE SHEETS 581-585
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

Preliminary - Not for Construction
07/29/2024

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 315+00 TO STA. 327+00

LAW-7-2.17

84
635

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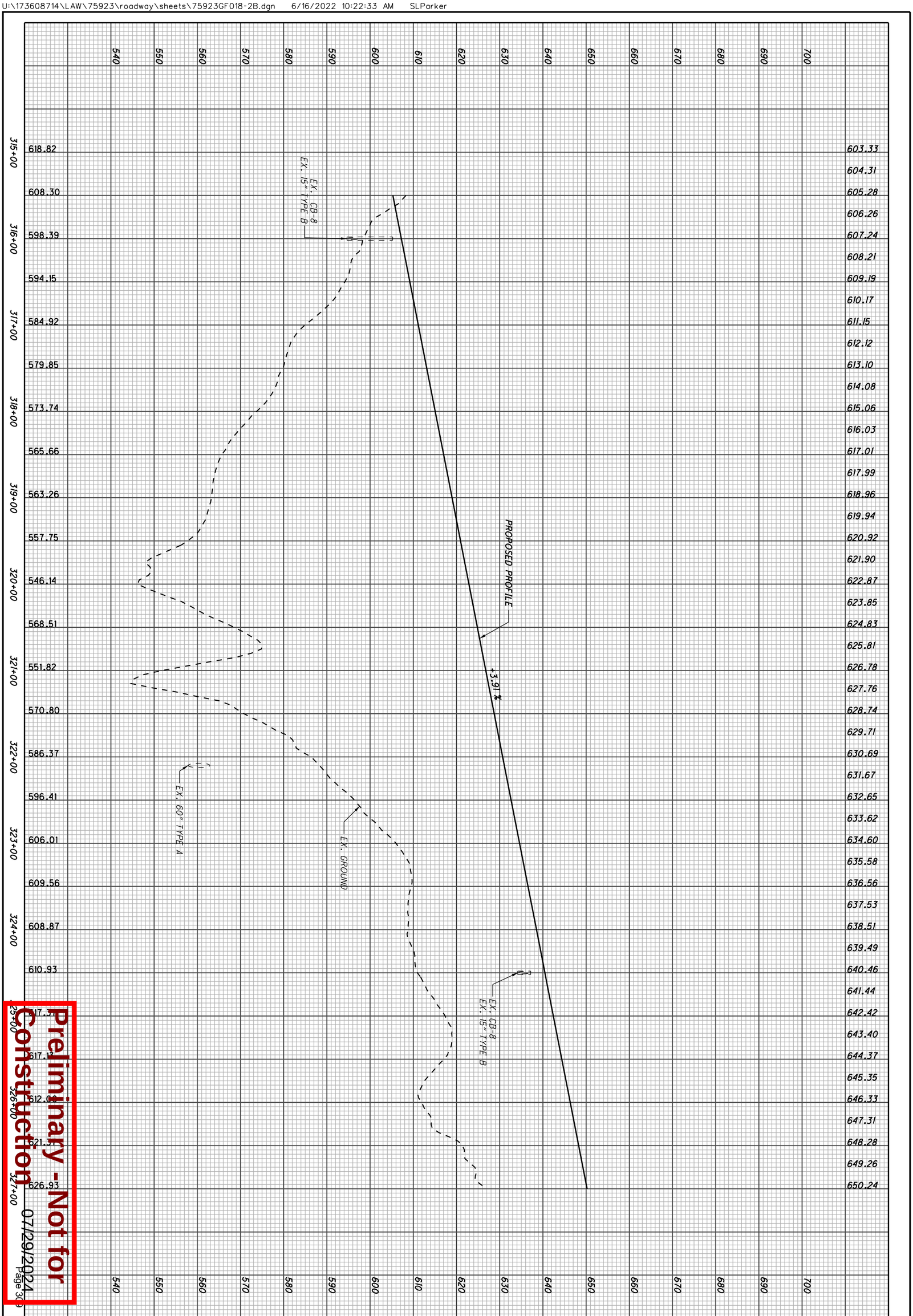


85
633

LAW-7-2.17

PROFILE - S.R. 7
STA. 315+00 TO STA. 327+00

CALCULATED SLP
CHECKED ALB

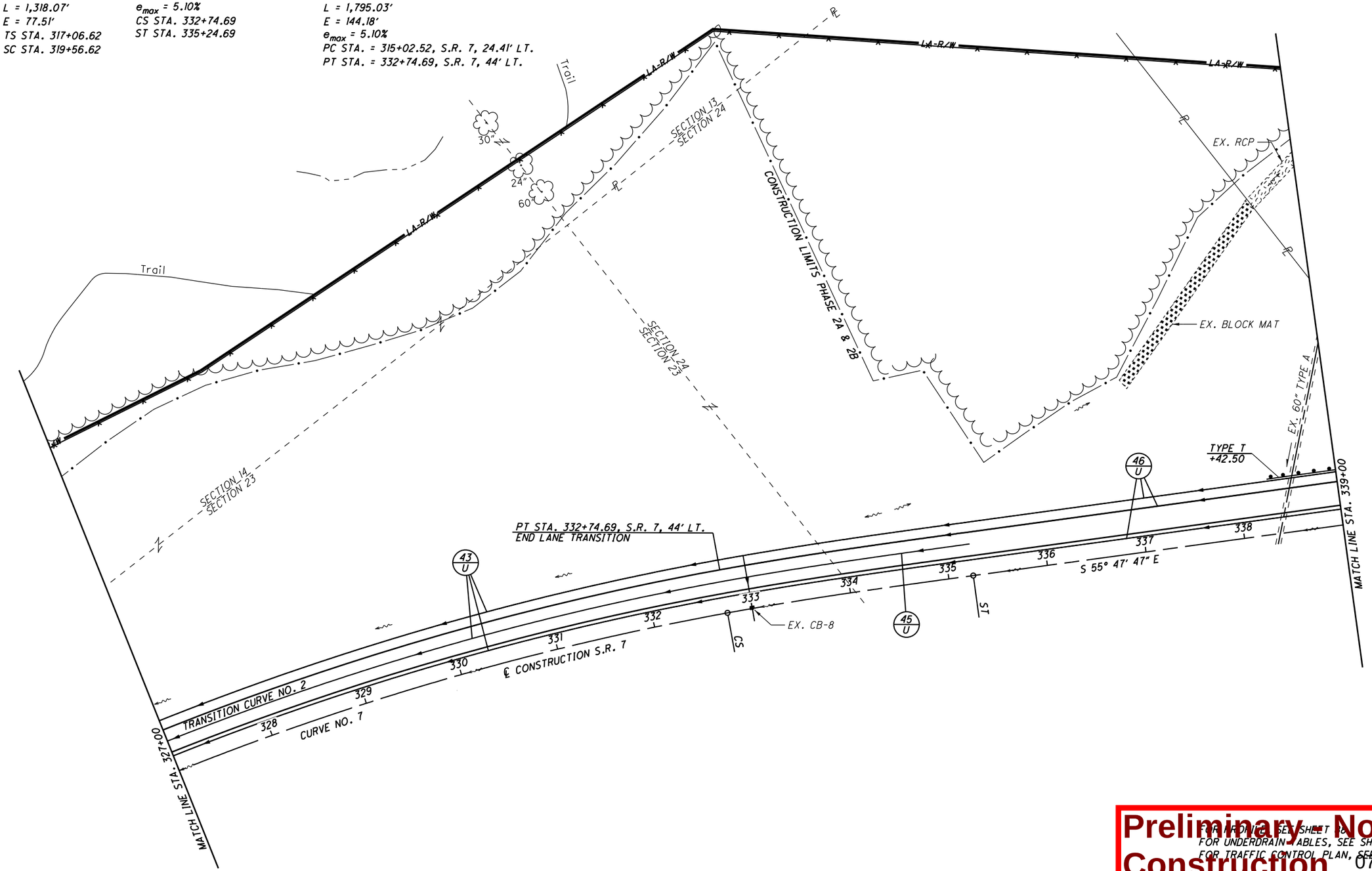
CURVE DATA
S.R. 7
CURVE NO. 7

P.I. STA. 326+36.08
Δ = 31° 21' 41" (RT)
Dc = 2° 00' 00"
R = 2,864.79'
T = 670.91'
L = 1,318.07'
E = 77.51'
TS STA. 317+06.62
SC STA. 319+56.62

θs = 2° 30' 00"
Ls = 250.00'
Ts = 929.46'
LT = 166.68'
ST = 83.35'
e_{max} = 5.10%
CS STA. 332+74.69
ST STA. 335+24.69

CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 2
(FOR HORIZONTAL LAYOUT ONLY)

P.I. STA. 323+90.75, S.R. 7, 188.18' LT.
Δ = 35° 21' 27" (RT)
Dc = 1° 58' 11"
R = 2,908.79'
T = 927.12'
L = 1,795.03'
E = 144.18'
e_{max} = 5.10%
PC STA. = 315+02.52, S.R. 7, 24.41' LT.
PT STA. = 332+74.69, S.R. 7, 44' LT.



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 327+00 TO STA. 339+00 (NORTH)

LAW-7-2.17

86
633

FOR ROADWAY, SEE SHEET 74
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 588-619

Preliminary - Not for Construction 07/29/2024

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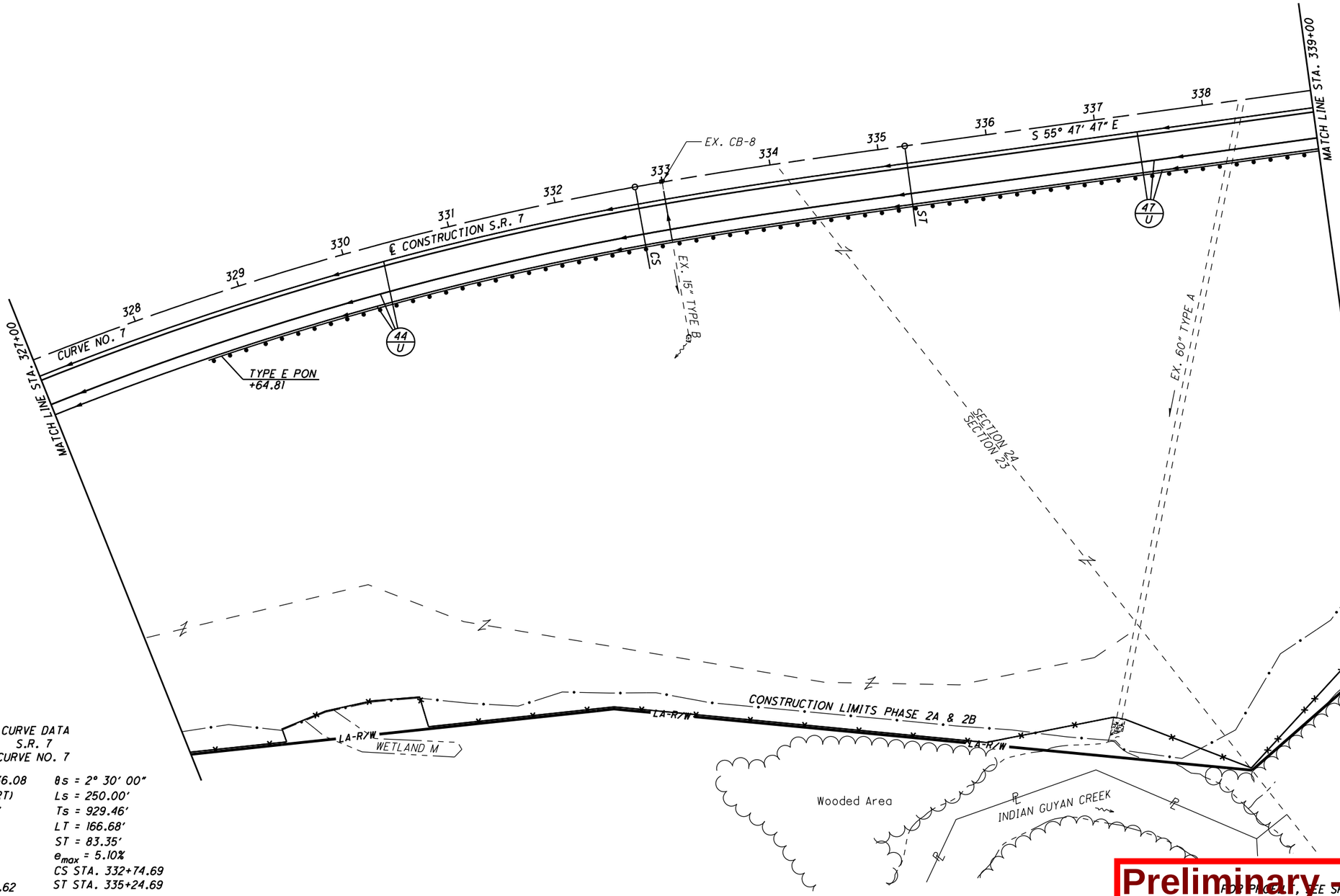


CURVE DATA
S.R. 7
CURVE NO. 7

P.I. STA. 326+36.08	θs = 2° 30' 00"
Δ = 31° 21' 41" (RT)	Ls = 250.00'
Dc = 2° 00' 00"	Ts = 929.46'
R = 2,864.79'	LT = 166.68'
T = 670.91'	ST = 83.35'
L = 1,318.07'	e_{max} = 5.10%
E = 77.51'	CS STA. 332+74.69
TS STA. 317+06.62	ST STA. 335+24.69
SC STA. 319+56.62	

FOR PROFILE, SEE SHEET 38
FOR UNDERDRAIN TABLES, SEE SHEETS 581-585
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

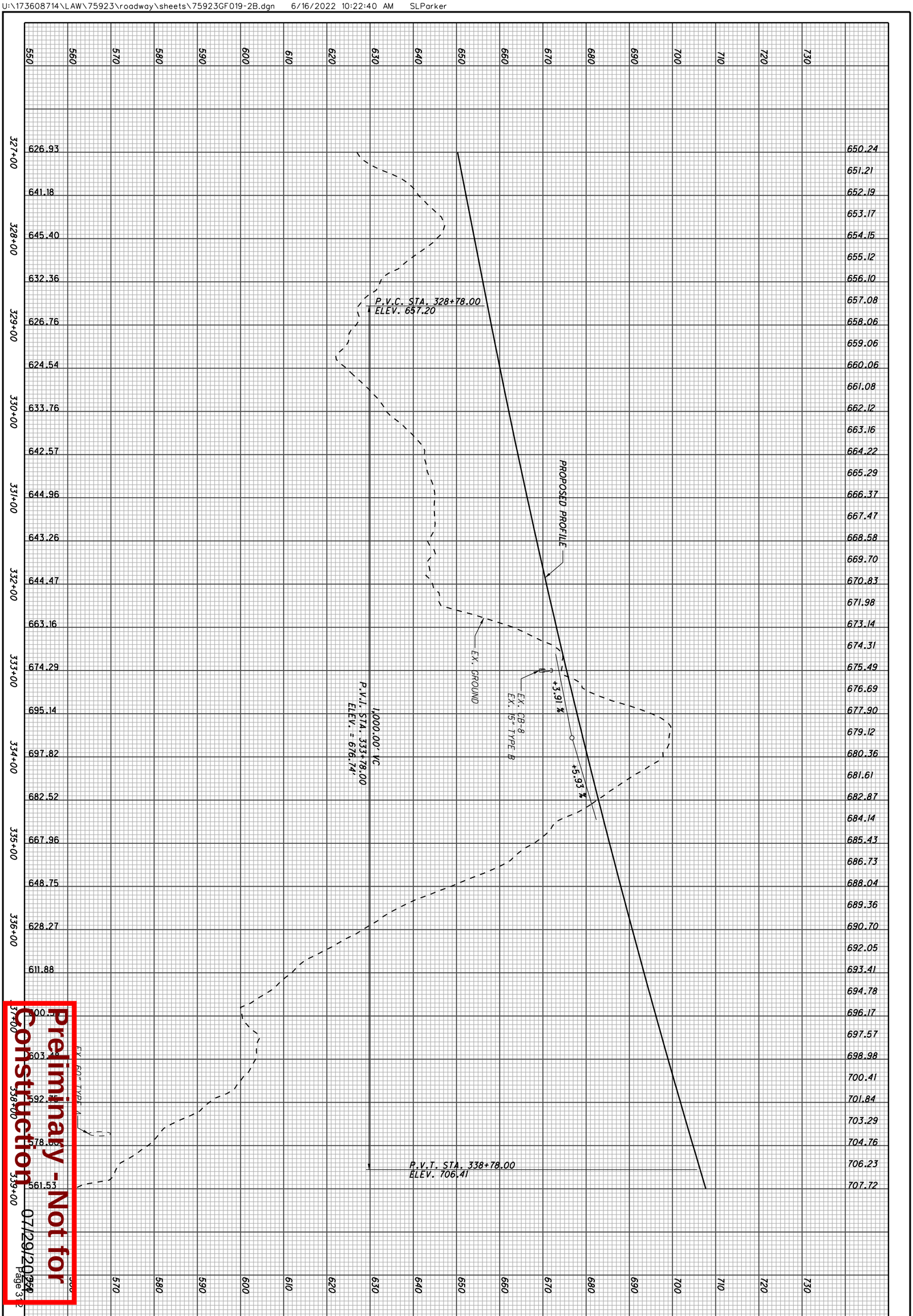
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 327+00 TO STA. 339+00 (SOUTH)

LAW-7-2.17

87
635



88 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 327+00 TO STA. 339+00	CALCULATED SLP CHECKED ALB

STREAM 14

LA-R/W

EX. RCP

EX. RCP

EX. 60" TYPE A

Wooded Area

CONSTRUCTION LIMITS PHASE 2A & 2B

Wooded Area

46 U

TYPE E PON
+42.50

EX. CB-5

50 U

MATCH LINE STA. 339+00

340 341 342 343 344 345 346 347 348 TS 349 SC 350

S 55° 47' 47" E

℄ CONSTRUCTION S.R. 7

EX. CB-8

CURVE NO. 8

MATCH LINE STA. 351+00

47 U

TYPE T
+50.27

EX. RCP

EX. 21" TYPE B

48 U

49 U

EX. BLOCK MAT

CONSTRUCTION LIMITS PHASE 2A & 2B

STREAM 15B
OHWM = 736.8

LA-R/W

Wooded Area

LA-R/W

LA-R/W

Wooded Area

Outcrop
typ.

CURVE DATA
S.R. 7
CURVE NO. 8

P.I. STA. 355+16.90	θs = 0° 32' 45"
Δ = 9° 56' 13" (LT)	Ls = 125.00'
Dc = 0° 52' 24"	Ts = 632.80'
R = 6,560.00'	LT = 83.33'
T = 507.37'	ST = 41.67'
L = 1,012.73'	e_{max} = 2.60%
E = 19.59'	CS STA. 360+21.83
TS STA. 348+84.10	ST STA. 361+46.83
SC STA. 350+09.10	

FOR PROFILE, SEE SHEET 90
FOR EARTHWORK TABLES, SEE SHEETS 583-585
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-609

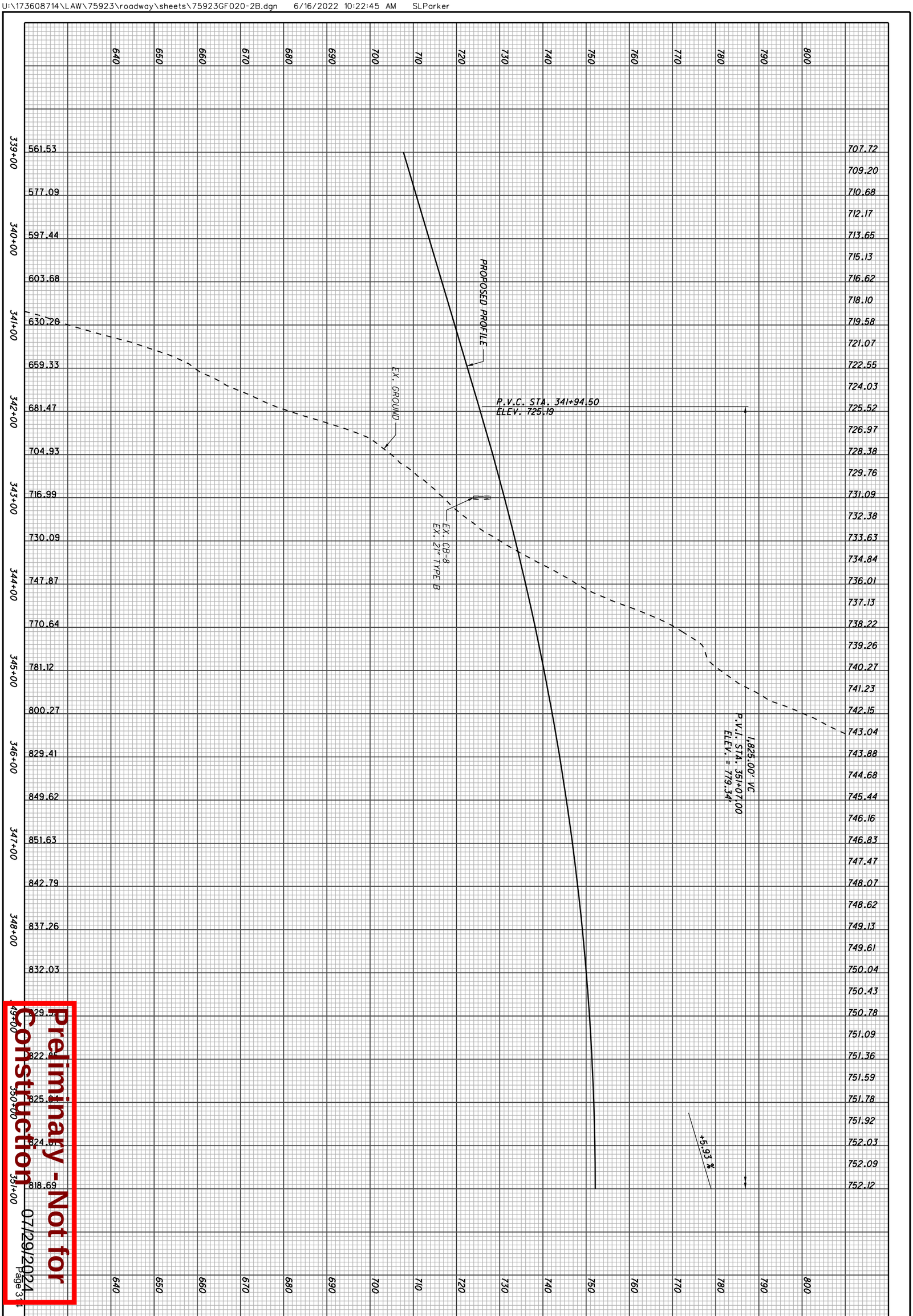
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

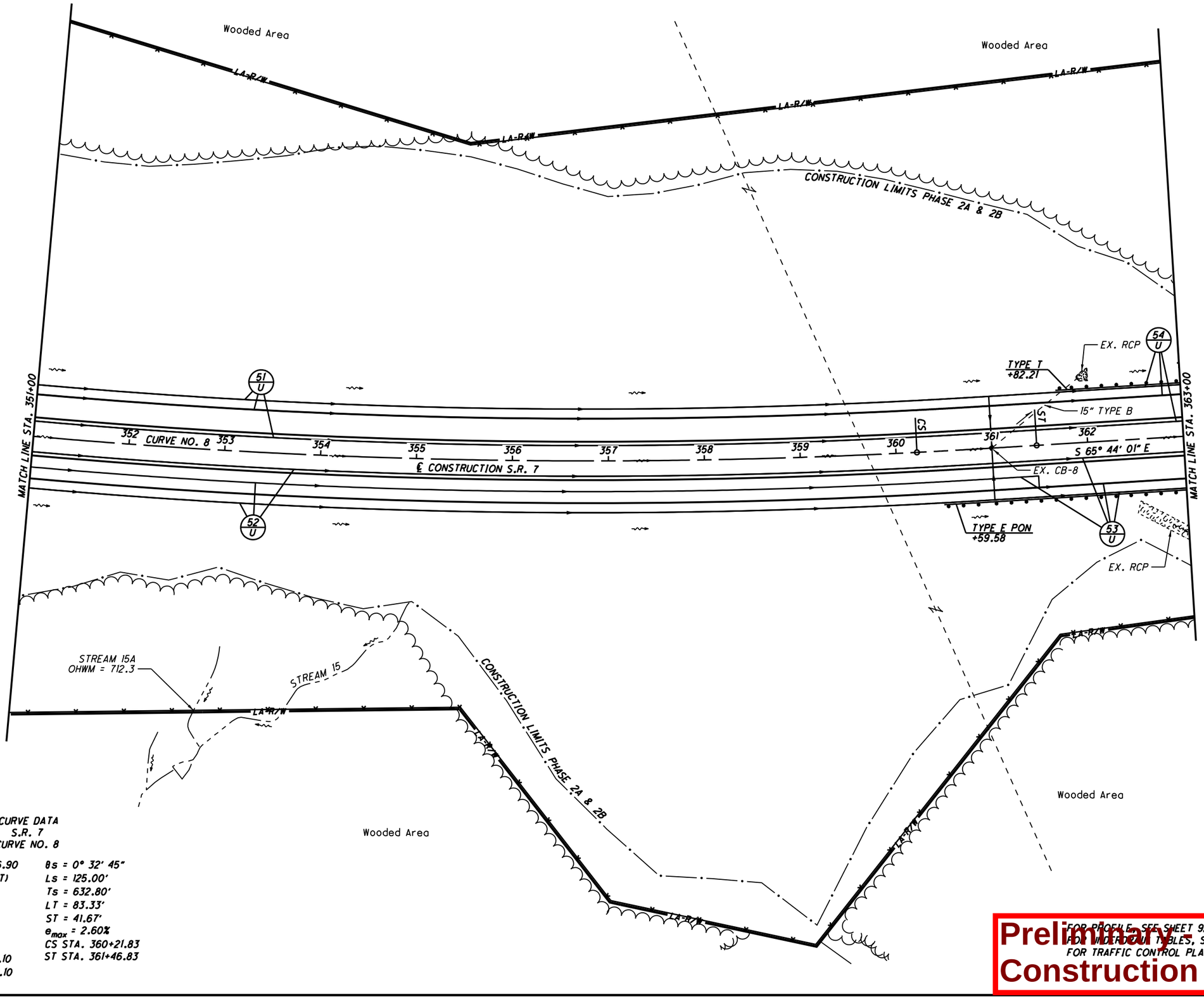
PLAN - S.R. 7
STA. 339+00 TO STA. 351+00

LAW-7-2.17

89
635



90 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 339+00 STA. 351+00	CALCULATED SLP CHECKED ALB



CURVE DATA
S.R. 7
CURVE NO. 8

P.I. STA. 355+16.90	θs = 0° 32' 45"
Δ = 9° 56' 13" (LT)	Ls = 125.00'
Dc = 0° 52' 24"	Ts = 632.80'
R = 6,560.00'	LT = 83.33'
T = 507.37'	ST = 41.67'
L = 1,012.73'	e_{max} = 2.60%
E = 19.59'	CS STA. 360+21.83
TS STA. 348+84.10	ST STA. 361+46.83
SC STA. 350+09.10	

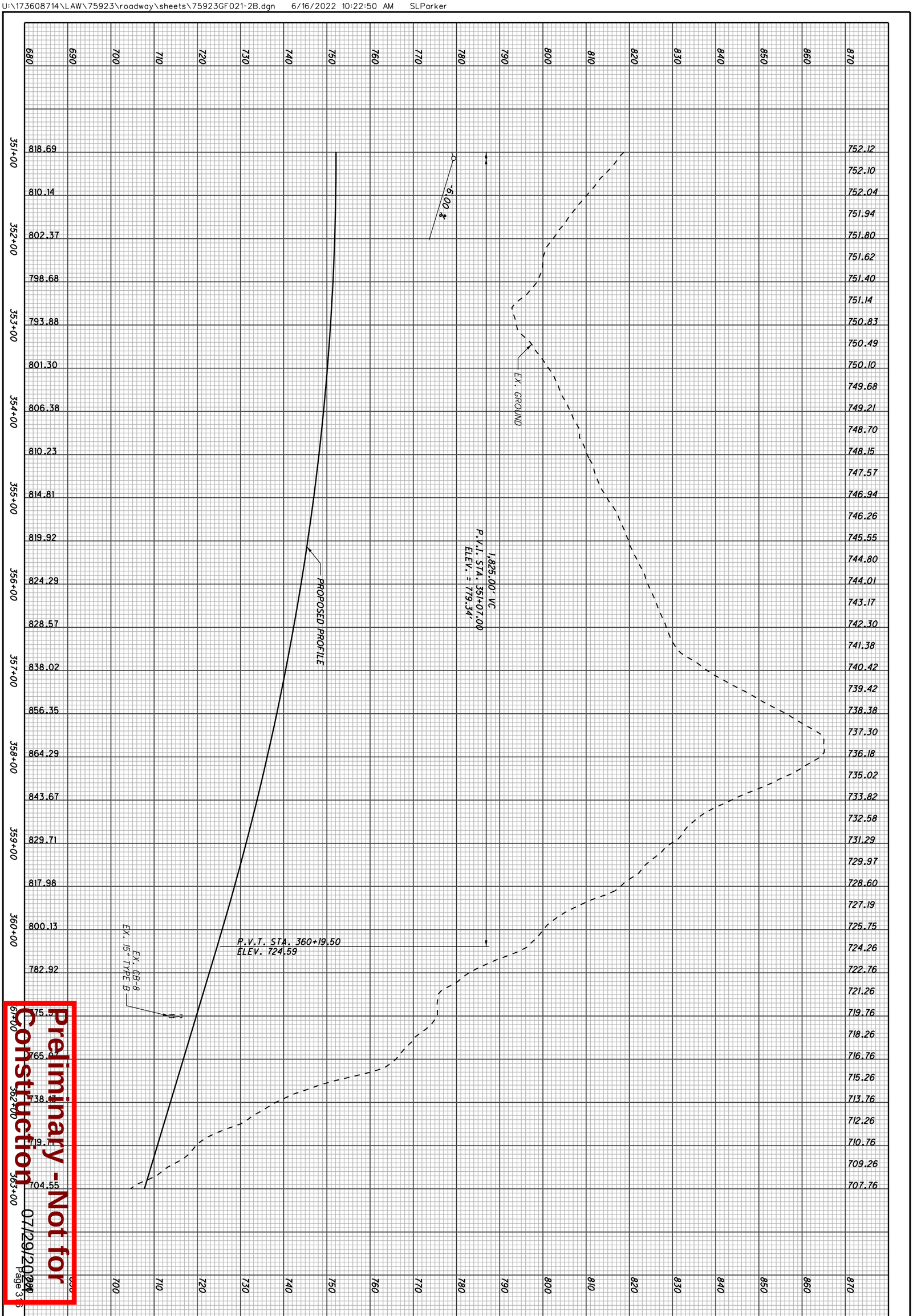
FOR PROFILE, SEE SHEET 91
FOR VERTICAL TABLES, SEE SHEETS 581-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

HORIZONTAL SCALE IN FEET
0 25 50 100

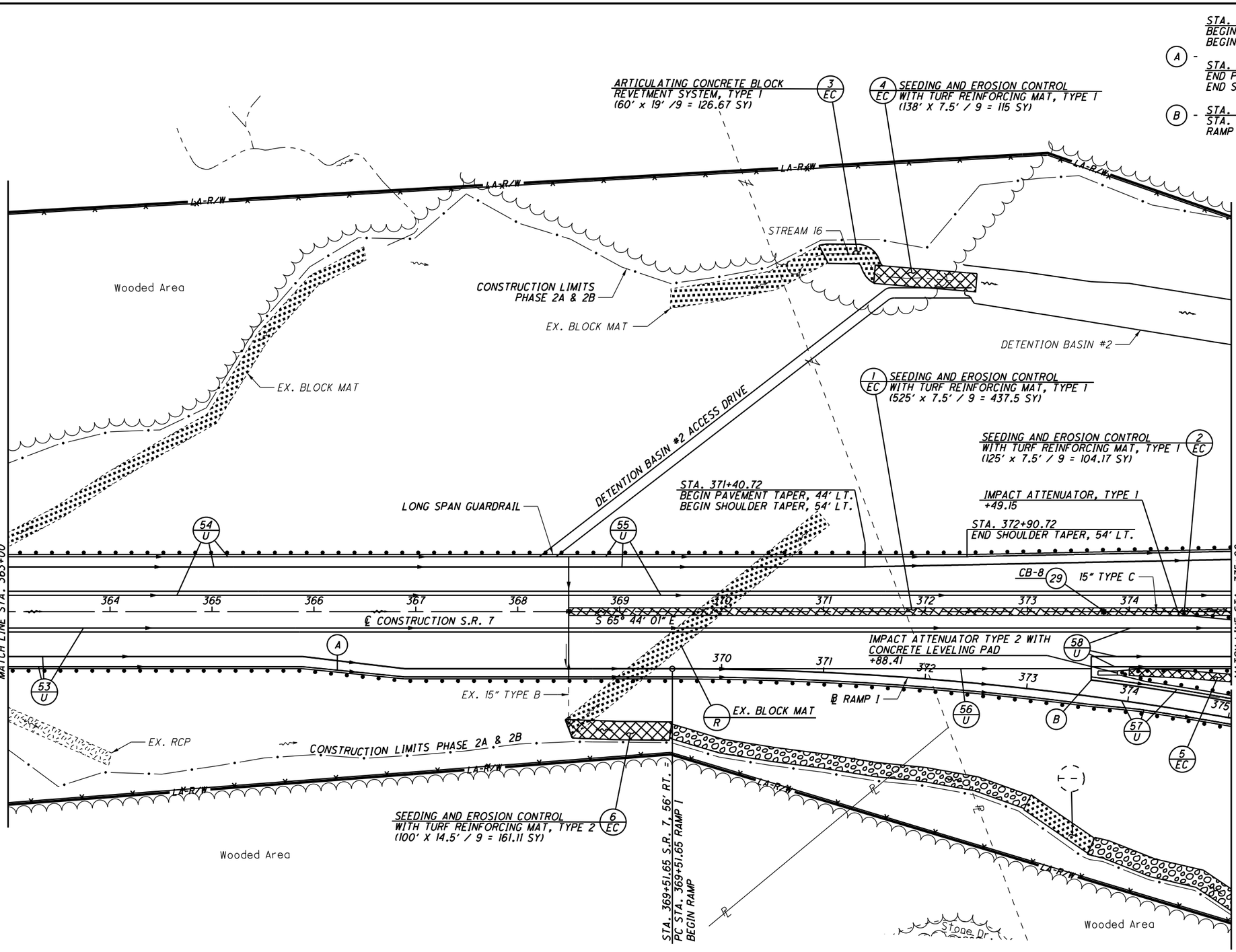
CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 351+00 TO STA. 363+00

LAW-7-2.17



92 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 351+00 TO STA. 363+00	CALCULATED SLP CHECKED ALB



HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

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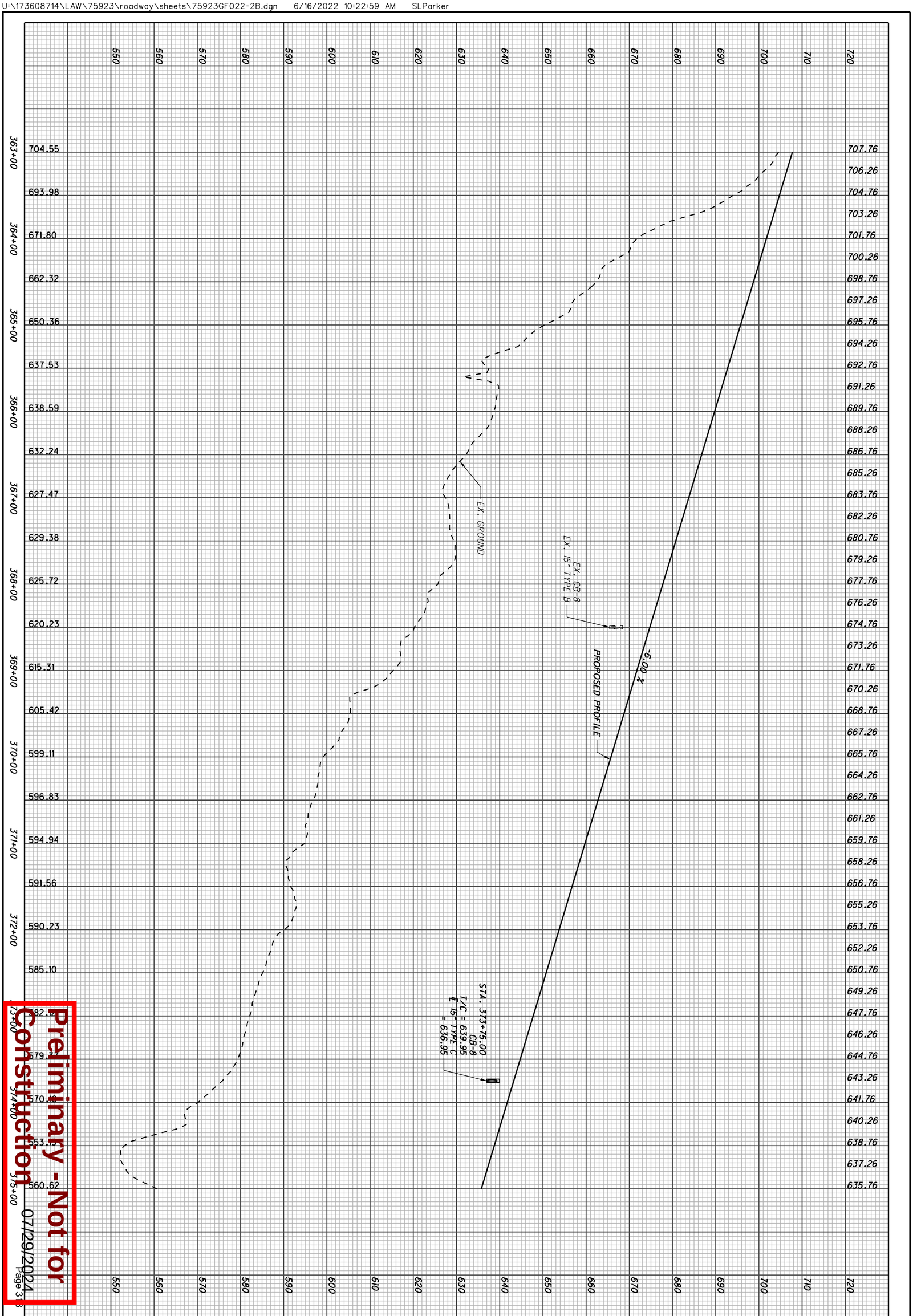

94 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 363+00 TO STA. 375+00	CALCULATED SLP CHECKED ALB

CURVE DATA
S.R. 7
CURVE NO. 9

P.I. STA. 387+47.15
Δ = 46° 04' 34" (LT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 805.51'
L = 1,549.62'
E = 136.98'
TS STA. 376+18.38
SC STA. 379+18.38

θs = 3° 44' 12"
Ls = 300.00'
Ts = 1,128.77'
LT = 200.04'
ST = 100.04'
e_{max} = 6.20%
CS STA. 394+68.00
ST STA. 397+68.00

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 375+00 TO STA. 387+00

LAW-7-2.17

95
635

LITTLE PADDY CREEK
CONSTRUCTION LIMITS PHASE 2A & 2B
EX. LA R/W
WETLAND N
Wooded Area
DETENTION BASIN #4
CB2-2B
21" TYPE C
SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (123' x 7.5' / 9 = 102.5 SY)
1 EC
CB2-2B 15" TYPE B 30
BRIDGE NO. LAW-7-0713 L&R
PROP. LUMINAIRE, TYP.
55 U
55A U
PROP. PULL BOX
PROP. LIGHTING CONDUIT
STA. 381+38.36 S.R. 7 = STA. 56+77.91 S.R. 775
BTA, TYPE 1 +39.68
BTA, TYPE 1 +17.76
CB-8 32
MATCH LINE STA. 375+00
S 65° 44' 01" E
BTA, TYPE 2 +57.19
15" TYPE C
BTA, TYPE 1 +38.06
BTA, TYPE 1 +27.70
58 U
CB-5 31
57 U
3 EC
BTA, TYPE 2 +08.36
BTA, TYPE 2 +93.59
42" TYPE C
BTA, TYPE 2 +04.40
S 52° 05' 53" E
15" TYPE F
STREAM 16
WETLAND N
Brush
Rock Channel
℄ RAMP I
℄ CONSTRUCTION S.R. 775
CONSTRUCTION LIMITS PHASE 2A & 2B
42" TYPE A
WATERLINE ABANDONED
℄ RAMP J
TYPE E PON +58.55
STREAM 17
5 EC
59 U
A
℄ CONSTRUCTION S.R. 7
CURVE NO. 9
TYPE T +82.30
42" TYPE C
TYPE T +52.22
15" TYPE B
60 U
2 EC
IMPACT ATTENUATOR, TYPE 1 +21.79
PROP. LIGHTING CIRCUIT, TYP.
CB-5A 34
33 CB-5A
4 EC DITCH EROSION PROTECTION (VBF) (200' x 11' / 9 = 244.44 SY)
BRIDGE NO. LAW-775-0105
℄ RAMP L
Fence
Gravel
Asphalt
EX. S.R. 775
Brush
MATCH LINE STA. 387+00
WALNUT ST.
Pool
Sty Brk #675
Res.
Conc.
CONSTRUCTION LIMITS PHASE 2A & 2B
EX LA R/W

(A) STA. 383+90.72 S.R. 7, 69' LT.
END PAVEMENT TAPER =
ST STA. 383+90.72 RAMP J
BEGIN RAMP
RAMP NOSE

2 EC DITCH EROSION PROTECTION MAT, TYPE B (680' x 7.5' / 9 = 566.67 SY)

3 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (101' x 7.5' / 9 = 84.17 SY)

5 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (107' x 7.5' x 1.5' / 27 = 44.58 CY)

(VBF) DENOTES LOCATION OF VEGETATED BIOFILTER

FOR PROFILE, SEE SHEET 96
FOR RAMP I PLAN AND PROFILE, SEE SHEET 378
FOR RAMP J PLAN AND PROFILE, SEE SHEET 384
FOR RAMP L PLAN AND PROFILE, SEE SHEET 403
FOR S.R. 775 PLAN AND PROFILE, SEE SHEETS 486 & 487
FOR INTERCHANGE DETAILS, SEE SHEETS 543-548
FOR INTERSECTION DETAILS, SEE SHEETS 549-554
FOR STORM SEWER PROFILE, SEE SHEETS 582-583
FOR DETENTION BASIN DETAILS, SEE SHEETS 571-580
FOR UNDERDRAIN TABLES, SEE SHEETS 581-585
FOR STRUCTURE DETAILS, SEE SHEETS XXX-XXX

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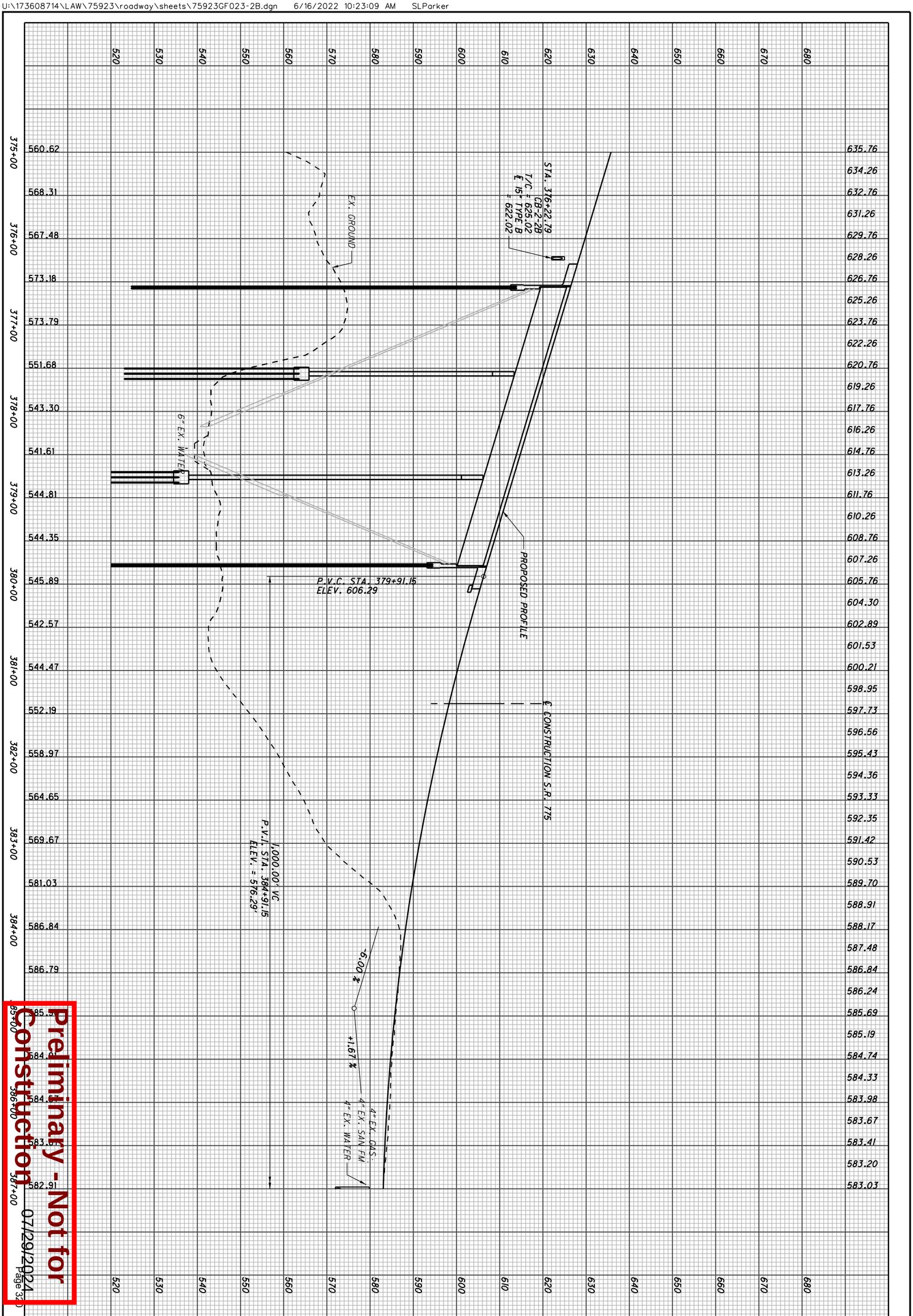

1 EC DITCH EROSION PROTECTION MAT, TYPE B (1000' x 7.5' / 9 = 833.33 SY)

2 EC DITCH EROSION PROTECTION (50' x 7.5' / 9 = 41.67 SY)

4 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (14' x 18' / 9 = 28 SY)

3 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (400' x 21.5' /9 = 955.56 SY)

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 1

P.I. STA. 399+82.71
Δ = 4° 17' 32" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 214.71'
L = 429.22'
E = 4.02'
e_{max} = 2.90%
PC STA. = 397+68.00
PT STA. = 401+97.22

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 387+00 TO STA. 399+00

LAW-7-2.17

97
633

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CURVE DATA
S.R. 7
CURVE NO. 9

P.I. STA. 387+47.15
Δ = 46° 04' 34" (LT)
Dc = 2° 29' 28"
R = 2,300.00'
T = 805.51'
L = 1,549.62'
E = 136.98'
TS STA. 376+18.38
SC STA. 379+18.38

θs = 3° 44' 12"
Ls = 300.00'
Ts = 1,128.77'
LT = 200.04'
ST = 100.04'
e_{max} = 6.20%
CS STA. 394+68.00
ST STA. 397+68.00

(A) - STA. 392+40.09 S.R. 7 BEGIN PAVEMENT TAPER, 69' RT. = STA. 392+40.09 RAMP L RAMP NOSE END RAMP

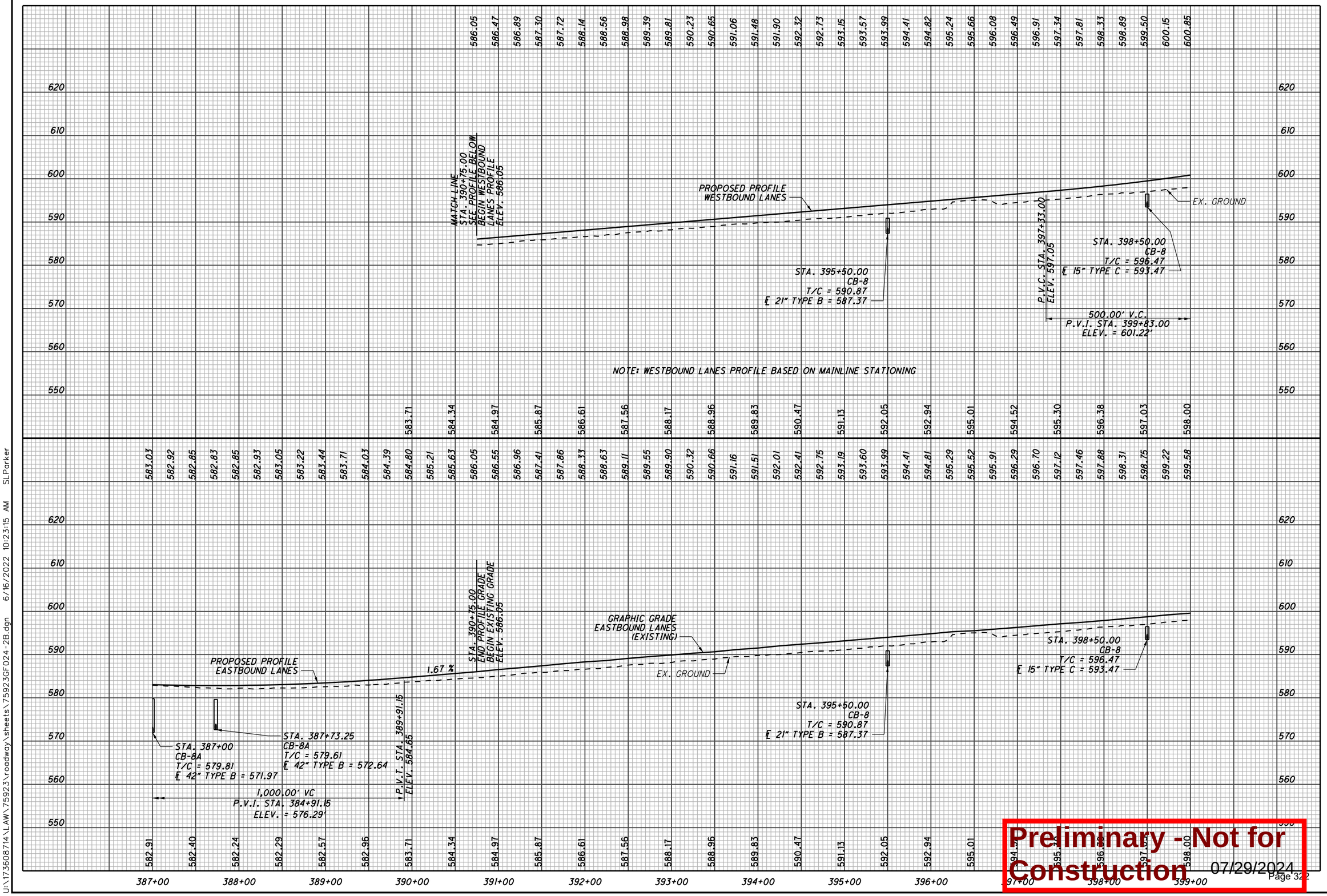
(B) - P.C. STA. 397+68.00 BEGIN ℄ WESTBOUND LANES = S.T. STA. 397+68.00, S.R. 7, 20' LT.

(C) - 5:1 SAWCUT TAPER TO MEET EXISTING SHOULDER WIDTH.

3-1/4" MILL/FILL

NOTE: ℄ WESTBOUND LANES SHOWN FOR HORIZONTAL ALIGNMENT ONLY

FOR PROFILE, SEE SHEET 98
FOR RAMP J PLAN & PROFILE, SEE SHEET 384
FOR RAMP K PLAN & PROFILE, SEE SHEET 389-390
FOR RAMP L PLAN & PROFILE, SEE SHEET 389
FOR INTERCHANGE DETAILS, SEE SHEETS 544-546
FOR STORM SEWER PROFILES, SEE SHEETS 561-562
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 584-619



CALCULATED SLP
CHECKED ALB

PROFILE - S.R. 7

STA. 387+00 TO STA. 399+00

LAW-7-2.17

98
633

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Preliminary - Not for Construction 07/29/2024

CURVE DATA
S.R. 7
CURVE NO. 10

P.I. STA. 403+74.19
Δ = 1° 29' 03" (RT)
Dc = 0° 16' 56"
R = 20,306.35'
T = 263.02'
L = 526.00'
E = 1.70'
e_{max} = NC
PC STA. 401+11.17
PT STA. 406+37.18

CURVE DATA
S.R. 7
CURVE NO. 11

P.I. STA. 416+63.54
Δ = 18° 47' 30" (LT)
Dc = 1° 38' 13"
R = 3,500.00'
T = 451.44'
L = 897.92'
E = 28.99'
TS STA. = 409+59.26
SC STA. = 412+09.26
θs = 2° 02' 47"
Ls = 250.00'
Ts = 704.28'
LT = 166.68'
ST = 83.34'
e_{max} = 4.47%
CS STA. 421+07.18
ST STA. 423+57.18

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 1

P.I. STA. 399+82.71
Δ = 4° 17' 32" (LT)
Dc = 1° 00' 00"
R = 5,729.58'
T = 214.71'
L = 429.22'
E = 4.02'
e_{max} = 2.90%
PC STA. = 397+68.00
PT STA. = 401+97.22

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 2

P.I. STA. 405+66.18
Δ = 4° 27' 49" (RT)
Dc = 0° 50' 00"
R = 6,875.49'
T = 267.96'
L = 535.64'
E = 5.22'
e_{max} = 2.48%
PC STA. = 402+98.22
PT STA. = 408+33.87

Ⓐ - STA. 403+90.09
BEGIN SHOULDER TAPER, 52.91' RT.

Ⓑ - STA. 404+90.09
END SHOULDER TAPER, 52.82' RT.
END PAVEMENT TAPER, 42.82' RT.

Ⓒ - STA. 406+89.52, S.R. 7
BEGIN PAVEMENT TAPER, 106.08' LT.
BEGIN SHOULDER TAPER, 114.08' LT.

Ⓓ - STA. 407+90.33, S.R. 7
END PAVEMENT TAPER, 97.70' LT.
END SHOULDER TAPER, 107.70' LT.

2 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (750' x 14.5' /9 = 1208.33 SY)

1 EC DITCH EROSION PROTECTION (300' x 7.5' / 9 = 250 SY)

74 U CONSTRUCTION LIMITS PHASE 2A & 2B

3-¼" MILL/FILL

NOTE: ℄ WESTBOUND LANES GIVEN FOR HORIZONTAL ALIGNMENT ONLY.

CONTROL LINE, SEE SHEET 100
FOR RAMP K PLAN & PROFILE, SEE SHEET 389-390
FOR INTERCHANGE DETAILS, SEE SHEETS 544-546
FOR TYPICAL SECTIONS, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 399+00 TO STA. 411+00

LAW-7-2.17

PROPOSED PROFILE
WESTBOUND LANES

EX. GROUND

+1.67 %

+5.30 %

P.V.C. STA. 402+73.00
ELEV. 616.58

P.V.I. STA. 402+33.00
ELEV. 614.46

500.00' V.C.
P.V.I. STA. 399+83.00
ELEV. = 601.22'

1,540.00' V.C.
P.V.I. STA. 410+43.00
ELEV. = 657.36'

+5.30 %

-4.85 %

NOTE: WESTBOUND LANES PROFILE BASED ON MAINLINE STATIONING

GRAPHIC GRADE
EASTBOUND LANES
(EXISTING)

EX. GROUND

STA. 404+90.09
END GRAPHIC GRADE
END PROFILE EASTBOUND LANES
ELEV. 608.26

ALL PROPOSED WORK OCCURING
IN WESTBOUND LANES ONLY

399+00 400+00 401+00 402+00 403+00 404+00 405+00 406+00 407+00 408+00 409+00 410+00 411+00

PROFILE - S.R. 7
STA. 399+00 TO 411+00

CALCULATED SLP
CHECKED ALB

LAW-7-2.17

100
633

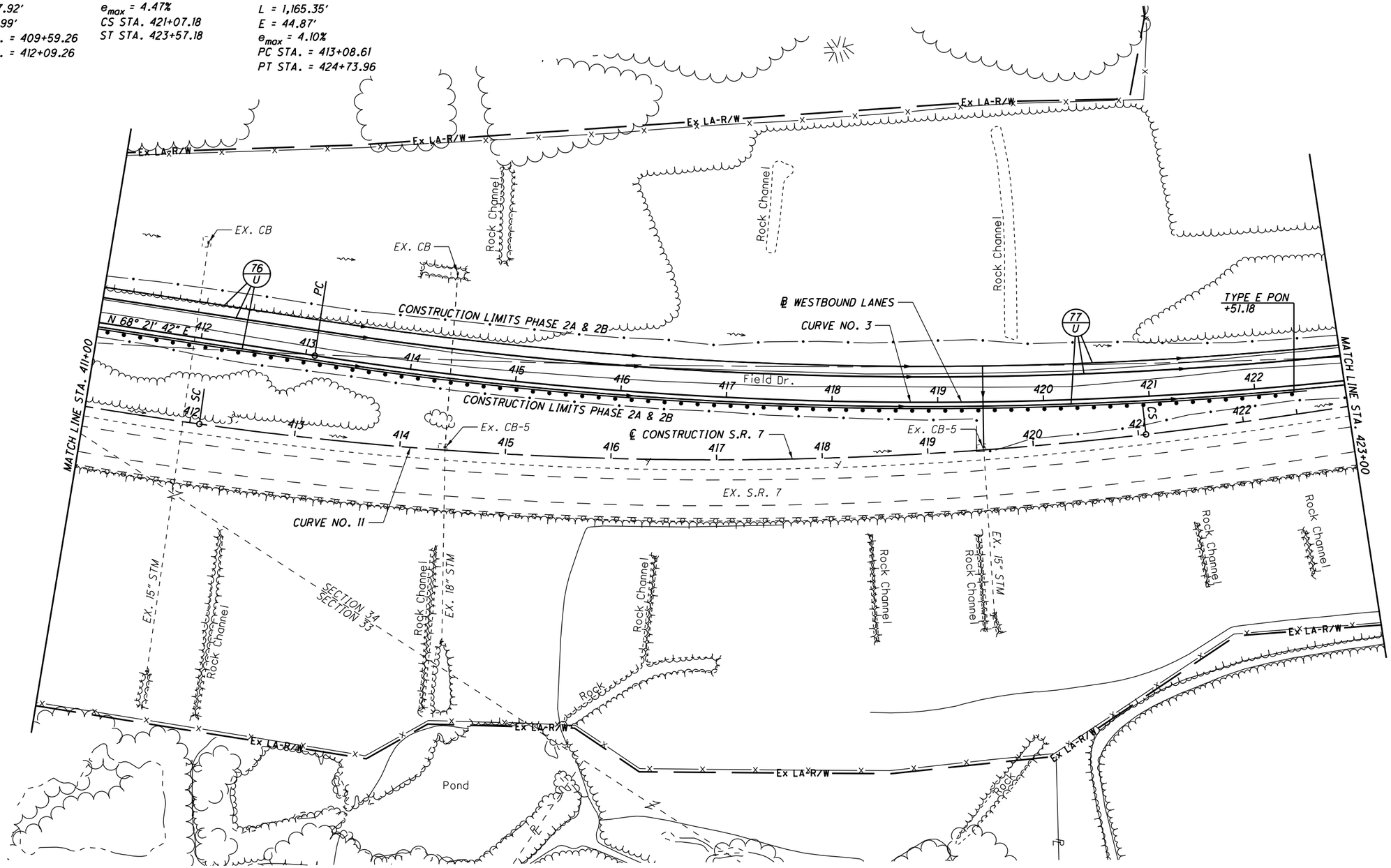
CURVE DATA
S.R. 7
CURVE NO. 11

P.I. STA. 416+63.54
Δ = 18° 47' 30" (LT)
Dc = 1° 38' 13"
R = 3,500.00'
T = 451.44'
L = 897.92'
E = 28.99'
TS STA. = 409+59.26
SC STA. = 412+09.26

θs = 2° 02' 47"
Ls = 250.00'
Ts = 704.28'
LT = 166.68'
ST = 83.34'
e_{max} = 4.47%
CS STA. 421+07.18
ST STA. 423+57.18

CURVE DATA
S.R. 7 WESTBOUND LANES
℄ CURVE NO. 3

P.I. STA. 418+95.85
Δ = 17° 28' 44" (LT)
Dc = 1° 30' 00"
R = 3,820.00'
T = 587.24'
L = 1,165.35'
E = 44.87'
e_{max} = 4.10%
PC STA. = 413+08.61
PT STA. = 424+73.96



NOTE: ℄ WESTBOUND LANES GIVEN FOR HORIZONTAL ALIGNMENT ONLY

FOR PROFILE, SEE SHEET 102
FOR UNDERGROUND TABLES, SEE SHEETS 283
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-599

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 411+00 TO STA. 423+00

LAW-7-2.17

101
633

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1,540.00' V.C.
P.V.I. STA. 410+43.00
ELEV. = 657.36'

P.C.C. STA. 418+13.00
ELEV. 619.99

PROPOSED PROFILE
WESTBOUND LANES

EX. 15" STM

EX. 18" STM

EX. GROUND

-4.85 %

-0.50 %

P.C.C. STA. 418+13.00
ELEV. 619.99

660.00' V.C.
P.V.I. STA. 421+43.00
ELEV. = 603.98'

NOTE: WESTBOUND LANES PROFILE BASED ON MAINLINE STATIONING

637.84 637.78 637.68 637.54 637.36 637.14 636.87 636.56 636.22 635.83 635.40 634.93 634.42 633.86 633.27 632.63 631.95 631.24 630.48 629.68 628.83 627.95 627.03 626.06 625.06 624.01 622.92 621.79 620.62 619.42 618.24 617.11 616.02 614.97 613.96 613.00 612.07 611.19 610.34 609.54 608.78 608.06 607.38 606.74 606.15 605.59 605.08 604.61 604.18

640 630 620 610 600 590 580 570

608.42 608.23 608.12 607.88 607.31 607.13 606.78 606.11 606.25 606.07 605.77 605.33 605.02 604.61 604.26 603.96 603.81 603.24 603.10 602.83 602.81 602.32 602.12 601.83 601.59

411+00 412+00 413+00 414+00 415+00 416+00 417+00 418+00 419+00 420+00 421+00 422+00 423+00

EX. 15" STM

EX. 18" STM

EX. GROUND

EX. 15" STM

ALL PROPOSED WORK OCCURING
IN WESTBOUND LANES ONLY

630 620 610 600 590 580 570 560

608.42 608.23 608.12 607.88 607.31 607.13 606.78 606.11 606.25 606.07 605.77 605.33 605.02 604.61 604.26 603.96 603.81 603.24 603.10 602.83

411+00 412+00 413+00 414+00 415+00 416+00 417+00 418+00 419+00 420+00

CALCULATED SLP
CHECKED ALB

PROFILE - S.R. 7
STA. 411+00 TO STA. 423+00

LAW-7-2.17

102
633

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CURVE DATA
S.R. 7
CURVE NO. 11

P.I. STA. 416+63.54
Δ = 18° 47′ 30″ (LT)
Dc = 1° 38′ 13″
R = 3,500.00′
T = 451.44′
L = 897.92′
E = 28.99′
TS STA. = 409+59.26
SC STA. = 412+09.26

θs = 2° 02′ 47″
Ls = 250.00′
Ts = 704.28′
LT = 166.68′
ST = 83.34′
e_{max} = 4.47%
CS STA. 421+07.18
ST STA. 423+57.18

CURVE DATA
S.R. 7
CURVE NO. 12

P.I. STA. 428+11.24
Δ = 3° 17′ 53″ (RT)
Dc = 1° 19′ 10″
R = 4,342.09′
T = 125.00′
L = 249.93′
E = 1.80′
e_{max} = 3.77%
PC STA. = 426+86.24
PT STA. = 429+36.17

CURVE DATA
S.R. 7
℄ WESTBOUND LANES
CURVE NO. 3

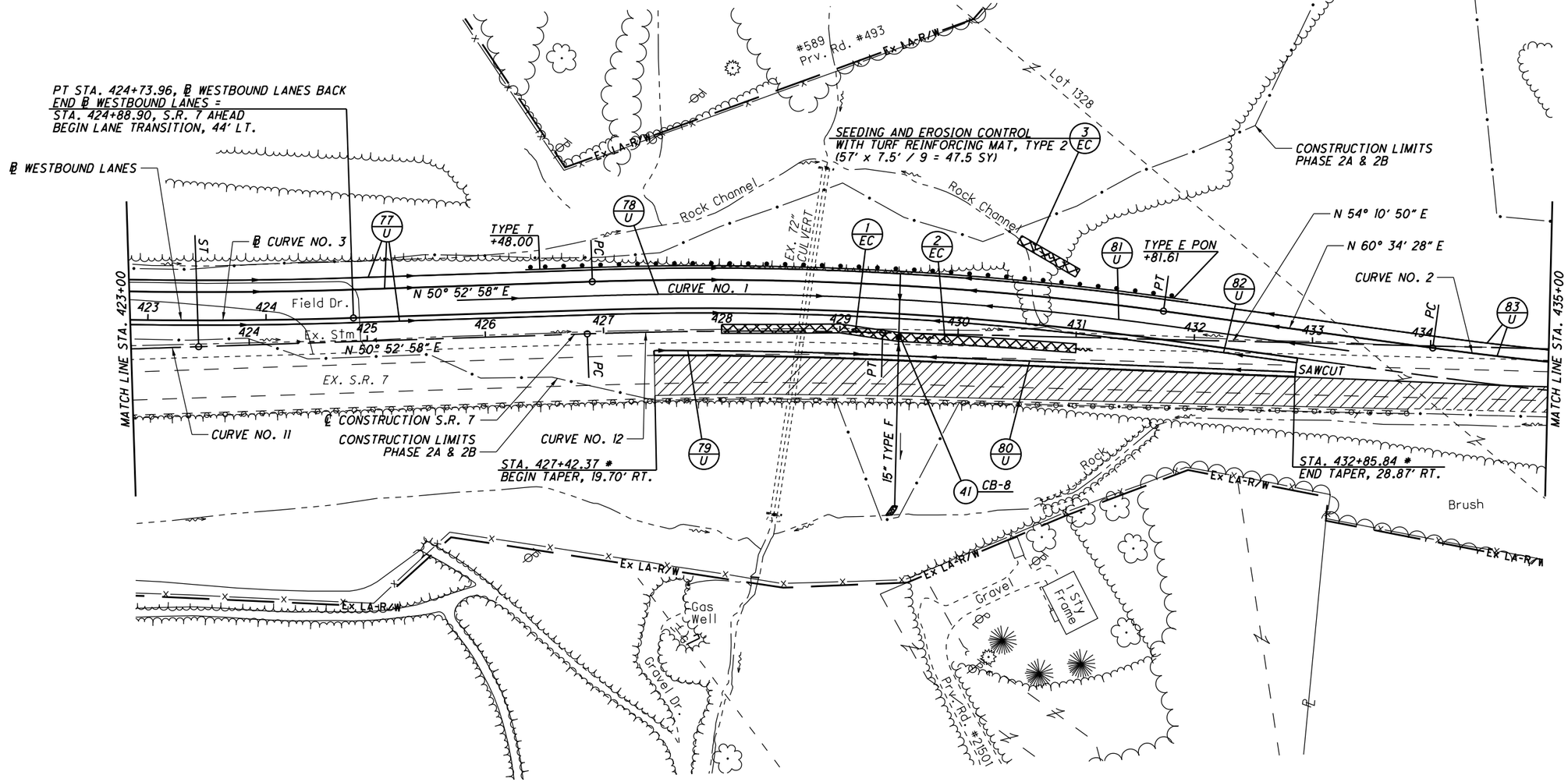
P.I. STA. 418+95.85
Δ = 17° 28′ 44″ (LT)
Dc = 1° 30′ 00″
R = 3,820.00′
T = 587.24′
L = 1,165.35′
E = 44.87′
e_{max} = 4.10%
PC STA. 413+08.61
PT STA. 424+73.96

CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 1
(FOR HORIZONTAL LAYOUT ONLY)

P.I. STA. 429+32.01, S.R. 7, 51.04′ LT.
Δ = 9° 41′ 31″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 242.88′
L = 484.59′
E = 10.28′
e_{max} = 5.10%
PC STA. 426+91.84, S.R. 7, 44′ LT.
PT STA. 431+73.33, S.R. 7, 23.99′ LT.

CURVE DATA
S.R. 7 LANE TRANSITION
TRANSITION CURVE NO. 2
(FOR HORIZONTAL LAYOUT ONLY)

P.I. STA. 435+58.87, S.R. 7, 19.22′ RT.
Δ = 6° 18′ 42″ (LT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 157.95′
L = 315.59′
E = 4.35′
e_{max} = NC
PC STA. 434+01.90, S.R. 7, 1.63′ RT.
PT STA. 437+16.83, S.R. 7, 19.44′ RT.



1 EC SEEDING AND EROSION CONTROL
WITH TURF REINFORCING MAT, TYPE 1
(150′ x 7.5′ / 9 = 125 SY)

2 EC DITCH EROSION PROTECTION
(150′ x 7.5′ / 9 = 125 SY)

* - SEE TRAFFIC CONTROL PLAN SHEET XXX FOR FULL TAPER LENGTH.

3-1/4″ MILL/FILL

NOTE: ℄ WESTBOUND LANES GIVEN FOR HORIZONTAL ALIGNMENT ONLY.

FOR PROFILE, SEE SHEET 104
FOR STORM SEWER PROFILES, SEE SHEET 360
FOR PAVEMENT DETAILS, SEE SHEET 540
FOR UNDERDRAIN DETAILS, SEE SHEET 583
FOR TRAFFIC CONTROL PLAN, SEE SHEET 633

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN - S.R. 7
STA. 423+00 TO STA. 435+00

LAW-7-2.17

103
633

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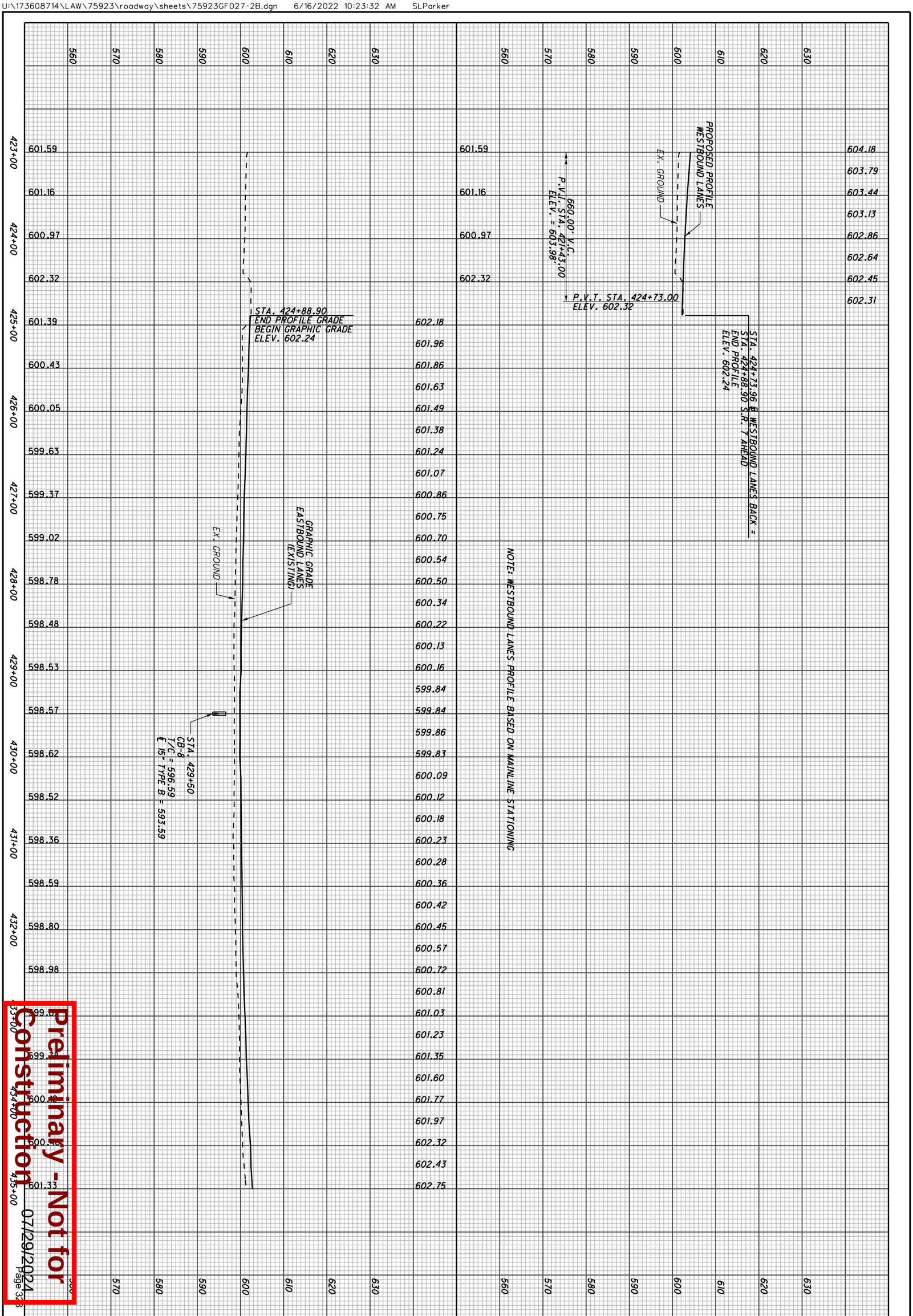

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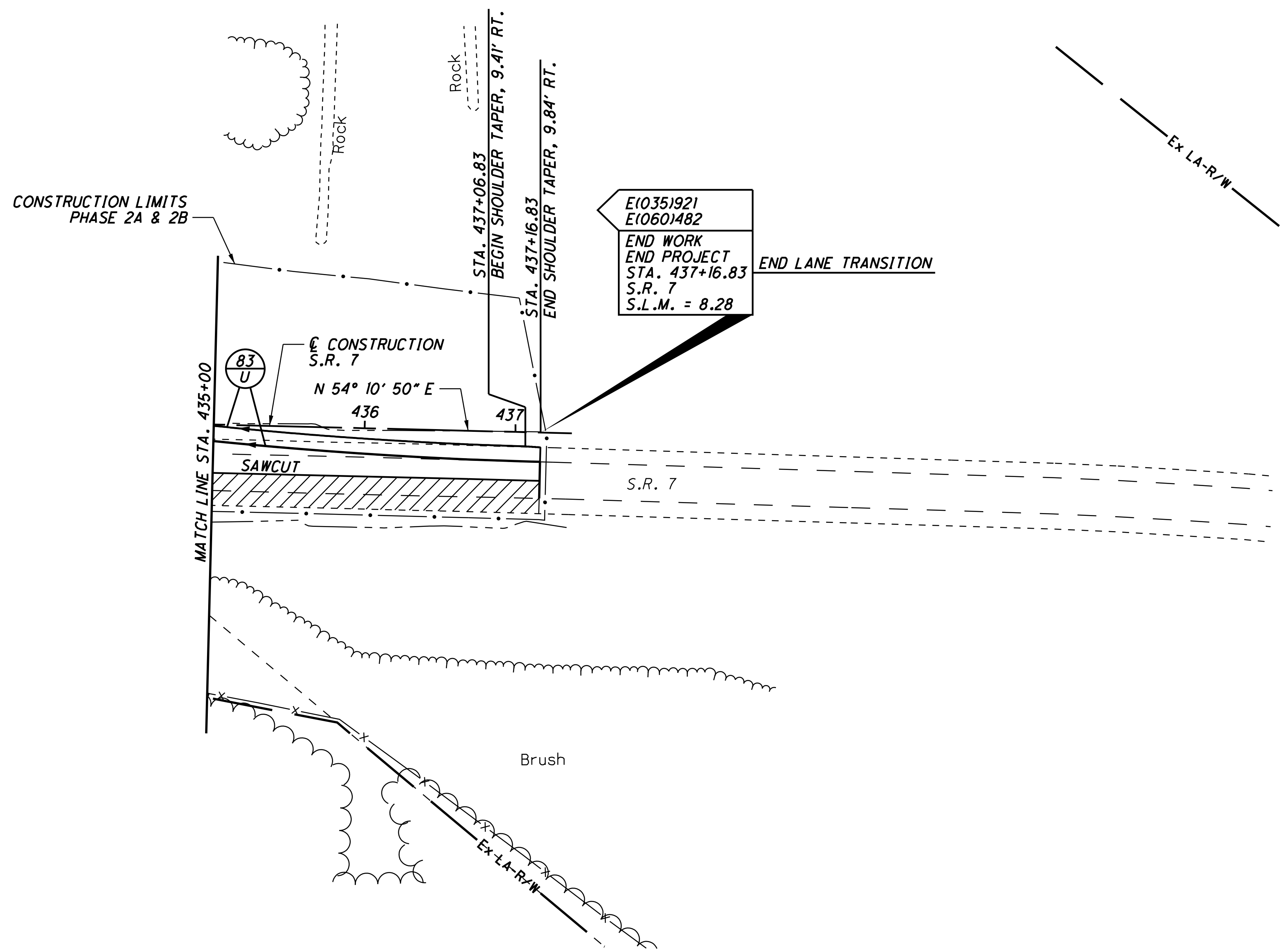
104 / 633	LAW-7-2.17	PROFILE - S.R. 7 STA. 423+00 TO 435+00

CALCULATED SLP
CHECKED ALB



3-¼" MILL/FILL

FOR PROFILE, SEE SHEET 106
FOR PAVEMENT DETAILS, SEE SHEET 510
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-61

Preliminary - Not for Construction

07/29/2024

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HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED SLP | CHECKED ALB

PLAN - S.R. 7
STA. 435+00 TO STA. 437+16.83

LAW-7-2.17

105 / 633

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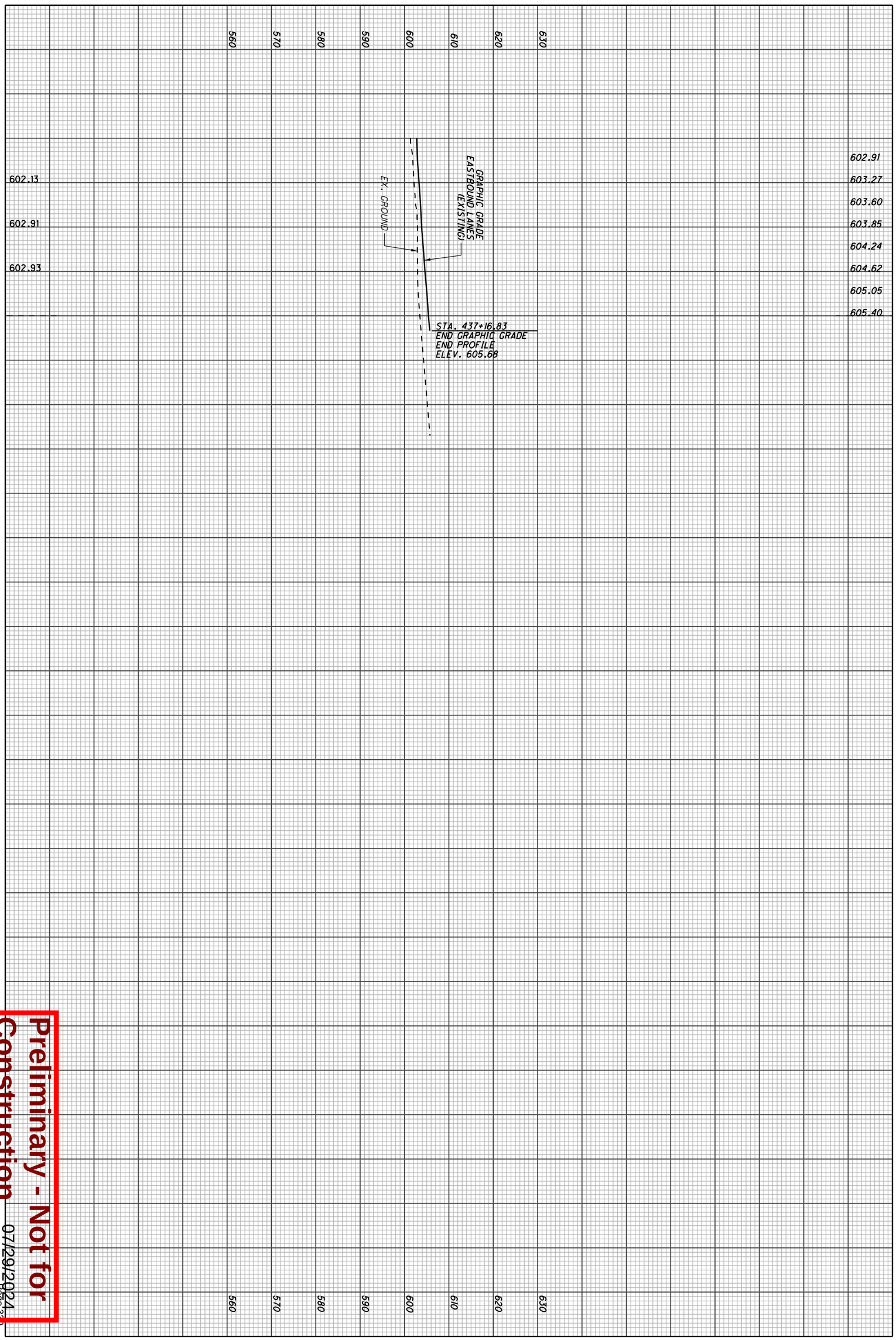

106
633

LAW-7-2.17

PROFILE - S.R. 7
STA. 435+00 TO 437+16.83

CALCULATED SLP
CHECKED ALB

MEET EX. +43.70

STA. 119+15.51
MEET EXISTING
BEGIN RAMP

STA. 119+55.51
BEGIN SHOULDER TAPER, 2.57' LT.

PRECAST REINFORCED CONCRETE OUTLET WITH TIED CONCRETE BLOCK MAT

STA. 120+41.51
END SHOULDER TAPER, 6' LT.

SYMMES CREEK

CONSTRUCTION LIMITS PHASE 2A & 2B

PT STA. 129+19.04
END RAMP =
STA. 129+11.36, 8' RT., S.R. 7

FUTURE WESTBOUND LANES

CURVE NO. 1

CURVE NO. 2

N 65° 13' 26" E

N 42° 29' 36" E

CB2-4

42" TYPE B

EX. 42" STM.

EX. CB-5A

EX. 36" STM

36" TYPE A

Reflector (Typ.)

Delineator (Typ.)

EX. RAMP B

Ex LA-R/W

LA-R/W

Ex R/W

℄ RAMP C

℄ CONSTRUCTION S.R. 7

Brush

CH

PC

PT

TS

SC

CURVE DATA
RAMP C
CURVE NO. 1

P.I. STA. 121+46.57
Δ = 22° 43' 51" (LT)
Dc = 6° 55' 23"
R = 827.61'
T = 166.35'
L = 328.33'
E = 16.55'
e_{max} = 6.80%
PC STA. 119+80.21
PCC STA. 123+08.55

CURVE DATA
RAMP C
CURVE NO. 2

P.I. STA. 127+45.87
Δ = 10° 02' 27" (LT)
Dc = 3° 00' 00"
R = 1,909.86'
T = 111.22'
L = 222.19'
E = 3.24'
TS STA. 124+71.85
SC STA. 126+96.85

Bs BACK = 3° 22' 30"
Ls = 225.00'
Ts = 274.02'
LT = 150.03'
ST = 75.02'
e_{max} (N.D.C.) = 6.00%
e_{max} = 2.22%

PAVEMENT REMOVED

3-1/4" MILL/FILL

(A) - STA. 125+56.39
BEGIN SHOULDER TAPER, 6' LT.
STA. 126+56.39
END SHOULDER TAPER, 8' LT.
RAMP NOSE

FOR S.R. 7 PLAN AND PROFILE, SEE SHEETS 46-49
FOR PAVEMENT DETAILS, SEE SHEETS 539
FOR INTERCHANGE DETAILS, SEE SHEETS 541-543
FOR STORM SEWER PROFILES, SEE SHEET 559
FOR CULVERT DETAILS, SEE SHEET 566
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

100.00' VC
P.V.I. STA. 123+30.00
ELEV. = 559.26'

200.00' VC
P.V.I. STA 120+80.00
ELEV. = 556.01'

P.V.C. STA 122+80.00
ELEV. 558.61

P.V.T. STA 123+80.00
ELEV. 559.36

P.V.C. STA. 119+80.00
ELEV. 556.44

P.V.T. STA. 121+80.00
ELEV. 557.31

STA. 119+55.51
BEGIN PROFILE
ELEV. 556.55

STA. 124+00.00
END PROFILE GRADE
BEGIN GRAPHIC GRADE
ELEV. 559.40

STA. 129+19.04
END GRAPHIC GRADE
END PROFILE
ELEV. 560.24

-0.92 %
-0.43 %
+1.30 %
+0.20 %

℄ 42" TYPE B
= 542.08

STA. 128+07.72
℄ 36" TYPE A
= 541.08

PROPOSED PROFILE

EX. 42" STM

EX. GROUND

556.47 556.37 556.34 556.35 556.42 556.55 556.73 556.96 557.25 557.57 557.89 558.22 558.54 558.85 559.08 559.25 559.35 559.40 559.41 559.41 559.42 559.43 559.44 559.44 559.45 559.46 559.47 559.47 559.48 559.49 559.57 559.65 559.73 559.81 559.89 559.98 560.08 560.17

555.64 555.49 555.22 553.79 548.55 542.98 535.29 529.40 529.15 529.67 530.63 531.04 531.42 532.11 533.67 536.76 541.77 544.33 545.73

640 620 600 580 560 540 520 500 480

120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE
RAMP C

LAW-7-2.17

367
633

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07/29/2024

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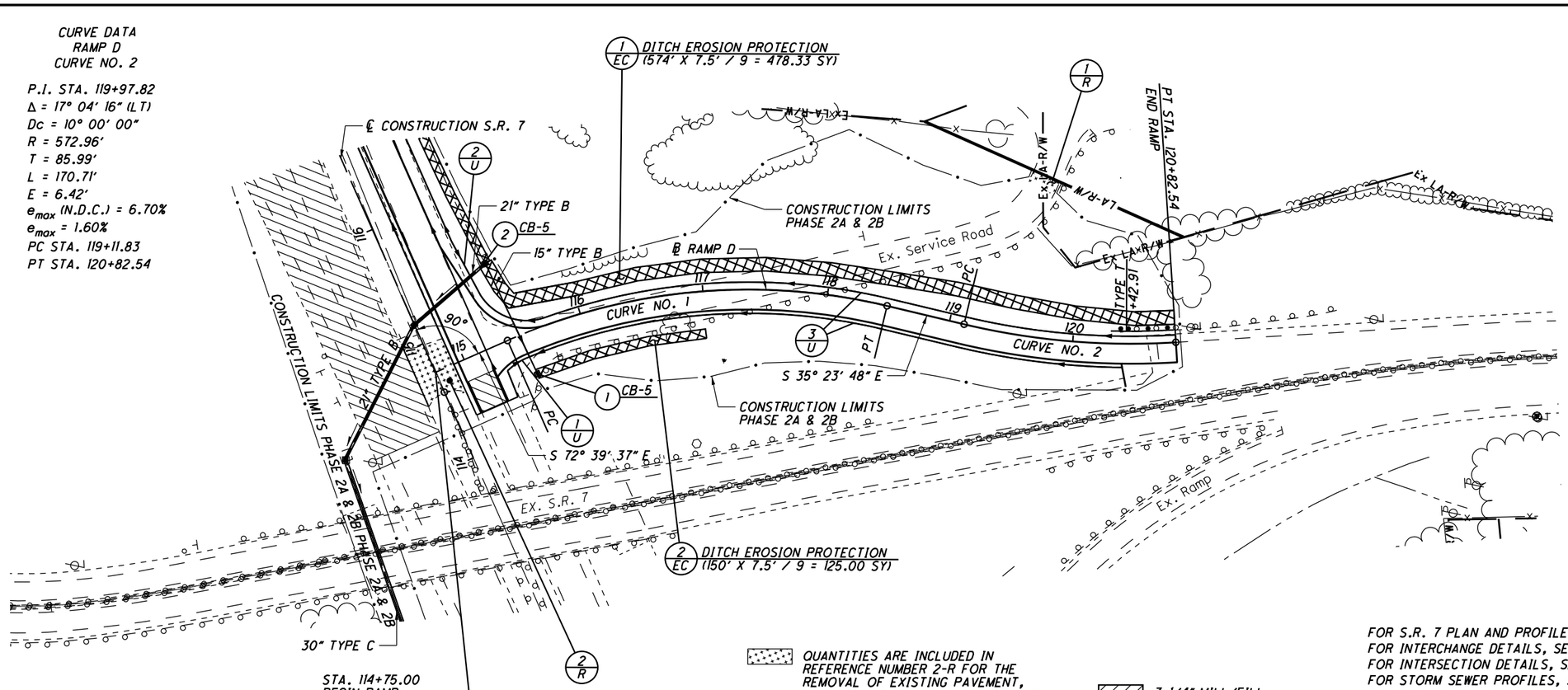
CURVE DATA
RAMP D
CURVE NO. 1

P.I. STA. 116+98.94
Δ = 37° 15' 49" (RT)
Dc = 12° 00' 00"
R = 477.46'
T = 160.98'
L = 310.53'
E = 26.41'
e_{max} = 7.30%
PC STA. 115+37.96
PT STA. 118+48.49

CURVE DATA
RAMP D
CURVE NO. 2

P.I. STA. 119+97.82
Δ = 17° 04' 16" (LT)
Dc = 10° 00' 00"
R = 572.96'
T = 85.99'
L = 170.71'
E = 6.42'
e_{max} (N.D.C.) = 6.70%
e_{max} = 1.60%
PC STA. 119+11.83
PT STA. 120+82.54

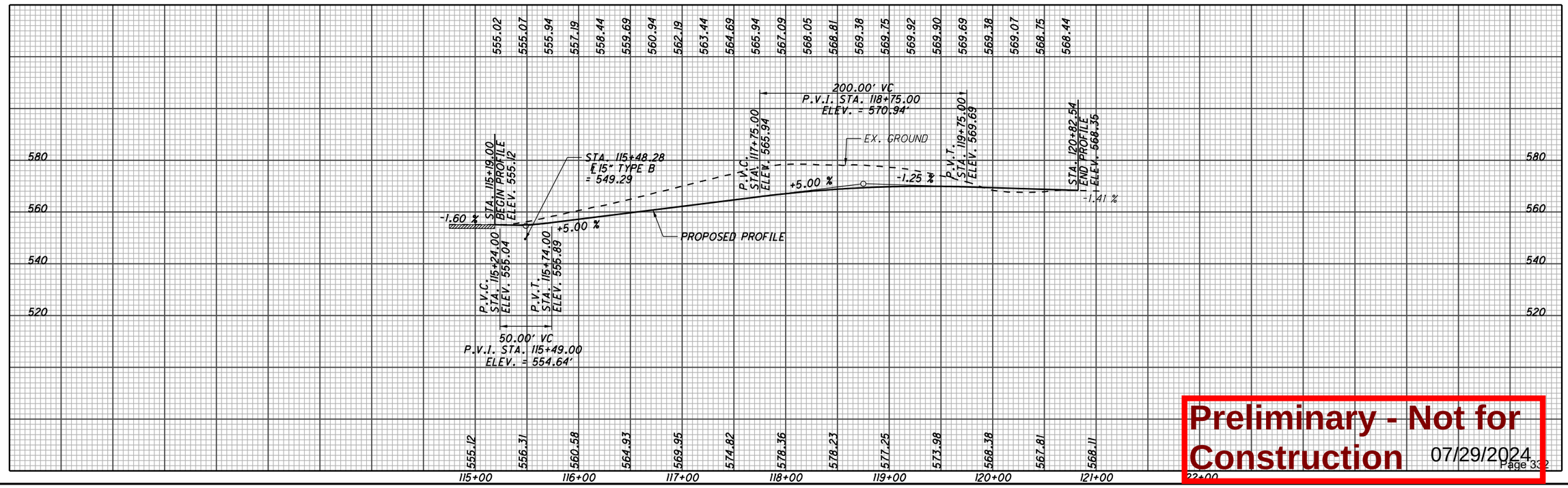


FOR S.R. 7 PLAN AND PROFILE, SEE SHEETS 46-47

QUANTITIES ARE INCLUDED IN REFERENCE NUMBER 2-R FOR THE REMOVAL OF EXISTING PAVEMENT, REGRADING TO ENSURE A DRAINABLE SURFACE AND SEEDING AND MULCHING OF THE AREA SHOWN.

3-1/4" MILL/FILL

FOR S.R. 7 PLAN AND PROFILE, SEE SHEETS 46-47
FOR INTERCHANGE DETAILS, SEE SHEETS 541-543
FOR INTERSECTION DETAILS, SEE SHEET 547
FOR STORM SEWER PROFILES, SEE SHEET 559
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

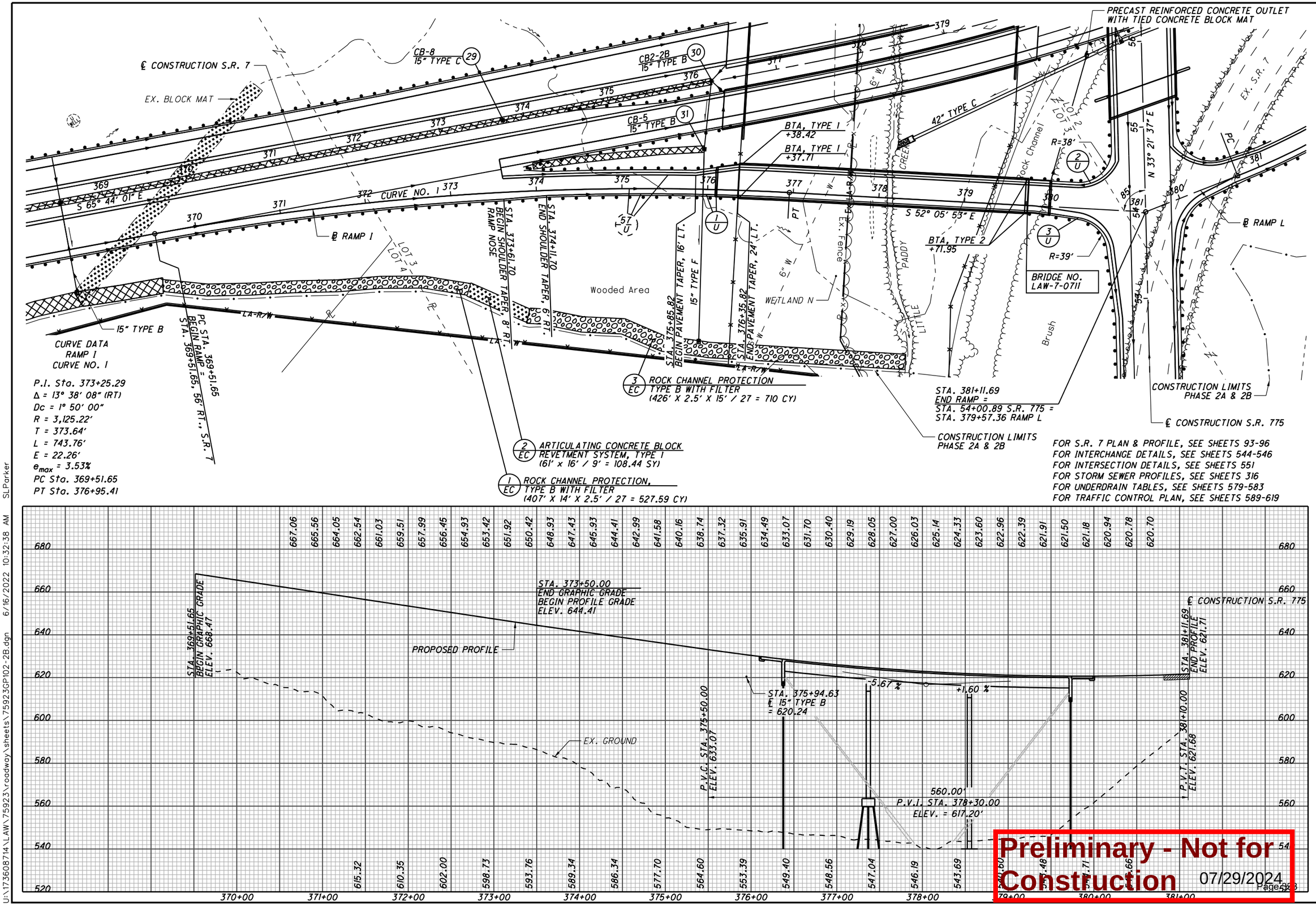


HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE
RAMP D

LAW-7-2.17



HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE RAMP I

LAW-7-2.17

CURVE DATA
RAMP J
CURVE NO. 1

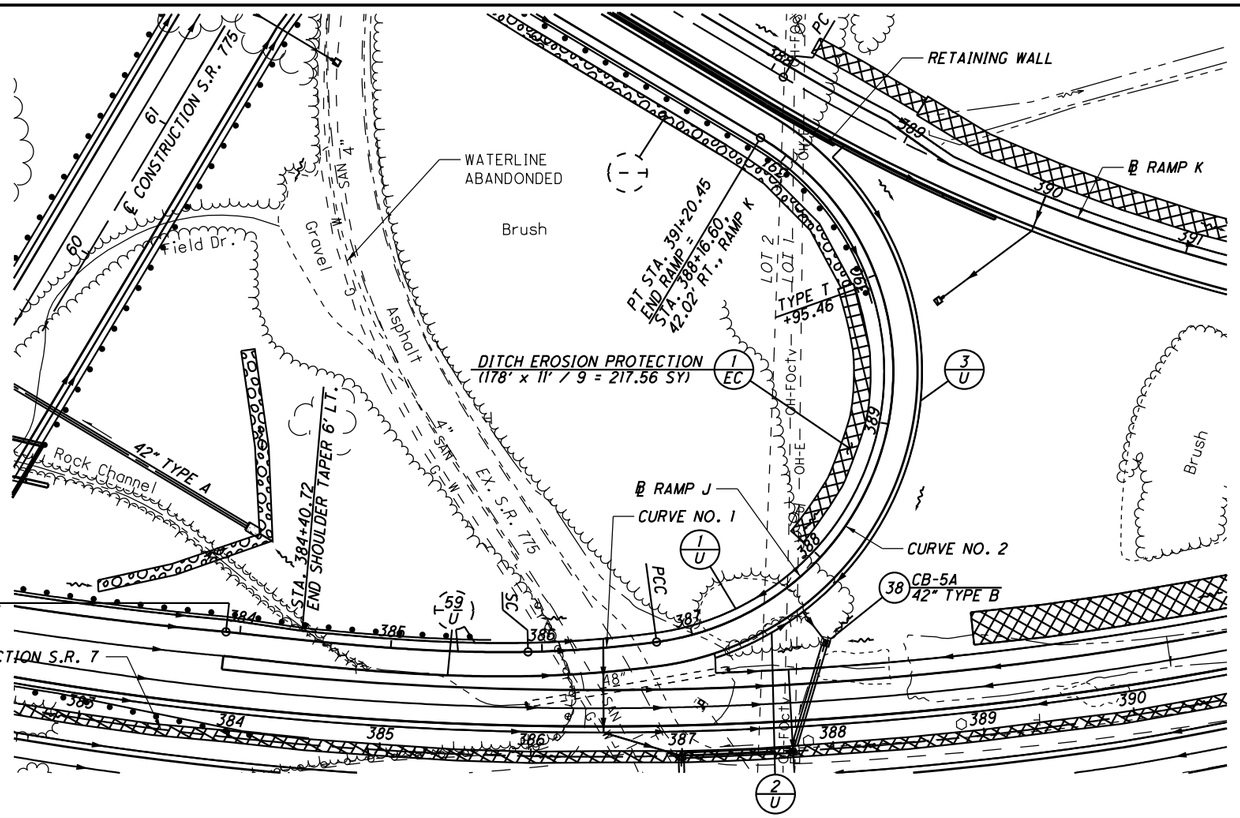
P.I. STA. 385+74.87
Δ = 13° 53' 07" (LT)
Dc = 7° 30' 00"
R = 763.94'
T = 42.61'
L = 85.14'
E = 1.19'
TS STA. 383+90.72
SC STA. 385+90.72

θ_{back} = 7° 30' 00"
L_{back} = 200.00'
T_{back} = 184.15'
LT = 133.45'
ST = 66.78'
e_{max} (N.D.C.) = 8.00%
e_{max} = 6.20%
PCC STA. 386+75.86

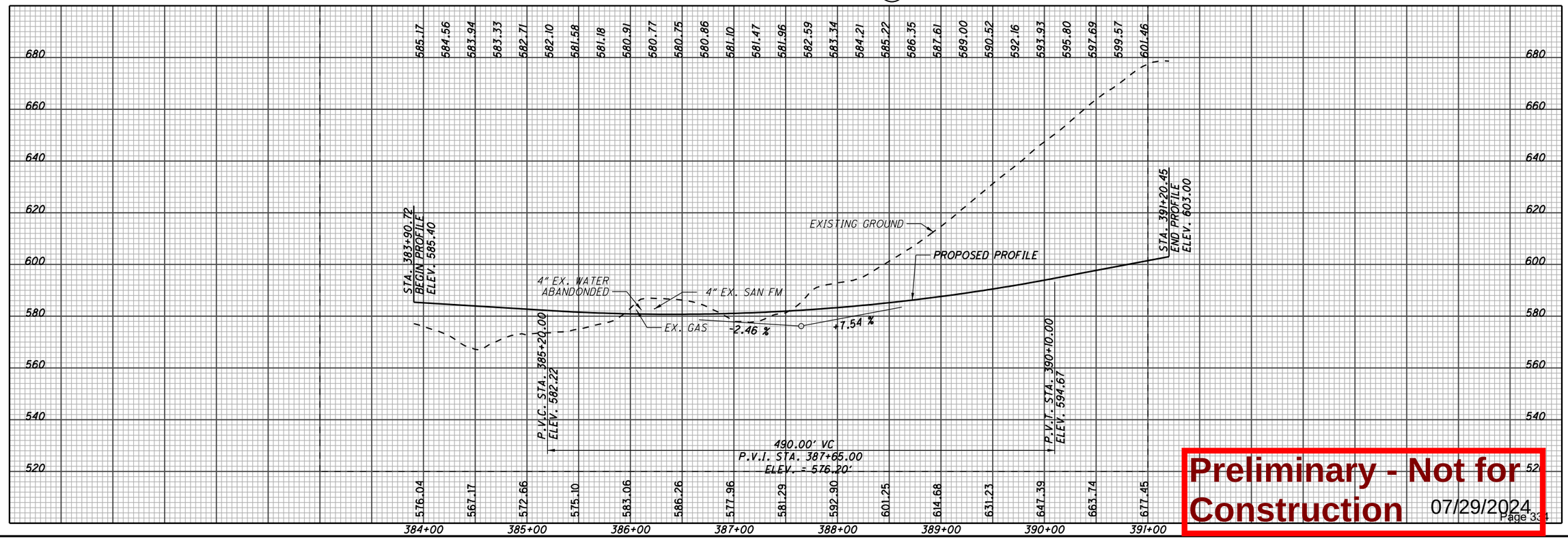
CURVE DATA
RAMP J
CURVE NO. 2

P.I. STA. 391+91.55
Δ = 141° 31' 04" (LT)
Dc = 31° 49' 52"
R = 180.00'
T = 515.70'
L = 444.59'
E = 366.21'
e_{max} = 7.66%
PCC STA. 386+75.86
PT STA. 391+20.45

ST STA. 383+90.72
BEGIN SHOULDER TAPER, 8' LT.
BEGIN RAMP
RAMP NOSE =
STA. 383+90.72, 69' LT., S.R. 7



FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 95-98
FOR RAMP K PLAN AND PROFILE, SEE SHEETS 389-390
FOR S.R. 775 PLAN & PROFILE, SEE SHEET 484-485
FOR INTERCHANGE DETAILS, SEE SHEETS 546-403
FOR STORM SEWER PROFILE, SEE SHEET 561
FOR CULVERT DETAILS, SEE SHEET 570
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR RETAINING WALL DETAILS, SEE SHEETS 584-588
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619



HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE
RAMP J

LAW-7-2.17

384
633

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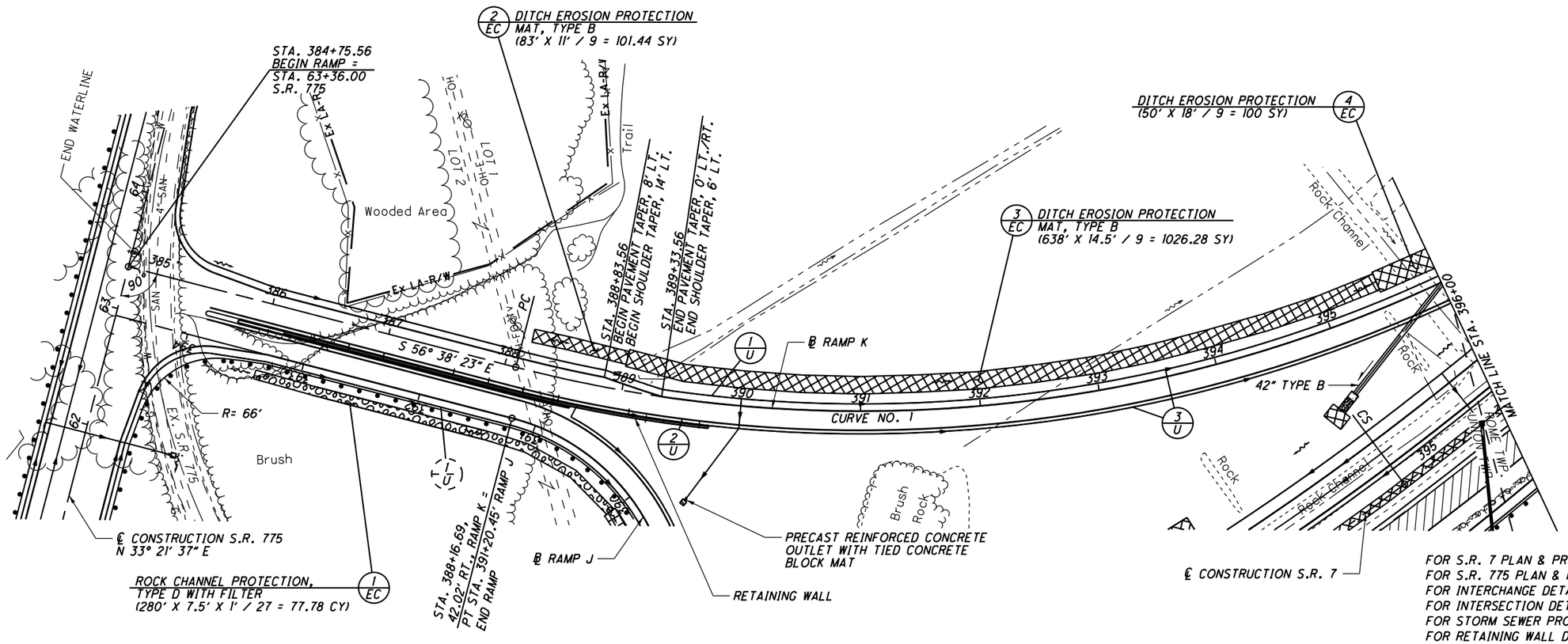
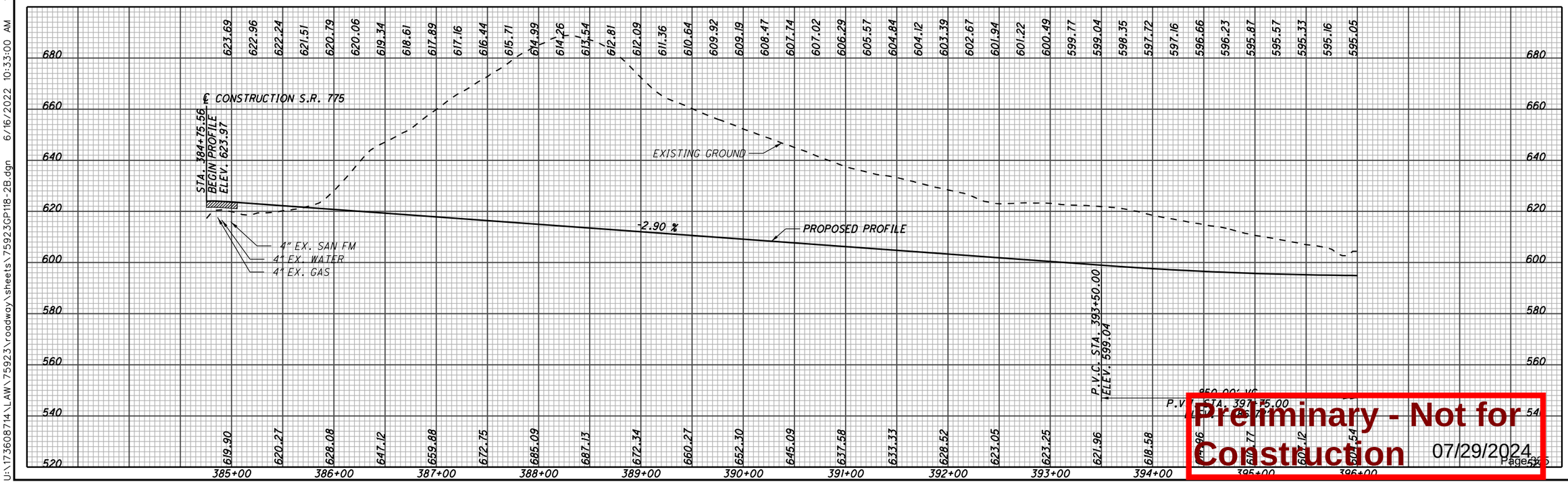


CURVE DATA
RAMP K
CURVE NO. 1

P.I. STA. 393+97.26
Δ = 54° 19' 17" (LT)
Dc = 5° 00' 00"
R = 1145.92'
T = 587.93'
L = 1086.43'
E = 142.02'
e_{max} = 6.30%
PC STA. 388+09.33
PCC STA. 398+95.76

FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 97-104
FOR S.R. 775 PLAN & PROFILE, SEE SHEET 484-485
FOR INTERCHANGE DETAILS, SEE SHEETS 544-546
FOR INTERSECTION DETAILS, SEE SHEET 552
FOR STORM SEWER PROFILE, SEE SHEET 562
FOR RETAINING WALL DETAILS, SEE SHEET 562
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

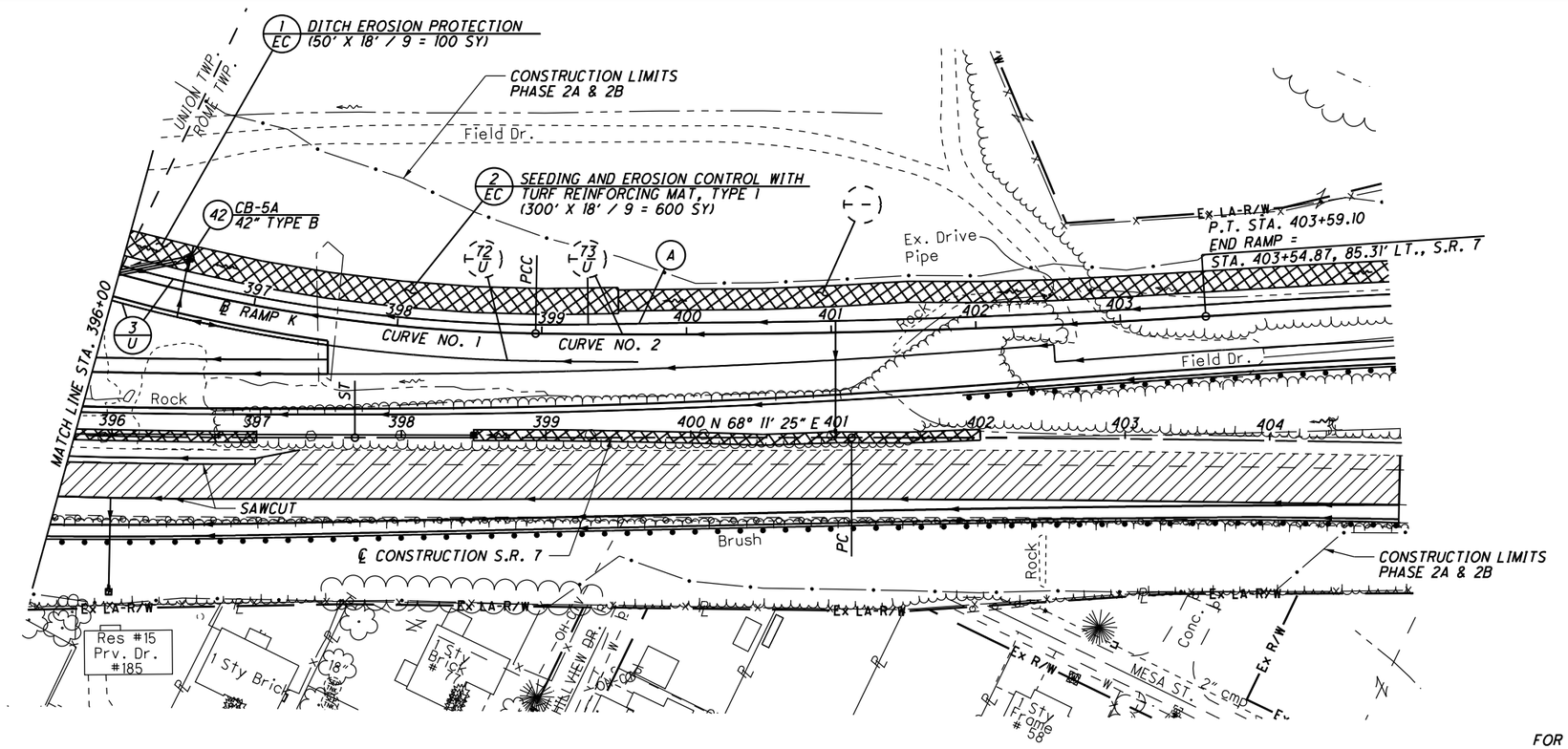


HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE - RAMP K
STA. 384+75.56 TO STA. 396+00.00

LAW-7-2.17

389
633



CURVE DATA
RAMP K
CURVE NO. 1

P.I. STA. 393+97.26
Δ = 54° 19' 17" (LT)
Dc = 5° 00' 00"
R = 1145.92'
T = 587.93'
L = 1086.43'
E = 142.02'
e_{max} = 6.30%
PC STA. 388+09.33
PCC STA. 398+95.76

CURVE DATA
RAMP K
CURVE NO. 2

P.I. STA. 401+27.55
Δ = 4° 38' 00" (LT)
Dc = 1° 00' 00"
R = 5729.58'
T = 231.80'
L = 463.34'
E = 4.69'
e_{max} = 2.10%
PCC STA. 398+95.76
PT STA. 403+59.10

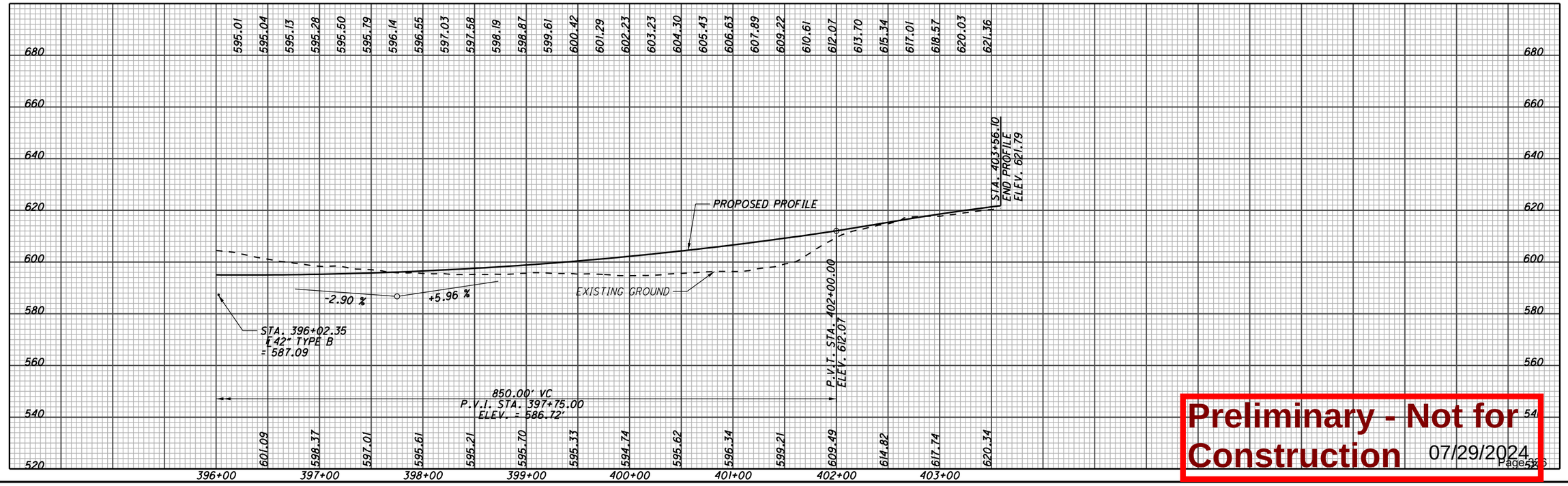
STA. 398+95.76
BEGIN SHOULDER TAPER, 6' LT.

A -

STA. 399+95.76
END SHOULDER TAPER, 8' LT.

3-¼" MILL/FILL

FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 97-100
FOR PAVEMENT DETAILS, SEE SHEET 538
FOR INTERCHANGE DETAILS, SEE SHEETS 544-546
FOR STORM SEWER PROFILE, SEE SHEET 562
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619



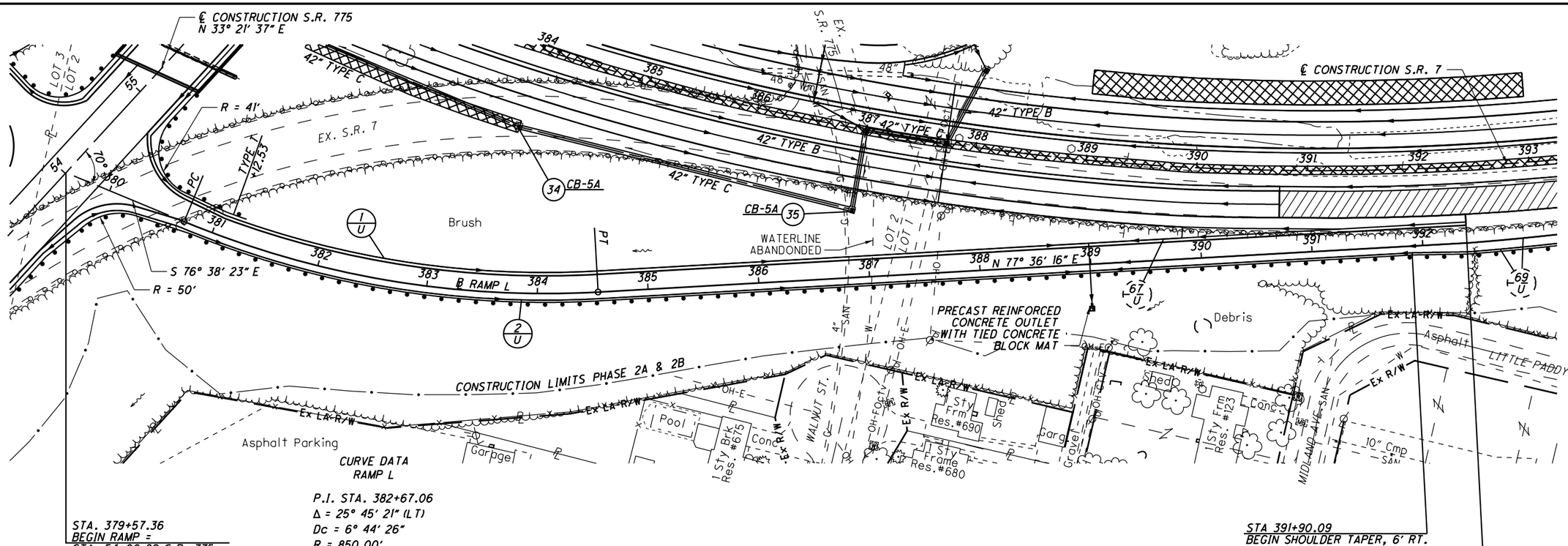
Preliminary - Not for Construction 07/29/2024

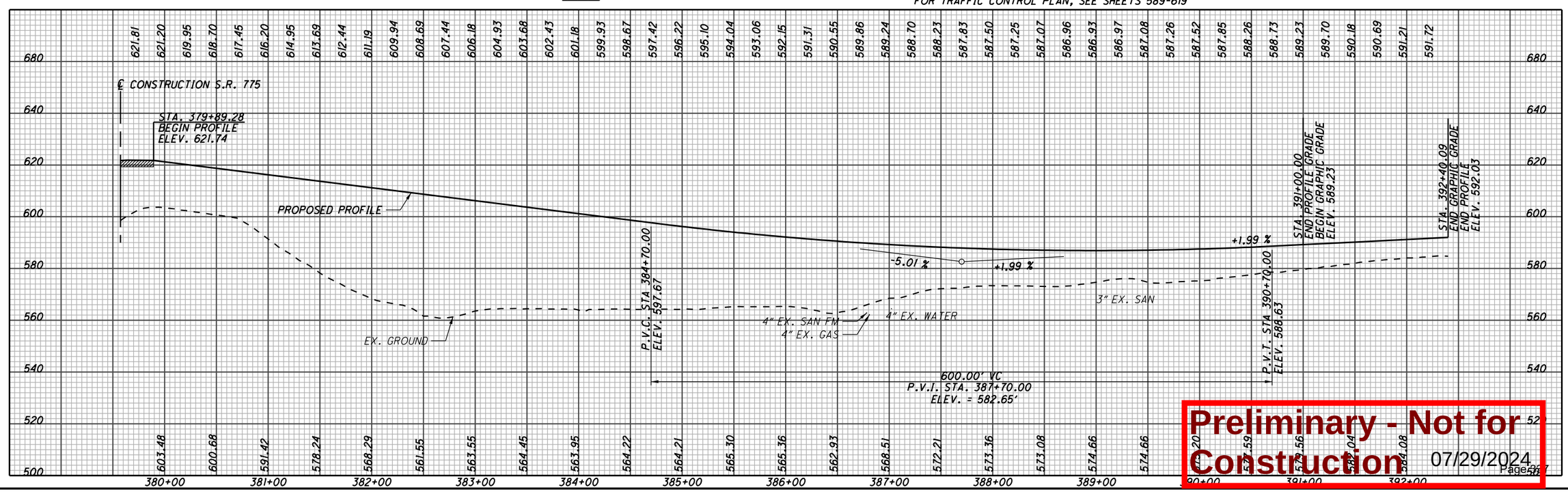
PLAN AND PROFILE - RAMP K
STA. 396+00.00 TO STA. 403+59.10

LAW-7-2.17

CALCULATED SLP
CHECKED ALB

HORIZONTAL SCALE IN FEET
0 25 50 100

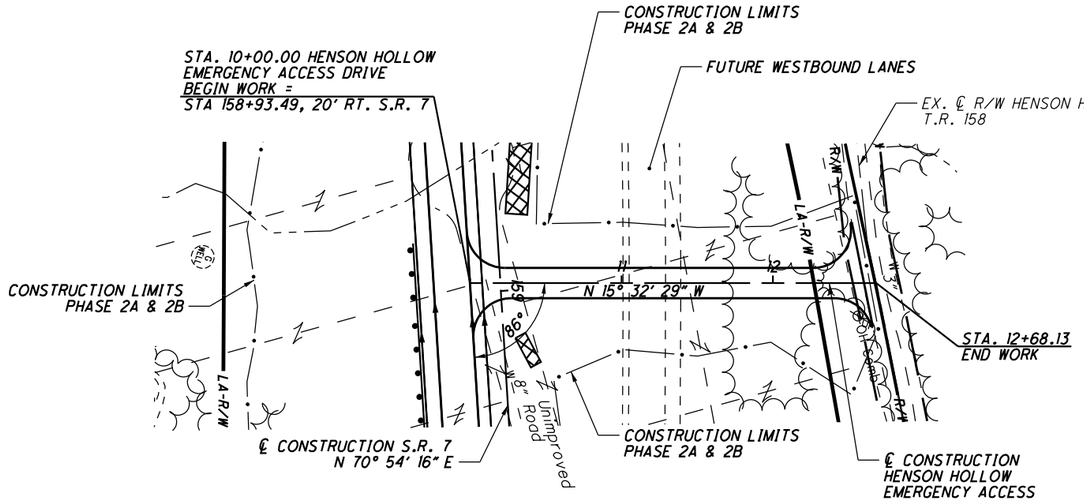




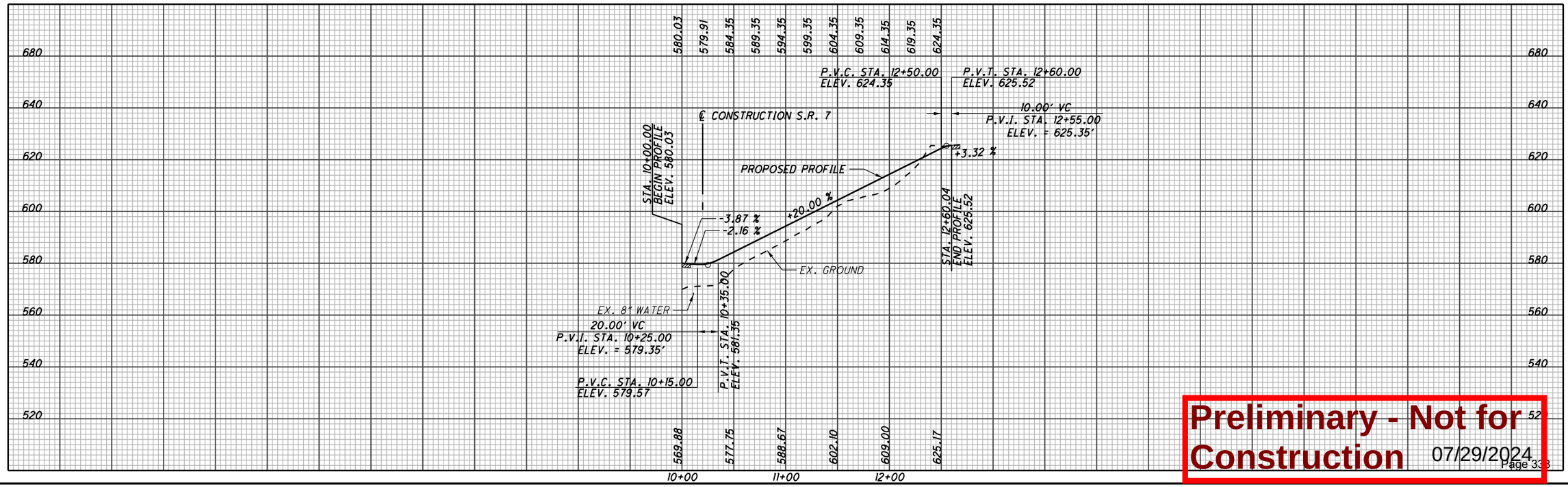
PLAN AND PROFILE
RAMP L
LAW-7-2.17

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB



FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 52-55
FOR INTERSECTION DETAILS, SEE SHEETS 548
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619



Preliminary - Not for Construction 07/29/2024

CALCULATED SLP
CHECKED ALB

HORIZONTAL SCALE IN FEET
0 25 50 100

PLAN AND PROFILE
HENSON HOLLOW EMERGENCY ACCESS

LAW-7-2.17

411
633

U:\173608714\LAW\75923\roadway\sheets\75923GP106-2B.dgn 6/16/2022 10:33:43 AM SLParker

CURVE DATA S.R. 243 CURVE NO. 1	CURVE DATA S.R. 243 CURVE NO. 2	CURVE DATA S.R. 243 CURVE NO. 3
P.I. Sta. 11+03.86	P.I. Sta. 11+99.38	P.I. Sta. 12+94.82
Δ = 6° 51′ 57″ (LT)	Δ = 13° 36′ 35″ (RT)	Δ = 6° 05′ 09″ (RT)
Dc = 19° 05′ 55″	Dc = 8° 48′ 53″	Dc = 16° 22′ 13″
R = 300.00′	R = 650.00′	R = 350.00′
T = 18.00′	T = 77.56′	T = 18.61′
L = 35.95′	L = 154.40′	L = 37.18′
E = 0.54′	E = 4.61′	E = 0.49′
e_{max} = 1.60%	e_{max} = 1.60%	e_{max} = 1.60%
PC Sta. 10+85.87	PRC Sta. 11+21.82	PCC Sta. 12+76.21
PRC Sta. 11+21.82	PCC Sta. 12+76.21	CS Sta. 13+13.39

CURVE DATA
S.R. 243
CURVE NO. 4

P.I. Sta. 15+51.11	θs = 00° 45′ 00″
Δ = 5° 37′ 36″ (LT)	Ls = 100.00′
Dc = 1° 30′ 00″	Ts = 237.72′
R = 3,819.72′	LT = 66.67′
T = 137.62′	ST = 33.33′
L = 275.13′	e_{max} = 3.50%
E = 2.48′	CS Sta. 16+88.52
TS STA. 13+13.39	ST Sta. 17+88.52
SC STA. 14+13.39	

FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 70-71
FOR INTERSECTION DETAILS, SEE SHEETS 551
FOR STORM SEWER PROFILE, SEE SHEET 562
FOR CULVERT DETAILS, SEE SHEET 568
FOR DRIVE DETAILS, SEE SHEETS 555-557
FOR DETENTION BASIN DETAILS, SEE SHEETS 575&578
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

* (A) STA. 13+07.06 BEGIN SHOULDER TAPER, 20.02′ LT.
  STA. 13+15.05 END SHOULDER TAPER, 22′ LT.
* (B) STA. 13+06.93 BEGIN SHOULDER TAPER, 31.95′ RT.
  STA. 13+14.93 END SHOULDER TAPER, 34′ RT.

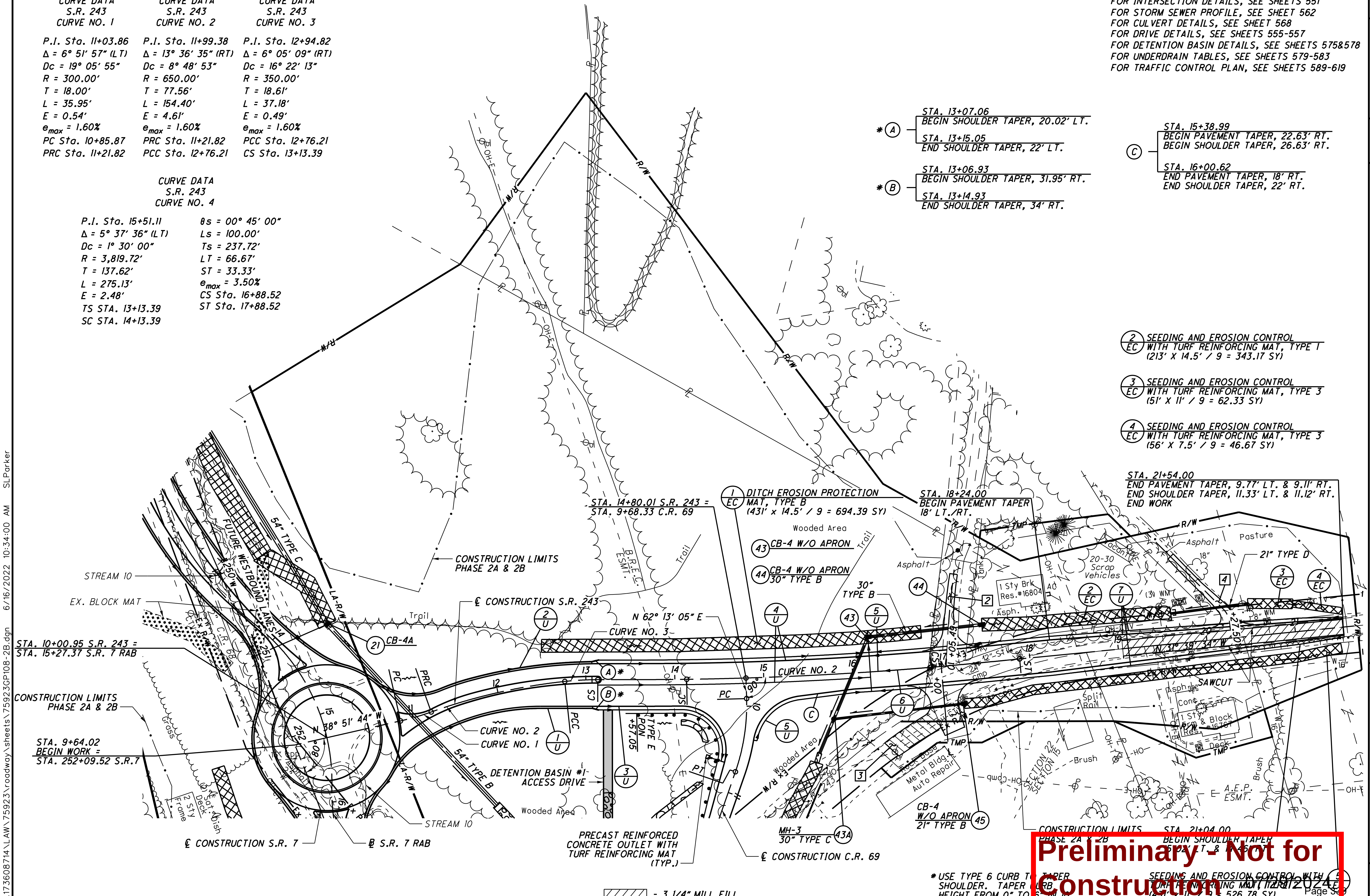
(C) STA. 15+38.99 BEGIN PAVEMENT TAPER, 22.63′ RT. BEGIN SHOULDER TAPER, 26.63′ RT.
STA. 16+00.62 END PAVEMENT TAPER, 18′ RT. END SHOULDER TAPER, 22′ RT.

(2 EC) SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (213′ X 14.5′ / 9 = 343.17 SY)

(3 EC) SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3 (51′ X 11′ / 9 = 62.33 SY)

(4 EC) SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3 (56′ X 7.5′ / 9 = 46.67 SY)

STA. 21+54.00
END PAVEMENT TAPER, 9.77′ LT. & 9.11′ RT.
END SHOULDER TAPER, 11.33′ LT. & 11.12′ RT.
END WORK



* USE TYPE 6 CURB TO TAPER SHOULDER. TAPER CURB HEIGHT FROM 0″ TO 6″ IN 10′.

SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT (431′ X 11′ / 9 = 526.78 SY)

[hatch] - 3 1/4″ MILL FILL

HORIZONTAL SCALE IN FEET 0 25 50 100

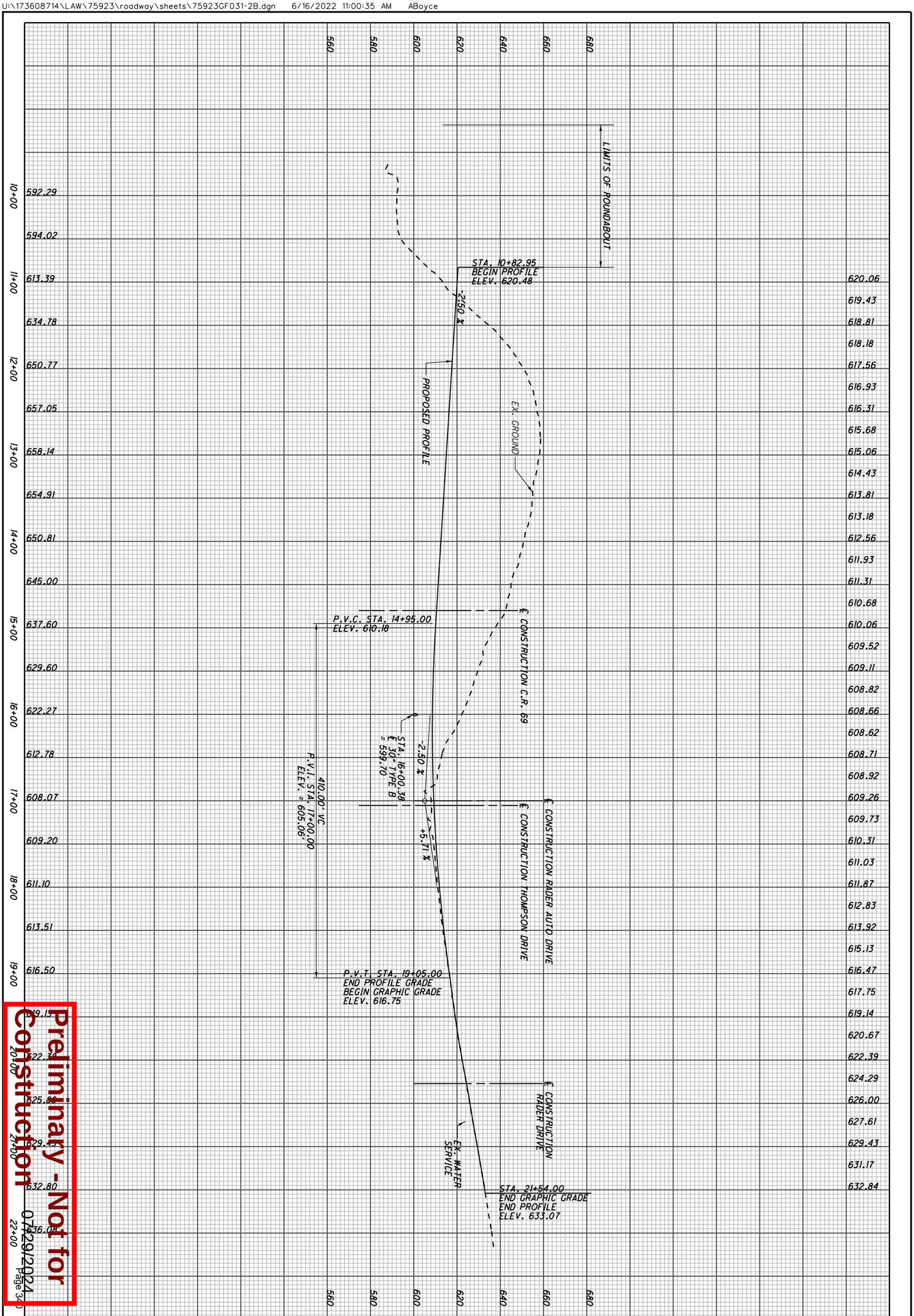
CALCULATED SLP CHECKED ALB

PLAN S.R. 243

LAW-7-2.17

Preliminary - Not for Construction

U:\173608714\LAW\75923\roadway\sheets\75923GF031-2B.dgn 6/16/2022 11:00:35 AM ABoyce



418A 633	LAW-7-2.17	PROFILE S.R. 243	CALCULATED SLP CHECKED ALB

FOR S.R. 243 PLAN & PROFILE, SEE SHEETS 418 & 418A
FOR INTERSECTION DETAILS, SEE SHEET 549
FOR CULVERT DETAILS, SEE SHEET 569
FOR DETENTION BASIN DETAILS, SEE SHEETS 575&578
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619

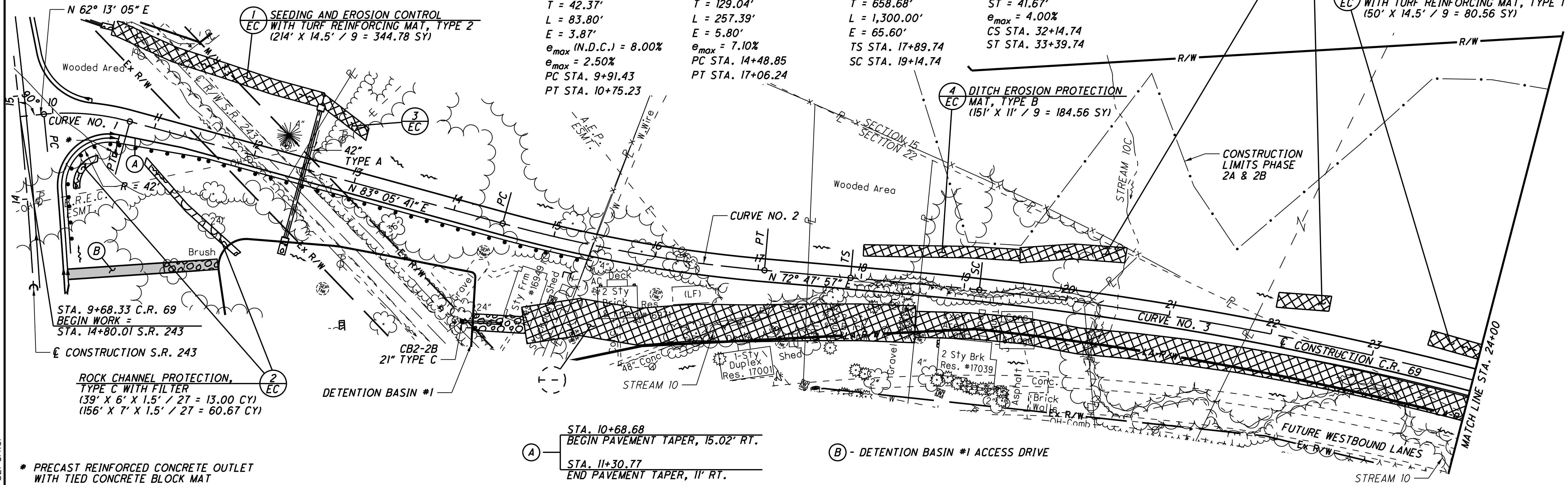
CURVE DATA C.R. 69 CURVE NO. 1
P.I. STA. 10+33.80
Δ = 20° 52′ 36″ (RT)
Dc = 24° 54′ 40″
R = 230.00′
T = 42.37′
L = 83.80′
E = 3.87′
e_{max} (N.D.C.) = 8.00%
e_{max} = 2.50%
PC STA. 9+91.43
PT STA. 10+75.23

CURVE DATA C.R. 69 CURVE NO. 2
P.I. STA. 15+77.89
Δ = 10° 17′ 44″ (LT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 129.04′
L = 257.39′
E = 5.80′
e_{max} = 7.10%
PC STA. 14+48.85
PT STA. 17+06.24

CURVE DATA C.R. 69 CURVE NO. 3
P.I. STA. 25+76.25
Δ = 22° 45′ 00″ (RT)
Dc = 1° 45′ 00″
R = 3,274.04′
T = 658.68′
L = 1,300.00′
E = 65.60′
TS STA. 17+89.74
SC STA. 19+14.74
θs = 1° 05′ 37″
Ls = 125.00′
Ts = 786.51′
LT = 83.33′
ST = 41.67′
e_{max} = 4.00%
CS STA. 32+14.74
ST STA. 33+39.74

(LF) DESIGNATES LEACH FIELD

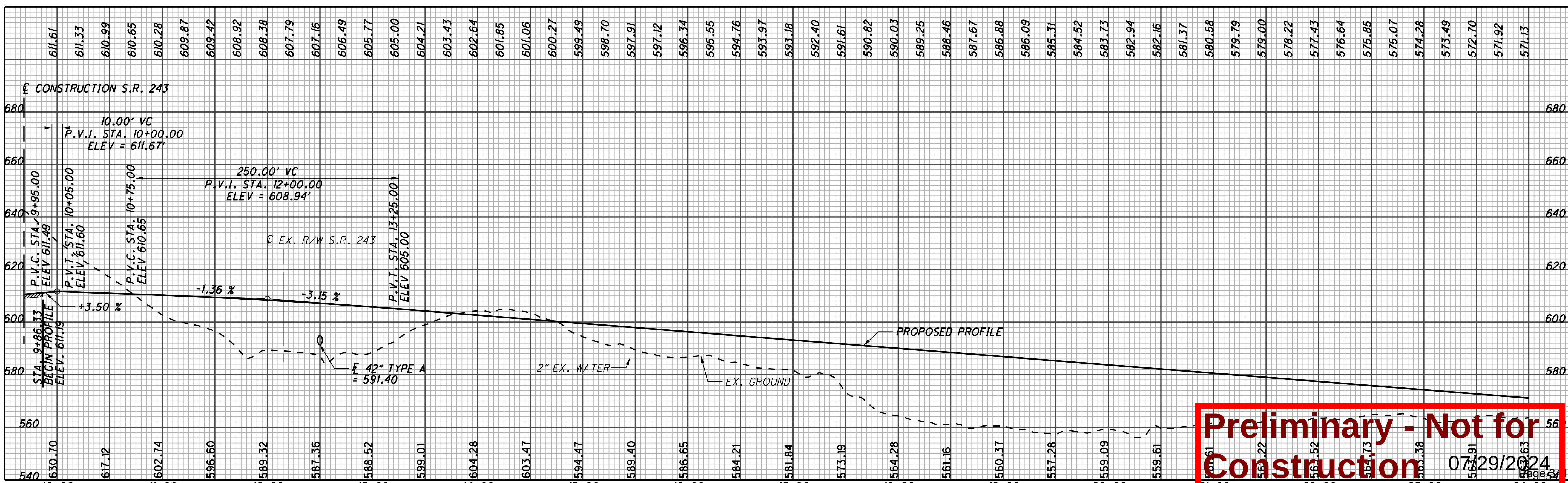
1 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 (214′ X 14.5′ / 9 = 344.78 SY)
2 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (39′ X 6′ X 1.5′ / 27 = 13.00 CY) (156′ X 7′ X 1.5′ / 27 = 60.67 CY)
3 EC DITCH EROSION PROTECTION MAT, TYPE B (54′ X 11′ / 9 = 66 SY)
4 EC DITCH EROSION PROTECTION MAT, TYPE B (151′ X 11′ / 9 = 184.56 SY)
5 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (102′ X 14.5′ / 9 = 167.56 SY)
6 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (50′ X 14.5′ / 9 = 80.56 SY)
7 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (50′ X 14.5′ / 9 = 80.56 SY)



Ⓐ STA. 10+68.68 BEGIN PAVEMENT TAPER, 15.02′ RT.
STA. 11+30.77 END PAVEMENT TAPER, 11′ RT.

Ⓑ - DETENTION BASIN #1 ACCESS DRIVE

* PRECAST REINFORCED CONCRETE OUTLET WITH TIED CONCRETE BLOCK MAT



SLParker 6/16/2022 10:34:39 AM U:\73608714\LAW\75923\roadway\sheets\75923GP109-2B.dgn

HORIZONTAL SCALE IN FEET 0 25 50 100
CALCULATED SLP CHECKED ALB

PLAN AND PROFILE - C.R. 69
STA. 9+68.33 TO STA. 24+00.00

LAW-7-2.17

429 / 633

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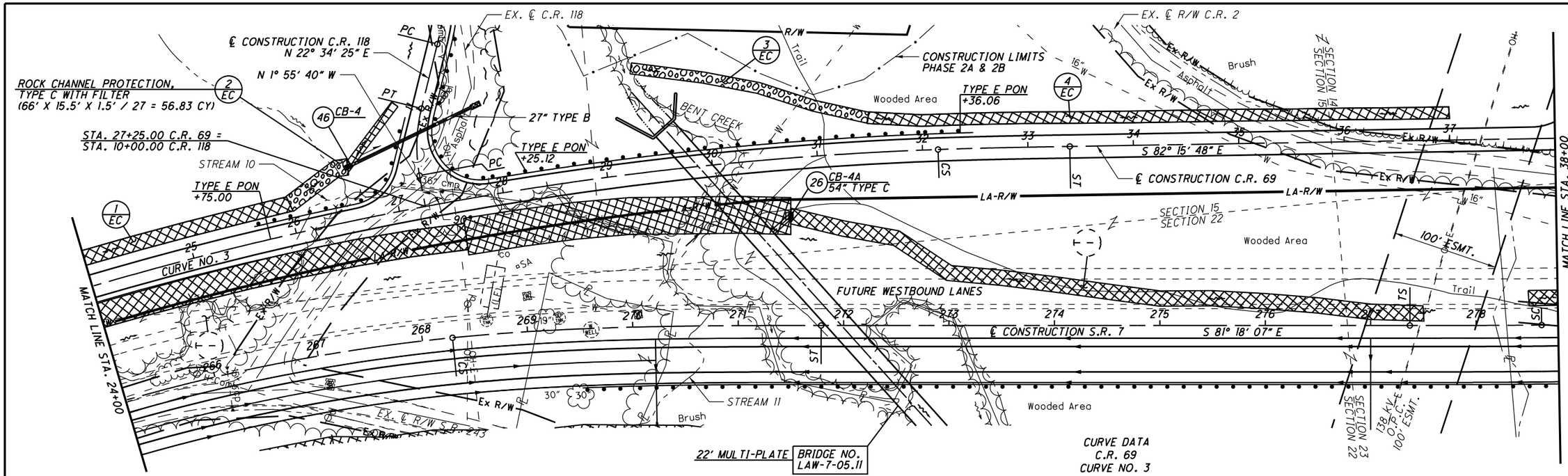


1 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE I (202' X 14.5' / 9 = 325.44 SY)

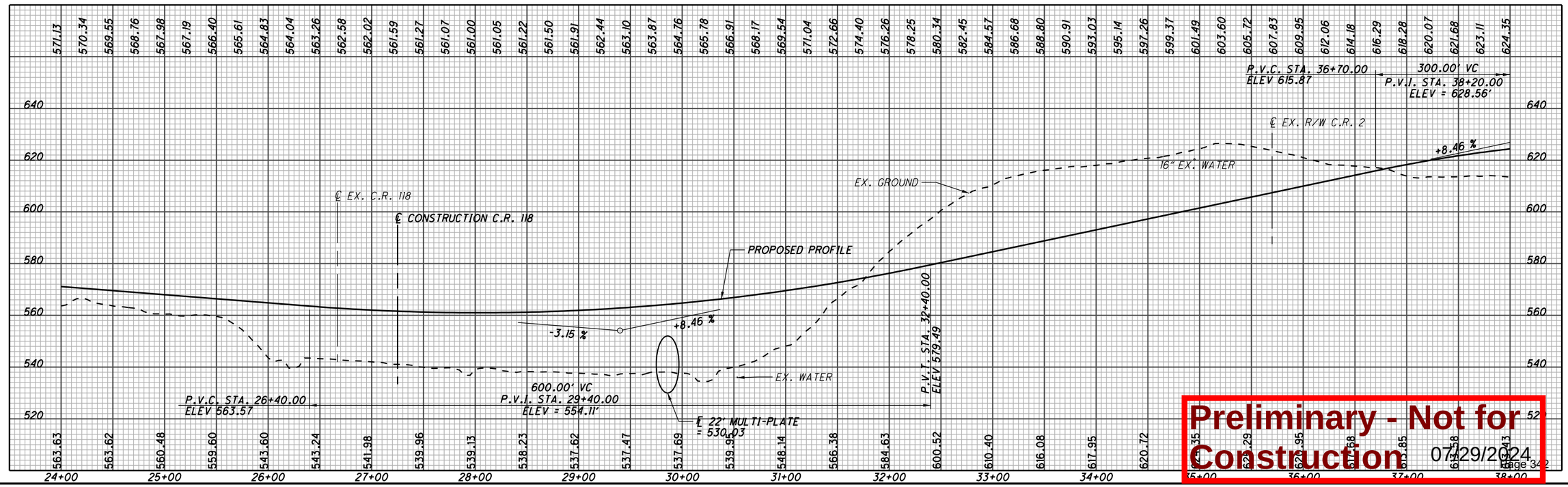
3 EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER (231' X 10.5' X 1.5' / 27 = 134.75 CY)

4 EC SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE I (551' X 11' / 9 = 673.44 SY)

CURVE DATA
C.R. 69
CURVE NO. 3

P.I. STA. 25+76.25	θs = 1° 05' 37"
Δ = 22° 45' 00" (RT)	Ls = 125.00'
Dc = 1° 45' 00"	Ts = 786.51'
R = 3,274.04'	LT = 83.33'
T = 658.68'	ST = 41.67'
L = 1,300.00'	e_{max} = 4.00%
E = 65.60'	CS STA. 32+14.74
TS STA. 17+89.74	ST STA. 33+39.74
SC STA. 19+14.74	

FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 76-77
FOR C.R. 118 PLAN AND PROFILE, SEE SHEET 472
FOR INTERSECTION DETAILS, SEE SHEET 550
FOR STORM SEWER PROFILE, SEE SHEET 563
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619
FOR STRUCTURE DETAILS, SEE SHEETS XXX-XXX



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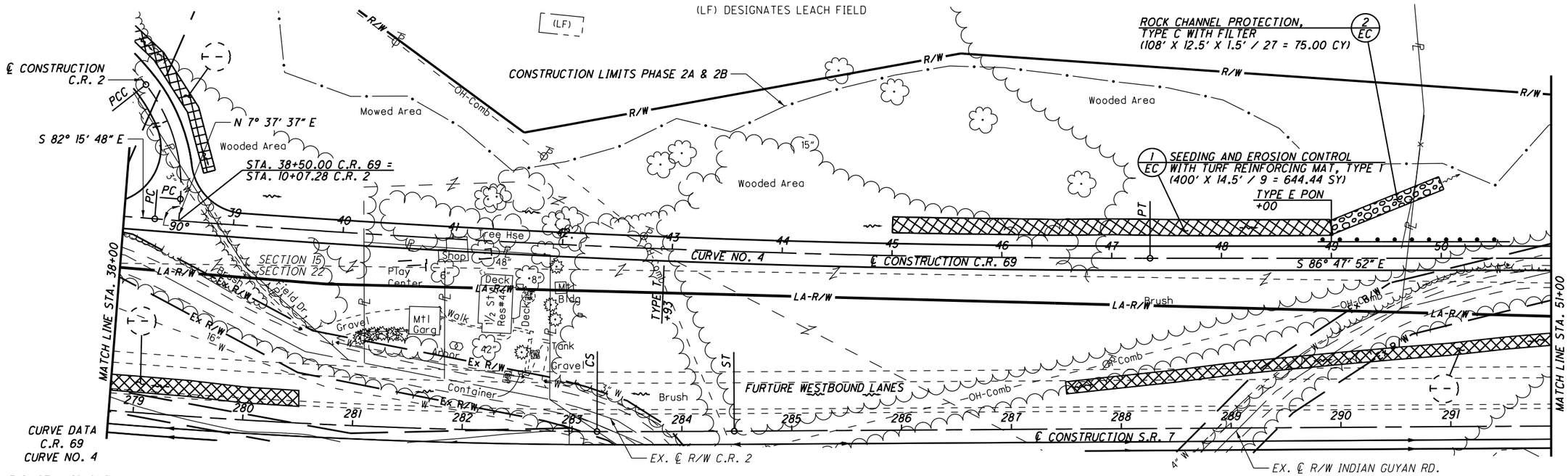
HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE - C.R. 69
STA. 24+00.00 TO STA. 38+00.00

LAW-7-2.17

430
633

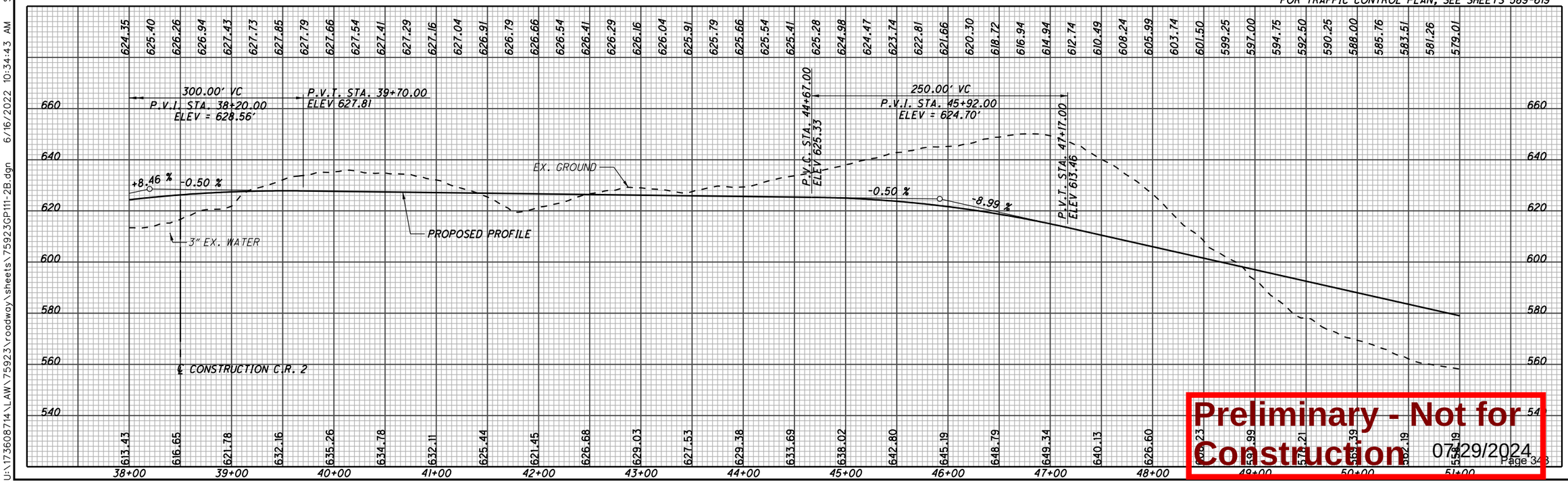
(LF) DESIGNATES LEACH FIELD



CURVE DATA
C.R. 69
CURVE NO. 4

P.I. STA. 42+81.74
Δ = 4° 32' 03" (LT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 453.67'
L = 906.86'
E = 8.98'
e_{max} = 1.60%
PC STA. 38+28.07
PT STA. 47+34.93

FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 78-79
FOR C.R. 2 PLAN AND PROFILE, SEE SHEET 478
FOR INTERSECTION DETAILS, SEE SHEET 550
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619



PLAN AND PROFILE - C.R. 69
STA. 38+00.00 TO STA. 51+00.00

LAW-7-2.17

CALCULATED SLP CHECKED ALB

HORIZONTAL SCALE IN FEET
0 25 50 100

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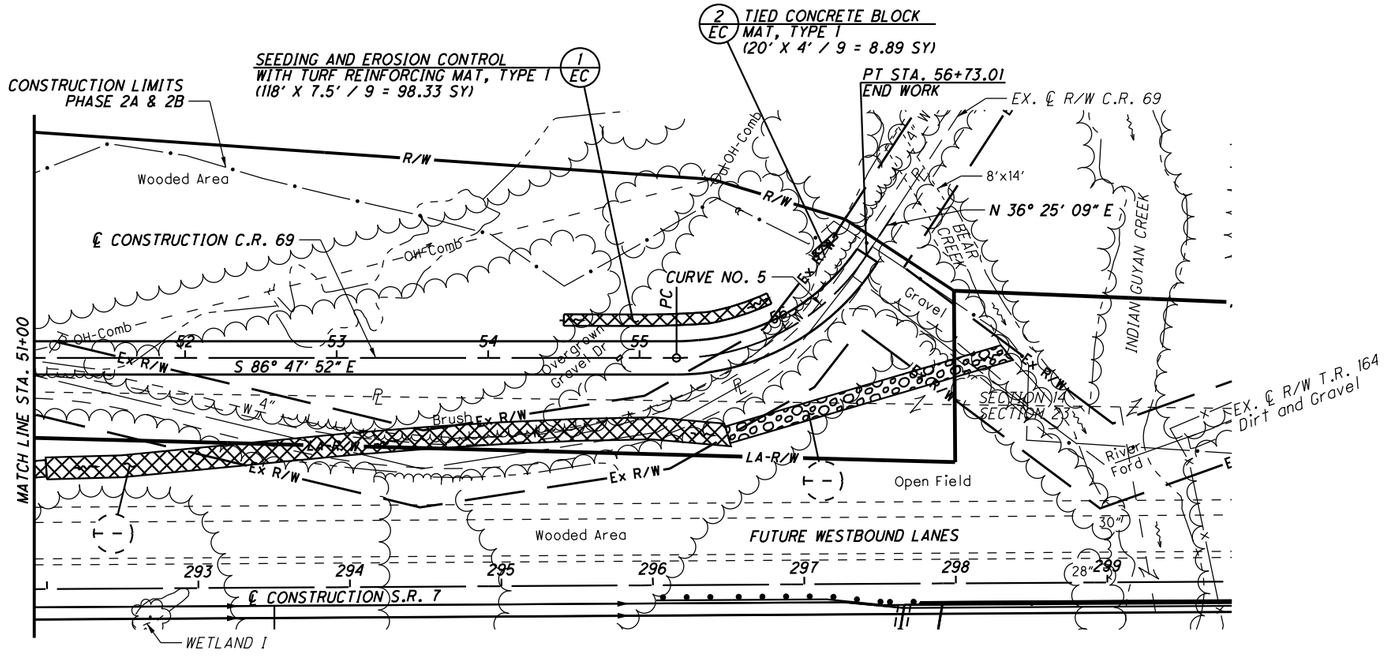
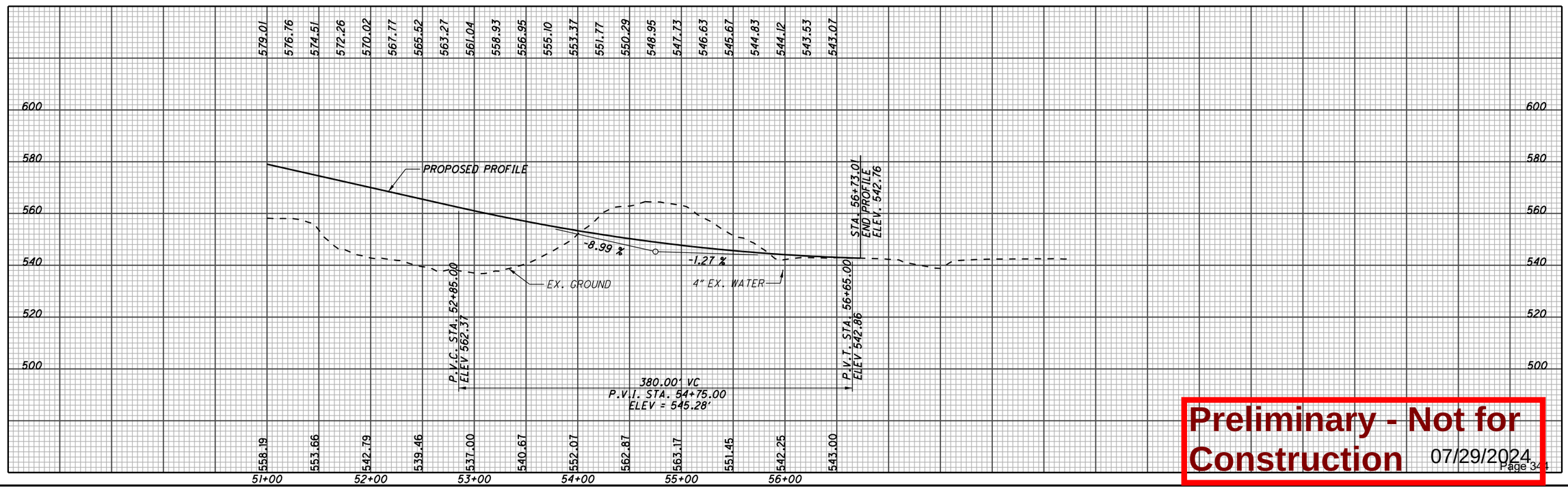


CURVE DATA
C.R. 69
CURVE NO. 5

P.I. STA. 56+05.43
Δ = 56° 46' 59" (RT)
Dc = 38° 11' 50"
R = 150.00'
T = 81.08'
L = 148.66'
E = 20.51'
e_{max} (N.D.C.) = 8.00%
e_{max} = 2.50%
PC STA. 55+24.35
PT STA. 56+73.01

FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 80-81
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619



PLAN AND PROFILE - C.R. 69
STA. 51+00.00 TO STA. 56+73.01

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

LAW-7-2.17

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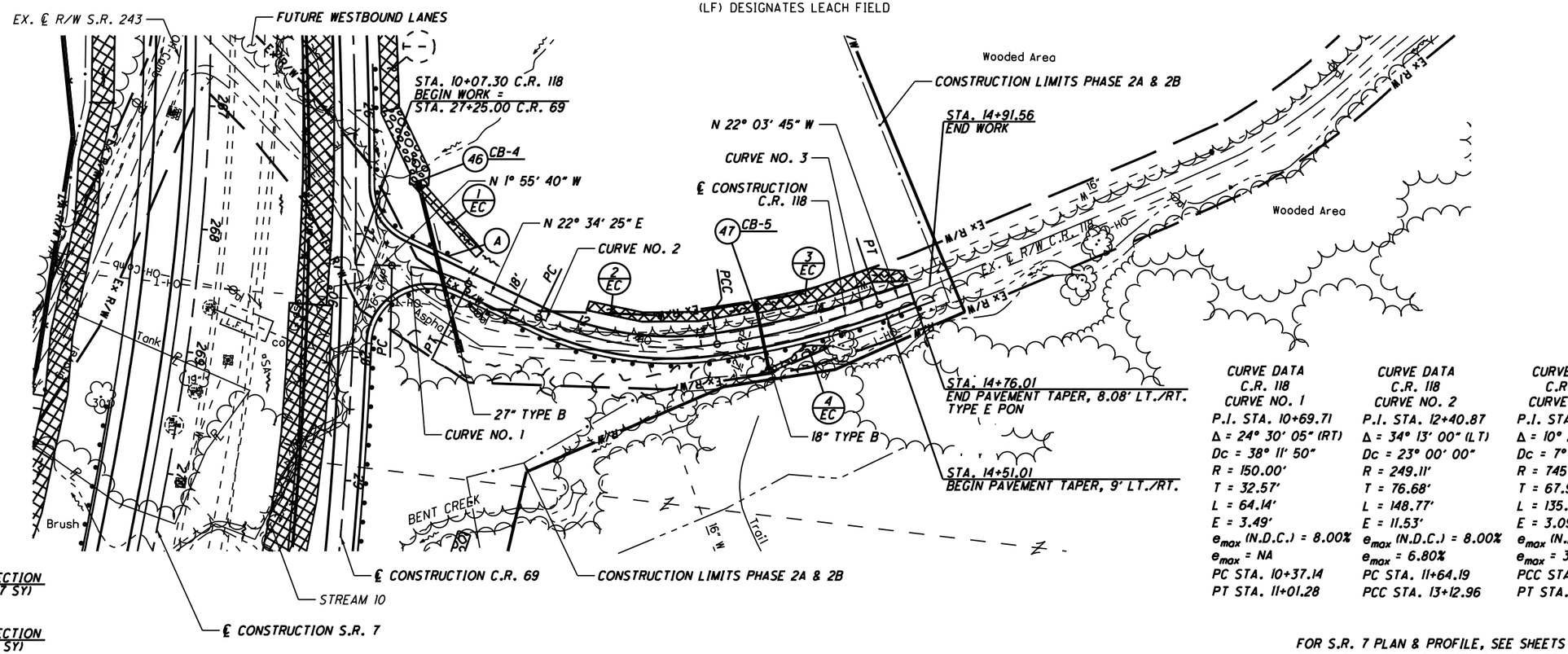
(LF) DESIGNATES LEACH FIELD



CURVE DATA C.R. 118 CURVE NO. 1	CURVE DATA C.R. 118 CURVE NO. 2	CURVE DATA C.R. 118 CURVE NO. 3
P.I. STA. 10+69.71	P.I. STA. 12+40.87	P.I. STA. 13+80.89
Δ = 24° 30' 05" (RT)	Δ = 34° 13' 00" (LT)	Δ = 10° 25' 10" (LT)
Dc = 38° 11' 50"	Dc = 23° 00' 00"	Dc = 7° 41' 27"
R = 150.00'	R = 249.11'	R = 745.00'
T = 32.57'	T = 76.68'	T = 67.93'
L = 64.14'	L = 148.77'	L = 135.48'
E = 3.49'	E = 11.53'	E = 3.09'
e_{max} (N.D.C.) = 8.00%	e_{max} (N.D.C.) = 8.00%	e_{max} (N.D.C.) = 8.00%
e_{max} = NA	e_{max} = 6.80%	e_{max} = 3.98%
PC STA. 10+37.14	PC STA. 11+64.19	PCC STA. 13+12.96
PT STA. 11+01.28	PCC STA. 13+12.96	PT STA. 14+48.44

1/EC DITCH EROSION PROTECTION
(74' X 7.5' / 9 = 61.67 SY)

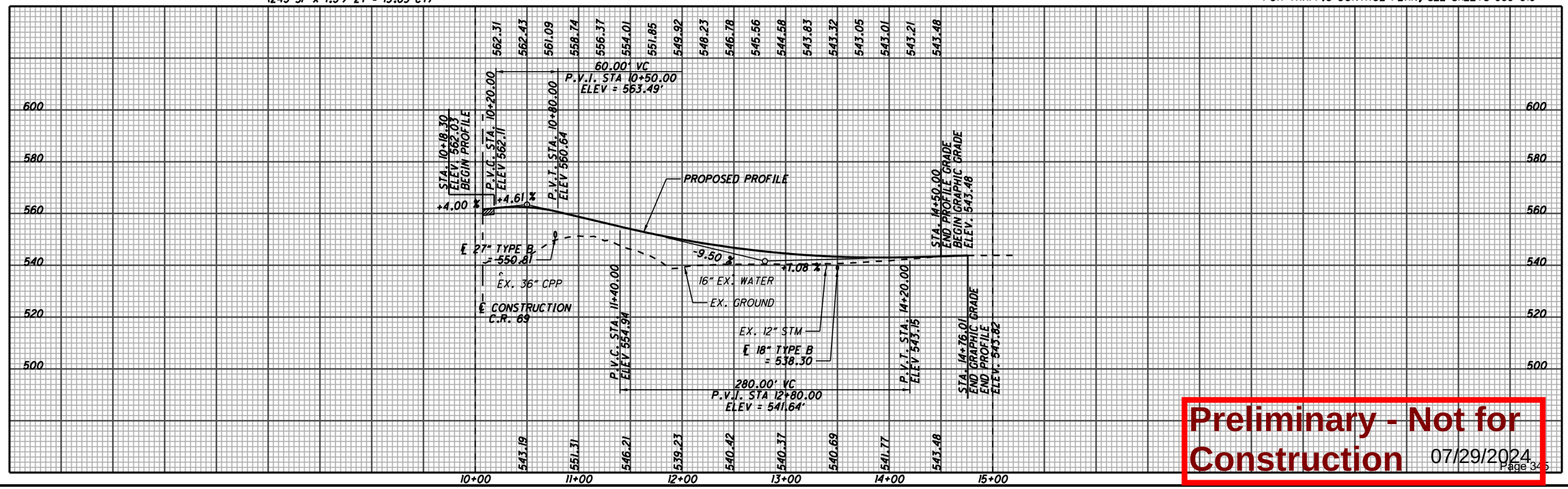
2/EC DITCH EROSION PROTECTION
(150' X 7.5' / 9 = 125 SY)

3/EC DITCH EROSION PROTECTION
(126' X 11' / 9 = 154 SY)

4/EC ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
(249 SF x 1.5' / 27 = 13.83 CY)

A TYPE E PON
+79.16

FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 76-77
FOR C.R. 69 PLAN & PROFILE, SEE SHEETS 429-434
FOR INTERSECTION DETAILS, SEE SHEET 552
FOR STORM SEWER PROFILE, SEE SHEET 565
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619



Preliminary - Not for Construction 07/29/2024

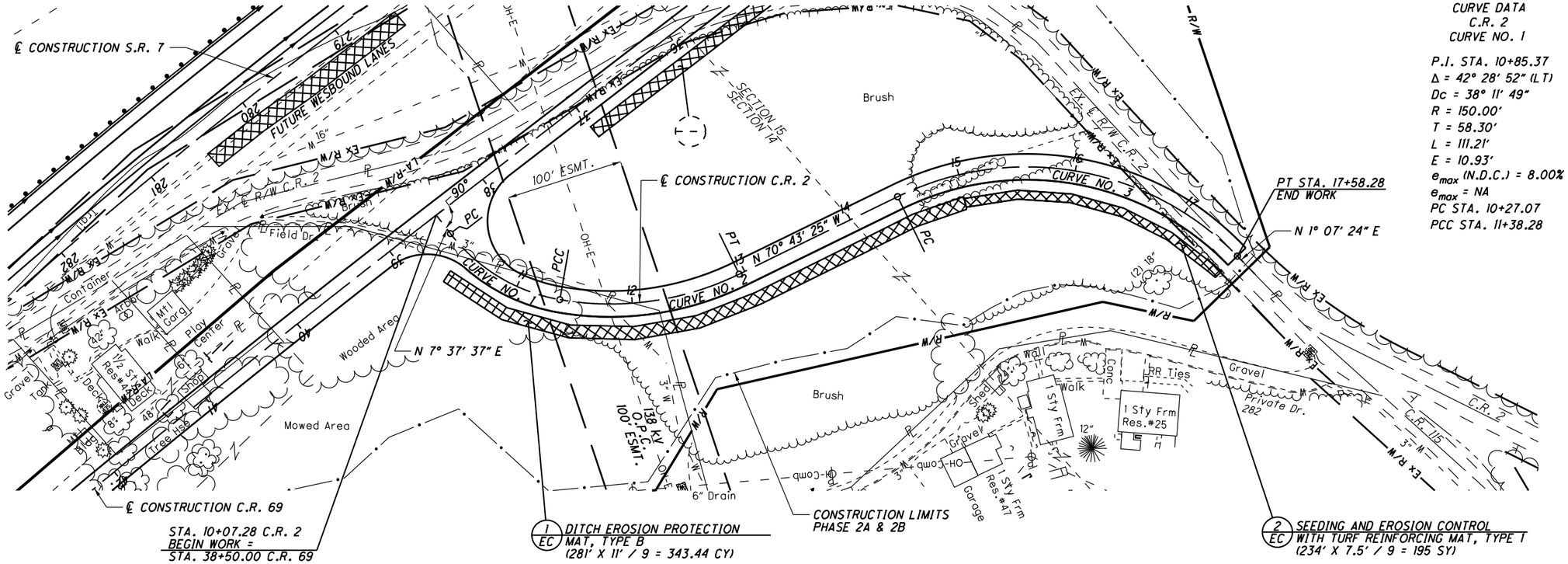
HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED SLP CHECKED ALB

PLAN AND PROFILE C.R. 118

LAW-7-2.17

474/635



CURVE DATA
C.R. 2
CURVE NO. 1

P.I. STA. 10+85.37
Δ = 42° 28' 52" (LT)
Dc = 38° 11' 49"
R = 150.00'
T = 58.30'
L = 111.21'
E = 10.93'
e_{max} (N.D.C.) = 8.00%
e_{max} = NA
PC STA. 10+27.07
PCC STA. 11+38.28

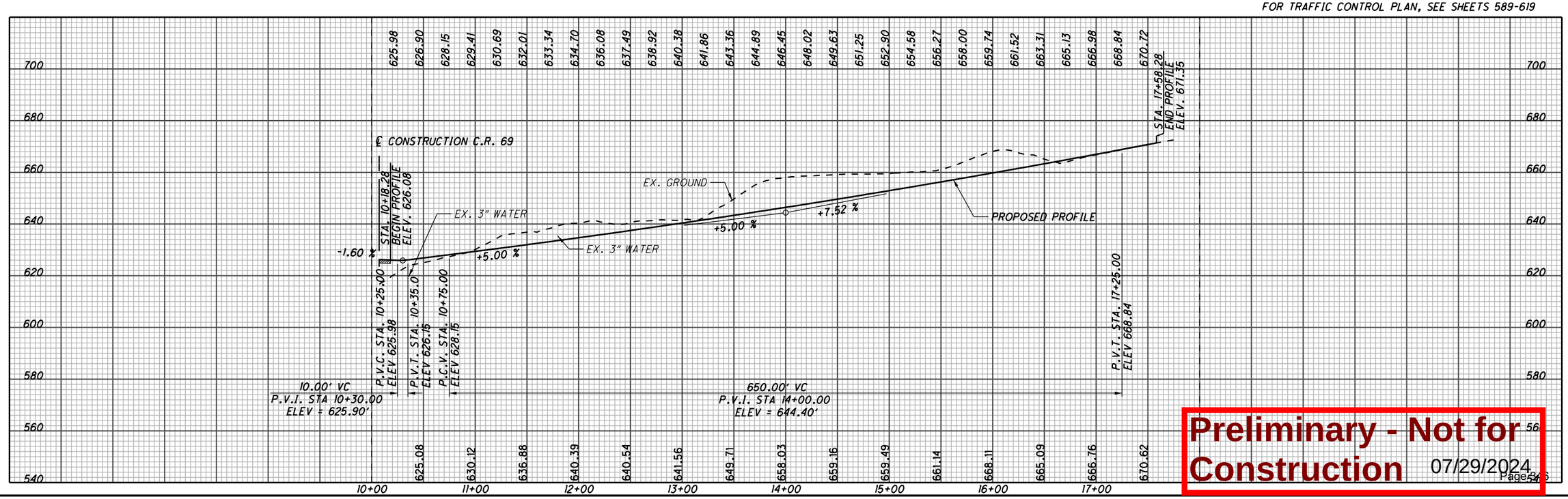
CURVE DATA
C.R. 2
CURVE NO. 2

P.I. STA. 12+19.20
Δ = 35° 52' 10" (LT)
Dc = 22° 55' 06"
R = 250.00'
T = 80.91'
L = 156.51'
E = 12.77'
e_{max} (N.D.C.) = 8.00%
e_{max} = 7.89%
PCC STA. 11+38.28
PT STA. 12+94.79

CURVE DATA
C.R. 2
CURVE NO. 3

P.I. STA. 16+25.92
Δ = 71° 50' 49" (RT)
Dc = 22° 55' 06"
R = 250.00'
T = 181.13'
L = 313.49'
E = 58.72'
e_{max} (N.D.C.) = 8.00%
e_{max} = 7.00%
PC STA. 14+44.79
PT STA. 17+58.28

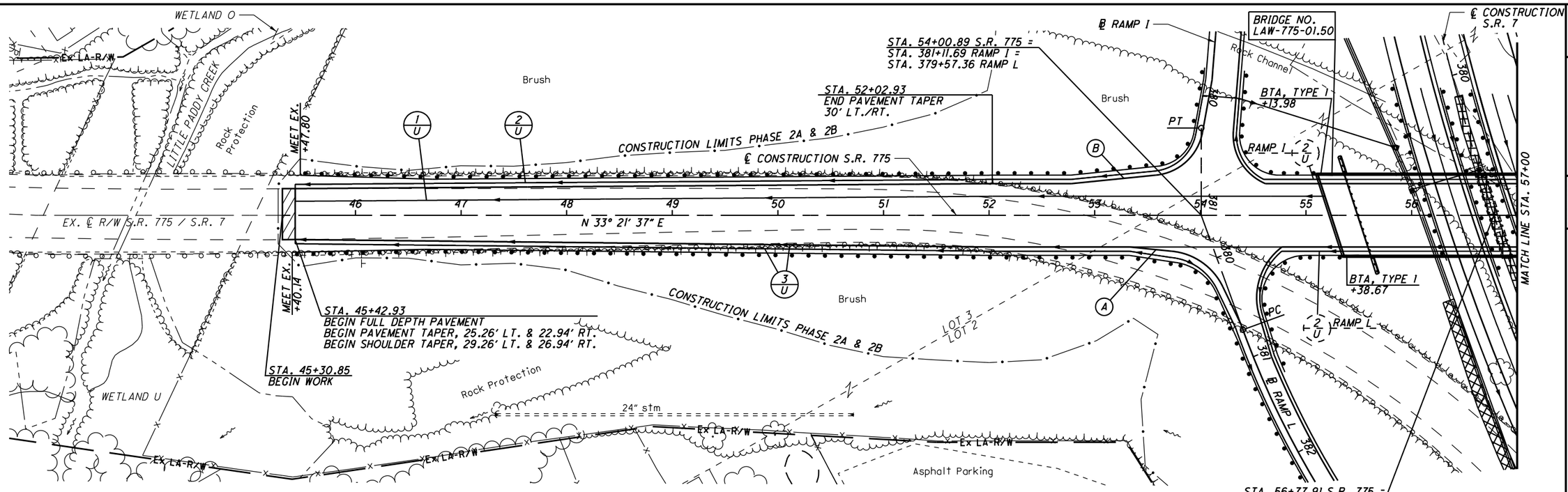
FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 78-79
FOR C.R. 69 PLAN & PROFILE, SEE SHEETS 429-432
FOR INTERSECTION DETAILS, SEE SHEET 550
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619



HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE
C.R. 2

LAW-7-2.17



(A) STA. 53+33.17
BEGIN PAVEMENT TAPER, 30' RT.
BEGIN SHOULDER TAPER, 34' RT.

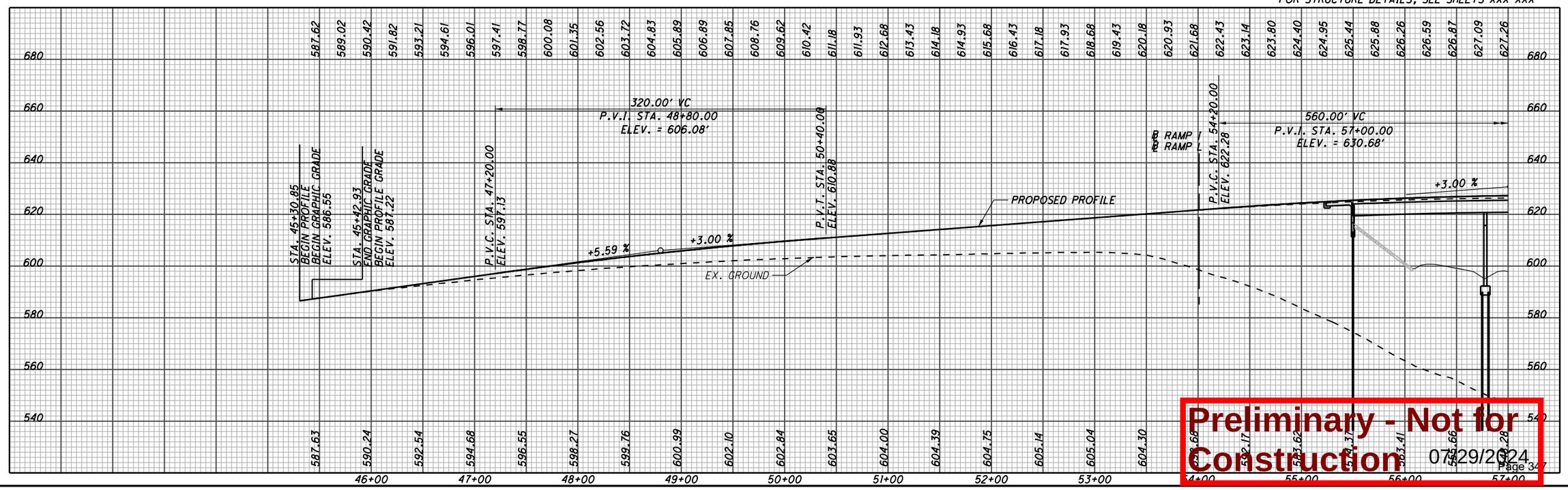
STA. 53+73.17
END PAVEMENT TAPER, 34' RT.
END SHOULDER TAPER, 40' RT.

(B) STA. 52+77.91
BEGIN PAVEMENT TAPER, 30' LT.
BEGIN SHOULDER TAPER, 34' LT.

STA. 53+57.91
END PAVEMENT TAPER, 38' LT.
END SHOULDER TAPER, 42' LT.

FOR RAMP I PLAN & PROFILE, SEE SHEET 378
FOR RAMP L PLAN & PROFILE, SEE SHEET 403
FOR S.R. 7 PLAN & PROFILE, SEE SHEETS 95-96
FOR INTERCHANGE DETAILS, SEE SHEETS 544-546
FOR INTERSECTION DETAILS, SEE SHEET 551
FOR UNDERDRAIN TABLES, SEE SHEETS 579-583
FOR TRAFFIC CONTROL PLAN, SEE SHEETS 589-619
FOR STRUCTURE DETAILS, SEE SHEETS XXX-XXX

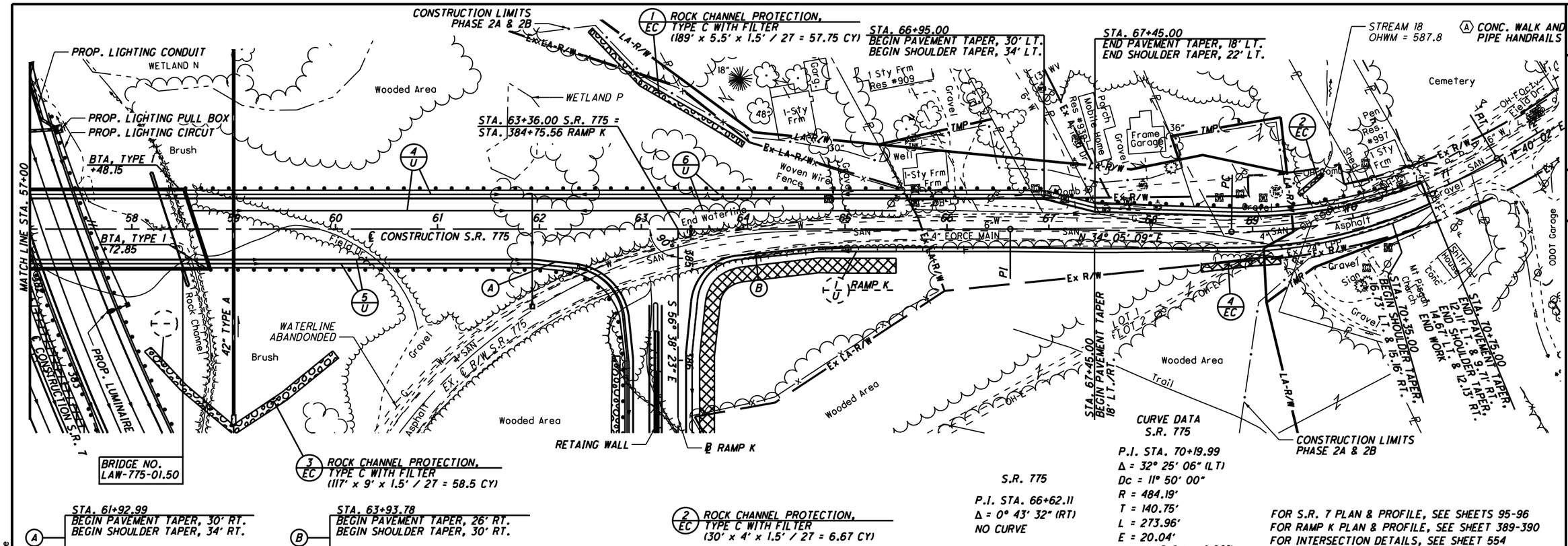
3-1/4" MILL/FILL

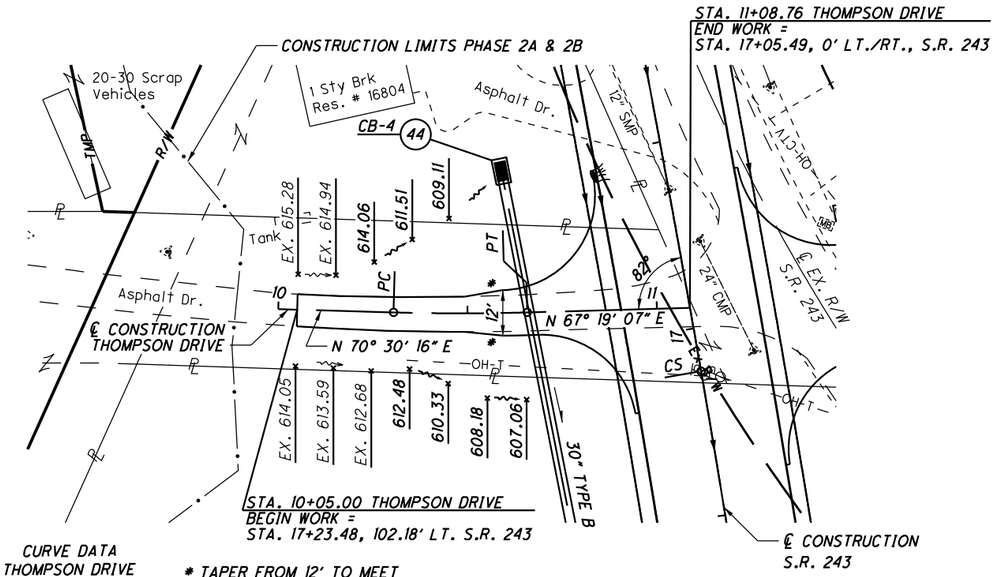


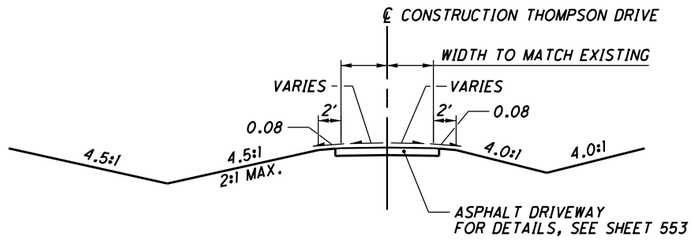
HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED SLP CHECKED ALB

PLAN AND PROFILE - S.R. 775
STA. 45+30.85 TO STA. 57+00.00

LAW-7-2.17







TYPICAL SECTION - THOMPSON DRIVE
NOT TO SCALE

CURVE DATA
THOMPSON DRIVE
P.I. STA. 10+48.13
Δ = 3° 11' 08" (LT)
Dc = 9° 01' 23"
R = 635.00'
T = 17.66'
L = 35.31'
E = 0.25'
e_{max} = NA
PC STA. 10+30.48
PT STA. 10+65.78

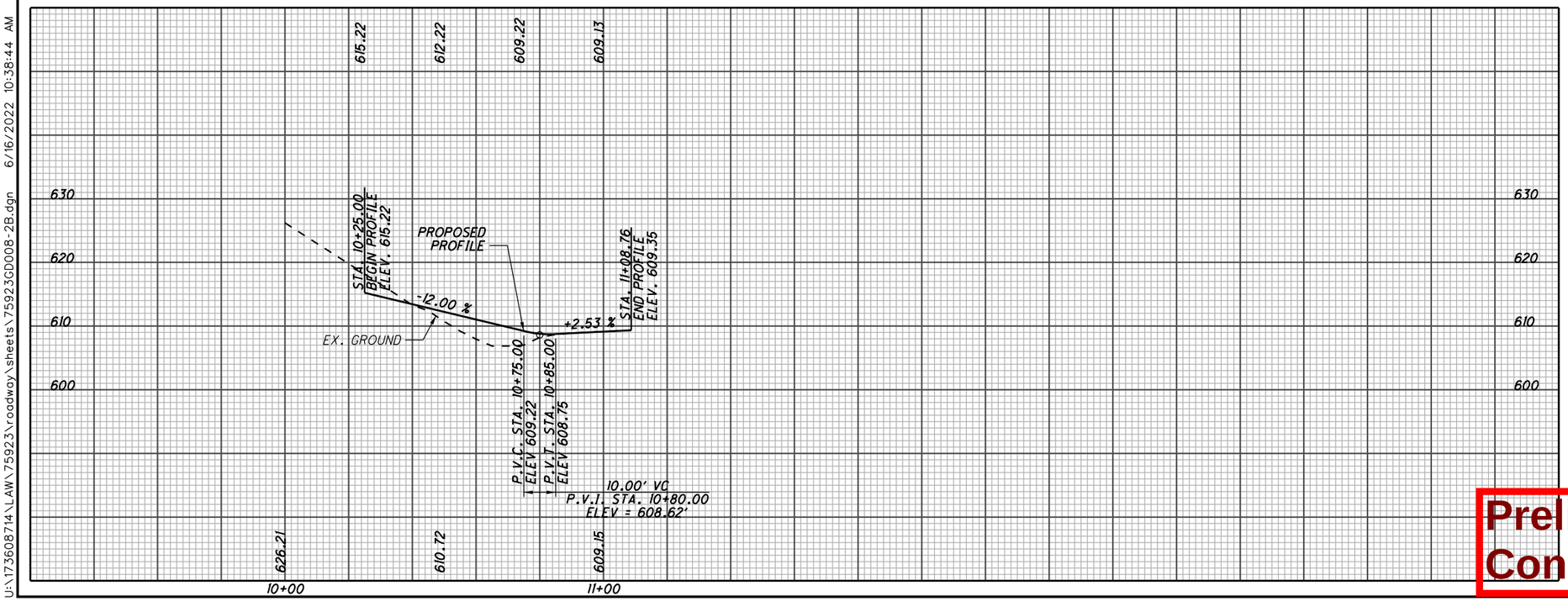
* TAPER FROM 12' TO MEET EXISTING DRIVE WIDTH IN 10'.

THOMPSON DRIVE - 2

LEFT E/P RETURN DATA
Δ = 99° 25' 18"
R = 25.00'
T = 29.49'
L = 43.38'
R.P. STA. 17+43.71, 41' LT., S.R. 243
P.C. STA. 17+43.71, 19' LT., S.R. 243
P.T. STA. 10+59.20, 6' LT., THOMPSON DRIVE

RIGHT E/P RETURN DATA
Δ = 81° 53' 36"
R = 25.00'
T = 21.69'
L = 35.73'
R.P. STA. 10+68.81, 31' RT., THOMPSON DRIVE
P.C. STA. 10+68.81, 6' RT., THOMPSON DRIVE
P.T. STA. 16+80.43, 19' LT., S.R. 243

FOR STORM SEWER PROFILE, SEE SHEET 564



STATION FROM	STATION TO	SIDE	NUMBER OF LANES

TOTALS CARRIED TO GENERAL SUMMARY

HORIZONTAL SCALE IN FEET
0 10 20 40

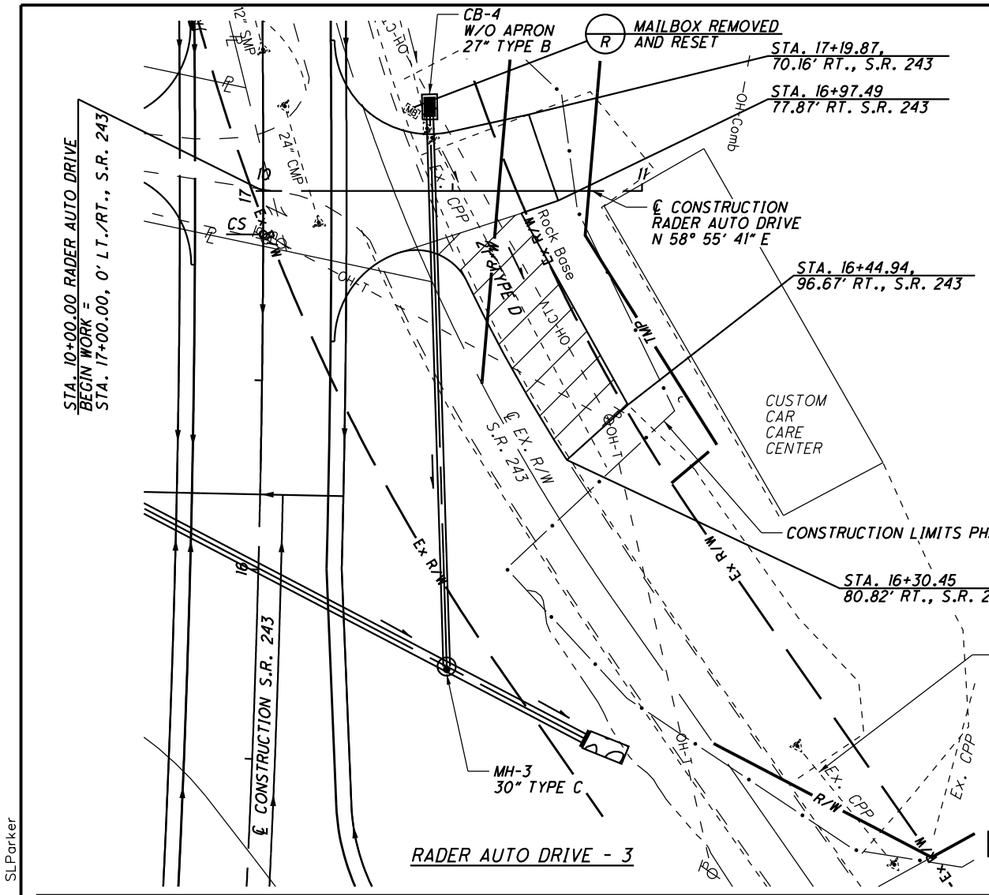
CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE
THOMPSON DRIVE

LAW-7-2.17

555
633

Preliminary - Not for Construction
07/29/2024



LEFT E/P RETURN DATA

Δ = 101° 56' 10"
R = 25.00'
T = 30.84'
L = 44.48'
R.P. STA. 17+39.68, 44' RT., S.R. 243
P.C. STA. 17+39.68, 19' RT., S.R. 243
P.T. STA. 10+49.19, 15.58' LT., THOMPSON DRIVE

RIGHT E/P RETURN DATA (CURVE NO. 1)

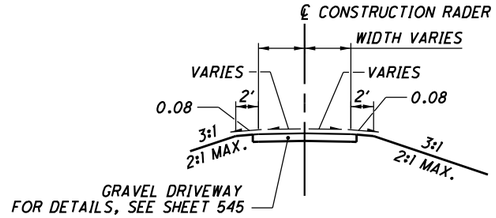
Δ 69° 27' 03"
R = 25.00'
T = 17.33'
L = 30.30'
R.P. STA. 16+60.44, 44' RT., S.R. 243
P.C. STA. 16+60.44, 19' RT., S.R. 243
P.C.C. STA. 10+35.26, 16.50' RT., THOMPSON DRIVE

RIGHT E/P RETURN DATA (CURVE NO. 1)

Δ = 83° 54' 43"
R = 15.00'
T = 13.49'
L = 21.97'
R.P. STA. 10+40.38, 30.60' RT., THOMPSON DRIVE
P.C.C. STA. 10+35.26, 16.50' RT., THOMPSON DRIVE
P.T. STA. 10+53.86, 24.01' RT., THOMPSON DRIVE

NOTE:

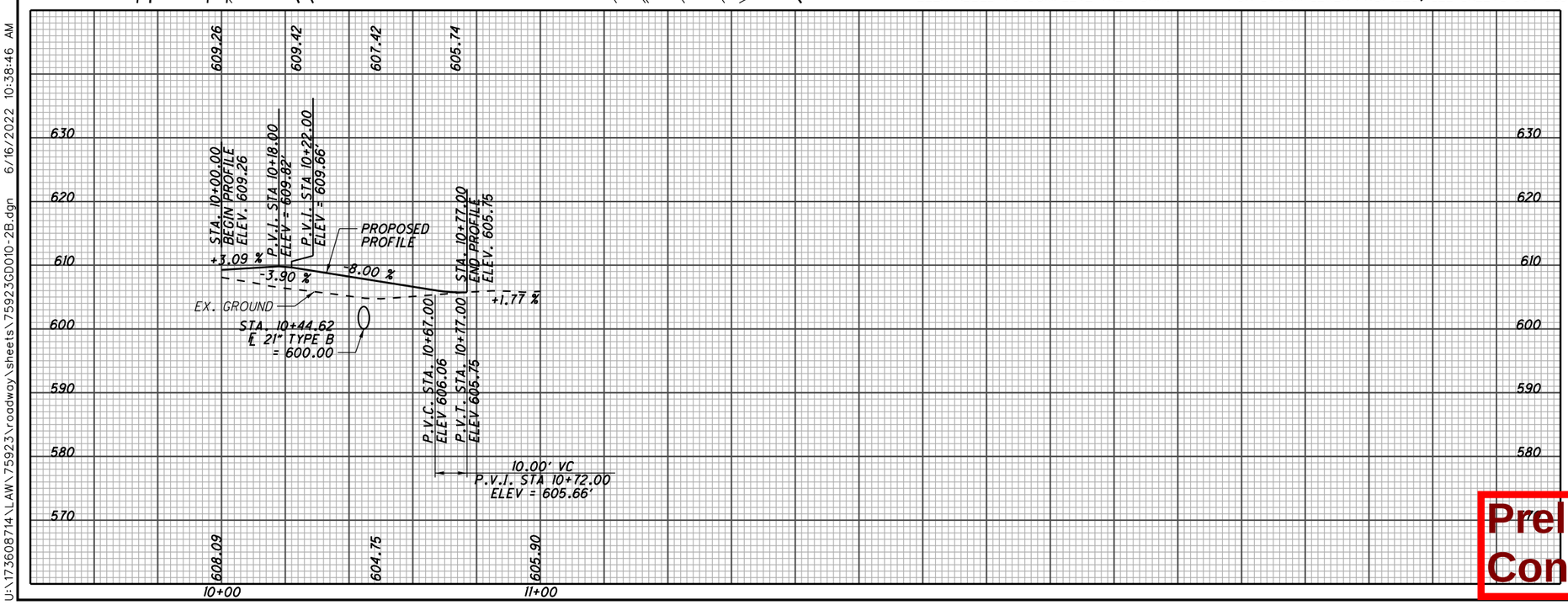
THE CONTRACTOR SHALL REMOVE THE EXISTING DRIVE AND DRIVE PIPE AND REGRADE DITCH TO TIE INTO THE PROPOSED DITCH ALONG C.R. 69 TO PROVIDE POSITIVE DRAINAGE. THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO COMPLETE THIS WORK.



TYPICAL SECTION - RADER AUTO DRIVE
NOT TO SCALE

- CONTRACTOR SHALL REGRADE EXISTING DRIVE. THE FOLLOWING QUANTITIES HAVE BEEN ADDED TO COMPLETE THE WORK.

FOR STORM SEWER PROFILES, SEE SHEETS 564-565



STATION FROM	TO	SIDE

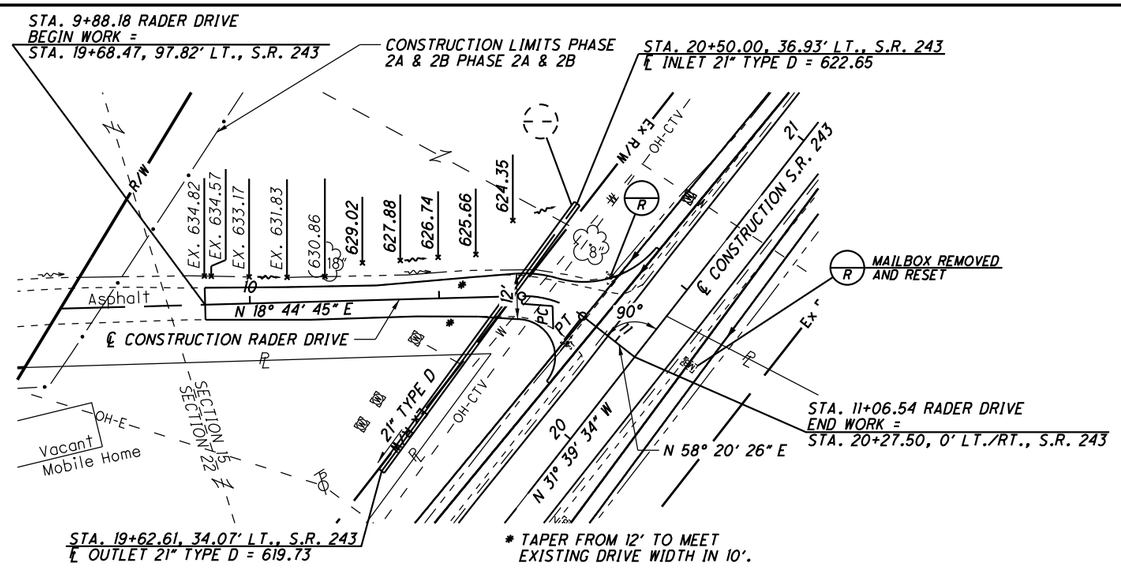
TOTALS CARRIED TO GENERAL SUMMARY

PLAN AND PROFILE
RADER AUTO DRIVE

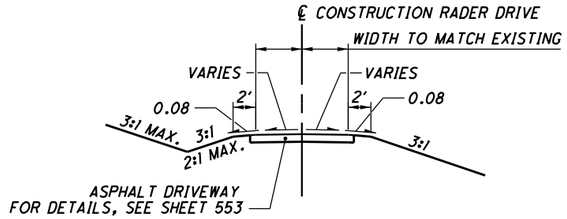
LAW-7-2.17

CALCULATED SLP
CHECKED ALB

HORIZONTAL SCALE IN FEET
0 10 20 40



RADER DRIVE - 4



TYPICAL SECTION - RADER DRIVE
NOT TO SCALE

CURVE DATA
RADER DRIVE

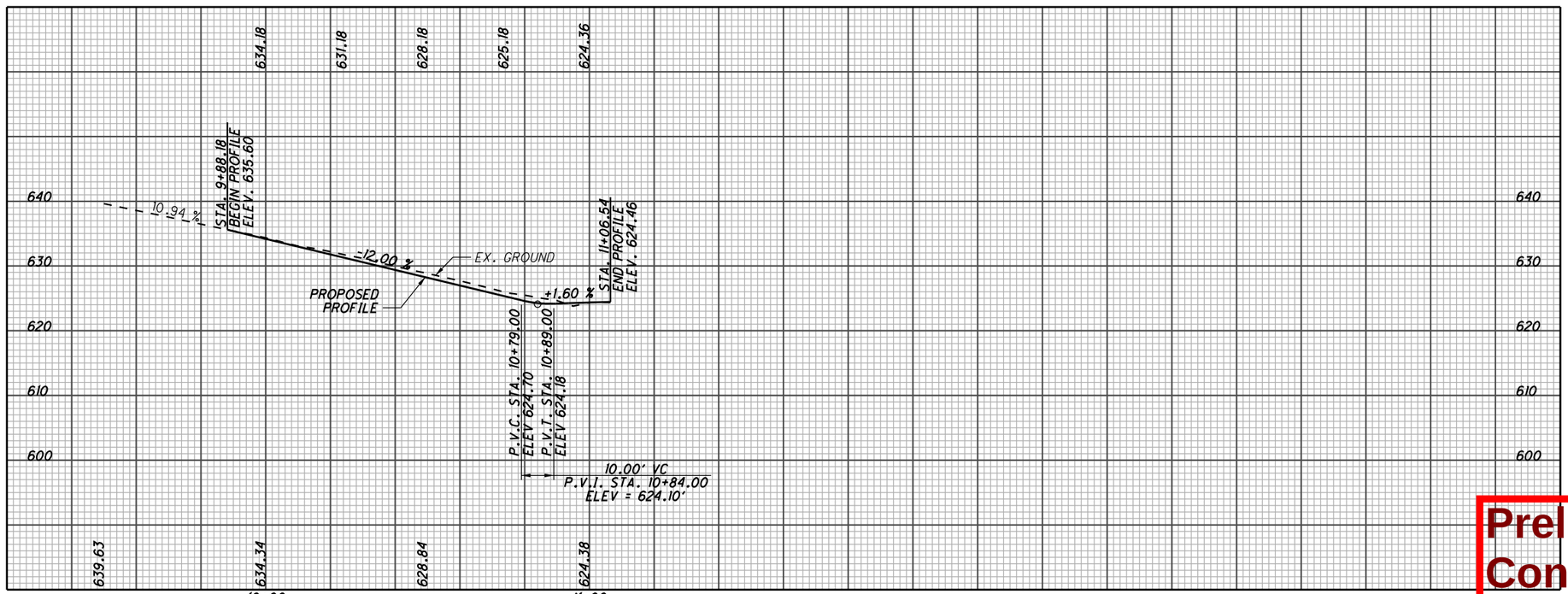
P.I. STA. 10+80.82
Δ = 39° 35' 40" (RT)
Dc = 229° 10' 59"
R = 25.00'
T = 9.00'
L = 17.28'
E = 1.57'
e_{max} = NA
PC STA. 10+71.82
PT STA. 10+89.09

LEFT E/P RETURN DATA

Δ = 66° 44' 56"
R = 25.00'
T = 16.47'
L = 29.12'
R.P. STA. 10+79.57, 31' LT., RADER DRIVE
P.C. STA. 20+53.87, 13.27' LT., S.R. 243
P.T. STA. 10+79.57, 6' LT., RADER DRIVE

RIGHT E/P RETURN DATA

Δ = 131° 01' 25"
R = 10.00'
T = 21.95'
L = 22.87'
R.P. STA. 10+70.23, 16' RT., RADER DRIVE
P.C. STA. 10+70.23, 6' RT., RADER DRIVE
P.T. STA. 20+08.18, 14.41' LT., S.R. 243



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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED SLP
CHECKED ALB

PLAN AND PROFILE
RADER DRIVE

LAW-7-2.17

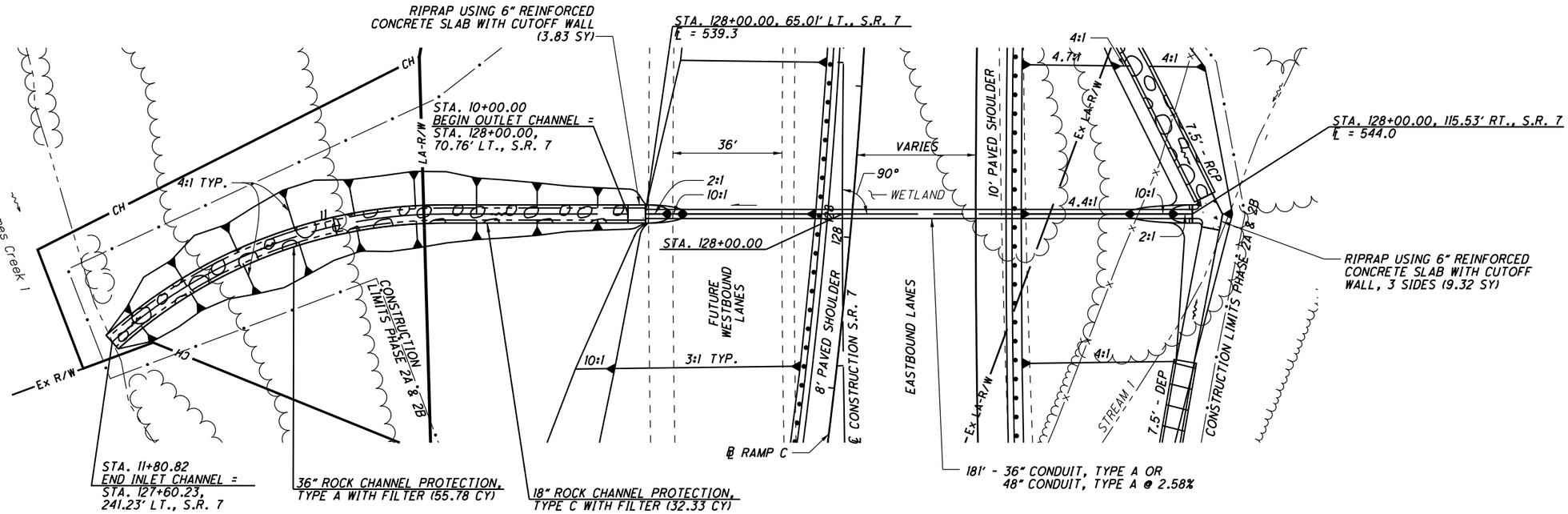
STATION FROM TO
SIDE
REF NO.

TOTALS CARRIED TO GENERAL SUMMARY

Preliminary - Not for Construction

07/29/2024

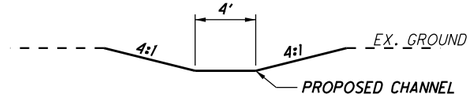
557
633



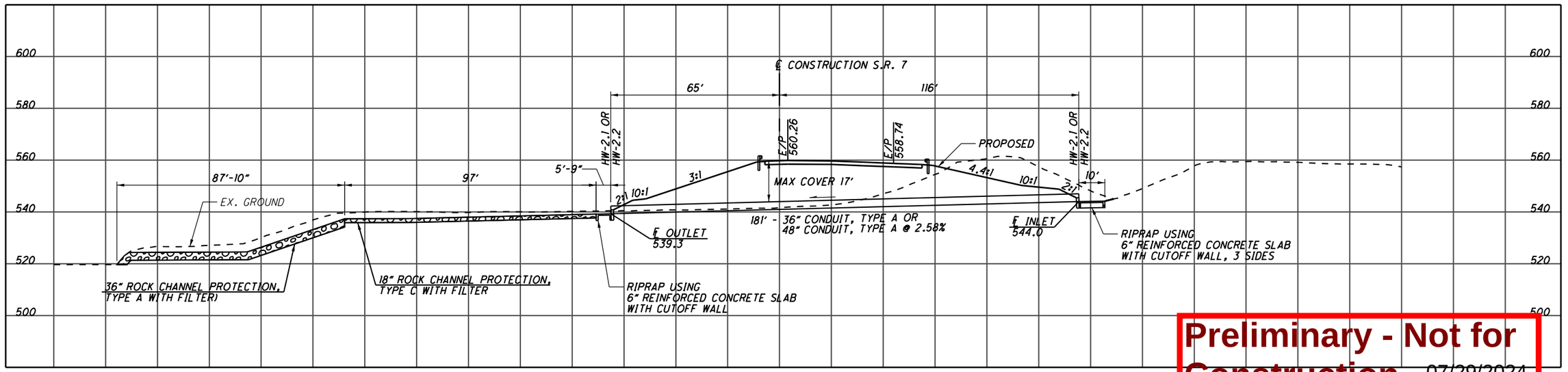
ESTIMATE QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION

QUANTITIES CARRIED TO GENERAL SUMMARY, SHEETS

HYDRAULIC DATA	
DRAINAGE AREA	= 15 AC.
Q50	= 56 CFS
Q100	= 64 CFS
50V	= 7.92 FPS
100V	= 9.05 FPS
50 HW	= 548.5
100 HW	= 549.2
OHWMi	= 546.5
OHWMo	= 517.3
pH	= 7.6
DESIGN SERVICE LIFE	= 75 YEARS
ABRASION LEVEL	=
CFN	=



CHANNEL TYPICAL SECTION

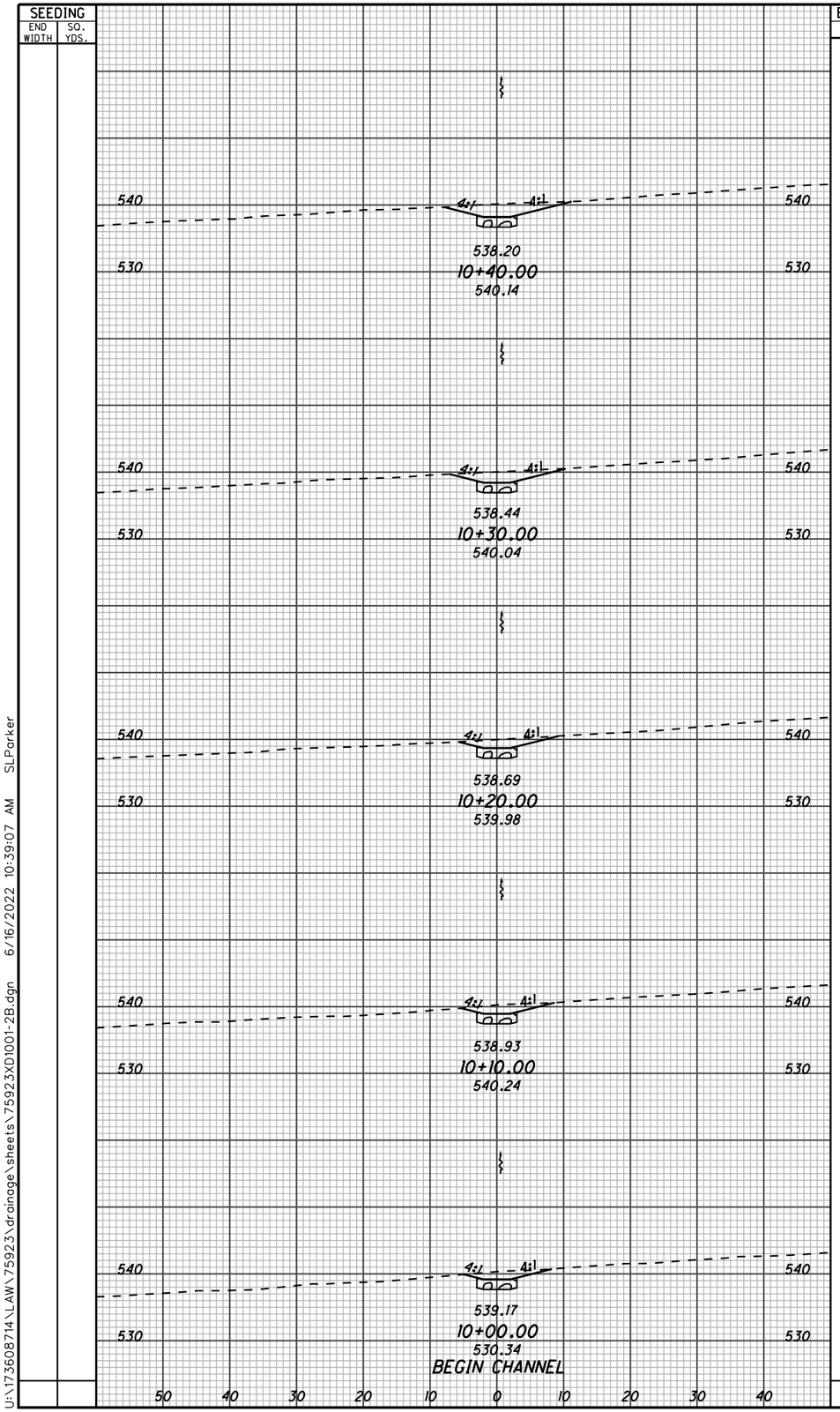


HORIZONTAL SCALE IN FEET
0 10 20 40

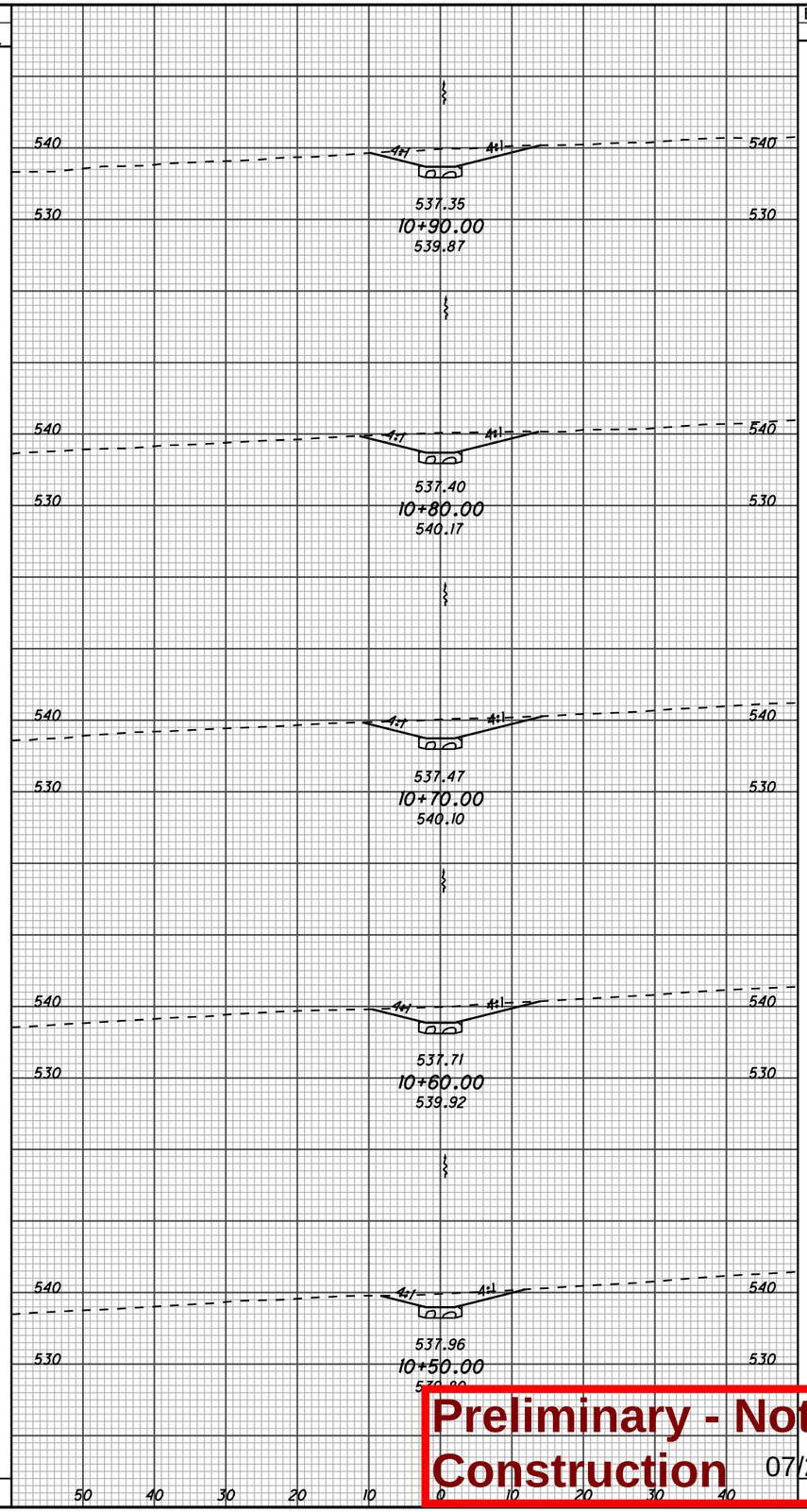
CALCULATED SLP
CHECKED ALB

CULVERT DETAIL
S.R. 7 STA. 128+00.00
LAW-7-2.17

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL



CALCULATED SLP
CHECKED ALB

CROSS SECTIONS CULVERT STA. 128+00.00 CHANNEL STA. 10+00.00 TO STA. 10+90.00

LAW-7-2.17

567
633

Preliminary - Not for Construction 07/29/2024

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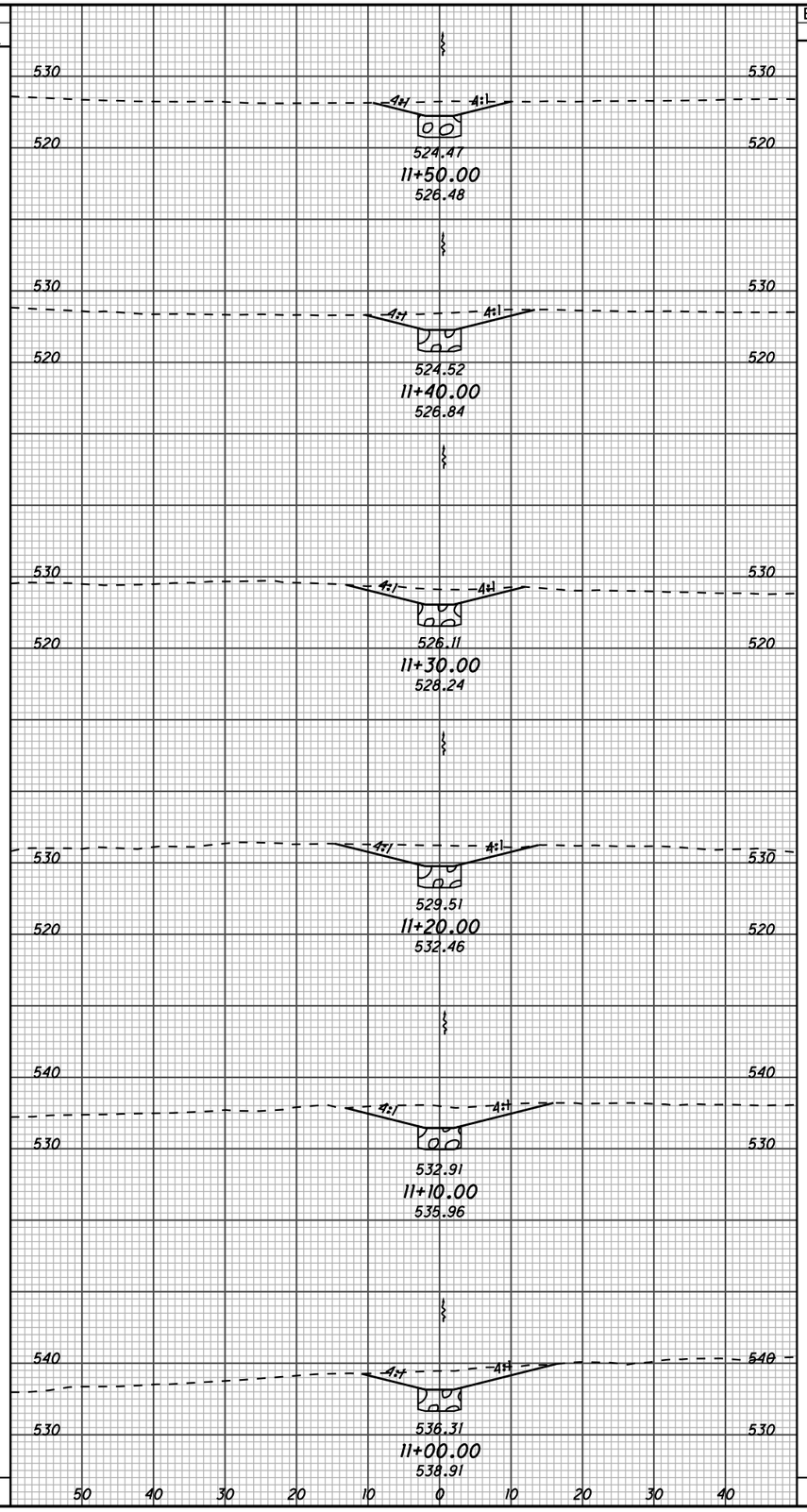
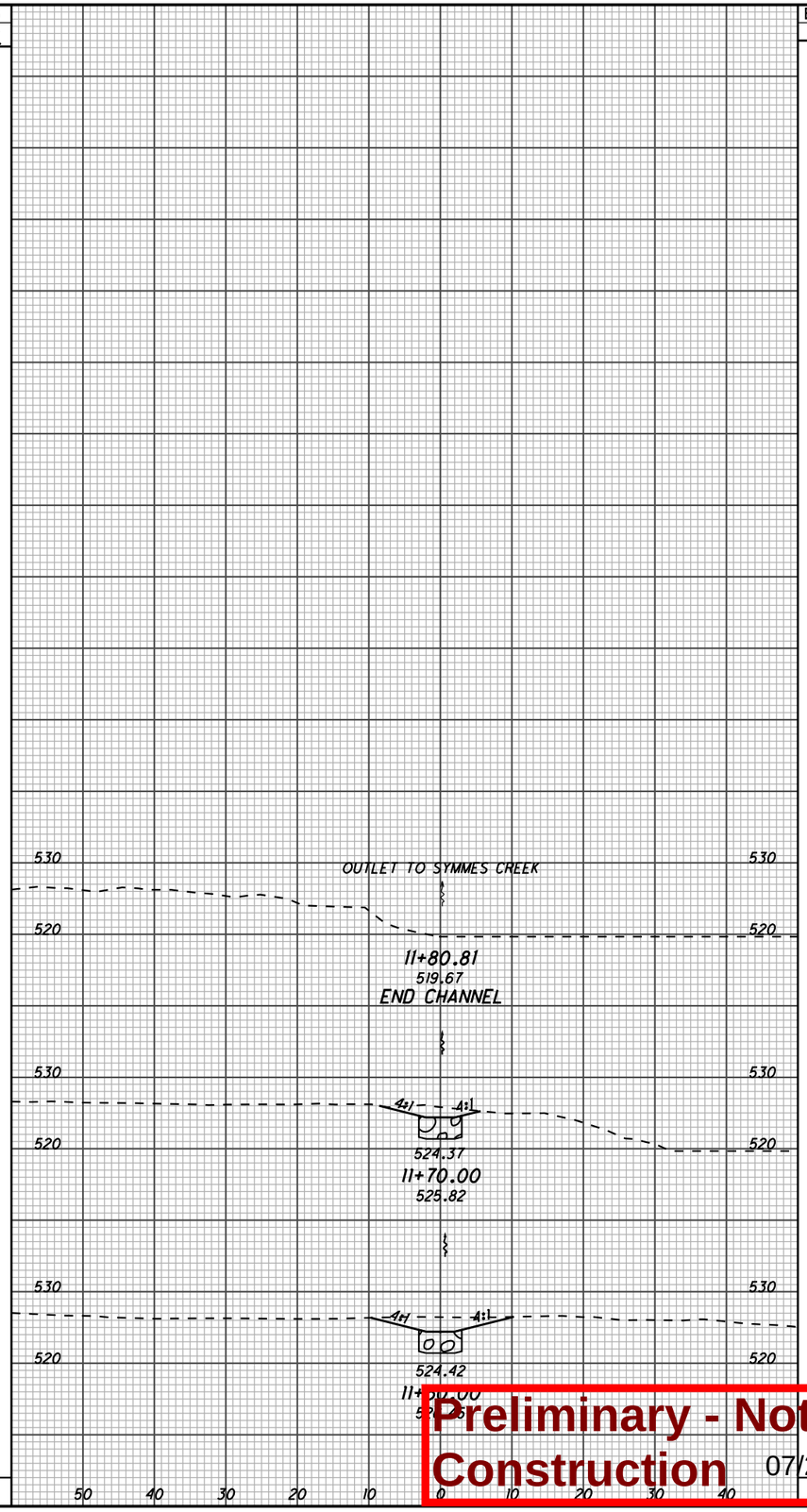
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL



CALCULATED SLP
CHECKED ALB

CROSS SECTIONS CULVERT STA. 128+00.00 CHANNEL STA. 11+00.00 TO STA. 11+80.81

LAW-7-2.17

568
633

Preliminary - Not for Construction

07/29/2024

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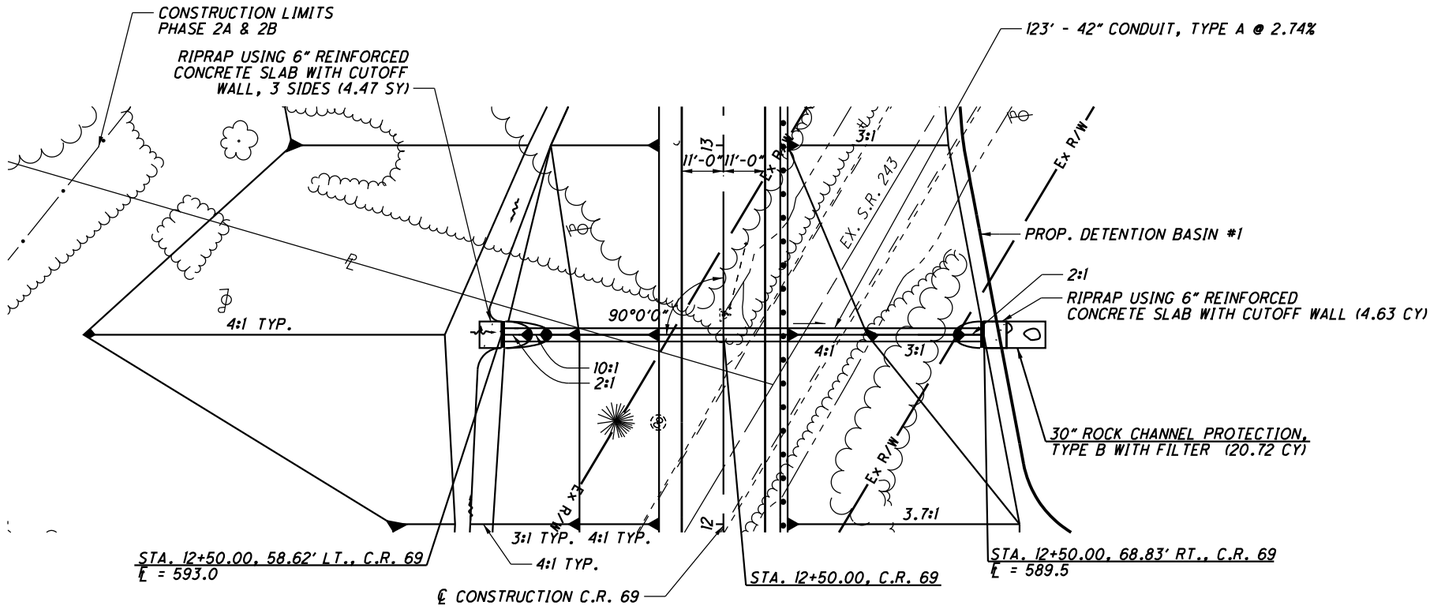
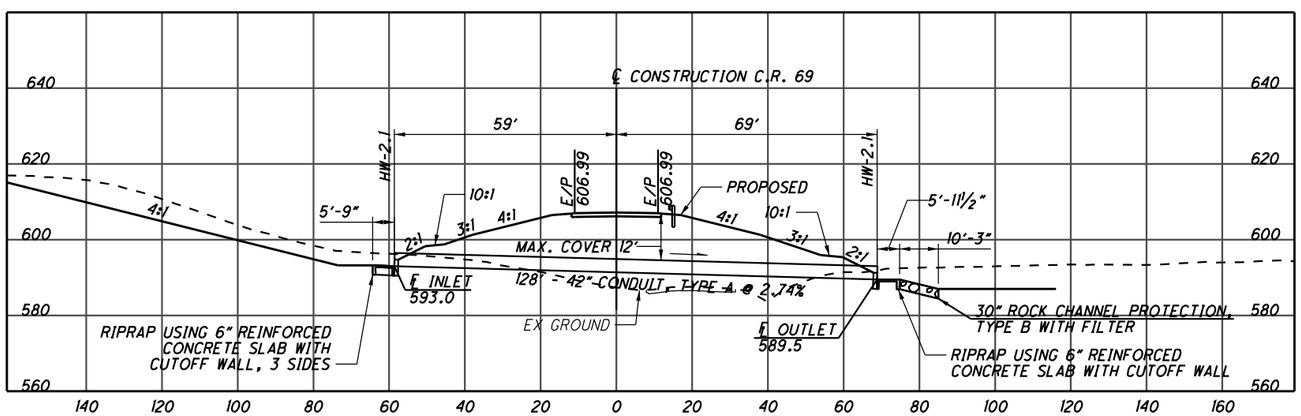


HYDRAULIC DATA	
DRAINAGE AREA	= 41 AC.
Q25	= 84 CFS
Q100	= 102 CFS
25V	= 10.8 FPS
100V	= 10.6 FPS
25 HW	= 599.0
100 HW	= 600.8
OHWMi	= 586.5
OHWMo	= 585.1
pH	= 7.6
DESIGN SERVICE LIFE	= 75 YEARS
ABRASION LEVEL	=
CFN	=



ESTIMATE QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION

QUANTITIES CARRIED TO GENERAL SUMMARY SHEETS

Preliminary - Not for Construction 07/29/2024

CULVERT DETAIL
C.R. 69 STA. 12+50.00

CALCULATED SLP
CHECKED ALB

HORIZONTAL SCALE IN FEET
0 10 20 40

LAW-7-2.17

569
633

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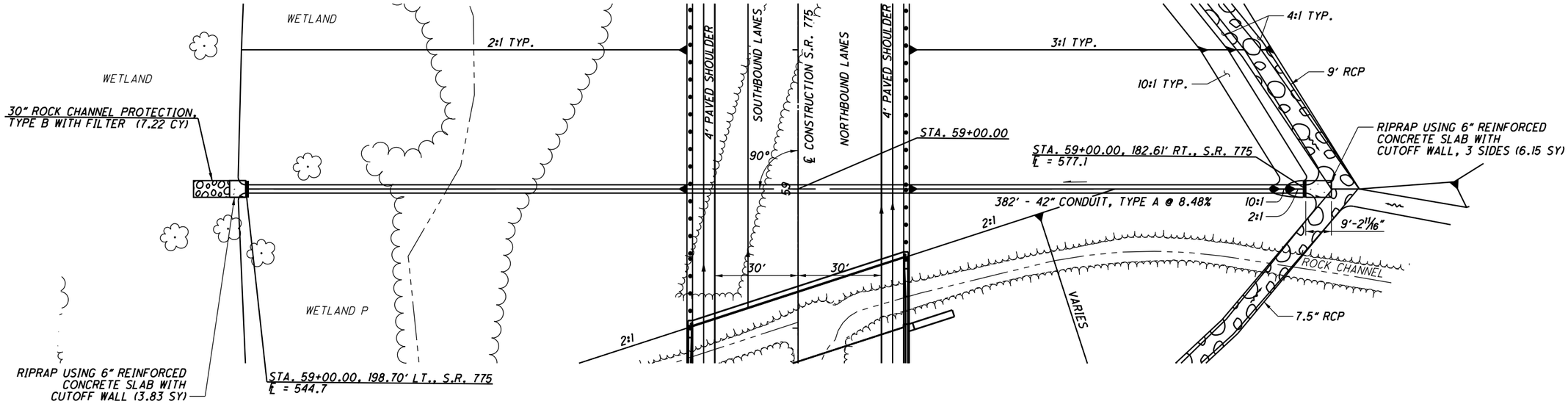
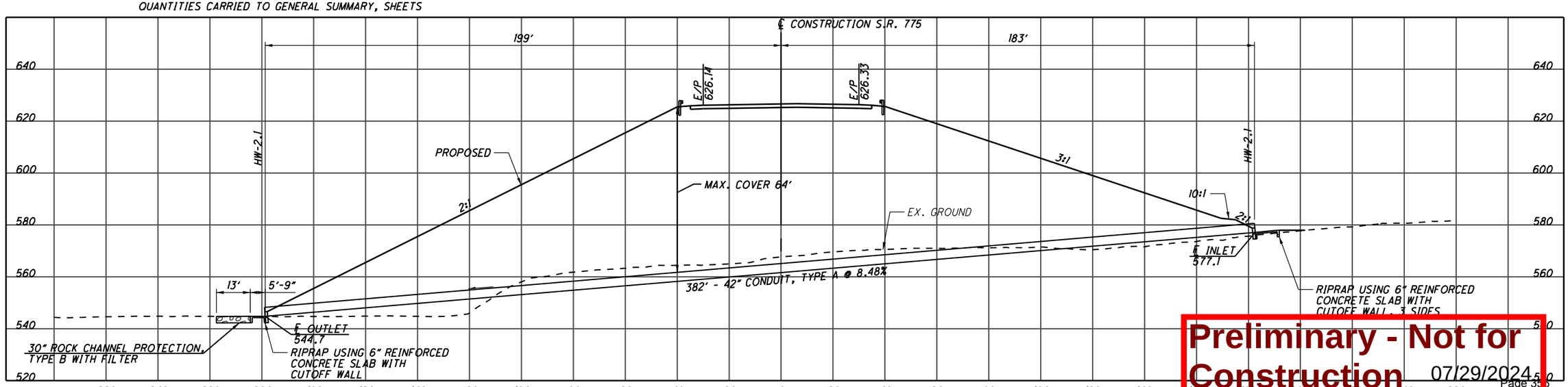


ESTIMATE QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION

QUANTITIES CARRIED TO GENERAL SUMMARY, SHEETS

HYDRAULIC DATA	
DRAINAGE AREA	= 8 AC.
Q50	= 22 CFS
Q100	= 23 CFS
50V	= 11.7 FPS
100V	= 11.9 FPS
50 HW	= 579.4
100 HW	= 579.4
OHWMi	= 578.70
OHWMo	= 545.51
pH	= 7.6
DESIGN SERVICE LIFE	= 75 YEARS
ABRASION LEVEL	=
CFN	=



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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED SLP
CHECKED ALB

CULVERT DETAIL
S.R. 775 STA. 59+00.00

LAW-7-2.17

570
633

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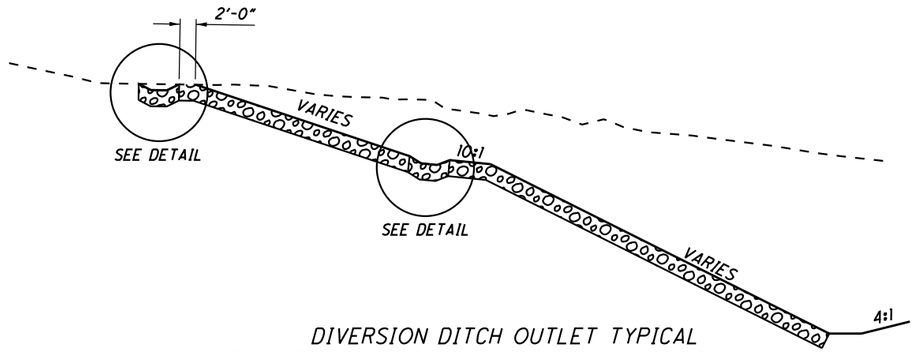
DIVERSION DITCH

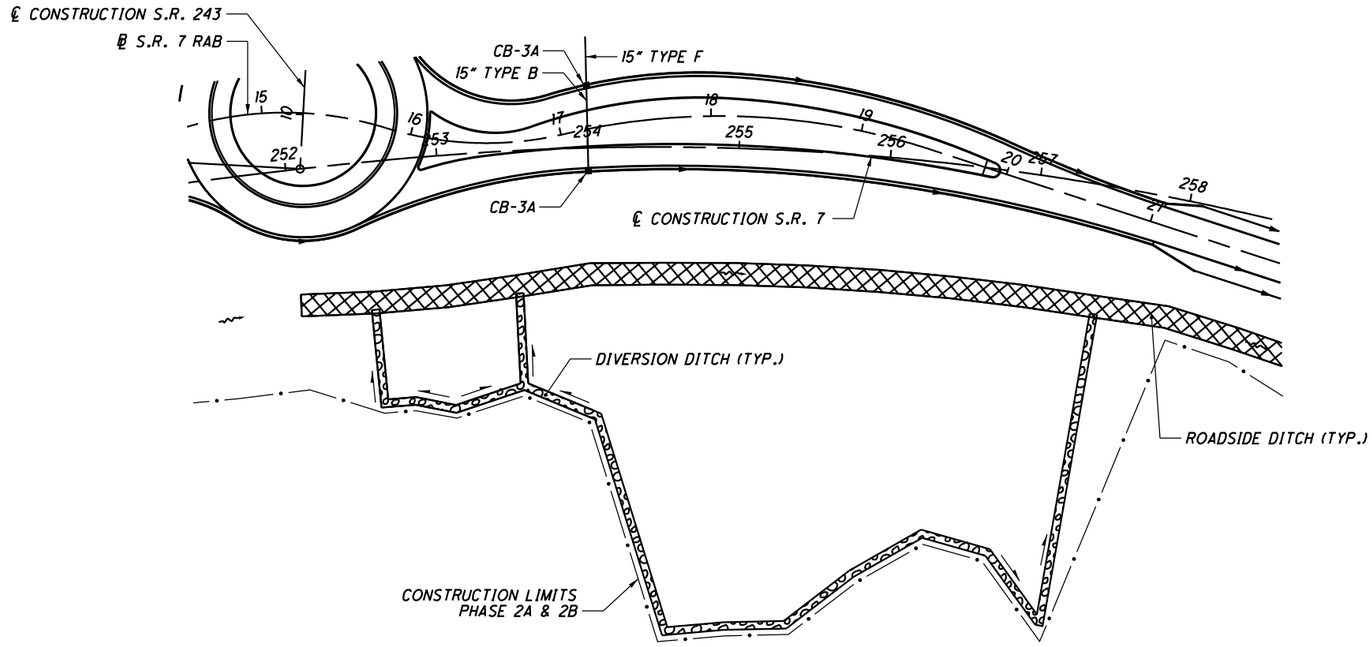
THE CONTRACTOR IS TO PROVIDE A DIVERSION DITCH AS DETAILED ON THIS SHEET AND AS SHOWN IN THE CROSS SECTIONS. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE PLACEMENT OF THE DIVERSION DITCH.

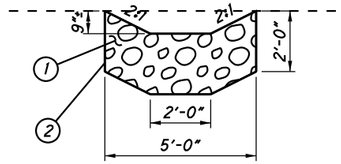
ITEM 203 - EXCAVATION (FOR OUTLET CHANNELS ONLY)	XX CU YD
ITEM 204 - GEOTEXTILE FABRIC	XX SO YD
ITEM 601 - ROCK CHANNEL PROTECTION, TYPE D WITH FILTER	XX CU YD

EARTHWORK QUANTITIES FOR THE DIVERSION DITCHES HAVE BEEN INCLUDED IN THE CROSS SECTIONS.



DIVERSION DITCH OUTLET TYPICAL
SEE CROSS SECTIONS FOR ACTUAL CUT SLOPES, BENCHING SCHEME AND DIVERSION DITCH LOCATIONS





DIVERSION DETAIL TYPICAL

(1) - ITEM 601 - ROCK CHANNEL PROTECTION, TYPE D WITH FILTER
(2) - ITEM 204 - GEOTEXTILE FABRIC

Preliminary - Not for Construction 07/29/2024

DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

CALCULATED SLP
CHECKED ALB

HORIZONTAL SCALE IN FEET
0 25 50 100

LAW-7-2.17

571
633

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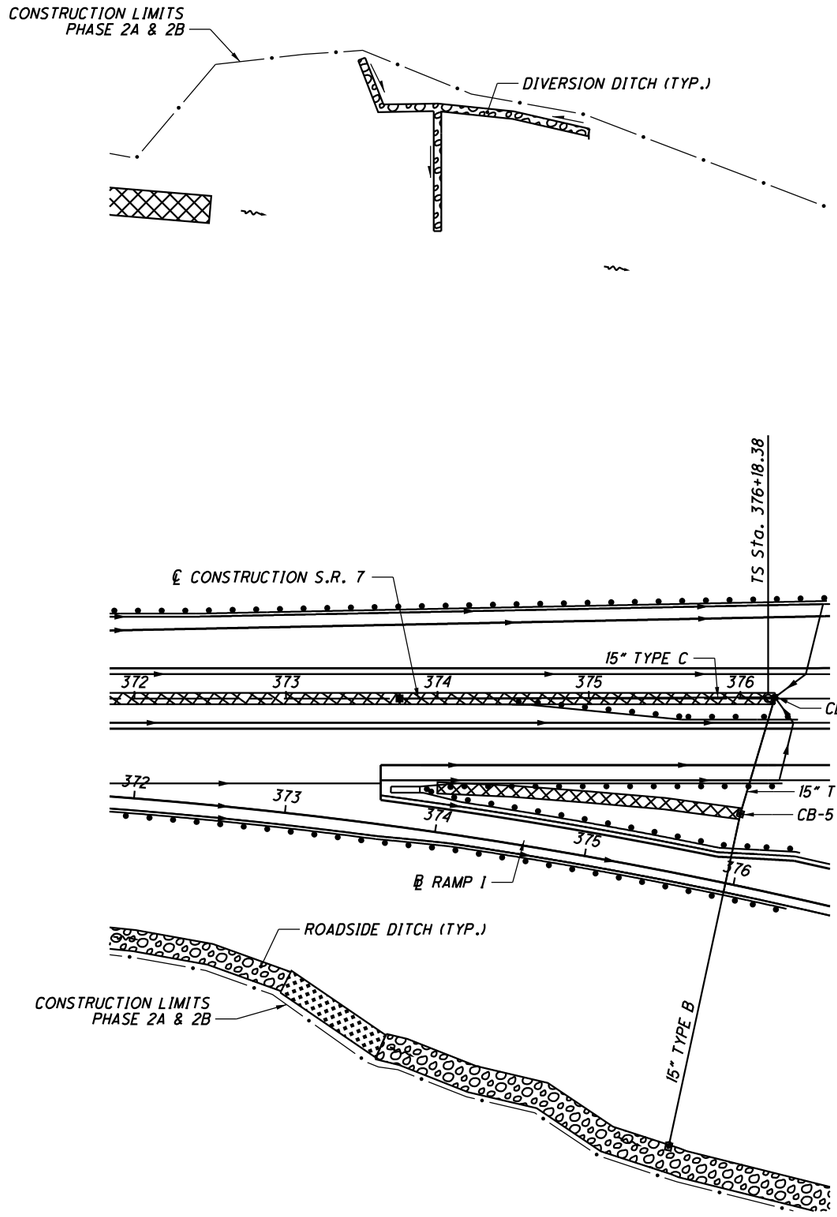
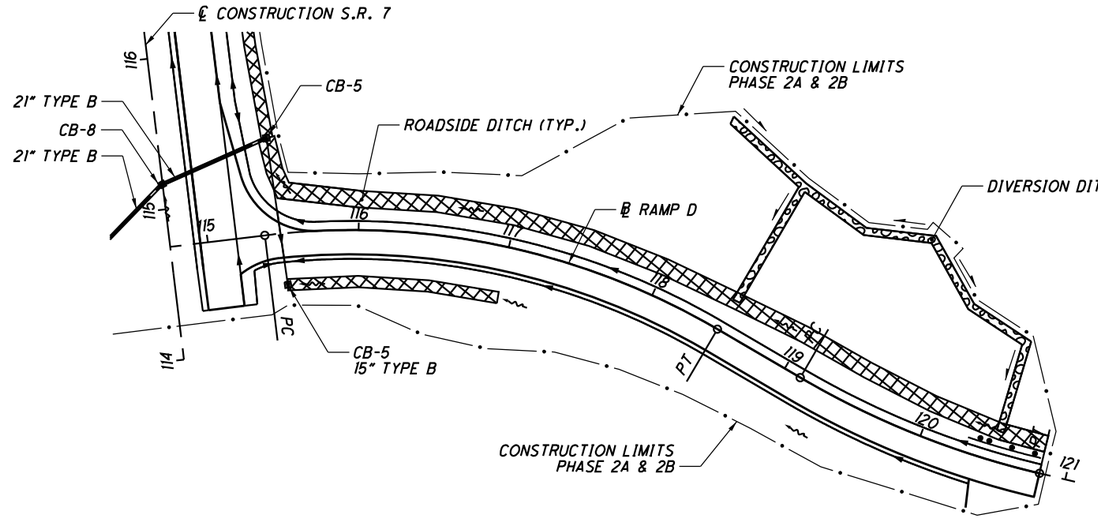




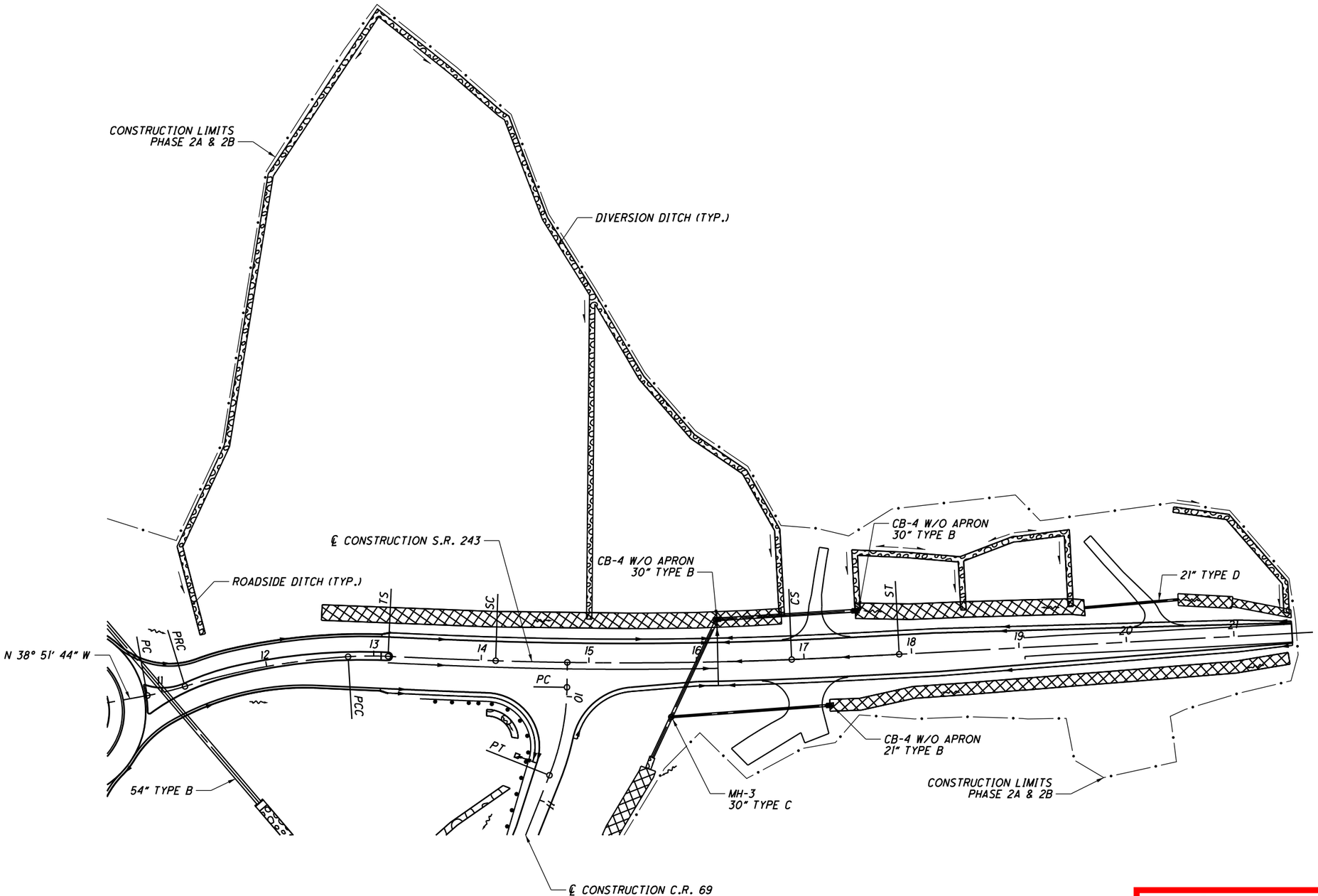
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED SLP
CHECKED ALB

DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

LAW-7-2.17

572
633



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0 25 50 100
HORIZONTAL SCALE IN FEET

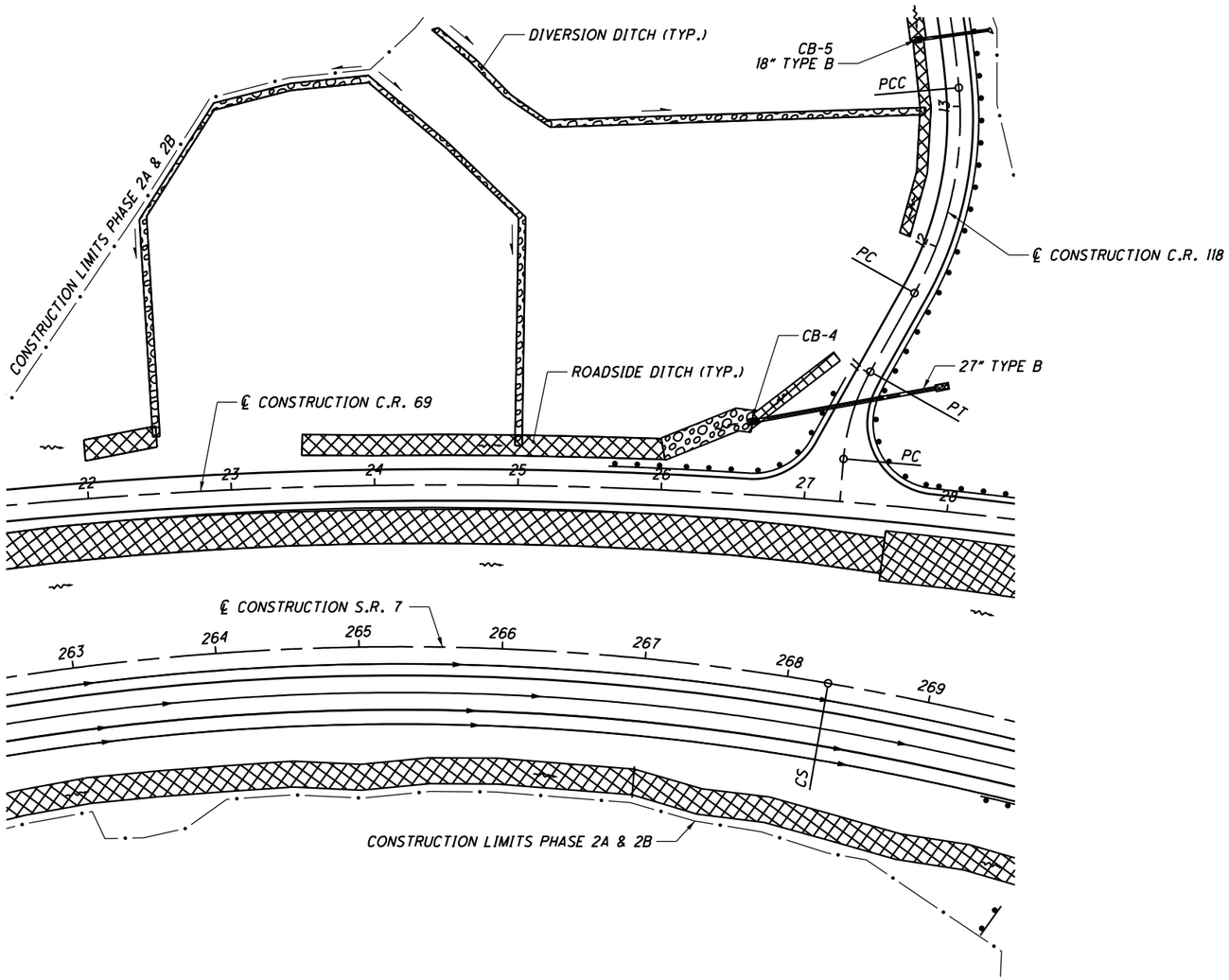
CALCULATED SLP
CHECKED ALB

DRAINAGE DETAILS
DIVERSION DITCH LOCATION AND DETAILS

LAW-7-2.17

573
633

Preliminary - Not for Construction 07/29/2024



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N

0 25 50 100 HORIZONTAL SCALE IN FEET

CALCULATED SLP CHECKED ALB

DRAINAGE DETAILS

DIVERSION DITCH LOCATION AND DETAILS

LAW-7-2.17

574
633

Preliminary - Not for Construction 07/29/2024

DETENTION BASIN AREA #3	
PONDED WATER SURFACE ELEVATION:	590
OUTFLOW PIPE TAILWATER:	586.8

DETENTION BASIN ACCESS DRIVE WITH GRAVEL MAX. GRADE = 33%

ROCK CHANNEL PROTECTION, TYPE C (10'x5'x1.5')

CB-22B
T/C = 590.00'
21" INV = 586.00'

10" RISER, 10 - 1" HOLES DRILLED AROUND CIRCUMFERENCE Ex AT 587.50, 588.00, 588.50, 589.00, 589.50

21" TYPE C

ROCK CHANNEL PROTECTION, TYPE B (30" THICK)

HW-2.1
℄ = 585.75

℄ CONSTRUCTION S.R. 243

℄ CONSTRUCTION C.R. 69

42" TYPE A

54" TYPE B

15" TYPE F

60" CMP

48"

Ex R/W

LA-R/W

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED EDA
CHECKED ALB

DRAINAGE DETAILS
DETENTION BASIN #1

LAW-7-2.17

575
633

Preliminary - Not for Construction

07/29/2024

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Preliminary - Not for Construction

07/29/2024

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N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED EDA
CHECKED ALB

DRAINAGE DETAILS
DETENTION BASIN #2

LAW-7-2.17

576
633

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CONSTRUCTION LIMITS PHASE 2A & 2B

LA-R/W

6" RISER,
6 - 1/2" HOLES DRILLED
AROUND CIRCUMFERENCE
AT 566, 566.5, 567,
567.5, 568, 568.5

CB-22B
T/C = 569.00'
21" INV = 564.50'

21" TYPE C

HW-2.1
℄ = 564.12

ROCK CHANNEL
PROTECTION, TYPE B
(30" THICK)

ROCK CHANNEL PROTECTION, TYPE C
(10'x25'x1.5')

DETENTION BASIN #2
ACCESS DRIVE
MAX. GRADE = 25%

22'
33'
18'
82'
16'

EX-LA-R/W

BRIDGE NO.
LAW-7-0713 L&R

HORIZONTAL
SCALE IN FEET
0 25 50 100

CALCULATED EDA
CHECKED ALB

DRAINAGE DETAILS
DETENTION BASIN #2

LAW-7-2.17

577
633

Preliminary - Not for Construction 07/29/2024

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DETENTION BASIN PROFILES

CALCULATED EDA
CHECKED ALB

0 20 40
SCALE IN FEET

LAW-7-2.17

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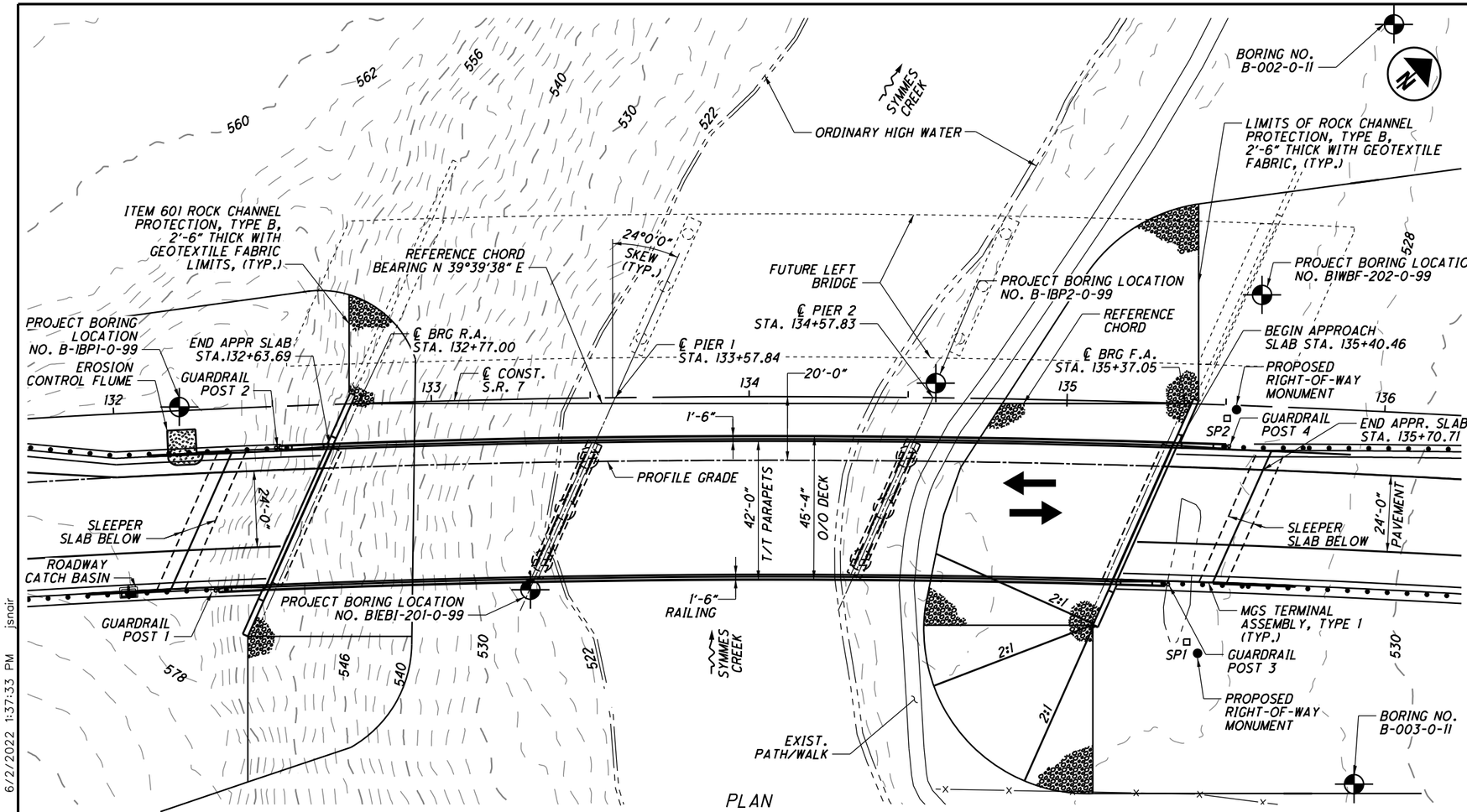
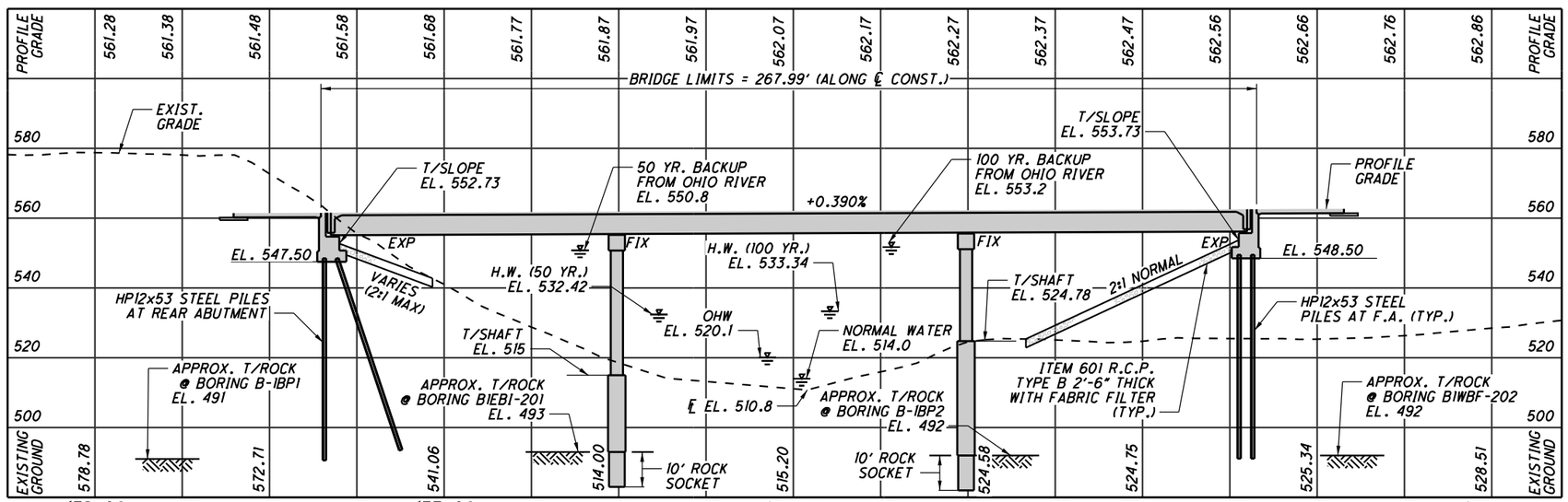


PLAN



PROFILE ALONG PROFILE GRADE S.R. 7

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR PRIMARY PROJECT CONTROL INFORMATION TABLE SEE ROADWAY GENERAL NOTES.
3. BRIDGE DECK DRAINAGE IS CONTROLLED BY ROADWAY CURBS EXTENDING OFF THE EAST END OF THE BRIDGE TO ROADWAY CATCH BASINS.
4. FOR LIST OF ABBREVIATIONS SEE SHEET 4/25.

DESIGN TRAFFIC:
2015 ADT = 10,300 2015 ADTT = 1,133
2035 ADT = 21,400 2035 ADTT = 2,354
DIRECTIONAL DISTRIBUTION = 69/31

LEGEND

- PROJECT BORING LOCATION
- SETTLEMENT PLATFORM
- PROPOSED RIGHT-OF-WAY MONUMENT

HYDRAULIC DATA

DRAINAGE AREA = 351.7 SQ. MILES
Q (50) = 17,000 CFS V (50) = 8.67 FT/S EL. (50) = 532.42
Q (100) = 19,100 CFS V (100) = 9.06 FT/S EL. (100) = 533.34
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 23.2 FEET.

ESTIMATED PILE LENGTHS

REAR ABUTMENT HP12x53 = 60 FT.
FORWARD ABUTMENT HP12x53 = 60 FT.

S.R. 7 CURVE NO. 1 DATA		
P.I. STA. 138+60.99	L = 3,508.44'	Ts = 2,076.38'
Δ = 53° 33' 53" (RT)	E = 425.60'	LT = 116.67'
Dc = 1° 27' 15"	TS STA. = 117+84.61	ST = 58.34'
R = 3,940.00'	SC STA. = 119+59.61	e_{max} = 4.00%
T = 1,880.13'	θs = 1° 16' 21"	CS STA. 154+68.05
	Ls = 175.00'	ST STA. 156+43.05

POST NUMBER	FIRST GUARDRAIL POST	STATION
1	EASTBOUND R.A.	132+28.76
2	WESTBOUND R.A.	132+50.63
3	EASTBOUND F.A.	135+33.61
4	WESTBOUND F.A.	135+51.46

PROPOSED STRUCTURE

TYPE: 3-SPAN PRESTRESSED CONCRETE I-BEAMS (60" MODIFIED TYPE 4) COMPOSITE WITH REINFORCED CONCRETE DECK ON CAP & COLUMN PIERS ON DRILLED SHAFTS & STUB TYPE ABUTMENTS ON STEEL HP PILES

SPANS: 78.93', 97.83', 78.91' C/C BRGS (MEASURED ALONG REF. CHORD)

ROADWAY: 42'-0" TOE/TOE PARAPETS

LOADING: HL-93 AND 60 LBS/FT² FUTURE WEARING SURFACE

WEARING SURFACE: 1" MONOLITHIC WEARING SURFACE

SKEW: 24°00'00" L.F. FROM PERPENDICULAR TO REF. CHORD

APPROACH SLABS: AS-1-15 AND APPLICABLE DETAILS FROM AS-2-15, 30'-0" LONG

SUPERELEVATION: 0.0400 FT. PER FT.

COORDINATES: LATITUDE 38° 26' 20.82" N
LONGITUDE 82° 37' 16.08" W

DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus, OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
BSM	JWS	MRS	11/3/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EER		4400070	

LAWRENCE COUNTY
STA. 132+63.69
STA. 135+40.46

SITE PLAN
BRIDGE NO. LAW-7-0251
S.R. 7 OVER SYMMES CREEK

LAW-7-2.17
PID No. 75923

1 / 25

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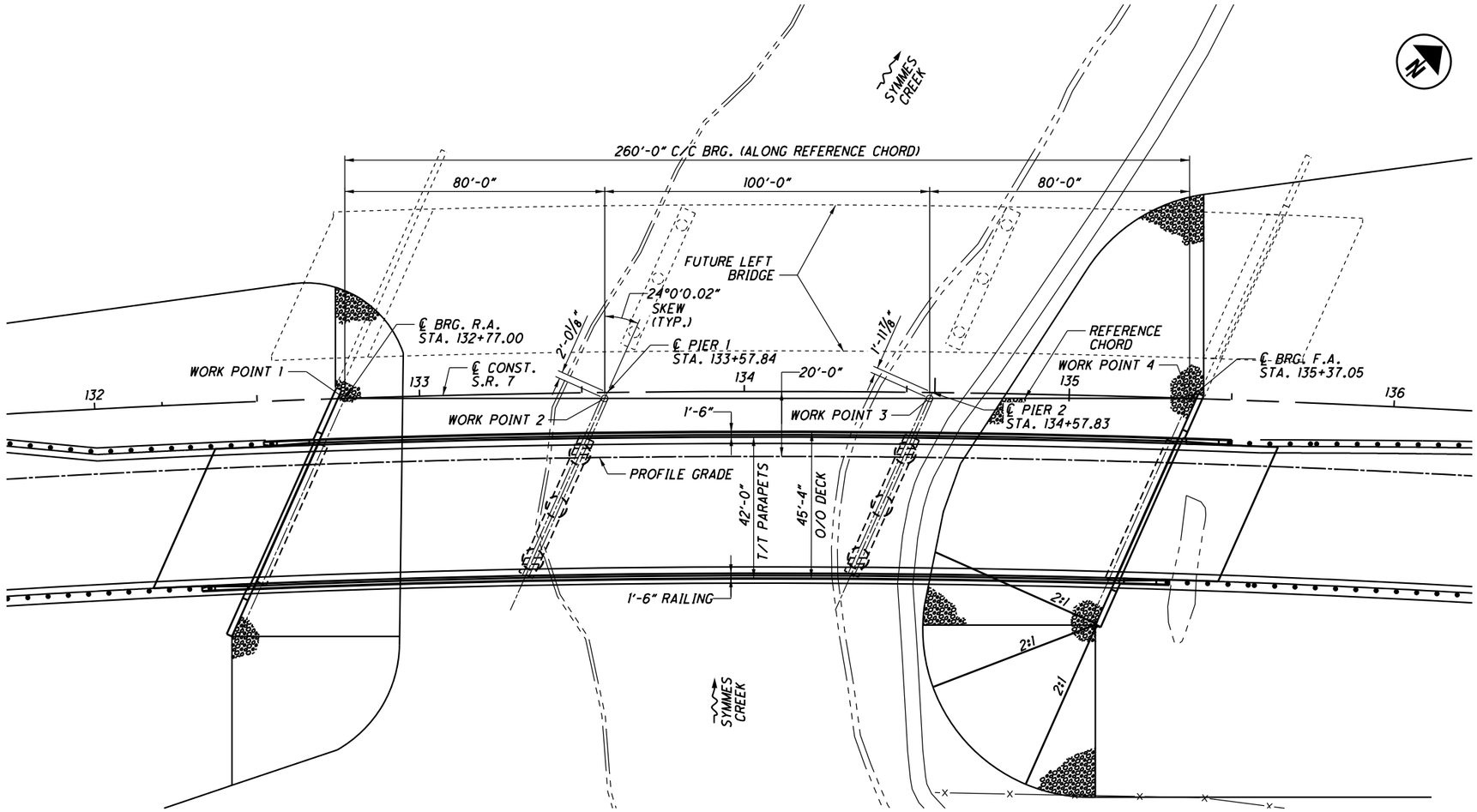


PLAN

S.R. 7 CURVE NO. 1

P.I. STA. 138+60.99
Δ = 53° 33' 53" (RT)
Dc = 1° 27' 15"
R = 3,940.00'
T = 1,880.13'
L = 3,508.44'
E = 425.60'
e_{max} = 4.00%
SC STA. 119+59.61
CS STA. 154+68.05

Preliminary - Not for Construction 07/29/2024

DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus, OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
BSM	JWS	MRS	11/3/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EER		4400070	

GENERAL PLAN
BRIDGE NO. LAW-7-0251
S.R. 7 OVER SYMMES CREEK

LAW-7-2.17
PID No. 75923

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	01-18-19
DM-4.1	REVISED	01-15-16
EXJ-6-17	DATED	01-15-21
PSID-1-13	REVISED	01-15-21
SBR-1-20	REVISED	07-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800	DATED	07-16-21
832	DATED	10-19-18

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2000 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING:
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT²

OPERATIONAL IMPORTANCE:
A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
CONCRETE CLASS QC5 - WITH 1-IN MAX. AGGREGATE SIZE - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STEEL H-PILES - A572 - YIELD STRENGTH 50 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) = 7 KSI
COMPRESSIVE STRENGTH (RELEASE) = 6 KSI
WELDED WIRE FABRIC - YIELD STRENGTH = 70 KSI

PRESTRESSING STRAND:
AREA = 0.217 SQ. IN.
ULTIMATE STRENGTH = 270 K.S.I.
INITIAL STRESS = 202.5 K.S.I.
(LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:
EPOXY COATED REINFORCING STEEL
2-1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE:
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILE DRIVING CONSTRAINTS:
PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT (SEE FORWARD APPROACH EMBANKMENT CONSTRUCTION THIS SHEET). DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

PILES TO BEDROCK:
DRIVE PILES THROUGH THE EMBANKMENT REINFORCING. DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECIEVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 210.6 KIPS PER PILE FOR THE REAR ABUTMENT PILES.

THE TOTAL FACTORED LOAD IS 206.5 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES.

REAR ABUTMENT PILES:
20 PILES 65 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:
28 PILES 65 FEET LONG, ORDER LENGTH

PILE SPLICES:
IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

DRILLED SHAFTS:
PIER 1
THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1,061 KIPS AT THE PIERS. THIS LOAD IS RESISTED BY TIP RESISTANCE. ROCK SOCKET DEPTH PROVIDED FOR LATERAL SUPPORT.

PIER 2
THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1,080 KIPS AT THE PIERS. THIS LOAD IS RESISTED BY TIP RESISTANCE. ROCK SOCKET DEPTH PROVIDED FOR LATERAL SUPPORT.

ITEM 623 - RIGHT-OF-WAY MONUMENT, AS PER PLAN:
IN ADDITION TO THE PROVISIONS OF ITEM 623, PLACE RIGHT-OF-WAY MONUMENTS WITHIN 5 FEET OF SETTLEMENT PLATFORMS AFTER REACHING FINISHED GRADE ELEVATIONS.

DECK PLACEMENT DESIGN ASSUMPTIONS:
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.44 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

SCOUR ELEVATIONS

THE DESIGN FLOOD AND CHECK FLOOD SCOUR ELEVATIONS ARE PROVIDED BELOW:

	REAR ABUTMENT	PIER 1	PIER 2	FORWARD ABUTMENT
DESIGN FLOOD				
CHECK FLOOD				

APPROACH EMBANKMENT CONSTRUCTION:

THE APPROACH EMBANKMENTS SHALL BE CONSTRUCTED AND THEN UNDERGO AN ESTIMATED WAITING PERIOD OF 180 DAYS PRIOR TO DRIVING PILES.

REFER TO SHEETS XX FOR DETAILS AND NOTES REGARDING REINFORCED SLOPE AND EMBANKMENT CONSTRUCTION.

DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus OH 43204
(614) 486-4383

DESIGNED BSM | DRAWN JWS | REVIEWED MRS | DATE 11/3/2017
CHECKED EER | REVISED | STRUCTURE FILE NUMBER 4400070

GENERAL NOTES
BRIDGE NO. LAW-7-0251
S.R. 7 OVER SYMMES CREEK

LAW-7-2.17
PID No. 75923

3 / 25

ITEM SPECIAL - SETTLEMENT PLATFORM:

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. SEE SETTLEMENT PLATFORM DETAIL THIS SHEET. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN WEEKLY DURING CONSTRUCTION AND DURING THE SPECIFIED WAITING PERIOD BEGINNING WITH THE FIRST WEEK FOLLOWING PLACEMENT OF EACH PLATFORM. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, CO, CONSTRUCTION MANAGEMENT/CONSTRUCTION ADMINISTRATION, GEOTECHNICAL AND EARTHWORK ENGINEER AND ODOT, CO, OFFICE OF GEOTECHNICAL ENGINEERING, FOUNDATIONS AND RETAINING WALLS ENGINEER, AFTER EACH SETTLEMENT READING IS RECORDED.

MATERIAL: SOUND LUMBER SUCH AS ¾" EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2½" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36" X 36" X ⅛" MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE SETTLEMENT PLATFORM DETAILS SHOWN ON THIS SHEET. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.

SETTLEMENT PLATFORMS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

I.D.	STATION	OFFSET
SP1	135+40	75' RT.
SP2	135+60	10' RT

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.

REFER TO ODOT GEOTECHNICAL BULLETIN GB4 "GUIDELINES FOR THE USE OF GEOTECHNICAL INSTRUMENTATION" FOR ADDITIONAL INSTALLATION AND MONITORING INSTRUCTION.

WAITING PERIOD CRITERIA:
THE ENGINEER WILL CONSIDER THE WAITING PERIOD COMPLETE WHEN CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN ⅛ INCH. THE MINIMUM WAITING PERIOD IS 90 CALENDAR DAYS.

IF SETTLEMENT RATES EXCEED ¾ INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 45 CALENDAR DAYS, REMAINING CONSTRUCTION, INCLUDING ANY NECCESARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

THE DEPARTMENT WILL CONSIDER VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED 30 DAYS PRIOR TO CONSTRUCTION. THE DEPARTMENT WILL REQUIRE 10 WORKING DAYS FOR REVIEW AND APPROVAL. THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXISTING FACILITIES, PROPOSED FACILITIES OR UTILITIES. NO ADDITIONAL PAYMENT WILL BE PROVIDED IF THE CONTRACTOR ELECTS TO UTILIZE VIBRATING WIRE SETTLEMENT PLATFORMS.

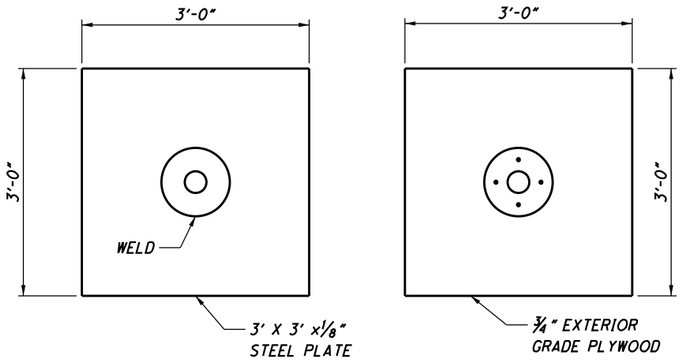
MORE INFORMATION PERTAINING TO EMBANKMENT CONSTRUCTION AND CONTROLLED RATES OF FILL ARE PROVIDED IN THE ROADWAY PLANS.

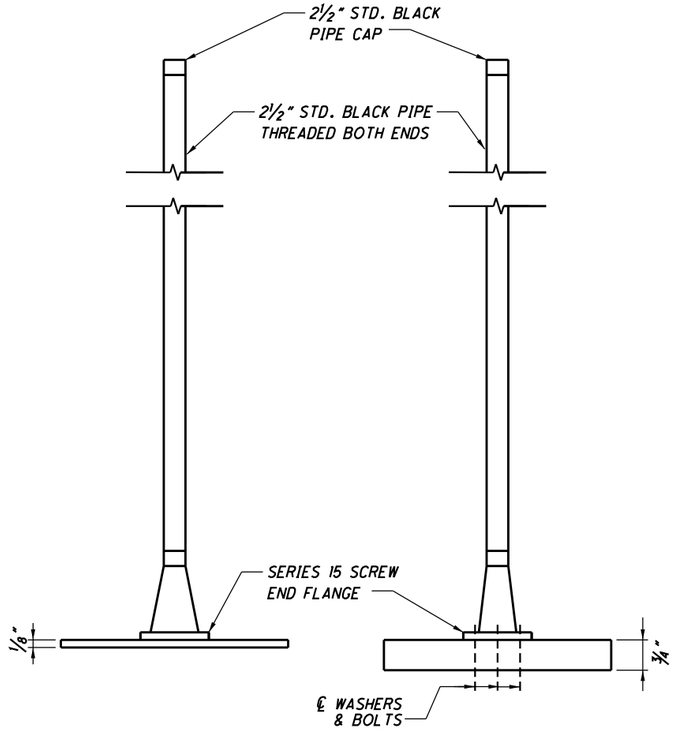
METHOD OF MEASUREMENT, THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL - SETTLEMENT PLATFORM" WHICH IS COMPENSATION FOR CONSTRUCTING, MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS. SEE DETAIL THIS SHEET.

ABBREVIATIONS

APPROX.	- APPROXIMATELY
BRG.	- BEARING
℄	- CENTERLINE
CLR.	- CLEAR
CONST.	- CONSTRUCTION
DWG.	- DRAWING
EF	- EACH FACE
EL.	- ELEVATION
EQ.	- EQUAL
EXIST.	- EXISTING
F.A.	- FORWARD ABUTMENT
℄	- FLOW LINE
H.W.	- HIGH WATER
NO.	- NUMBER
OHW	- ORDINARY HIGH WATER MARK
R.A.	- REAR ABUTMENT
SP	- SETTLEMENT PLATFORM
SPA.	- SPACE
STA.	- STATION
STD.	- STANDARD
T/	- TOP OF
TYP.	- TYPICAL
YR.	- YEAR





SETTLEMENT PLATFORM

(NOT TO SCALE)

NOTES:

1. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.

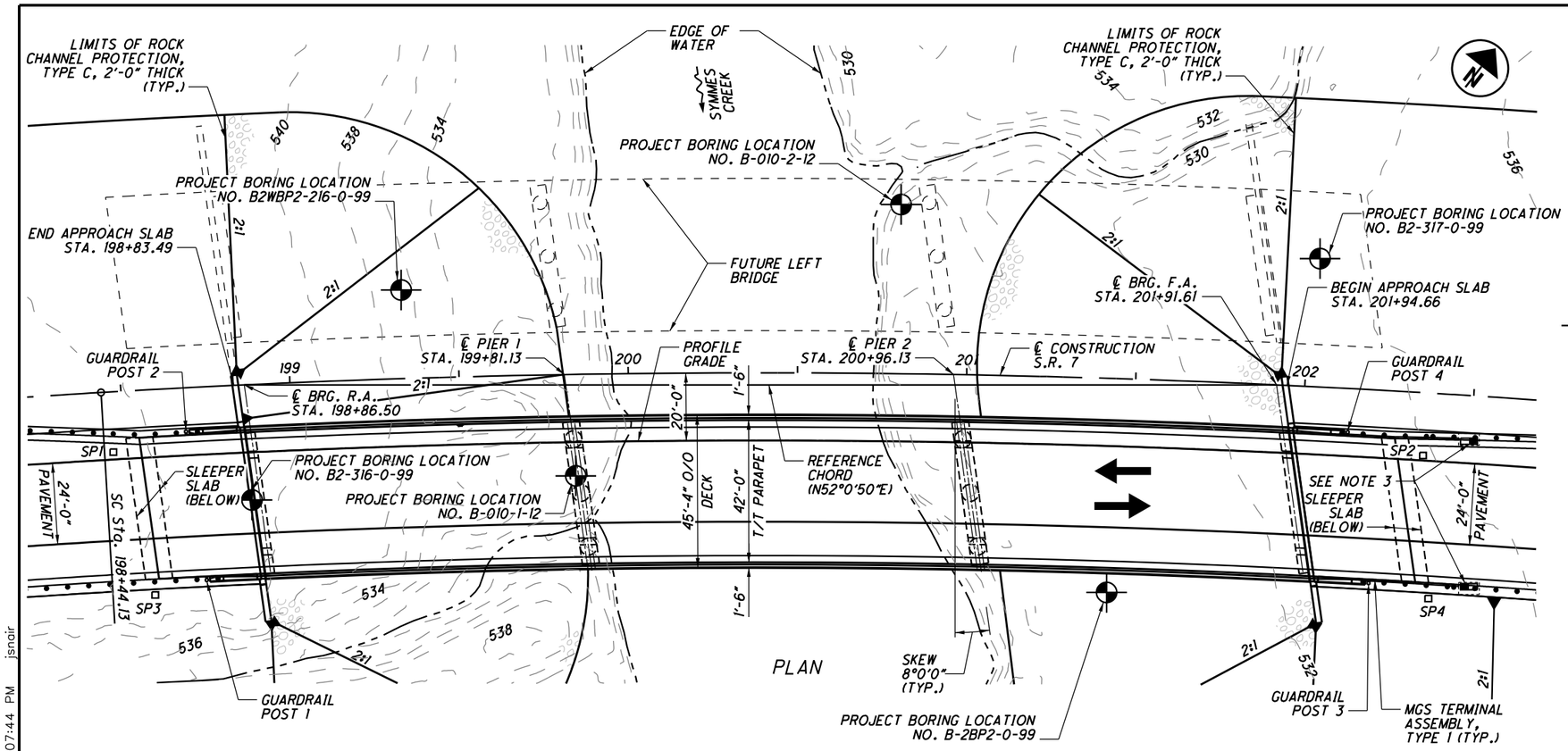
Preliminary - Not for Construction 07/29/2024

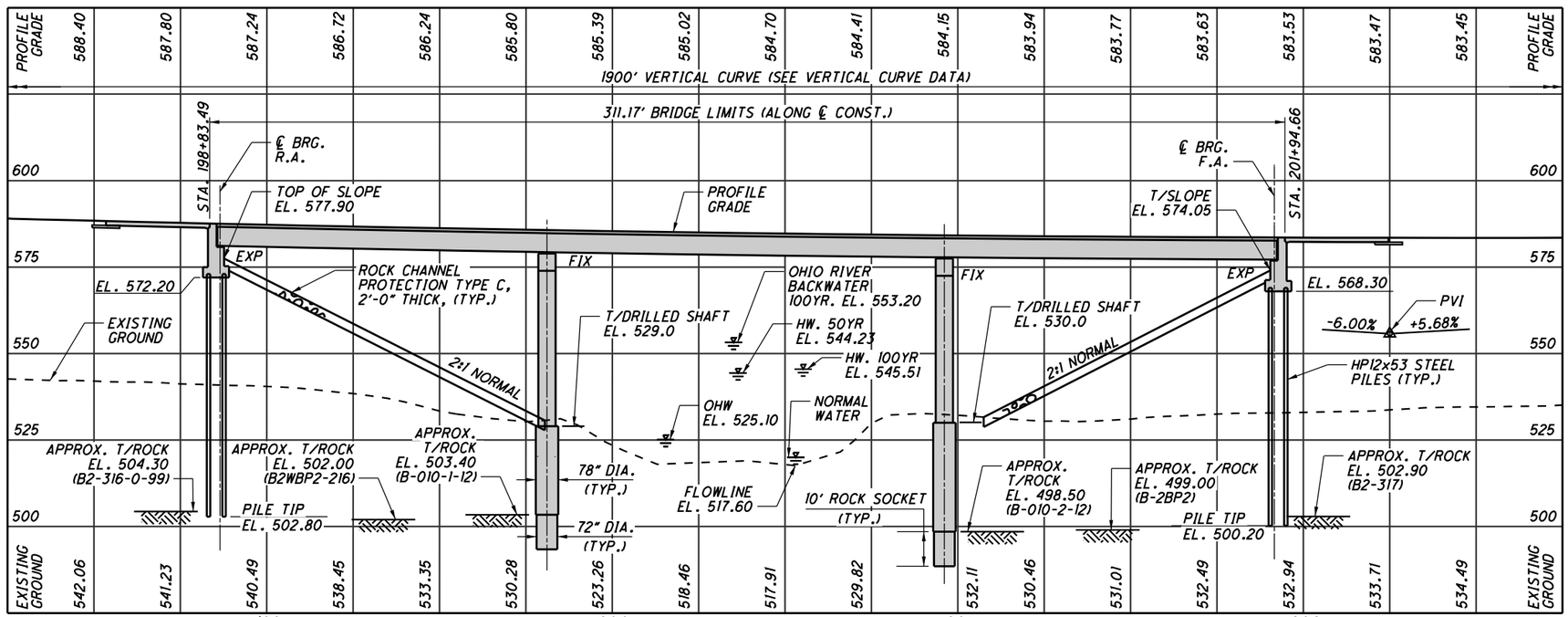
DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
BSM	JWS	MRS	11/3/2017
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EER		4400070	

GENERAL NOTES 2
BRIDGE NO. LAW-7-0251
S.R. 7 OVER SYMMES CREEK

LAW-7-2.17
PID No. 75923





PROFILE ALONG PROFILE GRADE S.R.7

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR PRIMARY PROJECT CONTROL INFORMATION TABLE SEE ROADWAY GENERAL NOTES.
3. BRIDGE DECK DRAINAGE IS CONTROLLED BY 1 BRIDGE SCUPPER, (SEE ITEM 518 NOTE ON SHEET 3/25) AND DIRECTED BY ROADWAY CURBS EXTENDING OFF THE EAST END OF THE BRIDGE TO ROADWAY CATCH BASINS.

DESIGN TRAFFIC:
2015 ADT = 10,300 2015 ADTT = 1,133
2035 ADT = 21,400 2035 ADTT = 2,354
DIRECTIONAL DISTRIBUTION = 69/31

LEGEND

PROJECT BORING LOCATION ▫ SETTLEMENT PLATFORM

HYDRAULIC DATA

DRAINAGE AREA = 350.3 SQ. MILES
Q (50) = 17,000 CFS V (50) = 6.46 FT/S DESIGN YEAR
Q (100) = 19,100 CFS V (100) = 6.67 FT/S
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 31.22 FEET.

ESTIMATED PILE LENGTHS

REAR ABUTMENT HP12x53 = 75 FT
FORWARD ABUTMENT HP12x53 = 70 FT

ADDITIONAL PROJECT BORING LOCATIONS		
BORING NUMBER	STATION	OFFSET
B-010-0-11	197+89.00	183' LEFT
B-011-0-11	202+02.00	232' LEFT
B-012-0-11	201+90.00	197' RIGHT

S.R. 7 CURVE NO. 3 DATA		
P.I. STA. 205+33.31	L = 1,347.14'	Ts = 914.18'
Δ = 27° 30' 45" (RT)	E = 70.53'	LT = 150.01'
Dc = 1° 45' 00"	TS STA. = 196+19.13	ST = 75.01'
R = 3,274.04'	SC STA. = 198+44.13	e_{max} = 4.60%
T = 683.24'	θs = 1° 58' 07"	CS STA. 211+91.27
	Ls = 225.00'	ST STA. 214+16.27

POST NUMBER	FIRST POST GUARDRAIL	STATION
1	EASTBOUND R.A.	198+72.52
2	WESTBOUND R.A.	198+68.62
3	EASTBOUND F.A.	202+22.03
4	WESTBOUND F.A.	202+13.35

VERTICAL CURVE DATA

LENGTH = 1900'
PVC STA. = 192+75.00 PVC ELEV. = 612.74
PVI STA. = 202+25.00 PVI ELEV. = 555.74
PVT STA. = 211+75.00 PVT ELEV. = 609.67
G1 = -6.00% G2 = 5.68%

PROPOSED STRUCTURE

TYPE: 3-SPAN PRESTRESSED CONCRETE I-BEAM (66" MODIFIED TYPE 4) WITH COMPOSITE REINFORCED CONCRETE DECK SUPPORTED BY STUB TYPE ABUTMENTS ON STEEL PILES AND CAP & COLUMN PIERS ON DRILLED SHAFTS

SPANS: 93.92'-112.83'-93.92', c/c BRGS. (MEASURED ALONG REFERENCE CHORD)

ROADWAY: 42'-0" TOE/TOE PARAPETS

LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE

WEARING SURFACE: 1" MONOLITHIC WEARING SURFACE

SKEW: 8°00'00" R.F. FROM PERP. TO REFERENCE CHORD

APPROACH SLABS: AS-1-15, 30'-0" LONG (MODIFIED)

ALIGNMENT: 01°45'00" CURVE RT.

SUPERELEVATION: 0.0460 FT/FT

COORDINATES: LATITUDE 38°26'53.65" N
LONGITUDE 82°26'05.44" W

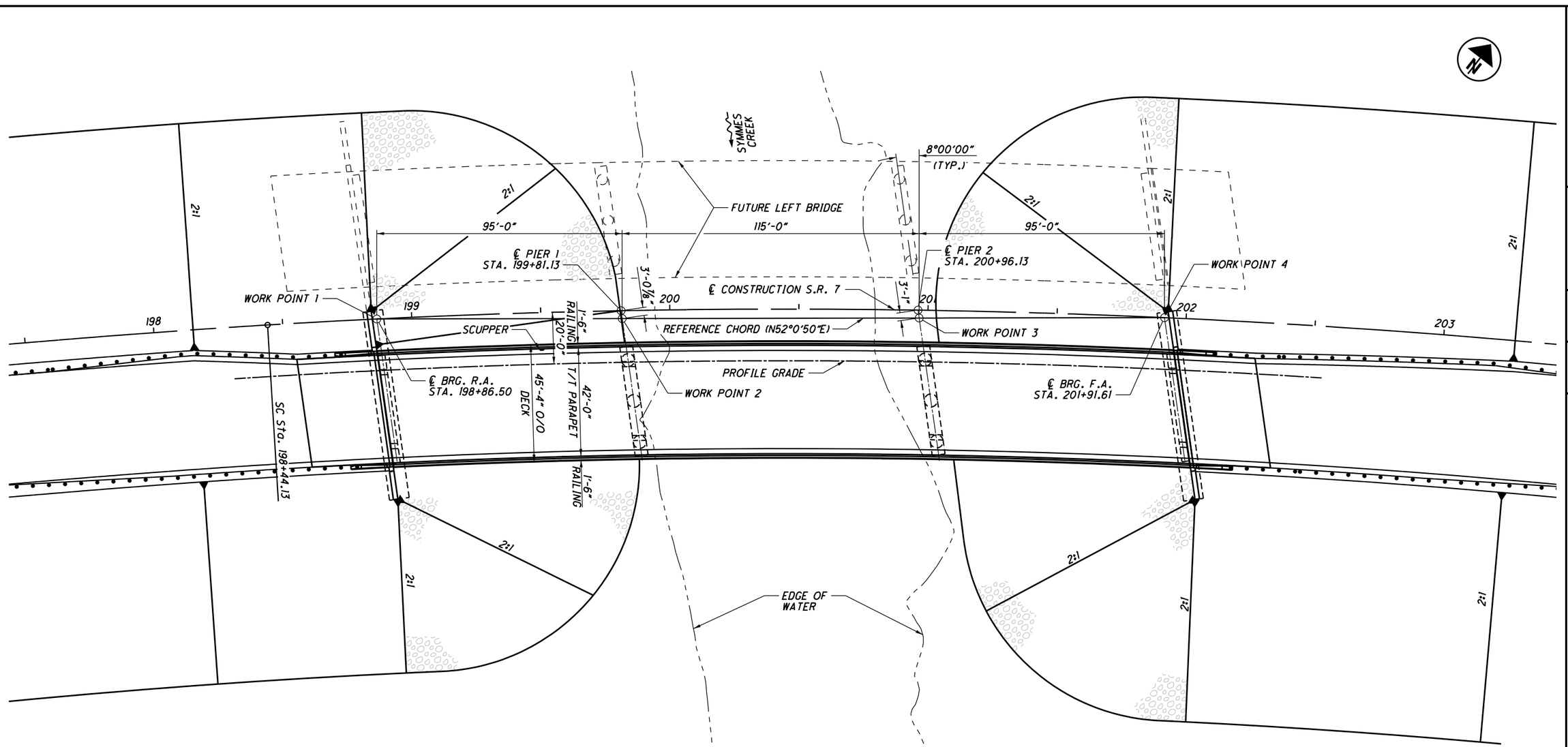
DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
BSM	JWS	MRS	12/15/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EER		4400224	

LAWRENCE COUNTY
STA. 198+83.49
STA. 201+94.66

SITE PLAN
BRIDGE NO. LAW-7-0376
S.R. 7 OVER SYMMES CREEK

LAW-7-2.17
PID No. 75923



PLAN

S.R. 7 CURVE NO. 3

P.I. STA. 205+33.31
Δ = 27° 30' 45" (RT)
Dc = 1° 45' 00"
R = 3,274.04'
T = 683.24'
L = 1,347.14'
E = 70.53'
e_{max} = 4.60%
SC STA. 198+44.13
CS STA. 211+91.27

Preliminary - Not for Construction 07/29/2024

U:\173608714\LAW\75923\structures\LAW007_0376C\sheets\007_0376RGP001.dgn 6/2/2022 2:07:47 PM jsnair

DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus, OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
BSM	JWS	MRS	12/15/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EER		4400224	

GENERAL PLAN
BRIDGE NO. LAW-7-0376
S.R. 7 OVER SYMMES CREEK

LAW-7-2.17
PID No. 75923

2 / 25

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	01-18-19
EXJ-6-17	DATED	01-15-21
GSD-1-96	REVISED	01-15-21
PSID-1-13	REVISED	01-15-21
SBR-1-20	REVISED	07-17-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	DATED	07-16-21
832	DATED	10-19-18

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014 INCLUDING THE 2015 AND 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING:
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT²

OPERATIONAL IMPORTANCE:
A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN DATA:
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 K.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 K.S.I. (SUBSTRUCTURE)
CONCRETE CLASS QC5 - WITH 1-IN MAX. AGGREGATE SIZE - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 K.S.I.

STEEL H-PILES - A572 - YIELD STRENGTH 50 K.S.I.

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) = 7000 P.S.I.
COMPRESSIVE STRENGTH (RELEASE) = 6000 P.S.I.

PRESTRESSING STRAND:
AREA = 0.217 SQ. IN.
ULTIMATE STRENGTH = 270 K.S.I.
INITIAL STRESS = 202.5 K.S.I.
(LOW RELAXATION STRANDS)

WELDED WIRE FABRIC
YIELD STRENGTH - 70 K.S.I.

DECK PROTECTION METHOD:
2-1/2" CONCRETE COVER
EPOXY COATED REINFORCING STEEL

MONOLITHIC WEARING SURFACE:
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

NOISE BARRIER:
DUE TO THE POTENTIAL FUTURE CONSTRUCTION OF A 12 FOOT TALL NOISE BARRIER ALONG THE RIGHT SIDE OF THE BRIDGE THE PRECAST CONCRETE BEAMS AND CONCRETE DECK HAVE BOTH BEEN DESIGNED TO INCLUDE THE VERTICAL AND LATERAL LOAD CONTRIBUTION DUE TO THE NOISE BARRIER. THE ESTIMATED VERTICAL DEAD LOAD WAS SET AS 167 POUNDS PER FOOT. THE CENTER OF GRAVITY FOR THE NOISE BARRIER WAS SET AT 11 INCHES FROM THE BACK EDGE OF THE STANDARD ODOT SINGLE SLOPE BRIDGE RAILING. LATERAL LOADING ASSUMED, WIND LOAD EQUAL TO 30 POUNDS PER SQUARE FOOT OR A VEHICULAR COLLISION FORCE PER AASHTO SECTION 15.8.4.

THE SINGLE SLOPE BRIDGE RAILING SHOWN IN THE PLANS HAS NOT BEEN MODIFIED FROM THE ODOT STANDARD DRAWINGS AND IS NOT DESIGNED TO SUPPORT THE ABOVE DESCRIBED NOISE BARRIER. IF THE NOISE BARRIER IS CONSTRUCTED IN THE FUTURE THE BRIDGE RAILING WILL NEED TO BE REMOVED AND REPLACED WITH A RAILING THAT IS DESIGNED TO SUPPORT A NOISE BARRIER AND PROPERLY TRANSFER ALL LOADS TO THE EXISTING CONCRETE BRIDGE DECK.

PILE DRIVING CONSTRAINTS:
PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT (SEE FORWARD AND REAR APPROACH EMBANKMENT CONSTRUCTION THIS SHEET). DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

THE APPROACH EMBANKMENT SHALL BE CONSTRUCTED AND THEN UNDERGO A WAITING PERIOD OF 163 DAYS PRIOR TO DRIVING PILES.

PILES TO BEDROCK:
DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 188 KIPS PER PILE FOR THE REAR ABUTMENT PILES.

THE TOTAL FACTORED LOAD IS 185 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES.

ABUTMENT PILES:
HP12x53 PILES 80 FEET LONG, ORDER LENGTH, REAR ABUTMENT
HP12x53 PILES 75 FEET LONG, ORDER LENGTH, FORWARD ABUTMENT

PILE SPLICES:
IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WIHT THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

DRILLED SHAFTS:
PIER 1
THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1610 KIPS AT THE PIERS. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 680.1 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 8 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 929.9 KIPS.

PIER 2
THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1612 KIPS AT THE PIERS. THIS LOAD IS RESISTED BY SIDE RESISTANCE WITHIN A PORTION OF THE BEDROCK SOCKET AND ALSO BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE IS 680.1 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 8 FEET OF THE BEDROCK SOCKET FOR THE PIERS. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 931.9 KIPS.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN:
IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ITEM 518 - SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN:
REFER TO SHEET 18/25 FOR SCUPPER LOCATION AND SHEET 19/25 FOR DETAILS AND NOTES.

DECK PLACEMENT DESIGN ASSUMPTIONS:
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.32 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

FORWARD AND REAR APPROACH EMBANKMENT CONSTRUCTION:
THE APPROACH EMBANKMENTS SHALL BE CONSTRUCTED AND THEN UNDERGO A WAITING PERIOD OF 90 DAYS PRIOR TO DRIVING PILES.

APPROACH EMBANKMENTS SHALL BE REINFORCED WITH PRIMARY INTERNAL REINFORCEMENT FOR STABILIZATION. SEE ROADWAY AND SLOPE REINFORCEMENT PLANS FOR DETAILS AND NOTES REGARDING EMBANKMENT CONSTRUCTION.

MSE (MECHANICALLY STABILIZED EARTH) WALLS SHALL NOT BE PROPOSED AS AN ALTERNATIVE DESIGN IN ANY VALUE ENGINEERING STUDY DUE TO GEOTECHNICAL CONCERNS.

THE CONTRACTOR SHALL REVIEW THE BORING LOGS, SUBSURFACE INVESTIGATION, AND THE ROADWAY GENERAL NOTES PRIOR TO COMMENCING WORK ON THE BRIDGE.

IN ORDER TO MINIMIZE SIGNIFICANT DAMAGE TO THE FILL EMBANKMENT REINFORCEMENT DURING THE DRIVING OF ABUTMENT PILES H-PILES, A SINGLE-SHEET "PUNCHED" TYPE REINFORCEMENT SHALL BE USED. THIS TYPE OF REINFORCEMENT WILL BE EASILY PENETRATED WITH A DRIVEN PILE, WHEREAS A WELDED TYPE REINFORCEMENT WILL BE SIGNIFICANTLY DAMAGED DURING PILE DRIVING.

THE CONTRACTOR SHALL SUBMIT PILE DRIVING HAMMER SPECIFICATIONS TO THE GEOTECHNICAL ENGINEER OF RECORD, PRIOR TO PILE INSTALLATION FOR THE ENGINEER'S APPROVAL. IN ACCORDANCE WITH ODOT ITEM 507, THE PILE HAMMER SHALL BE OF ADEQUATE SIZE TO DRIVE THE PILES THROUGH THE INTERNALLY REINFORCED COMPACTED EMBANKMENT AND AT THE SAME TIME NOT TO DAMAGE THE PILES DURING DRIVING OR RETAPPING.

THE MATERIAL THAT WILL BE USED FOR EMBANKMENT FILL CONSTRUCTION WILL BE COMPOSED OF THE SOIL AND ROCK REMOVED FROM THE LARGE CUT SECTIONS. BASED ON THE BORINGS PERFORMED IN THE PROPOSED CUT AREAS, THIS MATERIAL WILL CONSIST PRIMARILY OF NON-DURABLE SHALE, AND TO A MUCH LESSER EXTENT, DURABLE SHALE, SANDSTONE AND SILTSTONE. WHERE PILES ARE TO BE DRIVEN THROUGH THE EMBANKMENT, THE EMBANKMENT FILL MATERIAL SHALL BE CLEAN OF DURABLE ROCK THAT MAY IMPEDE PILE DRIVING. THE EMBANKMENT FILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH ODOT ITEM 203. THE USE OF WATER TO AID IN BREAKING DOWN LARGE PARTICLES FOR NON-DURABLE SHALE WILL BE REQUIRED AS PER ODOT ITEM 203.06 B.

Preliminary - Not for Construction 07/29/2024

DESIGN AGENCY
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1500 Lake Shore Dr.
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(614) 486-4383

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GENERAL NOTES 1
BRIDGE NO. LAW-7-0376
S.R. 7 OVER SYMMES CREEK

LAW-7-2.17
PID No. 75923

ITEM SPECIAL - SETTLEMENT PLATFORM:

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. SEE SETTLEMENT PLATFORM DETAIL THIS SHEET. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN WEEKLY BEGINNING WITH THE FIRST WEEK FOLLOWING PLACEMENT OF EACH PLATFORM AND DURING ANY SPECIFIED WAITING PERIOD. READINGS SHALL BE TAKEN MONTHLY DURING ANY CONSOLIDATION OR OFF-SEASON TIMES. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, CO, CONSTRUCTION MANAGEMENT/CONSTRUCTION ADMINISTRATION, GEOTECHNICAL AND EARTHWORK ENGINEER AND ODOT, CO, OFFICE OF GEOTECHNICAL ENGINEERING, FOUNDATIONS AND RETAINING WALLS ENGINEER, AFTER EACH SETTLEMENT READING IS RECORDED.

MATERIAL: SOUND LUMBER SUCH AS ¾" EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2½" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36" X 36" X ⅛" MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE SETTTLEMENT PLATFORM DETAILS SHOWN ON THIS SHEET. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.

SETTLEMENT PLATFORMS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

I.D.	STATION	OFFSET
SP1	198+47	18' RT.
SP2	202+35	19' RT.
SP3	198+56	61' RT.
SP4	202+40	61' RT.

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.

REFER TO ODOT GEOTECHNICAL BULLETIN GB4 "GUIDELINES FOR THE USE OF GEOTECHNICAL INSTRUMENTATION" FOR ADDITIONAL INSTALLATION AND MONITORING INSTRUCTION.

WAITING PERIOD CRITERIA:
THE ENGINEER WILL CONSIDER THE WAITING PERIOD COMPLETE WHEN CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN ⅛ INCH. THE MINIMUM WAITING PERIOD IS 90 CALENDAR DAYS.

IF SETTLEMENT RATES EXCEED ¾ INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 45 CALENDAR DAY, REMAINING CONSTRUCTION, INCLUDING ANY NECCESARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

THE DEPARTMENT WILL CONSIDER VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED 30 DAYS PRIOR TO CONSTRUCTION. THE DEPARTMENT WILL REQUIRE 10 WORKING DAYS FOR REVIEW AND APPROVAL. THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXISITING FACILITIES, PROPOSED FACILITIES OR UTILITIES. NO ADDITIONAL PAYMENT WILL BE PROVIDED IF THE CONTRACTOR ELECTS TO UTILIZE VIBRATING WIRE SETTLEMENT PLATFORMS.

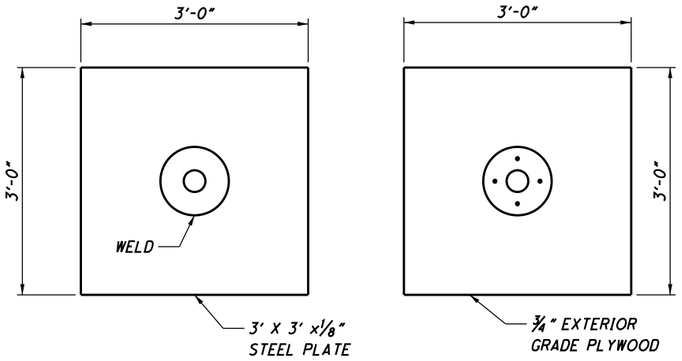
MORE INFORMATION PERTAINING TO EMBANKMENT CONSTRUCTION AND CONTROLLED RATES OF FILL ARE PROVIDED IN THE ROADWAY PLANS.

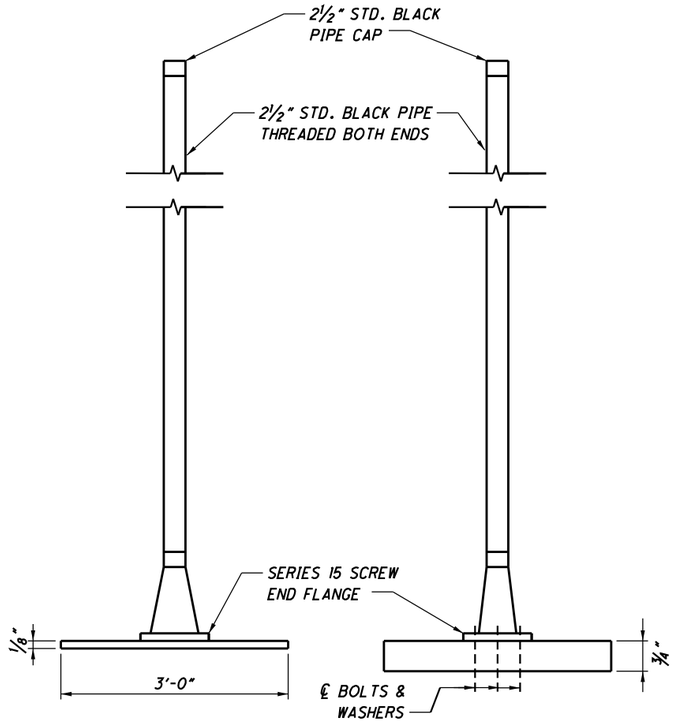
METHOD OF MEASUREMENT, THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL - SETTLEMENT PLATFORM" WHICH IS COMPENSATION FOR CONSTRUCTING, MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS. SEE DETAIL THIS SHEET.

ABBREVIATIONS:

℄	- CENTERLINE
ABUT.	- ABUTMENTS
BF	- BACK FACE
BOT.	- BOTTOM
BRG.	- BEARINGS
CIP	- CAST IN PLACE
CJ	- CONSTRUCTION JOINT
CONT.	- CONTINUED
EF	- EACH FACE
EQ.	- EQUAL
F.A.	- FORWARD ABUTMENT
FF	- FRONT FACE
GFRP	- GLASS FIBER REINFORCED POLYMER
LT	- LEFT
M.C.	- MECHANICAL CONNECTOR
NPCPP	- NON -PERFORATED CORRUGATED PLASTIC PIPE
PCPP	- PERFORATED CORRUGATED PLASTIC PIPE
R.A.	- REAR ABUTMENT
RCP	- ROCK CHANNEL PROTECTION
RT.	- RIGHT
SPA.	- STATION
SP	- SETTLEMENT PLATFORM
STA.	- STATION
STR	- STRAIGHT
T/	- TOP OF
T&B	- TOP AND BOTTOM
TYP.	- TYPICAL
U.N.O.	- UNLESS NOTED OTHERWISE





SETTLEMENT PLATFORM
(NOT TO SCALE)

NOTE:

1. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.

Preliminary - Not for Construction 07/29/2024

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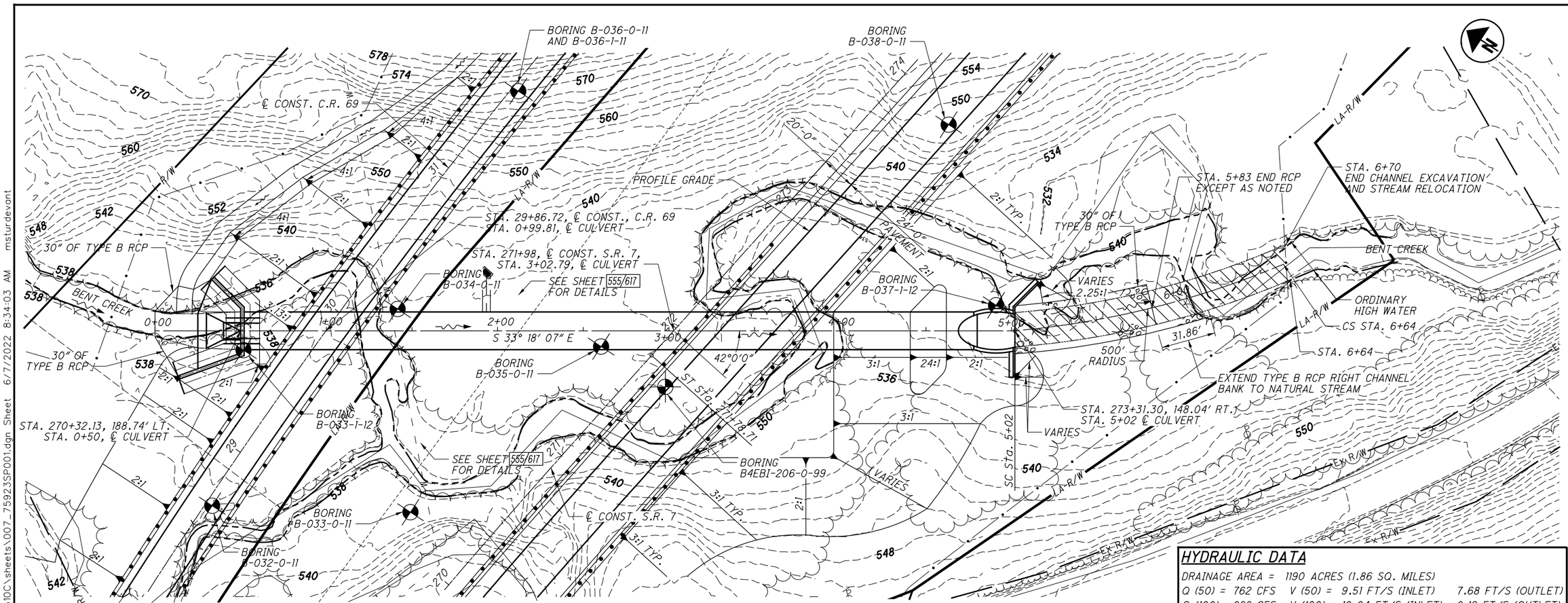
DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus OH 43204
(614) 486-4383

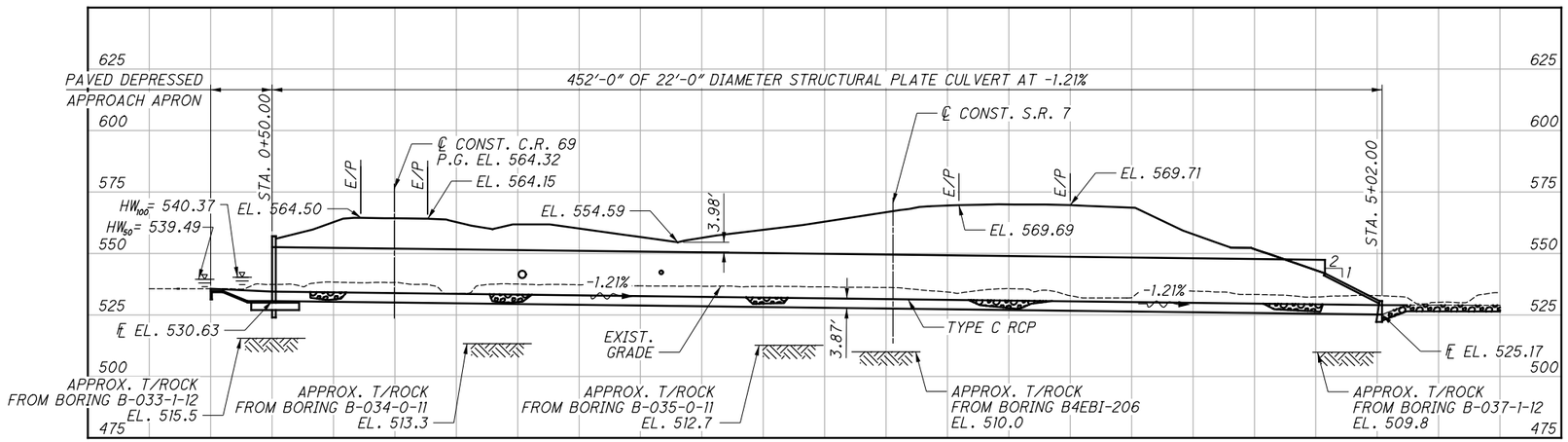
DESIGNED	DRAWN	REVIEWED	DATE
BSM	JWS	MRS	12/15/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EER		4400224	

GENERAL NOTES 2
BRIDGE NO. LAW-7-0376
S.R. 7 OVER SYMMES CREEK

LAW-7-2.17
PID No. 75923



PLAN



PROFILE ALONG ℄ CULVERT

HYDRAULIC DATA

DRAINAGE AREA = 1190 ACRES (1.86 SQ. MILES)
Q (50) = 762 CFS V (50) = 9.51 FT/S (INLET) 7.68 FT/S (OUTLET)
Q (100) = 888 CFS V (100) = 10.04 FT/S (INLET) 8.19 FT/S (OUTLET)
ORDINARY HIGH WATER MARK= 532.7′
PH: 7.6
ABRASIVE: YES

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. SEE SHEET 6/8 FOR STREAM EXCAVATION DETAILS.

DESIGN TRAFFIC:
2015 ADT = 10,300 2015 ADTT = 1,133
2035 ADT = 21,400 2035 ADTT = 2,354
DIRECTIONAL DISTRIBUTION = 61/31

LEGEND

- PROJECT BORING LOCATION
- CHANNEL EXCAVATION

PROPOSED STRUCTURE

TYPE: 22′ DIA. STRUCUTRAL PLATE (MIN. 8 GAGE) PIPE CULVERT WITH REINFORCED CONCRETE HEADWALLS
SPANS: 22′-0″
ROADWAY: 42′ EDGE TO EDGE OF SHOULDER
LOADING: HL-93 AND FWS (60 PSF)
SKEW: 42°0′0″ RT.
APPROACH SLABS: NONE
COORDINATES: LATITUDE 38°27′25.92″
LONGITUDE 82°24′09.87″

Preliminary - Not for Construction 07/29/2024

DESIGN AGENCY
Stantec 1500 Lake Shore Dr. Columbus, OH 43204 (614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
EDA	JWS	EER	3/8/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRS		4400348	

SITE PLAN
LAW-7-0510
S.R. 7 OVER BENT CREEK

LAW-7-2.17
PID No. 75923

1 / 8

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ESTIMATED QUANTITIES

CALCULATED BY: EDA 3/7/2018
CHECKED BY: ALH 3/7/2018

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	GEN.	SEE SHEET
203	10000	589	CY	EXCAVATION		
503	21100	940	CY	UNCLASSIFIED EXCAVATION		
509	10000	97638	LB	EPOXY COATED REINFORCING STEEL		
511	46010	150	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING		
511	46510	219	CY	CLASS QC1 CONCRETE, FOOTING		
512	33000	16	SY	TYPE 2 WATERPROOFING		
512	10100	155	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
518	21200	84	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		
518	40000	72	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		
518	40010	30	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		
601	11001	108	SY	RIPRAP, TYPE D, AS PER PLAN		
601	32104	290	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC		
601	34200	820	CY	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER		
611	97400	452	FT	CONDUIT, MISC.: 22' DIA., TYPE A, 707.03, AS PER PLAN		

GENERAL NOTES

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING 2015 AND 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

OPERATIONAL IMPORTANCE:
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESING SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN DATA:
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 K.S.I.
(SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 K.S.I.

DESIGN LOADING:
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT²

FOUNDATION BEARING RESISTANCE:
HEADWALL FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 3.021 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 4.256 KIPS PER SQUARE FOOT. THE BEARING RESISTANCE IS 3.025 KIPS PER SQUARE FOOT FOR SERVICE AND 5.5 KIPS PER SQUARE FOOT FOR STRENGTH.

ITEM 511 CLASS QC1 CONC. MISC. PAVED INLET:
THE ITEM INCLUDES ALL MATERIAL, LABOR, AND ACCESSORIES NECESSARY TO FURNISH AND PLACE THE PAVED CONCRETE INLET AND CUTOFF WALLS.
ITEM 601 RIPRAP, TYPE D, AS PER PLAN:
CONSTRUCT A RIPRAP CUTOFF WALL AS DETAILED ON SHEET 4/7 .

ITEM 611 22'-0" CONDUIT, TYPE A, AS PER PLAN:
WORK SHALL CONFORM TO ITEM 611 PIPE CULVERTS, SEWERS, DRAINS, AND DRAINAGE STRUCTURES. STEEL STRUCTURAL PLATE (707.03) WITH MINIMUM 8 GA. THICKNESS PER ODOT DURABILITY DESIGN SPREAD SHEET, THE PAVED INVERT SPECIFIED BY THE DURABILITY DESIGN SPREADSHEET SHALL BE OMITTED AS THE CULVERT INVERT IS FILLED WITH TYPE C ROCK CHANNEL PROTECTION.

ANCHOR BOLTS FOR ANCHORING BOTH ENDS OF THE METAL PIPE, MEETING ASTM A307 AND GALVANIZED ACCORDING TO ASTM A153, SHALL BE INCLUDED IN THE PRICE BID PER FOOT OF ITEM 611 22'-0" CONDUIT, TYPE A, 707.03, AS PER PLAN.

ABBREVIATIONS:

APPROX.	-	APPROXIMATELY
ABUT.	-	ABUTMENTS
BF	-	BACK FACE
B/	-	BOTTOM OF
BRG.	-	BEARINGS
℄	-	CENTERLINE
CJ	-	CONSTRUCTION JOINT
CLR.	-	CLEAR
CONC.	-	CONCRETE
CONST.	-	CONSTRUCTION
CONT.	-	CONTINUED
DIA.	-	DIAMETER
DWG.	-	DRAWING
EF	-	EACH FACE
EL.	-	ELEVATION
EQ.	-	EQUAL
EXIST.	-	EXISTING
℄	-	FLOW LINE
FF	-	FRONT FACE
GFRP	-	GLASS FIBER REINFORCED POLYMER
H.W.	-	HIGH WATER
LT	-	LEFT
MAX.	-	MAXIMUM
M.C.	-	MECHANICAL CONNECTOR
MISC.	-	MISCELLANEOUS
NO.	-	NUMBER
NPCPP	-	NON-PERFORATED CORRUGATED PLASTIC PIPE
OHWM	-	ORDINARY HIGH WATER MARK
PCPP	-	PERFORATED CORRUGATED PLASTIC PIPE
RCP	-	ROCK CHANNEL PROTECTION
RT.	-	RIGHT
SPA.	-	SPACE
SP	-	SETTLEMENT PLATFORM
STA.	-	STATION
STD.	-	STANDARD
STR	-	STRAIGHT
T/	-	TOP OF
T&B	-	TOP AND BOTTOM
TYP.	-	TYPICAL
U.N.O.	-	UNLESS NOTED OTHERWISE
YR.	-	YEAR

Preliminary - Not for Construction 07/29/2024

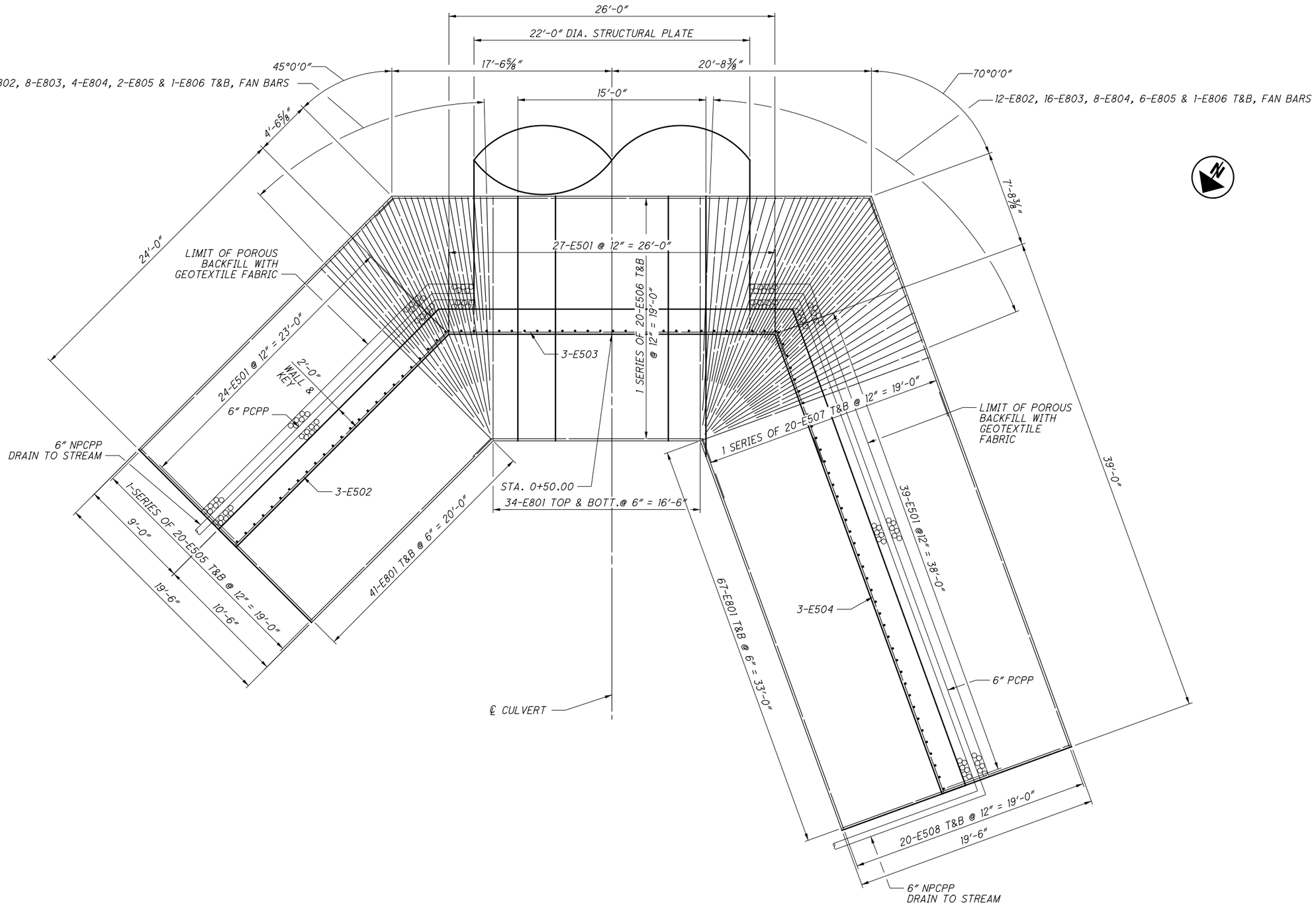
DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus, OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
EDA	JWS	EER	3/8/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRS		4400348	

GENERAL NOTES & ESTIMATED QUANTITIES
LAW-7-0510
S.R. 7 OVER BENT CREEK

LAW-7-2.17
PID No. 75923

2 / 8



INLET FOOTING PLAN

LAP LENGTHS:
#5 BAR = 3'-3"

Preliminary - Not for Construction 07/29/2024

NOTE:
FOR WALL REINFORCING, SEE SHEET 4 of 8

DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus, OH 43204
(614) 486-4383

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INLET FOOTING PLAN
LAW-7-0510
S.R. 7 OVER BENT CREEK

LAW-7-2.17
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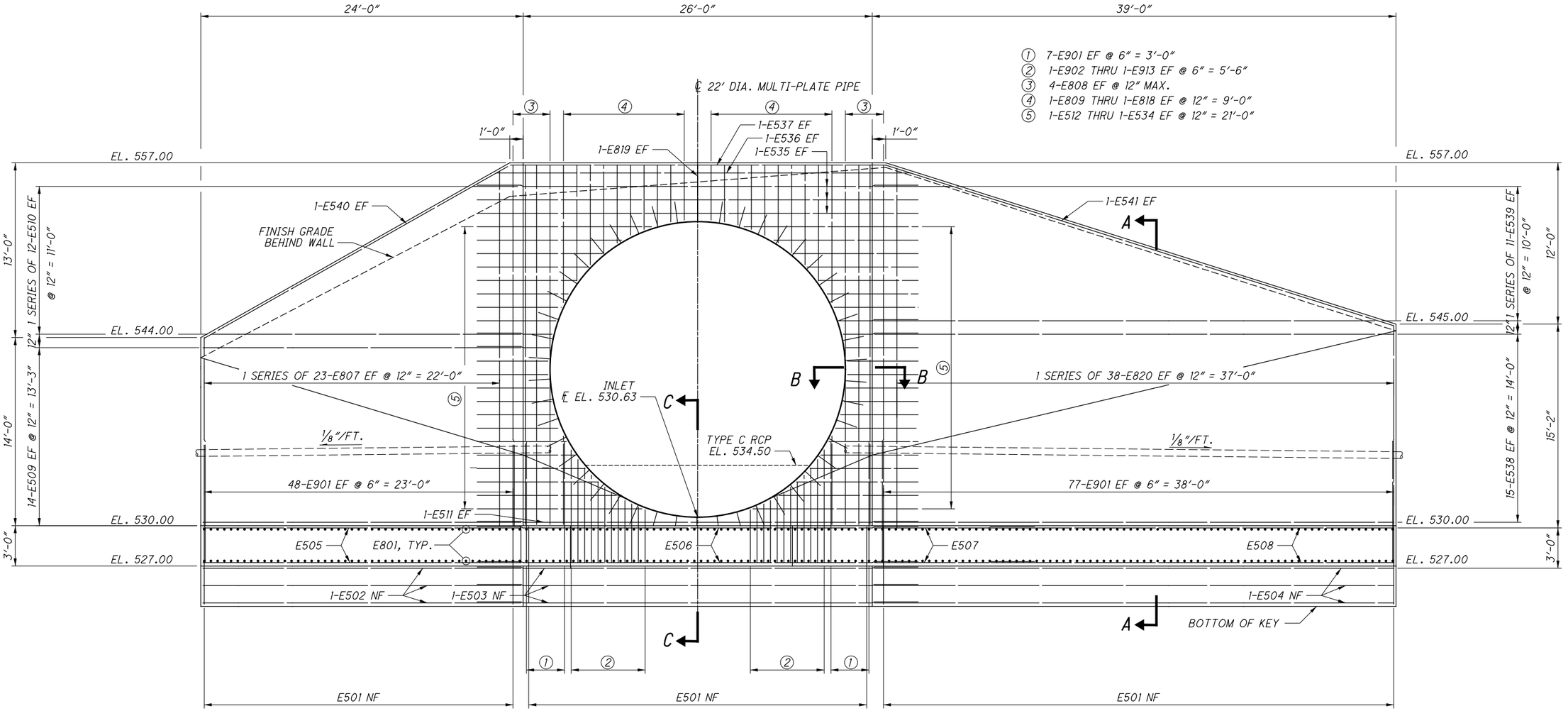
3 / 8



1. 7-E901 EF @ 6" = 3'-0"
2. 1-E902 THRU 1-E913 EF @ 6" = 5'-6"
3. 4-E808 EF @ 12" MAX.
4. 1-E809 THRU 1-E818 EF @ 12" = 9'-0"
5. 1-E512 THRU 1-E534 EF @ 12" = 21'-0"

INLET HEADWALL
(DEVELOPED VIEW)

LAP LENGTHS:
#5 BARS = 3'-3"

NOTES:
1. ANCHORS AROUND CIRCUMFERENCE OF PIPE AT HEADWALL TO BE EQUALLY SPACED. DIA. x [illegible] HOOK OR HOOK SHALL BE CUT OFF AS NECESSARY TO ACCOMODATE THE HEADWALL FOOTING NEAR THE INVERT OF THE PIPE. DOUBLE [illegible]
2. FOR SECTIONS A-A, B-B AND C-C, SEE SHEET 5/8

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1500 Lake Shore Dr.
Columbus, OH 43204
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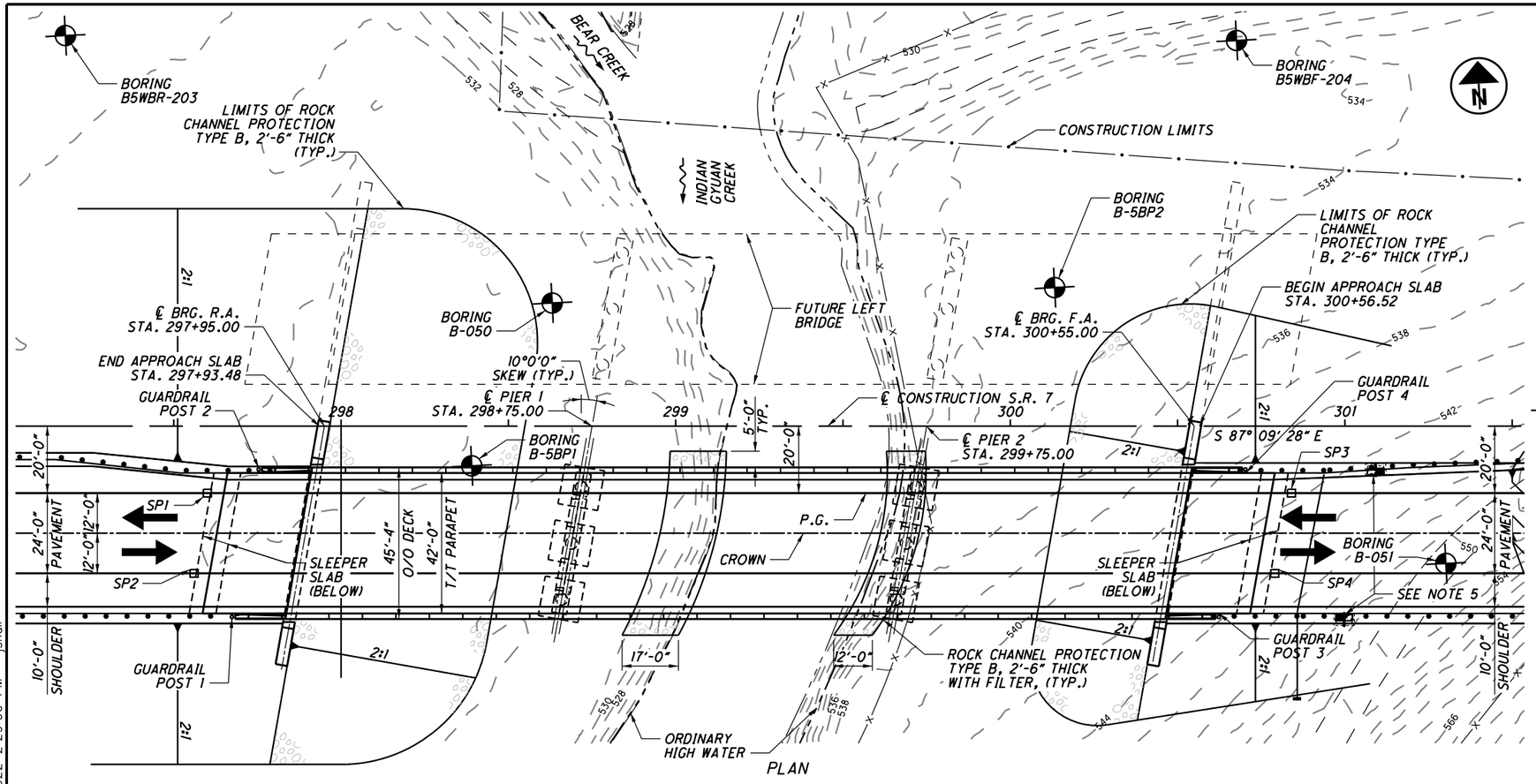
MRS		4400348	

INLET HEADWALL ELEVATION
LAW-7-0510
S.R. 7 OVER BENT CREEK

LAW-7-2.17
PID No. 75923

4 / 8

BRIDGE NO. B-5



NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR PRIMARY PROJECT CONTROL INFORMATION TABLE SEE ROADWAY GENERAL NOTES.
3. RESTORE EXISTING GROUND AT PIER 2 INCORPORATING ROCK CHANNEL PROTECTION SHOWN IN THE PLAN AND PROFILE.
4. PLACE ROCK CHANNEL PROTECTION AT THE WEST BANK AS SHOWN IN THE PLAN AND PROFILE.
5. BRIDGE DECK DRAINAGE IS CONTROLLED BY 2 SCUPPERS ALONG THE LEFT TOE OF PARAPET. TOTAL DECK FLOW IS CONTROLLED BY CATCH BASIN INLETS OFF THE BRIDGE AT THE EAST END.

DESIGN TRAFFIC:
2015 ADT = 10,300 2015 ADTT = 1,133
2035 ADT = 21,400 2035 ADTT = 2,354
DIRECTIONAL DISTRIBUTION = 69/31

LEGEND

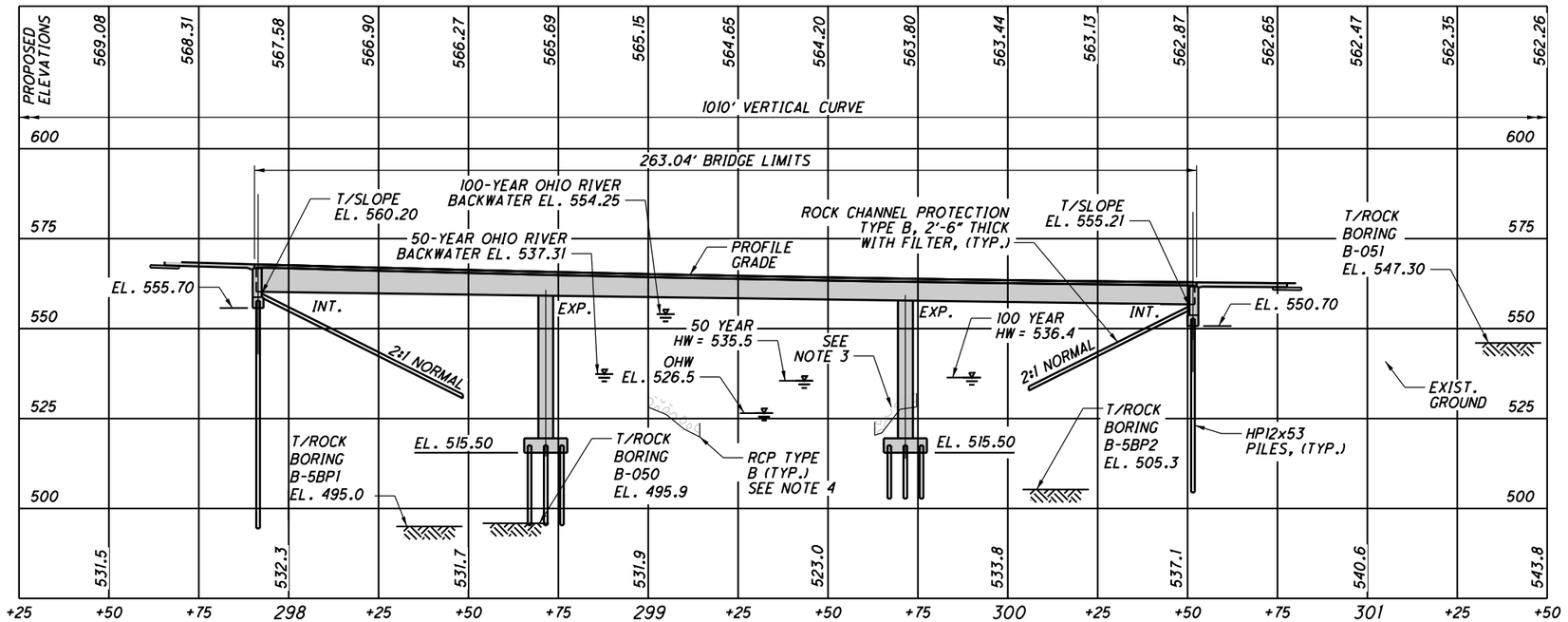
PROJECT BORING LOCATION
SETTLEMENT PLATFORM

HYDRAULIC DATA

DRAINAGE AREA = 75.2 SQ. MILES
Q (50) = 7050 CFS V (50) = 8.1 FT/S
Q (100) = 8010 CFS V (100) = 8.5 FT/S
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 21.2 FEET.

ESTIMATED PILE LENGTHS

REAR ABUTMENT HP12x53 = 65 FT.
PIER 1 HP12x53 = 25 FT.
PIER 2 HP12x53 = 25 FT.
FORWARD ABUTMENT HP12x53 = 50 FT.



POST NUMBER	FIRST POST GUARDRAIL	STATION
1	EASTBOUND R.A.	297+67.35
2	WESTBOUND R.A.	297+75.34
3	EASTBOUND F.A.	300+62.31
4	WESTBOUND F.A.	300+70.31

VERTICAL CURVE DATA

LENGTH = 1010'
PVC STA. = 297+05.00 PVC ELEV. = 570.58
PVI STA. = 302+10.00 PVI ELEV. = 552.90
PVT STA. = 307+15.00 PVT ELEV. = 572.65
G1 = -3.50% G2 = 3.91%

PROPOSED STRUCTURE

TYPE: 3 SPAN PRESTRESSED CONCRETE I-BEAM (60" MODIFIED TYPE 4) WITH COMPOSITE REINFORCED CONCRETE DECK SUPPORTED ON INTEGRAL ABUTMENTS ON STEEL HP PILES AND CAP & COLUMN PIERS ON STEEL HP PILES.

SPANS: 78.92', 97.833', 78.92' C/C BRGS. (ALONG ℄ CONST.)

ROADWAY: 42'-0" TOE/TOE PARAPET

LOADING: HL-93 AND 60 LBS/FT² FUTURE WEARING SURFACE

WEARING SURFACE: 1" MONOLITHIC WEARING SURFACE

SKEW: 10° LT. FWD.

APPROACH SLABS: AS-1-15 AND APPLICABLE DETAILS FROM AS-2-15, 25'-0" LONG

ALIGNMENT: TANGENT

CROWN: 0.018 FT/FT

LATITUDE 38° 27' 23.08" N
LONGITUDE 82° 24' 15.61" W

DESIGN AGENCY
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1500 Lake Shore Dr.
Columbus OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
BSM	JWS	MRS	3/26/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EER		4400372	

LAWRENCE COUNTY
STA. 297+93.47
STA. 300+56.52

SITE PLAN
BRIDGE NO. LAW-7-0563
S.R. 7 OVER INDIAN GUYAN CREEK

LAW-7-2.17
PID No. 75923

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	07-17-15
PSID-1-13	REVISED	10-18-13
SBR-1-13	REVISED	01-17-14

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800	DATED	01-19-18
832	DATED	10-17-14

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014 INCLUDING THE 2015 AND 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING:
HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT²

OPERATIONAL IMPORTANCE:
A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN DATA:
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 K.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 K.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 K.S.I.

STEEL H-PILES - A572 - YIELD STRENGTH 50 K.S.I.

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) = 7000 P.S.I.
COMPRESSIVE STRENGTH (RELEASE) = 6000 P.S.I.

PRESTRESSING STRAND:
AREA = 0.217 SQ. IN.
ULTIMATE STRENGTH = 270 K.S.I.
INITIAL STRESS = 202.5 K.S.I.
(LOW RELAXATION STRANDS)

WELDED WIRE FABRIC:
YIELD STRENGTH = 70 K.S.I.

DECK PROTECTION METHOD:
2-1/2" CONCRETE COVER
EPOXY COATED REINFORCING STEEL

MONOLITHIC WEARING SURFACE:
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILE DRIVING CONSTRAINTS:
PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT (SEE FORWARD AND REAR APPROACH EMBANKMENT CONSTRUCTION THIS SHEET). DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

THE APPROACH SLAB EMBANKMENT SHALL BE CONSTRUCTED AND THEN UNDERGO A WAITING PERIOD OF 133 DAYS.

PILES TO BEDROCK:
DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECIEVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 226 KIPS PER PILE FOR THE REAR ABUTMENT PILES.
THE TOTAL FACTORED LOAD IS 238 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES.

THE TOTAL FACTORED LOAD IS 243 KIPS PER PILE FOR THE PIER 1 PILES.
THE TOTAL FACTORED LOAD IS 238 KIPS PER PILE FOR THE PIER 2 PILES.

ABUTMENT PILES:
REAR ABUTMENT PILES:
10 PILES 70 FEET LONG, ORDER LENGTH.

FORWARD ABUTMENT PILES:
10 PILES 55 FEET LONG, ORDER LENGTH.

PIER PILES:
27 PILES 30 FEET LONG, ORDER LENGTH AT PIER 1.
27 PILES 30 FEET LONG, ORDER LENGTH AT PIER 2.

PILE SPLICES:
IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN:
IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARENCES AND BAR SPACING. REPAIR ALL DAMAGE TO EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN:
FURNISH POLYSTYRENE MATERIAL MEETING THE REQUIRMENTS OF ASTM C578 TYPE IV. NEATLY CUT MATERIAL AS NECESSARY TO ALLOW FOR PROPER INSTALLATION. JOINTS AT ABUTTING PIECES SHALL BE SEALED WITH DUCT TAPE.

ITEM 518 - SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN:
REFER TO SHEET 17/24 FOR SCUPPER LOCATIONS AND SHEET 18/24 FOR DETAILS AND NOTES.

DECK PLACEMENT DESIGN ASSUMPTIONS:
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.37 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

FORWARD AND REAR APPROACH EMBANKMENT CONSTRUCTION:
THE APPROACH EMBANKMENTS SHALL BE CONSTRUCTED AND THEN UNDERGO A WAITING PERIOD OF 133 DAYS PRIOR TO DRIVING PILES.

APPROACH EMBANKMENTS SHALL BE REINFORCED WITH PRIMARY INTERNAL REINFORCEMENT FOR STABILIZATION AS PER RECOMMENDATIONS BY STANTEC.

SEE ROADWAY AND SLOPE REINFORCEMENT PLANS FOR DETAILS AND NOTES REGARDING EMBANKMENT CONSTRUCTION.

MSE (MECHANICALLY STABILIZED EARTH) WALLS SHALL NOT BE PROPOSED AS AN ALTERNATIVE DESIGN IN ANY VALUE ENGINEERING STUDY DUE TO GEOTECHNICAL CONCERNS.

THE CONTRACTOR SHALL REVIEW THE BORING LOGS, SUBSURFACE INVESTIGATION, AND THE ROADWAY GENERAL NOTES PRIOR TO COMMENCING WORK ON THE BRIDGE.

IN ORDER TO MINIMIZE SIGNIFICANT DAMAGE TO THE FILL EMBANKMENT REINFORCEMENT DURING THE DRIVING OF ABUTMENT PILES H-PILES, A SINGLE-SHEET "PUNCHED" TYPE REINFORCEMENT SHALL BE USED. THIS TYPE OF REINFORCEMENT WILL BE EASILY PENETRATED WITH A DRIVEN PILE, WHEREAS A WELDED TYPE REINFORCEMENT WILL BE SIGNIFICANTLY DAMAGED DURING PILE DRIVING.

THE CONTRACTOR SHALL SUBMIT PILE DRIVING HAMMER SPECIFICATIONS TO THE GEOTECHNICAL ENGINEER OF RECORD, PRIOR TO PILE INSTALLATION FOR THE ENGINEER'S APPROVAL. IN ACCORDANCE WITH ODOT ITEM 507, THE PILE HAMMER SHALL BE OF ADEQUATE SIZE TO DRIVE THE PILES THROUGH THE INTERNALLY REINFORCED COMPACTED EMBANKMENT AND AT THE SAME TIME NOT TO DAMAGE THE PILES DURING DRIVING OR RETAPPING.

THE MATERIAL THAT WILL BE USED FOR EMBANKMENT FILL CONSTRUCTION WILL BE COMPOSED OF THE SOIL AND ROCK REMOVED FROM THE LARGE CUT SECTIONS. BASED ON THE BORINGS PERFORMED IN THE PROPOSED CUT AREAS, THIS MATERIAL WILL CONSIST PRIMARILY OF NON-DURABLE SHALE, AND TO A MUCH LESSER EXTENT, DURABLE SHALE, SANDSTONE AND SILTSTONE. WHERE PILES ARE TO BE DRIVEN THROUGH THE EMBANKMENT, THE EMBANKMENT FILL MATERIAL SHALL BE CLEAN OF DURABLE ROCK THAT MAY IMPEDE PILE DRIVING. THE EMBANKMENT FILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH ODOT ITEM 203. THE USE OF WATER TO AID IN BREAKING DOWN LARGE PARTICLES FOR NON-DURABLE SHALE WILL BE REQUIRED AS PER ODOT ITEM 203.06 B.

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DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
BSM	JWS	MRS	3/26/18
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EER		4400372	

GENERAL NOTES 1
BRIDGE NO. LAW-7-0563
S.R. 7 OVER INDIAN GUYAN CREEK

LAW-7-2.17
PID No. 75923

ITEM SPECIAL - SETTLEMENT PLATFORM:

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. SEE SETTLEMENT PLATFORM DETAIL THIS SHEET. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN WEEKLY BEGINNING WITH THE FIRST WEEK FOLLOWING PLACEMENT OF EACH PLATFORM AND DURING ANY SPECIFIED WAITING PERIOD. READINGS SHALL BE TAKEN MONTHLY DURING ANY CONSOLIDATION OR OFF-SEASON TIMES. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, CO, CONSTRUCTION MANAGEMENT/CONSTRUCTION ADMINISTRATION, GEOTECHNICAL AND EARTHWORK ENGINEER AND ODOT, CO, OFFICE OF GEOTECHNICAL ENGINEERING, FOUNDATIONS AND RETAINING WALLS ENGINEER, AFTER EACH SETTLEMENT READING IS RECORDED.

MATERIAL: SOUND LUMBER SUCH AS ¾" EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2½" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36" X 36" X ⅛" MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE SETTTLEMENT PLATFORM DETAILS SHOWN ON THIS SHEET. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.

SETTLEMENT PLATFORMS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

I.D.	STATION	OFFSET
SP1	297+60	20' RT.
SP2	297+56	44' RT.
SP3	300+84	20' RT.
SP4	300+79	44' RT.

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.

REFER TO ODOT GEOTECHNICAL BULLETIN GB4 "GUIDELINES FOR THE USE OF GEOTECHNICAL INSTRUMENTATION" FOR ADDITIONAL INSTALLATION AND MONITORING INSTRUCTION.

WAITING PERIOD CRITERIA: THE ENGINEER WILL CONSIDER THE WAITING PERIOD COMPLETE WHEN CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN ⅛ INCH. THE ANTICIPATED WAITING PERIOD IS 133 CALENDAR DAYS.

IF SETTLEMENT RATES EXCEED ¾ INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 45 CALENDAR DAYS. REMAINING CONSTRUCTION, INCLUDING ANY NECESSARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

METHOD OF MEASUREMENT, THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

THE DEPARTMENT WILL CONSIDER VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED PLATFORM AND CABLING LAYOUT TO THE ENGINEER AT LEAST 30 DAYS PRIOR TO CONSTRUCTION. THE DEPARTMENT WILL REQUIRE 10 WORKING DAYS FOR REVIEW AND APPROVAL. THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE PROPOSED SETTLEMENT VIBRATING WIRE SETTLEMENT PLATFORM LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXISTING FACILITIES, PROPOSED FACILITIES OR UTILITIES. NO ADDITIONAL PAYMENT WILL BE PROVIDED IF THE CONTRACTOR ELECTS TO UTILIZE VIBRATING WIRE SETTLEMENT PLATFORMS.

BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL - SETTLEMENT PLATFORM" WHICH IS COMPENSATION FOR CONSTRUCTING, MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS. SEE DETAIL THIS SHEET.

ABBREVIATIONS:

℄	-	CENTERLINE
ABUT.	-	ABUTMENTS
BF	-	BACK FACE
BOT.	-	BOTTOM
BRG.	-	BEARING
CIP	-	CAST IN PLACE
CJ	-	CONSTRUCTION JOINT
CONT.	-	CONTINUED
CONST.	-	CONSTRUCTION
DIA.	-	DIAMETER
EF	-	EACH FACE
EL.	-	ELEVATION
EQ.	-	EQUAL
EXIST.	-	EXISTING
EXP.	-	EXPANSION
F.A.	-	FORWARD ABUTMENT
FF	-	FRONT FACE
INT.	-	INTERMEDIATE
JT.	-	JOINT
LT	-	LEFT
M.C.	-	MECHANICAL CONNECTOR
NPCPP	-	NON - PERFORATED CORRUGATED PLASTIC PIPE
PCPP	-	PERFORATED CORRUGATED PLASTIC PIPE
P.G.	-	PROFILE GRADE
R.A.	-	REAR ABUTMENT
RCP	-	ROCK CHANNEL PROTECTION
RT.	-	RIGHT
SPA.	-	STATION
SP	-	SETTLEMENT PLATFORM
STA.	-	STATION
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T/	-	TOP OF
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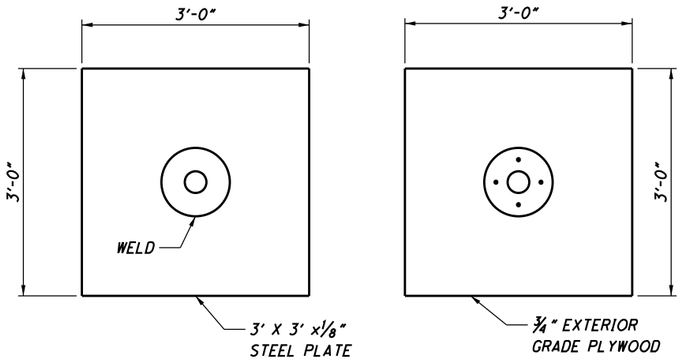

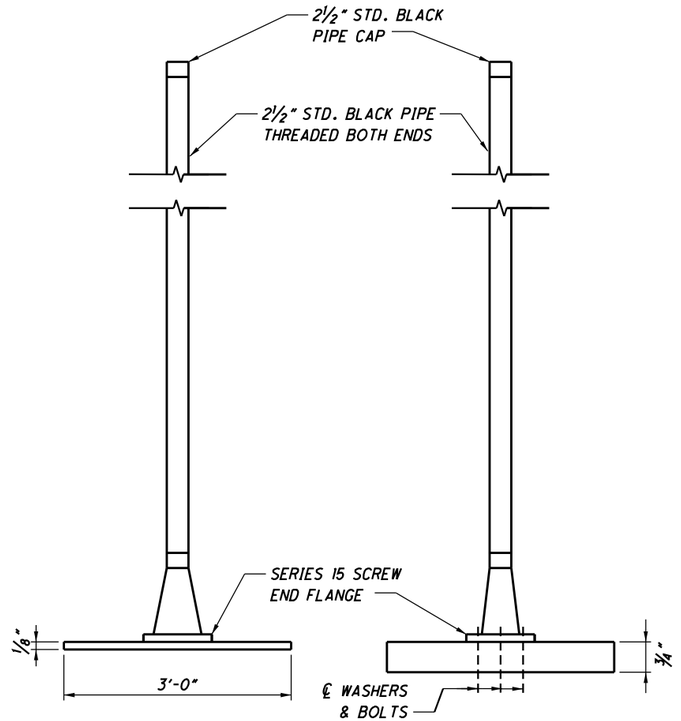

NOTES:

1. SETTLEMENT PLATFORMS SHALL BE PLACED AT THE LOCATION INDICATED IN THE PLANS, UNLESS ORTHERWISE DIRECT BY THE ENGINEER.

SETTLEMENT PLATFORM

(NOT TO SCALE)

Preliminary - Not for Construction 07/29/2024

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DESIGN AGENCY
Stantec 1500 Lake Shore Dr. Columbus OH 43204 (614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
BSM	JWS	MRS	3/26/18
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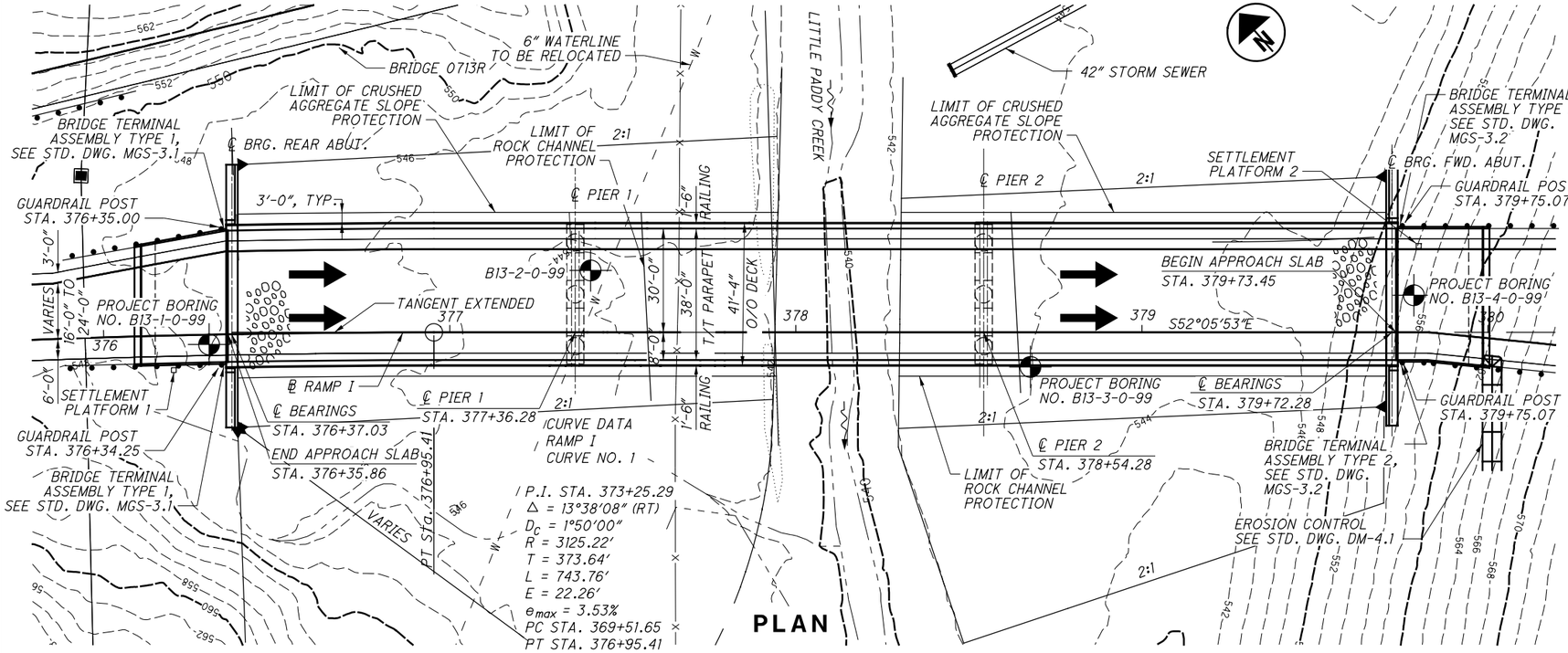
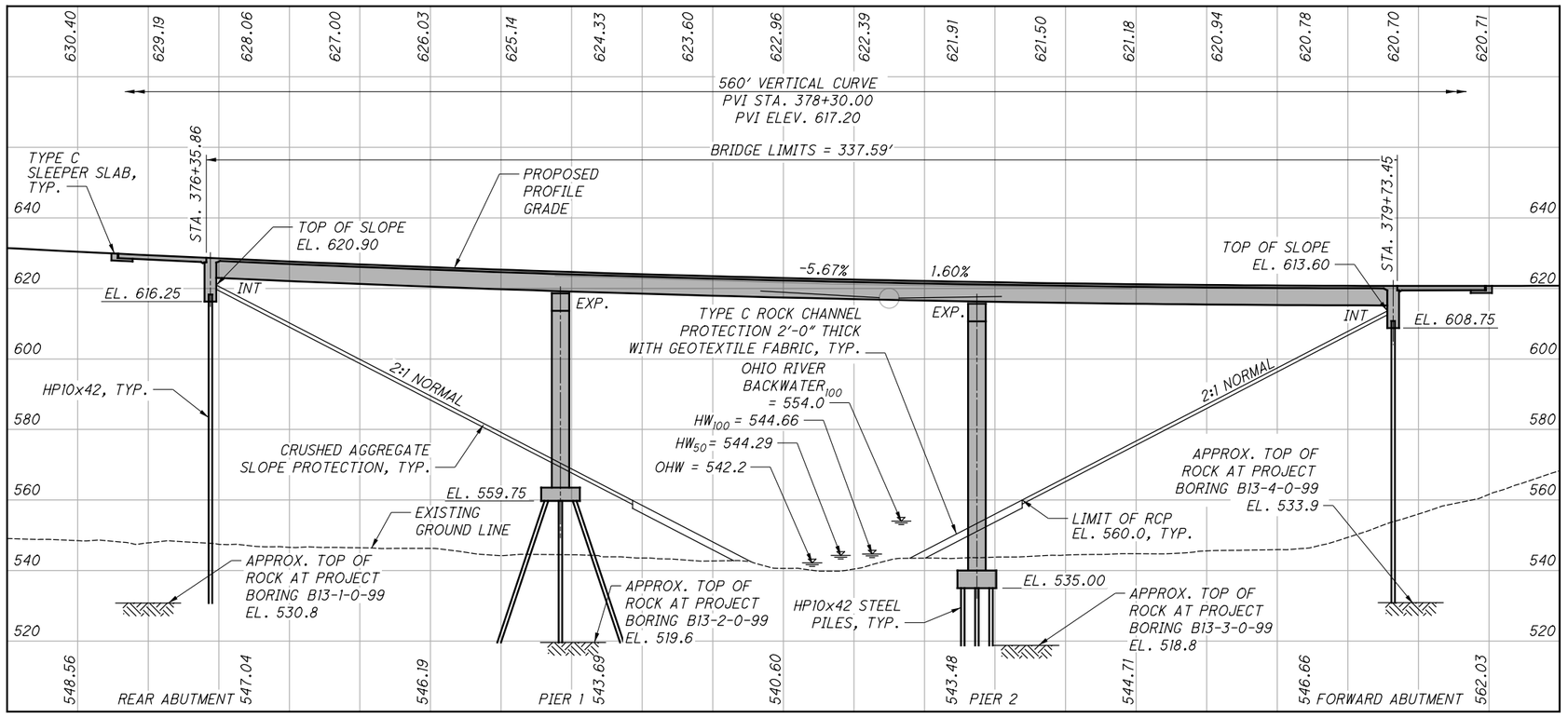
GENERAL NOTES 2
BRIDGE NO. LAW-7-0563
S.R. 7 OVER INDIAN GUYAN CREEK

LAW-7-2.17
PID No. 75923





PROFILE

BENCHMARK DATA

	EASTING	NORTHING	ELEVATION
BM #1	1999157.677	167390.5880	804.00
BM #2	2004654.695	163488.2738	951.00

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET ⊖

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

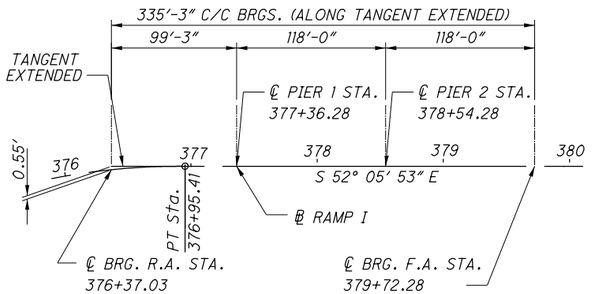
DESIGN TRAFFIC:
2028 ADT = 3,300 2028 ADTT = 231
2048 ADT = 5,100 2048 ADTT = 357
ALL TRAFFIC EASTBOUND ON THIS EXIT RAMP

LEGEND

PROJECT BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 1.74 SQ. MILES
Q (50) = 954 CFS V (50) = 5.42 FT/S
Q (100) = 1160 CFS V (100) = 5.87 FT/S
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 70.81 FEET.



GEOMETRIC LAYOUT

ESTIMATED LENGTH OF PILING	
REAR ABUT.	90 FT.
PIER 1	50 FT.
PIER 2	25 FT.
FWD. ABUT.	80 FT.

PROPOSED STRUCTURE

TYPE: PRESTRESSED CONCRETE I-BEAMS (WF54-49) WITH COMPOSITE CONCRETE SLAB SUPPORTED BY INTEGRAL ABUTMENTS AND CAP & COLUMN PIERS ON PILES
SPANS: 98'-2", 115'-10", 116'-11" C/C BEARINGS (MEASURED ALONG TANGENT EXTENDED)
ROADWAY: 38'-0" TOE/TOE BRIDGE RAILING
VEHICULAR LIVE LOAD: HL-93
SKEW: 0°00'00" (WITH RESPECT TO TANGENT EXTENDED)
FUTURE WEARING SURFACE: 0.060 KIP/FT²
APPROACH SLABS: 25' LONG (T=15") AS-1-15 (MODIFIED) & AS-2-15, TYPE C
ALIGNMENT: 1°50'00" CURVE (RT) - TANGENT
SUPERELEVATION: VARIES (.0353 MAX)
COORDINATES LATITUDE N 39° 26' 56.01"
LONGITUDE W 82° 22' 47.56"
DESIGN SPEED: 55 MPH

DESIGN AGENCY
Stantec Consulting Services Inc.
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
EDA	ALH	BSM	5/18/2022
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRS	XXX	4400496	

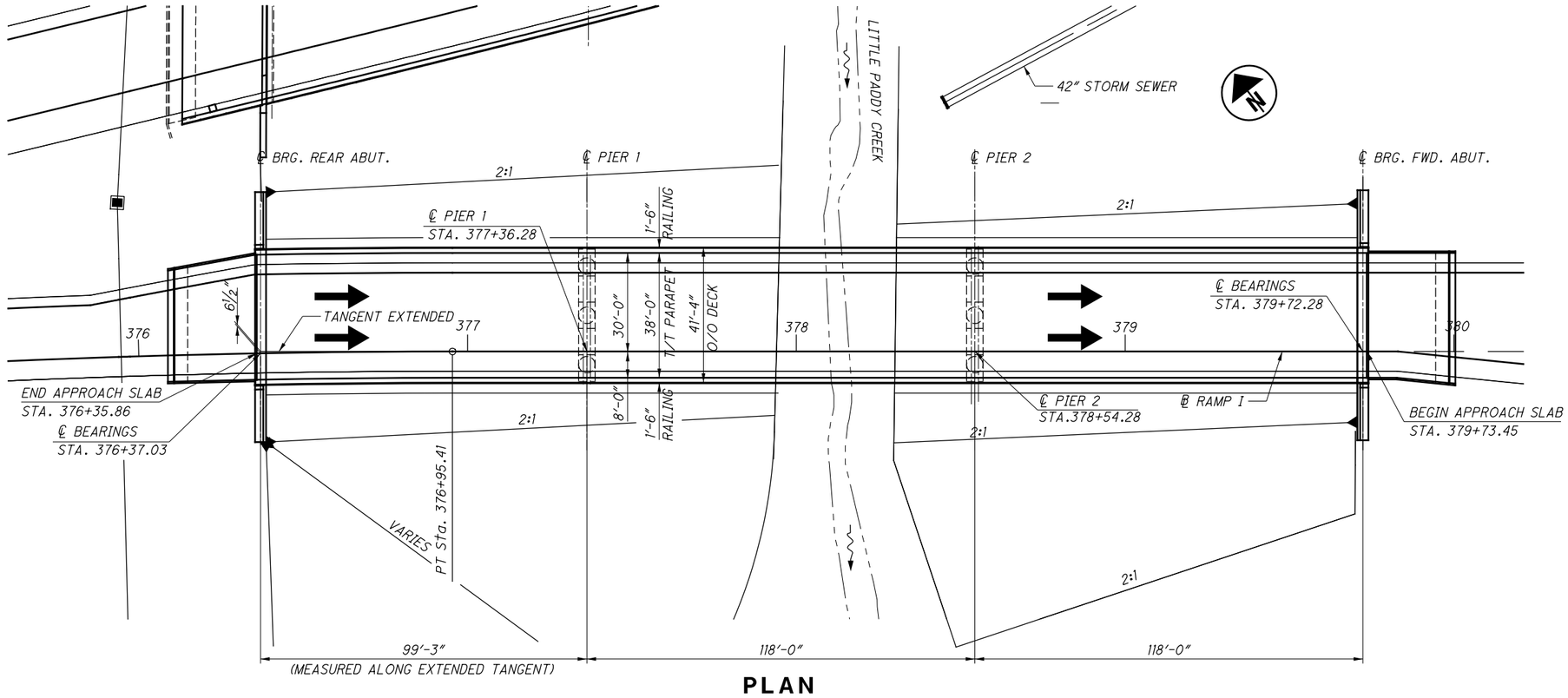
LAWRENCE COUNTY
STA. 376+35.86
STA. 379+73.45

SITE PLAN
BRIDGE NO. LAW-7-07.11P
RAMP I OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923

1 / 30

0
0



PLAN

DESIGN AGENCY
Stantec Consulting Services Inc.
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
EDA	ALH	BSM	5/18/2022
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRS	XXX	4400496	

GENERAL PLAN
BRIDGE NO. LAW-7-0711
RAMP I OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923

2 / 30

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	01-18-19
PSID-1-13	REVISED	01-15-21
SBR-1-20	DATED	01-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION

800 DATED 01-15-21

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020

DESIGN LOADING

DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

CONCRETE CLASS QC2 WITH QC/QA
-COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 WITH QC/QA
-COMPRESSIVE STRENGTH 4.0 KSI (PIERS)

CONCRETE CLASS QC4 WITH QC/QA
-COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50
-YIELD STRENGTH 50 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 7 KSI
COMPRESSIVE STRENGTH (RELEASE) - 6 KSI

WELDED WIRE FABRIC:
YIELD STRENGTH - 70 KSI

PRESTRESSING STRAND:
AREA = 0.217 SQ.IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT AND PIER FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND PIER PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A 128 CALENDAR DAY WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE THE ABUTMENT AND PIER 1 AND 2 PILES TO REFUSAL ON BEDROCK.

PILES TO BEDROCK

DRIVE PILES TO REFUSAL ON BEDROCK THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 177 KIPS PER PILE FOR THE REAR ABUTMENT PILES AND 203 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES. NO ADDITIONAL LOADING DUE TO DOWNDRAG IS ANTICIPATED AS LONG AS THE WAITING PERIOD FOR THE APPROACH EMBANKMENTS IS OBSERVED. THE TOTAL FACTORED LOAD IS 181 KIPS PER PILE FOR THE PIER 1 PILES AND 230 KIPS PER PILE FOR THE PIER 2 PILES .

REAR ABUTMENT PILES:
10 HP 10X42 PILES 95 FEET LONG, ORDER LENGTH

PIER 1 PILES:
27 HP 10X42 PILES 55 FEET LONG, ORDER LENGTH

PIER 2 PILES:
27 HP 10X42 PILES 30 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:
10 HP 10X42 PILES 85 FEET LONG, ORDER LENGTH

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.4 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

APPROACH EMBANKMENT CONSTRUCTION:

THE APPROACH EMBANKMENTS SHALL BE CONSTRUCTED AND THEN UNDERGO A WAITING PERIOD OF 128 DAYS PRIOR TO DRIVING PILES.

SEE SHEETS XX FOR SLOPE REINFORCEMENT DETAILS AND NOTES REGARDING EMBANKMENT CONSTRUCTION.

ABBREVIATIONS:

ABUT	-	ABUTMENT
APPROX.	-	APPROXIMATE
BM	-	BENCHMARK
BRG.	-	BEARING
B/	-	BOTTOM OF
℄	-	CENTERLINE
CONC.	-	CONCRETE
CLR.	-	CLEARANCE
CONST.	-	CONSTRUCTION
DIA.	-	DIAMETER
DWG.	-	DRAWING
EF	-	EACH FACE
EL.	-	ELEVATION
EQ.	-	EQUAL
EST.	-	ESTIMATED
EXIST.	-	EXISTING
EXP.	-	EXPANSION
F.A.	-	FORWARD ABUTMENT
FF	-	FAR FACE
FNDN.	-	FOUNDATION
FTG.	-	FOOTING
FWD.	-	FORWARD
F/F	-	FACE TO FACE
HLMR	-	HIGH LOAD MULTI-ROTATIONAL BEARINGS
JT.	-	JOINT
LT.	-	LEFT
MAX.	-	MAXIMUM
MIN.	-	MINIMUM
NF	-	NEAR FACE
NO.	-	NUMBER
O/O	-	OUT TO OUT
PAVT.	-	PAVEMENT
PEJF	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
REF.	-	REFERENCE
RF	-	RIGHT FORWARD
REINF.	-	REINFORCED
RT.	-	RIGHT
SP.	-	SETTLEMENT PLATFORM
SPA.	-	SPACE
S.R.	-	STATE ROUTE
STA.	-	STATION
STD.	-	STANDARD
TYP.	-	TYPICAL
T/	-	TOP OF
T/T	-	TOE TO TOE
T&B	-	TOP AND BOTTOM
VAR.	-	VARIES
REQ'D	-	REQUIRED

Preliminary - Not for Construction 07/29/2024

DESIGN AGENCY
Stantec Consulting Services Inc.
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
EDA	ALH	BSM	5/18/2022
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRS		4400496	

GENERAL NOTES
BRIDGE NO. LAW-7-0711
RAMP I OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923

3 / 30

ITEM SPECIAL - SETTLEMENT PLATFORM:

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. SEE SETTLEMENT PLATFORM DETAIL THIS SHEET. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN WEEKLY BEGINNING WITH THE FIRST WEEK FOLLOWING PLACEMENT OF EACH PLATFORM. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, CO, CONSTRUCTION MANAGEMENT/CONSTRUCTION ADMINISTRATION, GEOTECHNICAL AND EARTHWORK ENGINEER AND ODOT, CO, OFFICE OF GEOTECHNICAL ENGINEERING, FOUNDATIONS AND RETAINING WALLS ENGINEER, AFTER EACH SETTLEMENT READING IS RECORDED.

MATERIAL: SOUND LUMBER SUCH AS ¾" EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2½" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36" X 36" X ⅛" MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE SETTLEMENT PLATFORM DETAILS SHOWN ON THIS SHEET. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.

SETTLEMENT PLATFORMS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

I.D.	STATION	OFFSET
SP1	376+20	10' RIGHT
SP2	379+80	25' LEFT

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.

REFER TO ODOT GEOTECHNICAL BULLETIN GB4 "GUIDELINES FOR THE USE OF GEOTECHNICAL INSTRUMENTATION" FOR ADDITIONAL INSTALLATION AND MONITORING INSTRUCTION.

WAITING PERIOD CRITERIA:
THE ENGINEER WILL CONSIDER THE WAITING PERIOD COMPLETE WHEN CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN ⅛ INCH.

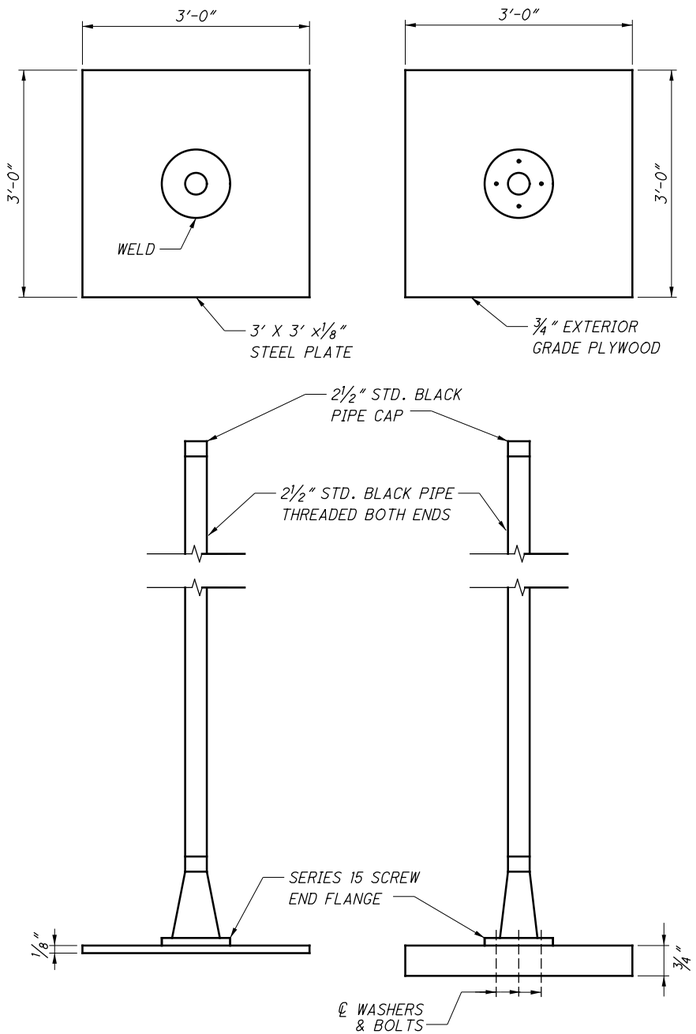
IF SETTLEMENT RATES EXCEED ¾ INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 128 CALENDAR DAYS, REMAINING CONSTRUCTION, INCLUDING ANY NECCESARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

THE DEPARTMENT WILL CONSIDER VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED 30 DAYS PRIOR TO CONSTRUCTION. THE DEPARTMENT WILL REQUIRE 10 WORKING DAYS FOR REVIEW AND APPROVAL. THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXISTING FACILITIES, PROPOSED FACILITIES OR UTILITIES. NO ADDITIONAL PAYMENT WILL BE PROVIDED IF THE CONTRACTOR ELECTS TO UTILIZE VIBRATING WIRE SETTLEMENT PLATFORMS.

MORE INFORMATION PERTAINING TO EMBANKMENT CONSTRUCTION AND CONTROLLED RATES OF FILL ARE PROVIDED IN THE ROADWAY PLANS.

METHOD OF MEASUREMENT, THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL - SETTLEMENT PLATFORM" WHICH IS COMPENSATION FOR CONSTRUCTING, MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS. SEE DETAIL THIS SHEET.



SETTLEMENT PLATFORM

(NOT TO SCALE)

NOTES:

1. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.

Preliminary - Not for Construction 07/29/2024

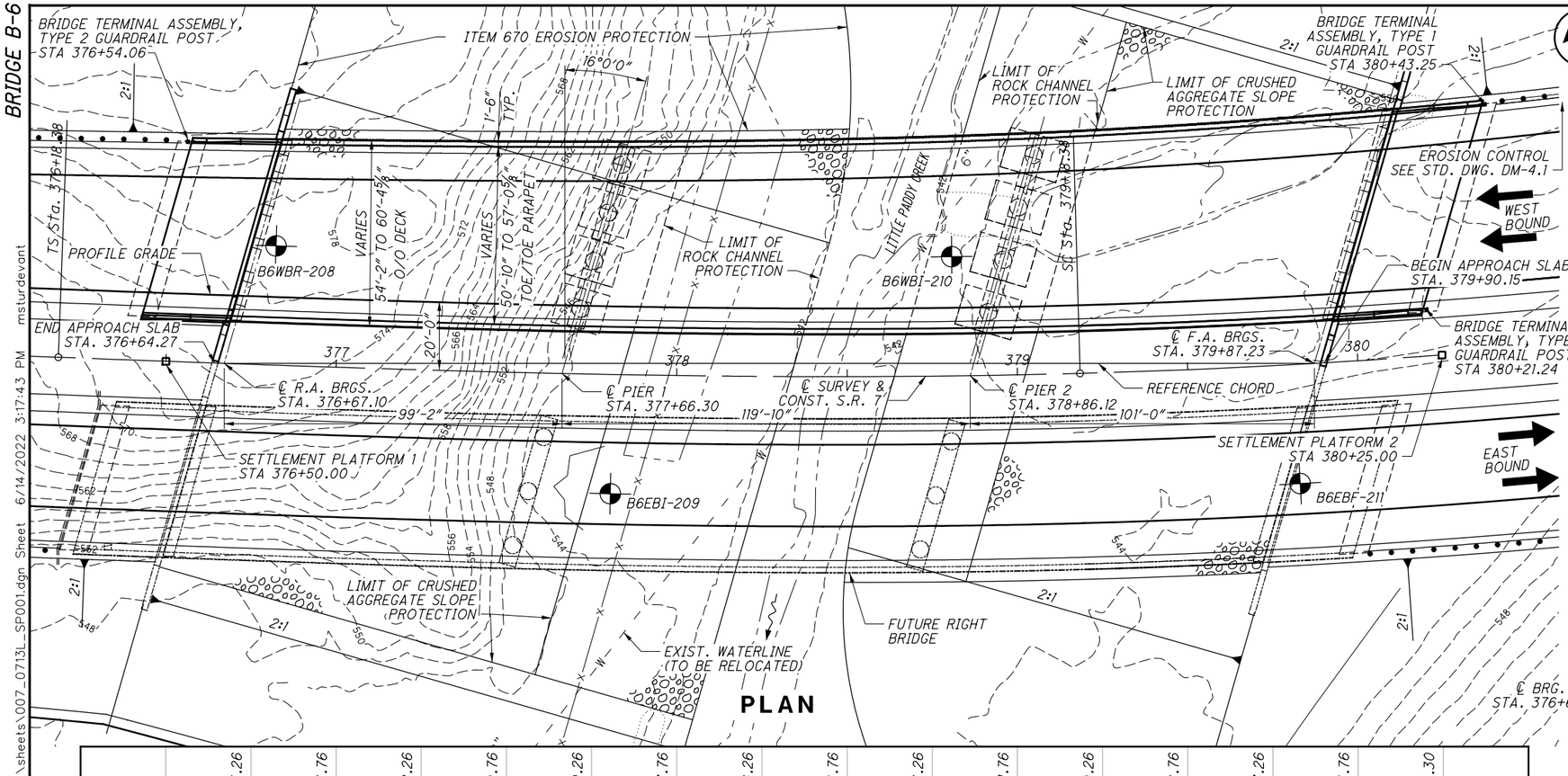
DESIGN AGENCY
Stantec Consulting Services Inc.
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204
(614) 486-4383

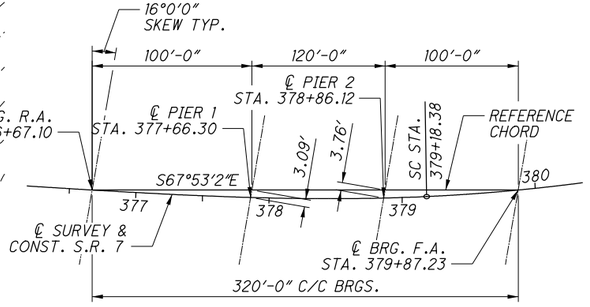
DESIGNED	DRAWN	REVIEWED	DATE
EDA	ALH	BSM	5/18/2022
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MRS		4400496	

GENERAL NOTES
BRIDGE NO. LAW-7-0711
RAMP I OVER LITTLE PADDY CREEK

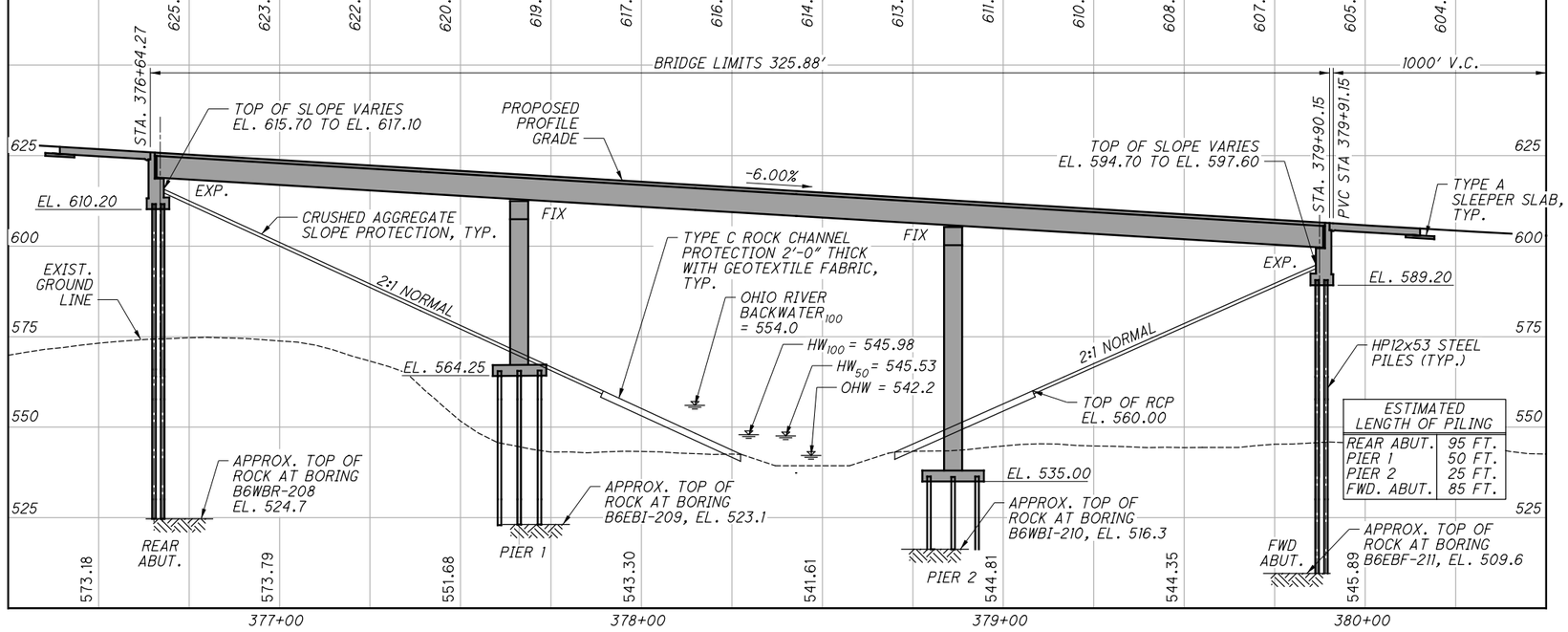
LAW-7-2.17
PID No. 75923

BRIDGE B-6





GEOMETRIC LAYOUT



PROFILE ALONG S.R. 7 PROFILE GRADE

BENCHMARK DATA

BM #1 STA. 394+68.00, EL. 590.43, OFFSET 0.00,
BM #2 STA. 407+19.64, EL. 608.57, OFFSET 65.06,

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET ⊖

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2028 ADT = 6,298 2028 ADTT = 693
2048 ADT = 8,225 2048 ADTT = 905
WESTBOUND TRAFFIC

LEGEND

PROJECT BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 1.74 SQ. MILES
Q (50) = 954 CFS V (50) = 4.23 FT/S EL. = 545.53
Q (100) = 1160 CFS V (100) = 4.46 FT/S EL. = 545.98
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 50.61 FEET.

CURVE DATA (S.R. 7 CURVE NO. 9)

P.I. STA. 387+47.15	E = 136.98'	LT = 200.04'
Δ = 46° 04' 34" (LT)	TS STA. 376+18.38	ST = 100.04'
Dc = 2° 29' 28"	SC STA. 379+18.38	e_{max} = 6.20%
R = 2,300.00'	θs = 3° 44' 12"	CS STA. 394+68.00
T = 805.51'	Ls = 300.00'	ST STA. 397+68.00
L = 1,549.62'	Ts = 1,128.77'	

PROPOSED STRUCTURE

TYPE: PRESTRESSED CONCRETE I-BEAMS (66" AASHTO MODIFIED TYPE 4) WITH COMPOSITE CONCRETE SLAB SUPPORTED BY STUB TYPE ABUTMENTS AND CAP & COLUMN PIERS ON PILES
SPANS: 98'-11", 117'-10", 98'-11" C/C BEARINGS MEASURED ALONG REFERENCE CHORD
ROADWAY: VARIES FROM 50'-9½" TO 57'-0½"
LOADING: HL-93 AND 60 LBS/FT² FUTURE WEARING SURFACE
WEARING SURFACE: 1" MONOLITHIC WEARING SURFACE
SKEW: 16°00'00" LF MEASURED TO REFERENCE CHORD
APPROACH SLABS: AS-1-15 & AS-2-15, 25' LONG (MODIFIED)
ALIGNMENT: 3°30'00" SPIRAL AND 3°30'00" CURVE LEFT
SUPERELEVATION: 7.0% (0.06 MAX)
COORDINATES: LATITUDE N 38° 26' 56.76"
LONGITUDE W 82° 39' 44.09"
DECK AREA: 18,860 SF

Preliminary - Not for Construction 07/29/2024

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DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus, OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
MRS	JWS	BSM	5/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EDA		4400534	

LAWRENCE COUNTY
STA. 376+64.27
STA. 379+90.15

SITE PLAN
BRIDGE NO. LAW-7-0713 L
S.R. 7 OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923

1 / 27

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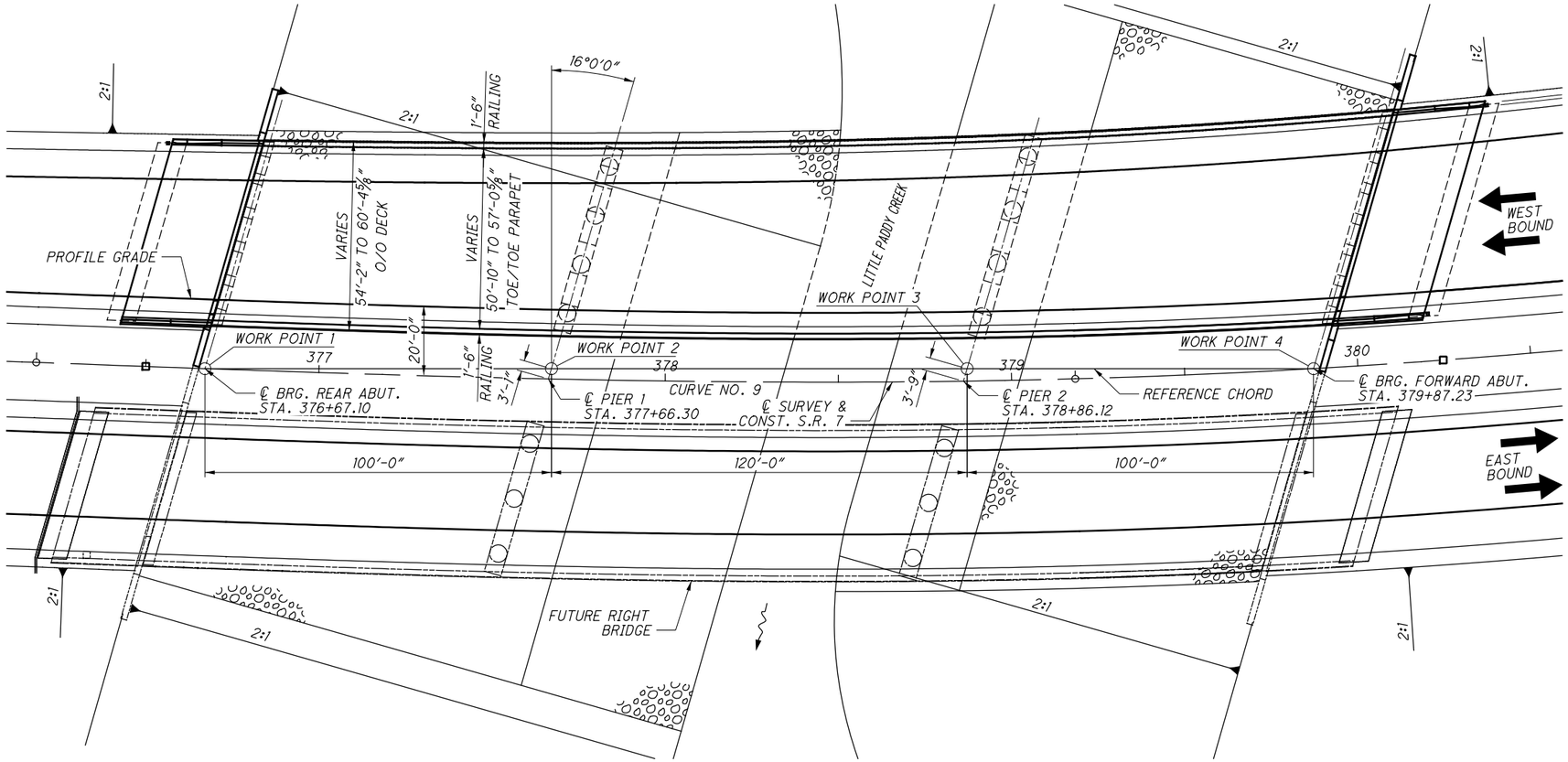
CURVE DATA
S.R. 7
CURVE NO. 9

P.I. STA. 387+47.15	θs = 3° 44′ 12″
Δ = 46° 04′ 34″ (LT)	Ls = 300.00′
Dc = 2° 29′ 28″	Ts = 1,128.77′
R = 2,300.00′	LT = 200.04′
T = 805.51′	ST = 100.04′
L = 1,549.62′	e_{max} = 6.20%
E = 136.98′	CS STA. 394+68.00
TS STA. 376+18.38	ST STA. 397+68.00
SC STA. 379+18.38	



PLAN

Preliminary - Not for Construction 07/29/2024

DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus, OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
MRS	JWS	BSM	5/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EDA		4400534	

GENERAL PLAN
BRIDGE NO. LAW-7-0713 L
S.R. 7 OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923

2 / 27

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	01-18-19
EXJ-6-17	REVISED	01-15-21
PSID-1-13	REVISED	07-20-18
SBR-1-20	DATED	01-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION

800	DATED	01-15-21

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2021.

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020

DESIGN LOADING

DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

CONCRETE CLASS QC2 WITH QC/QA
-COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 WITH QC/QA
-COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE CLASS QC4 MASS CONCRETE WITH QC/QA
-COMPRESSIVE STRENGTH 4.0 KSI (PIER CAPS AND COLUMNS)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 7 KSI
COMPRESSIVE STRENGTH (RELEASE) - 6 KSI

WELDED WIRE FABRIC:
YIELD STRENGTH - 70 KSI

PRESTRESSING STRAND:
AREA = 0.217 SQ.IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI
(LOW RELAXATION STRANDS)

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2.5" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT AND PIER FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND PIER 1 AND 2 PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A 180 CALENDAR DAY WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE THE ABUTMENT AND PIER 1 AND 2 PILES TO REFUSAL ON BEDROCK.

PILES TO BEDROCK

DRIVE PILES TO REFUSAL ON BEDROCK THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 125 KIPS PER PILE FOR THE ABUTMENT PILES. NO ADDITIONAL LOADING DUE TO DOWNDRAG IS ANTICIPATED AS LONG AS THE WAITING PERIOD FOR THE APPROACH EMBANKMENTS IS OBSERVED. THE TOTAL FACTORED LOAD IS 322 KIPS PER PILE FOR THE PIER 1 PILES AND 319 KIPS PER PILE FOR THE PIER 2 PILES .

REAR ABUTMENT PILES:
34 HP 12X53 PILES 100 FEET LONG, ORDER LENGTH

PIER 1 PILES:
36 HP 12X53 PILES 55 FEET LONG, ORDER LENGTH

PIER 2 PILES:
36 HP 12X53 PILES 30 FEET LONG, ORDER LENGTH

REAR ABUTMENT PILES:
36 HP 12X53 PILES 90 FEET LONG, ORDER LENGTH

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

PILE DRIVING:

THE MINIMUM RATED ENERGY OF THE HAMMER USED TO INSTALL THE PILES SHALL BE 20,100 FOOT-POUNDS. ENSURE THAT STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 45,000 POUNDS PER SQUARE INCH.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.4 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

APPROACH EMBANKMENT CONSTRUCTION:

THE APPROACH EMBANKMENTS SHALL BE CONSTRUCTED AND THEN UNDERGO AN ESTIMATED WAITING PERIOD OF 180 DAYS PRIOR TO DRIVING PILES.

REFER TO SHEETS XX FOR DETAILS AND NOTES REGARDING REINFORCED SLOPE AND EMBANKMENT CONSTRUCTION.

ACCORDINGLY, MULTIPLE APPLICATIONS OF SIGNIFICANT QUANTITIES OF WATER AS WELL AS CONSIDERABLE EFFORT WILL BE REQUIRED TO PROPERLY BREAK DOWN AND MOISTURE CONDITION THE SHALE FOR USE IN EMBANKMENT CONSTRUCTION.

ABBREVIATIONS:

ABUT	-	ABUTMENT
APPROX.	-	APPROXIMATE
BM	-	BENCHMARK
BRG.	-	BEARING
B/	-	BOTTOM OF
℄	-	CENTERLINE
CONC.	-	CONCRETE
CLR.	-	CLEARANCE
CONST.	-	CONSTRUCTION
DIA.	-	DIAMETER
EF	-	EACH FACE
EL.	-	ELEVATION
EQ.	-	EQUAL
EST.	-	ESTIMATED
EXIST.	-	EXISTING
EXP.	-	EXPANSION
F.A.	-	FORWARD ABUTMENT
FF	-	FAR FACE
FNDN.	-	FOUNDATION
FTG.	-	FOOTING
FWD.	-	FORWARD
F/F	-	FACE TO FACE
JT.	-	JOINT
LT.	-	LEFT
MAX.	-	MAXIMUM
MIN.	-	MINIMUM
NF	-	NEAR FACE
O/O	-	OUT TO OUT
PAVT.	-	PAVEMENT
PEJF	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
REF.	-	REFERENCE
RF	-	RIGHT FORWARD
REINF.	-	REINFORCED
RT.	-	RIGHT
SP.	-	SETTLEMENT PLATFORM
SPA.	-	SPACE
S.R.	-	STATE ROUTE
STA.	-	STATION
TYP.	-	TYPICAL
T/	-	TOP OF
T/T	-	TOE TO TOE
T&B	-	TOP AND BOTTOM
VAR.	-	VARIES
REQ'D	-	REQUIRED

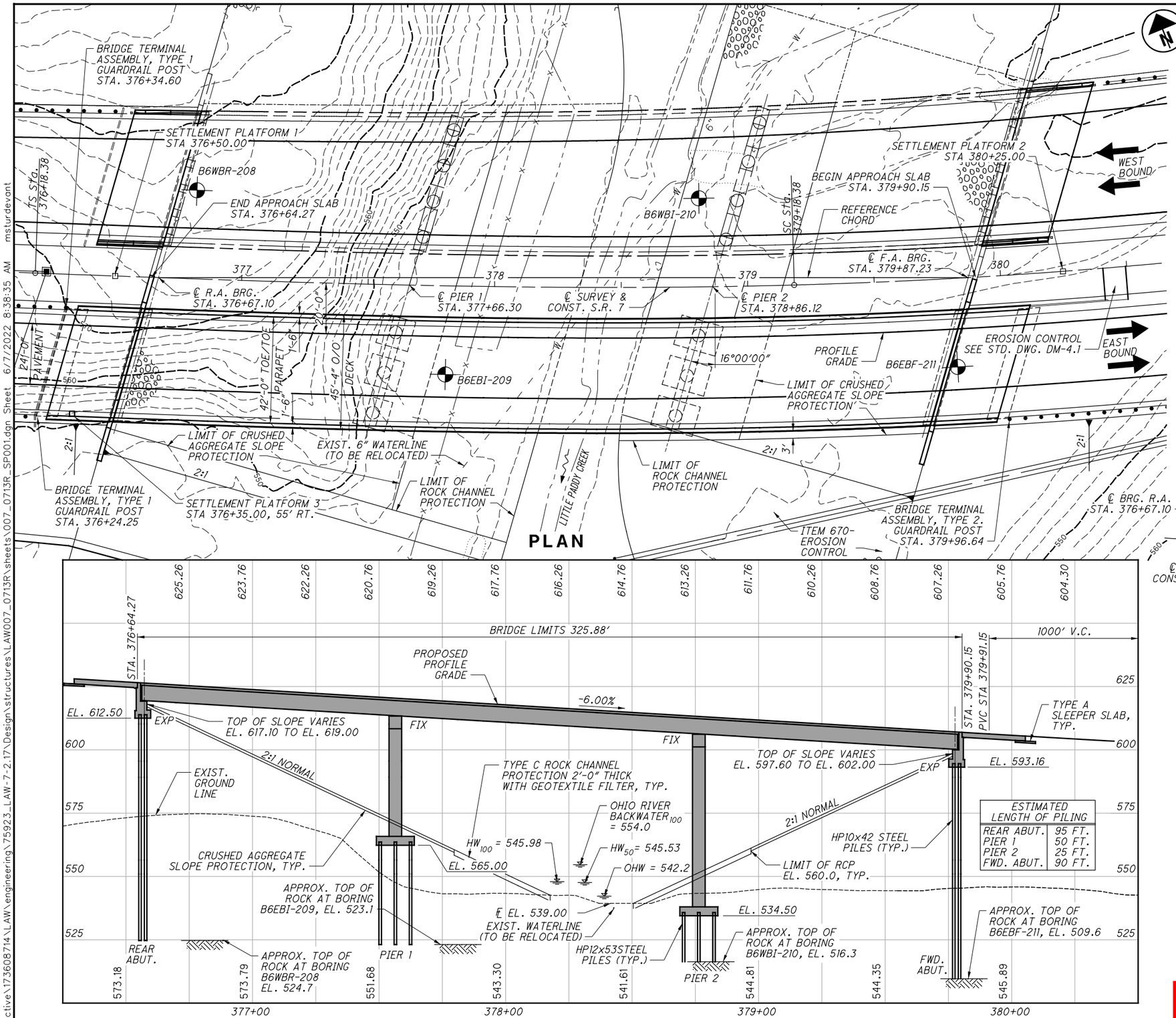
Preliminary - Not for Construction 07/29/2024

DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus, OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
MRS	JWS	BSM	5/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EDA		4400534	

GENERAL NOTES
BRIDGE NO. LAW-7-0713 L
S.R. 7 OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923



BENCHMARK DATA

BM #1 STA. 394+68.00, EL. 590.43 , OFFSET 0.00 ,
BM #2 STA. 407+19.64, EL. 608.57 , OFFSET 65.06', RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET ⊖

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2028 ADT = 7,102 2028 ADTT = 781
2048 ADT = 9,275 2048 ADTT = 1,020
EASTBOUND TRAFFIC

LEGEND

PROJECT BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 1.74 SQ. MILES
Q (50) = 954 CFS V (50) = 4.23 FT/S
Q (100) = 1160 CFS V (100) = 4.46 FT/S
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 53.51 FEET.

CURVE DATA (S.R. 7 CURVE NO. 9)

P.I. STA. 387+47.15	E = 136.98'	LT = 200.04'
Δ = 46° 04' 34" (LT)	TS STA. 376+18.38	ST = 100.04'
Dc = 2° 29' 28"	SC STA. 379+18.38	e_{max} = 6.20%
R = 2,300.00'	θs = 3° 44' 12"	CS STA. 394+68.00
T = 805.51'	Ls = 300.00'	ST STA. 397+68.00
L = 1,549.62'	Ts = 1,128.77'	

PROPOSED STRUCTURE

TYPE: PRESTRESSED CONCRETE I-BEAMS (66" AASHTO MODIFIED TYPE 4) WITH COMPOSITE CONCRETE SLAB SUPPORTED BY STUB TYPE ABUTMENTS AND CAP & COLUMN PIERS ON PILES
SPANS: 98'-11", 117'-10", 98'-11" C/C BEARINGS (MEASURED ALONG REFERENCE CHORD)
ROADWAY: 42'-0" TOE/TOE PARAPET
LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE
WEARING SURFACE: 1" MONOLITHIC WEARING SURFACE
SKEW: 16°0'0" LF (MEASURED WITH RESPECT TO REFERENCE CHORD)
APPROACH SLABS: AS-1-15 & AS-2-15, 25' LONG (MODIFIED)
ALIGNMENT: 2°44'48" SPIRAL AND 2°29'28" CURVE LEFT
SUPERELEVATION: 0.06 FT/FT (MAX)
COORDINATES: LATITUDE 38° 26' 56.16"
LONGITUDE 82° 39' 44.80"
DECK AREA: 14,655 SF

Preliminary - Not for Construction 07/29/2024

Page 387

DESIGN AGENCY
Stantec
1500 Lake Shore Dr, Columbus, OH 43204 (614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
MRS	LBA	BSM	5/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EDA		4400526	

LAWRENCE COUNTY
STA. 376+64.27
STA. 379+90.15

SITE PLAN
BRIDGE NO. LAW-7-0713 R
S.R. 7 OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923

1 / 26

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CURVE DATA
S.R. 7
CURVE NO. 9

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Δ = 46° 04′ 34″ (LT)
Dc = 2° 29′ 28″
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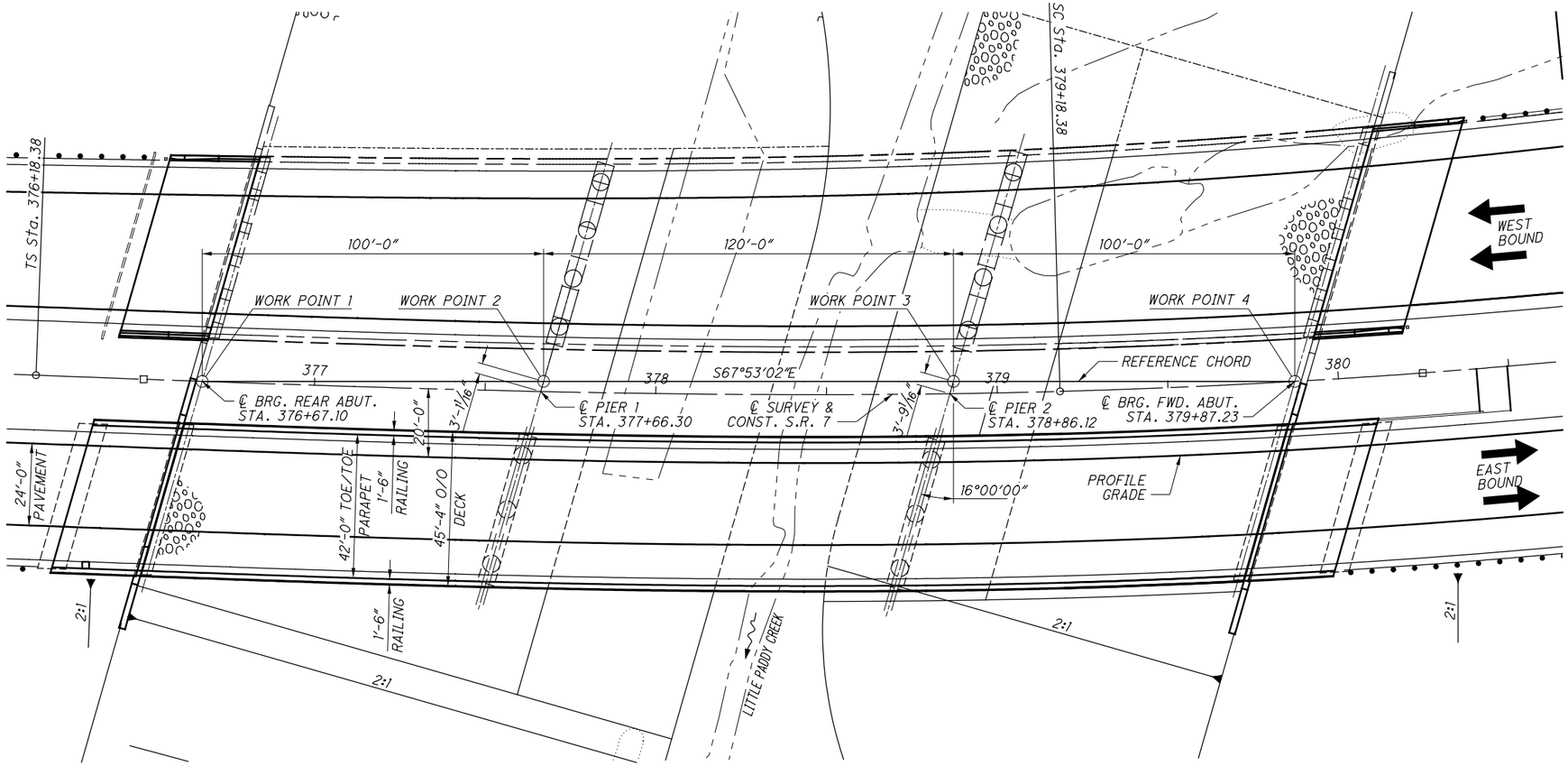

PLAN

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Columbus, OH 43204
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GENERAL PLAN
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S.R. 7 OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923

2 / 26

Preliminary - Not for Construction 07/29/2024

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	01-18-19
EXJ-6-17	REVISED	01-15-21
PSID-1-13	REVISED	07-20-18
SBR-1-20	DATED	01-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION

800 DATED 01-15-21

DESIGN SPECIFICATIONS

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DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

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-COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 WITH QC/QA
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CONCRETE CLASS QC4 MASS CONCRETE WITH QC/QA
-COMPRESSIVE STRENGTH 4.0 KSI (PIER CAPS AND COLUMNS)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 7 KSI
COMPRESSIVE STRENGTH (RELEASE) - 6 KSI

WELDED WIRE FABRIC:
YIELD STRENGTH - 70 KSI

PRESTRESSING STRAND:
AREA = 0.217 SQ.IN.
ULTIMATE STRENGTH = 270 KSI
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(LOW RELAXATION STRANDS)

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2.5" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT AND PIER FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND PIER 1 AND 2 PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A 180 CALENDAR DAY WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE THE ABUTMENT AND PIER 1 AND 2 PILES TO REFUSAL ON BEDROCK.

PILES TO BEDROCK

DRIVE PILES TO REFUSAL ON BEDROCK THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 250 KIPS PER PILE FOR THE ABUTMENT PILES. NO ADDITIONAL LOADING DUE TO DOWNDRAG IS ANTICIPATED AS LONG AS THE WAITING PERIOD FOR THE APPROACH EMBANKMENTS IS OBSERVED. THE TOTAL FACTORED LOAD IS 322 KIPS PER PILE FOR THE PIER 1 PILES AND 319 KIPS PER PILE FOR THE PIER 2 PILES .

REAR ABUTMENT PILES:
HP 10X42 PILES 100 FEET LONG, ORDER LENGTH

PIER 1 PILES:
HP 12X53 PILES 55 FEET LONG, ORDER LENGTH

PIER 2 PILES:
HP 12X53 PILES 30 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:
HP 10X42 PILES 95 FEET LONG, ORDER LENGTH

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

PILE DRIVING:

THE MINIMUM RATED ENERGY OF THE HAMMER USED TO INSTALL THE PILES SHALL BE 20,100 FOOT-POUNDS. ENSURE THAT STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 45,000 POUNDS PER SQUARE INCH.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.4 KIPS.

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A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

APPROACH EMBANKMENT CONSTRUCTION:

THE APPROACH EMBANKMENTS SHALL BE CONSTRUCTED AND THEN UNDERGO AN ESTIMATED WAITING PERIOD OF 180 DAYS PRIOR TO DRIVING PILES.

REFER TO SHEETS XX FOR DETAILS AND NOTES REGARDING REINFORCED SLOPE AND EMBANKMENT CONSTRUCTION.

ACCORDINGLY, MULTIPLE APPLICATIONS OF SIGNIFICANT QUANTITIES OF WATER AS WELL AS CONSIDERABLE EFFORT WILL BE REQUIRED TO PROPERLY BREAK DOWN AND MOISTURE CONDITION THE SHALE FOR USE IN EMBANKMENT CONSTRUCTION.

ABBREVIATIONS:

ABUT	-	ABUTMENT
APPROX.	-	APPROXIMATE
BM	-	BENCHMARK
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℄	-	CENTERLINE
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JT.	-	JOINT
LT.	-	LEFT
MAX.	-	MAXIMUM
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O/O	-	OUT TO OUT
PAVT.	-	PAVEMENT
PEJF	-	PREFORMED EXPANSION JOINT FILLER
R.A.	-	REAR ABUTMENT
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REINF.	-	REINFORCED
RT.	-	RIGHT
SP.	-	SETTLEMENT PLATFORM
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S.R.	-	STATE ROUTE
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GENERAL NOTES
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S.R. 7 OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923

ITEM SPECIAL - SETTLEMENT PLATFORM:

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. SEE SETTLEMENT PLATFORM DETAIL THIS SHEET. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN WEEKLY DURING CONSTRUCTION AND DURING THE SPECIFIED WAITING PERIOD BEGINNING WITH THE FIRST WEEK FOLLOWING PLACEMENT OF EACH PLATFORM. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, CO, CONSTRUCTION MANAGEMENT/CONSTRUCTION ADMINISTRATION, GEOTECHNICAL AND EARTHWORK ENGINEER AND ODOT, CO, OFFICE OF GEOTECHNICAL ENGINEERING, FOUNDATIONS AND RETAINING WALLS ENGINEER, AFTER EACH SETTLEMENT READING IS RECORDED.

MATERIAL: SOUND LUMBER SUCH AS ¾" EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2½" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36" X 36" X ⅛" MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE SETTLEMENT PLATFORM DETAILS SHOWN ON THIS SHEET. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.

SETTLEMENT PLATFORMS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

I.D.	STATION	OFFSET
SP1	376+50	0'
SP2	380+25	0'
SP3	376+35	55'

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.

REFER TO ODOT GEOTECHNICAL BULLETIN GB4 "GUIDELINES FOR THE USE OF GEOTECHNICAL INSTRUMENTATION" FOR ADDITIONAL INSTALLATION AND MONITORING INSTRUCTION.

WAITING PERIOD CRITERIA:
THE ENGINEER WILL CONSIDER THE WAITING PERIOD COMPLETE WHEN CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN ⅛ INCH. THE MINIMUM WAITING PERIOD IS 90 CALENDAR DAYS.

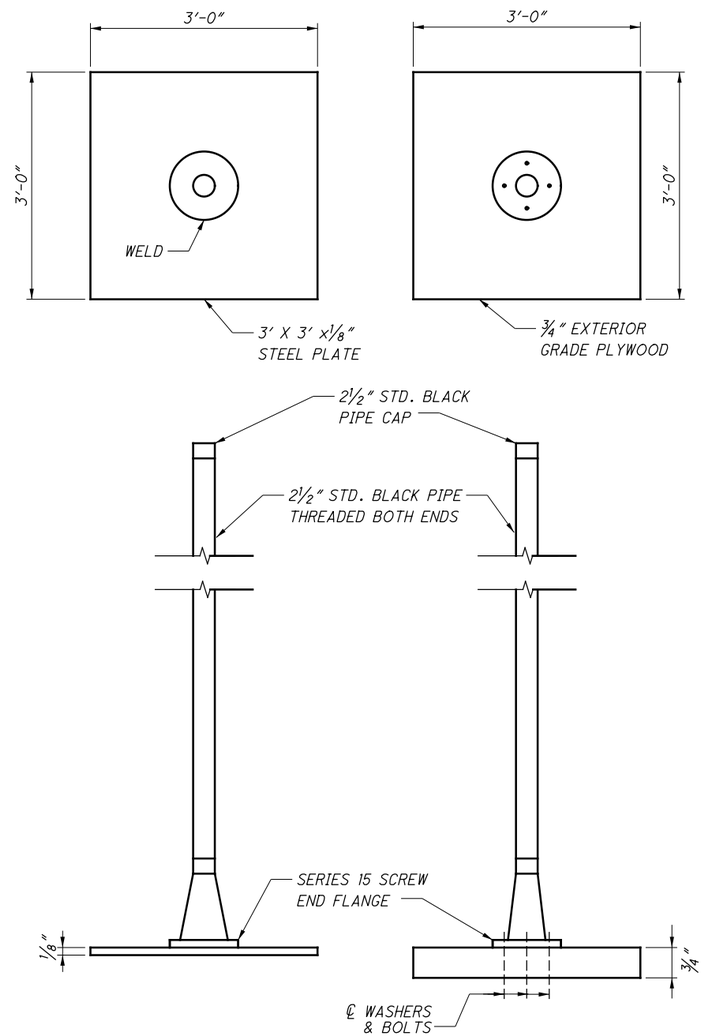
IF SETTLEMENT RATES EXCEED ¾ INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 45 CALENDAR DAYS, REMAINING CONSTRUCTION, INCLUDING ANY NECCESARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

THE DEPARTMENT WILL CONSIDER VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED 30 DAYS PRIOR TO CONSTRUCTION. THE DEPARTMENT WILL REQUIRE 10 WORKING DAYS FOR REVIEW AND APPROVAL. THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXISTING FACILITIES, PROPOSED FACILITIES OR UTILITIES. NO ADDITIONAL PAYMENT WILL BE PROVIDED IF THE CONTRACTOR ELECTS TO UTILIZE VIBRATING WIRE SETTLEMENT PLATFORMS.

MORE INFORMATION PERTAINING TO EMBANKMENT CONSTRUCTION AND CONTROLLED RATES OF FILL ARE PROVIDED IN THE ROADWAY PLANS.

METHOD OF MEASUREMENT, THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL - SETTLEMENT PLATFORM" WHICH IS COMPENSATION FOR CONSTRUCTING, MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS. SEE DETAIL THIS SHEET.



SETTLEMENT PLATFORM

(NOT TO SCALE)

NOTES:

1. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.

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DESIGN AGENCY
Stantec
1500 Lake Shore Dr.
Columbus, OH 43204
(614) 486-4383

DESIGNED	DRAWN	REVIEWED	DATE
MRS	ALH	BSM	5/2021
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EDA		4400526	

GENERAL NOTES
BRIDGE NO. LAW-7-0713 R
S.R. 7 OVER LITTLE PADDY CREEK

LAW-7-2.17
PID No. 75923

Stream and wetland mitigation is proposed for the Project in order to meet the requirements of a 2008 joint federal rule from the USACE and US EPA, and Ohio EPA compensatory mitigation rules for wetlands. The following conceptual mitigation plan describes ODOT's mitigation proposal for the LEDPA.

7.1 Conceptual Mitigation Plan Overview

The Project is located within the Raccoon-Symmes (HUC 05090101) drainage basin. Impacts to aquatic resources were minimized to the greatest extent possible during project design, however complete avoidance of resources is not feasible, especially because of the location and size of the project. Under the LEDPA, 19,387 linear feet of stream and 5.50 acres of wetland will be permanently impacted.

7.1.1 Proposed Stream Mitigation

Applying appropriate mitigation ratios for stream impacts, ODOT will mitigate for 19,387 linear feet of permanent streams impact which will require 36,993 stream mitigation credits. ODOT proposes the following stream mitigation plan.

- **Stream Mitigation Bank**

  No stream mitigation bank is currently servicing the 05090101 watershed.

- **In-Lieu Fee Program (ILF)**

  ODOT intends to utilize ILF programs to compensate for the stream and remaining wetland impacts associated with the Project. The Nature Conservancy (TNC) is currently selling advance credits for future stream and wetland restoration and enhancement projects within the Raccoon-Symmes (HUC 05090101) Watershed. ODOT purchased all available TNC credits, and there are no other ILF credits available in the 05090101 watershed. ODOT has purchased 19,944 stream credits at a cost of $290 per credit, for a total of $5,783,760 (payment voucher is provided on the following pages).

- **Full-Delivery Mitigation Contract**

  ODOT has released a Request for Proposal (RFP) for a full-delivery mitigation contract, which may include purchase of additional credits from an approved in-lieu fee program or mitigation bank, permittee-responsible mitigation, or a combination of these methods. This contract will provide for the remaining 17,049 credits.

7.1.2 Proposed Wetland Mitigation

Applying appropriate mitigation ratios for wetland impacts, ODOT will mitigate for 5.50 acres of permanent wetland impacts which will require 10.86 wetland mitigation credits. ODOT proposes the following wetland mitigation plan.

- **Wetland Mitigation Bank**

  No wetland mitigation bank is currently servicing the 05090101 watershed.

- **In-Lieu Fee Program**

  ODOT intends to utilize ILF programs to compensate for the stream and remaining wetland impacts associated with the Project. The Nature Conservancy (TNC) is currently selling advance credits for future stream and wetland restoration and enhancement projects within the Raccoon-Symmes (HUC

05090101) Watershed. ODOT has purchased 8.3 non-forested wetland credits at a cost of $63,000 per credit, for a total of $522,000 (payment voucher is provided on the following pages). ODOT proposes to use 7.8 of the 8.3 purchased credits as mitigation for the LAW-7 Phase 2A/2B project, in combination with the 3.1 acres of permittee responsible mitigation described below to achieve the required wetland mitigation in Table G.

- **Permittee-Responsible Mitigation**

ODOT will also fully utilize the on-site 3.1 acres of existing Symmes Creek wetland mitigation credits from Phase 1 of the Chesapeake Bypass Project (Permit UN-Trib Paddy Creek-199900427). This permittee-responsible wetland mitigation site was intended to mitigate anticipated Phase 1 impacts to a 1.66 acres jurisdictional wetland. When the unstable shale soils were encountered during construction of Phase 1, the extent of construction was reduced, and the wetland was not impacted.

The Symmes Creek wetland mitigation site is a stable 3.1 acre wetland located along Symmes Creek adjacent to Wetland D (shown in Figure 6 of **Item 6**). Data collected during the fifth year of monitoring confirms that the area is functioning as wetland habitat. The final ORAM score was 68 which would make it a Category 3 wetland. OEPA approved the final monitoring report on March 5, 2012. ODOT personnel performed a Vegetation Index of Biotic Integrity (VIBI) of the Symmes Creek wetland mitigation site on June 29, 2023. The resulting VIBI score was 64, confirming that this site is stable and functioning as a Category 3 wetland. This mitigation site is established, is proven to be successful and sustainable, and provides mitigation within the immediate area of impact.

Utilizing these 3.1 acres of wetland for mitigation for the LAW-7 Phase 2A/2B project satisfies 332.3 (b)(4) of the USACE's 2008 Mitigation Rule, permittee-responsible mitigation under a watershed approach. While purchasing additional ILF wetland credits is an option for this project, it would cost ODOT an additional $195,300 to purchase 3.1 wetland credits from TNC's ILF program at a cost of $63,000 per credit. This would not be a prudent use of taxpayer dollars, as ODOT has already invested taxpayer dollars in an established, functional, and high-quality wetland mitigation area located within the Symmes Creek floodplain and adjacent to existing wetlands that will be impacted by the project. Conversely, all of TNC's available ILF wetland credits are advanced credits. TNC does not currently have a wetland project on the ground generating credits for purchase (wetland credits generated by TNC's recently constructed Baker Swamp project have been fully committed to other projects). No time lag would occur between project impacts and project mitigation for these wetland credits, as utilization of this established, high-quality 3.1 acre permittee-responsible wetland area would instantly replace lost wetland functions and values associated with the LAW-7 Phase 2A/2B project in a cost-effective and ecologically justifiable manner.

The Nature Conservancy in Ohio
6375 Riverside Drive, Suite 100
Dublin, OH 43017-5045

Office: (614)717-2770
www.nature.org/ohio

Ohio Stream and Wetland In-Lieu Fee Mitigation Program

PAYMENT VOUCHER
Acknowledgment of Credit Purchase

October 10, 2023

Tom Barnitz
Ohio Department of Transportation
650 Eastern Avenue
Chillicothe, Ohio 45601

Re: Notice of Sale of 8.3 Wetland and 19,944 Stream Mitigation Credits for ODOT LAW-7-2.17 PID 75923 (Corps Permit No. LRH-2022-00165-OHR)

Dear Tom:

The Nature Conservancy in Ohio (TNC), with the approval of the U.S. Army Corps of Engineers (Corps) and the Ohio Environmental Protection Agency (Ohio EPA), has established an In-Lieu Fee Program (ILFP) in Ohio. Pursuant to the Instrument, TNC is the approved Sponsor of the ILFP.

This letter confirms the sale of 8.3 Wetland and 19,944 Stream credits to compensate for aquatic resource impacts in the Racoon-Symmes (05090101) 8-digit HUC watershed. Note that The Nature Conservancy's In-Lieu Fee compensatory mitigation stream credits are based on the linear feet ratio method and that the organization does not currently have Stream and Wetland Valuation Metric (SWVM) credits.

Sincerely,

Kevin McConnell
Finance Manager
The Nature Conservancy

Ohio Stream and Wetland In-Lieu Fee Mitigation Program
Mitigation Credit Purchase Agreement

The Nature Conservancy
Protecting nature. Preserving life.

The Nature Conservancy (TNC) operates the Ohio Stream and Wetland In-Lieu Fee Mitigation Program (the "Program") which is an In-Lieu Fee Mitigation Program approved to sell stream and wetland credits throughout the state of Ohio. The Ohio Department of Transportation (Purchaser) desires to purchase credits from the Program for the LAW-7-2.17, PID 75923 Project (Corps ID: LRH-2022-00165-OHR – Symmes Creek). In so doing, Purchaser hereby agrees to the following terms and conditions:

1. PURCHASE PRICE: Purchaser shall, subject to the terms and conditions hereinafter provided, pay to TNC the price per credit set forth in the "Letter of Credit Availability and Reservation" (the "Reservation Letter"). If a Reservation Letter was not received by Purchaser within the last one hundred (100) days, the Purchaser shall contact TNC for confirmation of the Purchase Price. The Purchase Price shall be paid in the following manner:

   A. Upon signing and delivery of this Form and Agreement, Purchaser will submit payment in full of the Purchase Price to TNC.

   B. Payment should be in immediately available funds in the form of a cashier's check or certified check payable to the 'Ohio Water Development Authority'. If payment is by check not in the form of a cashier's check or certified check, payment shall not be deemed to have been made until the check has cleared.

2. CREDIT SALE COMPLETION REQUIREMENTS: The sale of credits identified in the Final Credit Request Form shall be deemed to have occurred upon the completion of ALL of the following requirements: (i) payment in full of the Purchase Price by Purchaser in accordance with the above terms, and (ii) issuance of a Payment Voucher by TNC to Purchaser. Payments for the purchase of credits from the Program are not tax deductible contributions.

3. NO ENDORSEMENT: TNC plays no role in the Corps' or OEPA's decision to approve or deny a permit or whether mitigation is a necessary condition of any such permit or whether the permitted activity complies with laws, rules or regulations. Further, provision of any credits by TNC under this Program shall in no event be construed as an endorsement or support for the permitted activity.

4. NON-REFUNDABLE: The purchase of mitigation credits is non-refundable.

5. NO USE OF TNC NAME/LOGO: Purchaser may not use TNC's name or logo in any way without prior written consent from TNC, except to the extent necessary to comply with legal or contractual requirements to specify the source of the purchase of credits.

The Nature Conservancy

By: Bill Stanley Date: 8/14/23

Bill Stanley, Ohio State Director

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The Nature Conservancy
Ohio Stream and Wetland In-Lieu Fee Mitigation Program

Final Credit Request Form

Contact information	Purchaser's Name		Ohio Department of Transportation			
	Address		650 Eastern Avenue, Chillicothe, Ohio 45601			
	Phone Number		740-774-8877			
	Email		tom.barnitz@dot.ohio.gov brandon.beck@dot.ohio.gov			
Project Information	Project Name		LAW-7-2.17; PID 75923			
	Corps ID No. (if applicable)		LRH-2022-00165-OHR – Symmes Creek Permit in progress			
	Water Quality Certification No. (if applicable)		Permit in progress			
	Latitude/Longitude		38.45734, -84.41351			
	8-digit HUC		Raccoon-Symmes 05090101			
Impacts	Stream (linear feet)		Ephemeral	Intermittent	Perennial	Total
			4,838	11,269	3,280	19,387
	404 Wetlands (acres)		Category 1	Category 2	Category 3	Total
		Forested	--	--	--	--
		Nonforested	0.30	5.20	--	5.5
	Isolated Wetlands (acres)	Forested	--	--	--	--
		Nonforested	--	--	--	--
Mitigation Credits Required	Stream Credits		19,944			
	Wetland Credits/Type		8.3 Non-Forested			
	Total Purchase Amount ($)		**$6,306,660 Total** 19,944 stream x $290 = $5,783,760 8.3 wetland x $63,000 = $522,900			

By Purchaser's signature, Purchaser agrees to all the terms and provisions of the Purchase Agreement on the back of this form.

[PURCHASER]	
Signature: Joel Harchbarger DCS	
Print: Joel Harchbarger DCS	Date: 8/11/23

REVIEWED BY:
Office of Chief Legal Counsel
Ohio Department of Transportation
8/9/2023

X DTGL

Signed by: dgasslow

Please send form and payment to: the Ohio Water Development Authority, Attn: Meg Cline; P.O. Box 73514, Cleveland, OH 44193; and email scanned copies to kevin.mcconnell@tnc.org.

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