



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

December 10, 2007

MEMORANDUM TO: Mr. Barry Moose, PE
Division Ten Engineer

FROM: Philip S. Harris, III, P.E., Unit Head
Natural Environment Unit
Project Development and Environmental Analysis Branch

SUBJECT: Union and Mecklenburg Counties, NC 16 (Old Providence Road) From south of SR 2948 (Rea Road Extension) to south of I-485 (Charlotte Outer Loop); T.I.P. Number U-2510 A; Federal Aid Project No. STP-16 (20)

E. J. Just
for

Attached are the U. S. Army Corps of Engineers 404 Individual Permit, the 401 Water Quality Certification and a 401 Modification for the above referenced project. All environmental permits have been received for the construction of this project.

PSH/gyb

Attachment

Cc:

- Mr. Majed Alghandour, P. E., Programming and TIP
- Mr. Jay Bennett, P.E., Roadway Design
- Dr. David Chang, P.E., Hydraulics
- Mr. Randy Garris, P.E. State Contract Officer
- Mr. Art McMillan, P.E., Highway Design
- Mr. Greg Perfetti, P.E., Structure Design
- Mr. Mark Staley, Roadside Environmental
- Mr. John F. Sullivan, FHWA
- Ms. Teresa Hart, P.E., PDEA Western Region Unit Head
- Mr. Larry Thompson , RS, PWS, Division Environmental Officer

PROJECT COMMITMENTS

NC 16 (Old Providence Road)
From south of SR 2948 (Rea Road Extension) in Union County
to south of I-485 (Charlotte Outer Loop) in Mecklenburg County
Federal Aid No. STP-16(20)
TIP PROJECT U-2510A

COMMITMENTS DEVELOPED DURING PROJECT DEVELOPMENT

Roadway Design Unit / Division 10

NCDOT will provide 14-foot outside lanes and 12-foot inside lanes to accommodate bicycle traffic along the subject portion of NC 16.

Roadway Design Unit / Division 10/ Program Development Branch

Sidewalks will be incorporated into both sides of the roadway for the final design plan for the project. NCDOT will contribute 50% of the construction cost for the sidewalk installation within the Charlotte city limits and 90% of the construction for the construction cost for the sidewalk installation within the Weddington town limits. Final terms and costs of constructing the sidewalks will be disclosed in municipal agreements between NCDOT, the City of Charlotte and the Town of Weddington.

Geotechnical Unit

Any potential right of way involvement with the UST sites mentioned in Section VII. H. of the EA will be fully evaluated by NCDOT's Geotechnical Unit prior to right of way acquisition.

Design Services / Hydraulics Unit / Division 10 / REU

NCDOT will adhere to appropriate design standards within "Sensitive Watersheds".

COMMITMENTS DEVELOPED DURING PROJECT PERMITTING

PDEA-NEU- Mitigation Group / Division 10 Construction/REU

401 Condition #2

Removal of the culverts [at Station 124] shall not cause destabilization of the stream at this location. If the stream becomes destabilized due to culvert removal and/or construction of the bridge, NCDOT will be required to stabilize the stream. DOT shall monitor the stream crossing for a period of 2 years, or one bankfull event, whichever comes first. The monitoring shall consist of photographs submitted to the DWQ for the

section of stream immediately upstream, downstream, as well as the actual crossing. A site visit with the DWQ can be used to fulfill the annual monitoring requirement. NCDOT staff shall contact DWQ staff for authorization prior to the installation of any measures within the stream.

401 Condition #3

After the site [Sta. 124] is closed out by DWQ, the 40 feet of stream will be available for use by DOT as stream restoration credit for use in Hydrologic Unit 03050103.

Roadside Environmental Unit, Division 10 Construction

401 Condition #6

Temporary cover (wheat millet, or similar annual grain) or permanent herbaceous cover should be planted on all bare soil within 15 days of ground disturbing activities to provide long term erosion control. Erosion control matting should be used in conjunction with appropriate seeding on disturbed soils in steep slope and riparian areas. Matting should be secured in place with staples, or wherever possible, live stakes of native trees. Straw mulch and tall fescue should not be used in riparian areas.

PDEA – NEU

404 Condition #15

Compensatory mitigation for the unavoidable impacts to 0.91 acres of riverine wetland, 0.37 acres of non-riverine wetland and 446 linear feet of stream associated with the proposed project shall be provided by the North Carolina Ecosystem Enhancement Program (EEP) as outlined in the letter dated June 6, 2006 from William D. Gilmore, EEP Director. Pursuant to Section X of the EEP Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003, the EEP will provide 0.91 acres of restoration equivalent riverine wetland, 0.37 acres of restoration equivalent non-riverine wetlands and 892 linear feet of warm water stream channel restoration in the Catawba River Basin, Hydrologic Cataloging Unit 03050103. For wetlands, a minimum of 1:1 (impact to mitigation) must be in the form of wetland restoration.

DEPARTMENT OF THE ARMY PERMIT

Permittee **NC Department of Transportation**

Permit No. **2007-700-360**

Issuing Office **CESAW-RG-A**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: to discharge dredged or fill material into 1.28 acres of wetland, 446 linear feet of stream channel and 0.01 acres of man-made ponds in and adjacent to the waters of Sixmile Creek, Flat Branch and unnamed tributaries associated with the widening of NC Highway 16 (Providence Road) from SR 2948 (Rea Road Extension) in Union County to Interstate Highway 485 (I-485).

Project Location: in Mecklenburg County, south of Charlotte, North Carolina (TIP No. U-2510 A)

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **October 24, 2012**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.

- e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
 5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
 - a. You fail to comply with the terms and conditions of this permit.
 - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
 - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit, Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

E. L. Lusk for Gregory J. Thope, PhD 11-2-07
 (PERMITTEE) NC DEPARTMENT OF TRANSPORTATION (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

S. Kenneth Kelly 11-28-07
 (DISTRICT COMMANDER) JOHN E. PULLIAM, JR, COLONEL (DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

 (TRANSFEREE) (DATE)

SPECIAL CONDITIONS

1. All work must be performed in strict compliance with the attached plans, which are a part of this permit. Any modifications to the permit plans must be approved by the Corps of Engineers prior to implementation.
2. Failure to institute and carry out the details of the following special conditions will result in a directive to cease all ongoing and permitted work within waters and/or wetlands associated with the permitted project or such other remedies and/or fines as the District Engineer or his authorized representatives may seek.
3. The permittee will ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Asheville Regulatory Field Office prior to any active construction in waters and wetlands.
4. The permittee shall schedule a preconstruction meeting between their representatives, the contractor and the Corps of Engineers, Asheville Regulatory Field Office, NCDOT Regulatory Project Manager prior to any work in jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained in this DA permit. The permittee shall provide the Corps of Engineers, Regulatory Project Manager with a copy of the final plans at least two weeks prior to the pre-construction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The permittee shall schedule the pre-construction meeting for a time when the Corps of Engineers and North Carolina Division of Water Quality (NCDWQ) Project Managers can attend. The permittee shall notify the Corps of Engineers and NCDWQ Project Managers a minimum of thirty (30) days in advance of the meeting.
5. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.
6. Except as authorized by this permit or any Corps of Engineers approved modification to this permit, no excavation, fill or mechanized land clearing activities shall take place at any time in the construction or maintenance of this project within waters or wetlands nor shall any activities take place that cause the degradation of waters or wetlands. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project in such a manner as to impair normal flows and circulation patterns within, into or out of waters and wetlands or to reduce the reach of waters or wetlands.

7. To ensure that all borrow and waste activities occur on uplands and do not result in the degradation of adjacent waters and wetlands, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material or to dispose of dredged, fill or waste material. The permittee shall provide the Corps of Engineers with appropriate maps indicating the locations of proposed borrow or waste sites as soon as such information is available. The permittee will coordinate with the Corps of Engineers before approving any borrow or waste sites that are within 400 feet of any stream or wetland. All jurisdictional wetland delineations on borrow and waste areas shall be verified by the Corps of Engineers and shown on the approved reclamation plans. The permittee shall ensure that all such areas comply with the **preceding condition** of this permit and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This documentation will include data regarding soils, vegetation, and hydrology sufficient to clearly demonstrate compliance with the **preceding condition**. All information will be available to the Corps of Engineers upon request. The permittee shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.

8. Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

9. The permittee shall remove all sediment and erosion control measures placed in waters or wetlands, and shall restore natural grades in those areas prior to project completion.

10. During the clearing phase of the project, heavy equipment must not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodible materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

11. The permittee shall take measures to prevent live or fresh concrete from coming into contact with any surface waters until the concrete has hardened.

12. All authorized culverts will be installed to allow the passage of low stream flows and the continued movement of fish and other aquatic life as well as to prevent head-cutting of the streambed. For all box culverts and for pipes greater than 48 inches in diameter, the bottom of the pipe will be buried at least one foot below the bed of the stream unless such burial would be impractical and the Corps of Engineers has waived this requirement. For culverts 48 inches in diameter or smaller, the bottom of the pipe must be buried below the bed of the stream to a depth equal to or greater than 20 percent of the diameter of the culvert. Design and placement of culverts and other structures including temporary erosion control measures shall not be

conducted in a manner that may result in the disequilibrium of wetlands, streambeds or stream banks adjacent to, upstream of or downstream of the structures. In order to allow for the continued movement of bed load and aquatic organisms, existing stream channel widths and depths will be maintained at the inlet and outlet ends of culverts. Riprap armoring of streams at culvert inlets and outlets shall be minimized above ordinary high water elevation in favor of bioengineering techniques such as bank sloping, erosion control matting and revegetation with deep-rooted woody plants.

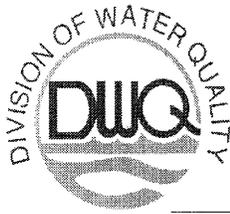
13. Unless authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities) or unsightly debris will not be used.

14. All mechanized equipment operating near surface waters shall be regularly inspected and maintained to prevent contamination of streams and wetlands from leakage of fuels, lubricants, hydraulic fluids or other toxic materials. No equipment staging or storage of construction material will occur in wetlands. Hydroseeding equipment will not be discharged or washed out into any surface waters or wetlands. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the NC Division of Water Quality at (919) 733-5083 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

MITIGATION

15. Compensatory mitigation for the unavoidable impacts to 0.91 acres of riverine wetland, 0.37 acres of non-riverine wetland and 446 linear feet of stream associated with the proposed project shall be provided the North Carolina Ecosystem Enhancement Program (EEP) as outlined in the letter dated June 6, 2006 from William D. Gilmore, EEP Director. Pursuant to Section X of the EEP Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003, the EEP will provide 0.91 acres of restoration equivalent riverine wetland, 0.37 acres of restoration equivalent non-riverine wetlands and 892 linear feet of warm water stream channel restoration in the Catawba River Basin, Hydrologic Cataloging Unit 03050103. For wetlands, a minimum of 1:1 (impact to mitigation) must be in the form of wetland restoration.

16. The permittee will report any violations of the above conditions and any violation of Section 404 of the Clean Water Act from unauthorized work in writing to the Wilmington District, US Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.

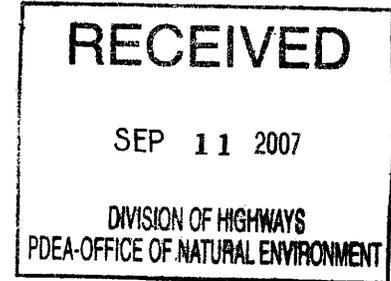


Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins, Director
Division of Water Quality

September 5, 2007



Dr. Gregory J. Thorpe, Manager
Planning and Environmental Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

SUBJECT: Indirect and Cumulative Effects (ICE) Assessment Addendum for TIP U-2510A, Dated May 2007, NC 16 (Providence Road) from SR 2948 (Rea Road Extension) to South of Interstate 485 (Charlotte Outer Loop), Union and Mecklenburg Counties, Federal Aid Project No. STP-16(20), State Project No. 8.1672807, DWQ Certification No. 3613

Dear Dr. Thorpe:

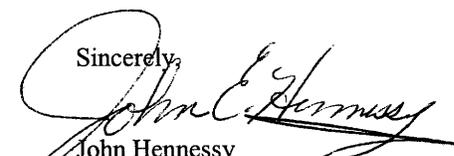
The North Carolina Department of Transportation (NCDOT) applied for an Individual Water Quality Certification for the above referenced project in February 2007. On June 13, 2007, the Division of Water Quality (DWQ) issued Certification No. 3613 for the project with the condition that no impacts to jurisdictional waters could occur until the addendum to the Indirect and Cumulative Effects (ICE) Assessment were received and approved by DWQ.

The original ICE Assessment was completed in September 2005 and indicated habitat existed within Sixmile Creek for the federally endangered Carolina Heelsplitter mussel. Sixmile Creek is a 303(d) listed stream (impaired for biological integrity). No individuals were identified during this survey. An additional freshwater mussel survey was conducted in Sixmile Creek in February 2007. This survey identified Carolina Heelsplitter individuals in Sixmile Creek, downstream of the project. Based on this survey, an addendum to the ICE assessment was completed to specifically assess changes in current and future land use, planning and environmental regulations, indirect and cumulative effects associated with the project and to extend the study area to include the Sixmile Creek basin east of the 2005 ICE study area.

The ICE Assessment Addendum was received July 31, 2007, and reviewed by DWQ. DWQ concurs with the conclusions outlined in the addendum and thereby is providing this written authorization for jurisdictional impacts to occur as part of the above referenced Water Quality Certification.

Please be advised, however, that if new information becomes available which indicates that water quality standards and/or the protection of aquatic resources may be comprised, DWQ will require a modification to this Water Quality Certification.

If you have any questions or need additional information, please contact either myself or Polly Lespinasse in the Mooresville Regional Office at (704) 663-1699.

Sincerely,

John Hennessy
Supervisor, Transportation Permitting Unit

Cc: Polly Lespinasse, Mooresville Regional Office
Jeff Hemphill, NCDOT PDEA

One
North Carolina
Naturally

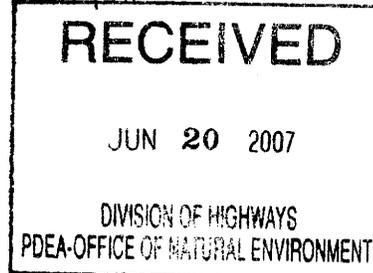
North Carolina Division of Water Quality 1650 Mail Service Center Raleigh, NC 27699-1650 Phone (919) 733-1786 Customer Service
Internet: www.ncwaterquality.org Location: 2321 Crabtree Blvd. Raleigh, NC 27604 Fax (919) 733-6893 1-877-623-6748



Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins, Director
Division of Water Quality

Nemphill June 13, 2007



Dr. Greg Thorpe, PhD., Manager
Planning and Environmental Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina, 27699-1548

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for the Proposed Widening of NC 16 (Old Providence Road) from SR 2948 (Rea Road Extension) in Union County to South of I-485 (Charlotte Outer Loop) in Mecklenburg County, Federal Aid Project No. STP-16(20), State Project No. 8.1672807, TIP U-2510A, DWQ No. 07-0221

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 3613 issued to The North Carolina Department of Transportation (NCDOT) dated June 13, 2007.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Coleen H. Sullins
Coleen H. Sullins
Director

Attachments

- cc: Steve Lund, US Army Corps of Engineers, Asheville Field Office
- Chris Militscher, Environmental Protection Agency
- Marla Chambers, NC Wildlife Resources Commission
- Marella Buncick, US Fish and Wildlife Service
- William Gilmore, Ecosystem Enhancement Program
- Polly Lespinasse, DWQ Mooresville Regional Office
- File Copy

**401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS**

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact permanently 1.28 acres of jurisdictional wetlands and 545 linear feet of jurisdictional streams in Union and Mecklenburg Counties. The project shall be constructed pursuant to the application received February 7, 2007 and additional information received May 17, 2007. The authorized impacts are as described below:

Stream Impacts in the Catawba River Basin

Site/Station (from/to)	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
2A (approximately 75+00/80+00)	99					0
2 (85+58/86+08)	162					0
**3 (124+69/124+95)				**40		
4 (145+26/146+25)	115					0
5 (193+96/194+32)	147 522	401 MOD				0
6 (203+57/203+68)	34					0

Total Stream Impacts for Project: 545 linear feet

****Stream impacts at Site 3 will be reduced by 40 linear feet as four box culverts will be replaced by a bridge.**

Wetland Impacts in the Catawba River Basin

Site/System Type	Fill (permanent) (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Area under Bridge (ac)	Total Wetland Impact (ac)
1 (Non-Riverine)	0.30			0.07			0.37
3 (Riverine)	0.09			0.07			0.16
4 (Riverine)	0.46		0.01	0.23			0.70
5 (Riverine)	0.04			0.01			0.05
Total	0.89		0.01	0.38			1.28

Total Wetland Impacts for Project: 1.28 (0.37 Non-Riverine/0.91 Riverine)

Open Water (Ponds) Impacts in the Catawba River Basin

Site	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
1	0.01		0.01
Total	0.01		0.01

Total Open Water Impacts for Project: 0.01 acres

The application provides adequate assurance that the discharge of fill material into the waters of the Catawba River Basin and wetlands in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received February 7, 2007, and additional information received May 17, 2007. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions.

If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Conditions of Certification:

CONDITION FULFILLED SEE ATTACHED 122

1. It is the understanding of DWQ that a revised Indirect and Cumulative Effects (ICE) Report has been issued for this project. DWQ has not received a copy of this revised report. If information is contained within the report, which reveals that construction of this project as currently proposed, could adversely affect water quality standards and/or the protection of aquatic resources, DWQ will require a modification to this Water Quality Certification. No impacts to jurisdictional waters are authorized under this certification until the final ICE has been submitted to, and approved (in writing) by, the NC Division of Water Quality. *APPROVAL*
2. A four (4) barrel box culvert will be replaced by a bridge at Station 124. Removal of the culverts shall not cause destabilization of the stream at this location. If the stream becomes destabilized due to the culvert removal and/or the construction of the bridge, NCDOT will be required to stabilize the stream. DOT shall monitor the stream crossing for a period of 2 years, or one bankfull event, whichever comes first. The monitoring shall consist of photographs submitted to the DWQ for the section of stream immediately upstream, downstream as well as the actual crossing. A site visit with the DWQ can be used to fulfill the annual monitoring requirement. If at anytime during the monitoring period DWQ determines the steam is unstable due to the authorized impact, corrective action may be required along with a corresponding modification to the 401 Water Quality Certification. NCDOT staff shall contact DWQ staff for authorization prior to the installation of any measures within the stream.

3. After the site is closed out by DWQ, the 40 feet of stream will be available for use by DOT as stream restoration credit for use in Hydrologic Unit 03050103.
4. Placement of culverts and other structures in waters, streams, and wetlands shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life.

Design and placement of culverts and other structures, including temporary erosion control measures, shall not be conducted in a manner that may result in dis-equilibrium of wetlands, streambeds or banks, adjacent to and upstream and downstream of the structures. The applicant is required to provide evidence that the equilibrium is being maintained if required in writing by the Division of Water Quality (DWQ). If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the DWQ for guidance on how to proceed and to determine whether a permit modification will be required.

5. If multiple pipes or barrels are required, they should be designed to mimic natural stream cross sections as closely as possible, including pipes or barrels at floodplain elevation and/or sills where appropriate. Widening of the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life.
6. The permittee shall use *Design Standards in Sensitive Watersheds* [15A NCAC 4B.0124(a)-(e)] for the project. Temporary cover (wheat, millet, or similar annual grain) or permanent herbaceous cover should be planted on all bare soil within 15 days of ground disturbing activities to provide long term erosion control. Erosion control matting should be used in conjunction with appropriate seeding on disturbed soils in steep slope and riparian areas. Matting should be secured in place with staples, or wherever possible, live stakes of native trees. Straw mulch and tall fescue should **not** be used in riparian areas.
6. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.
7. Bridge deck drains should not discharge directly into the stream. Stormwater should be directed across the bridge and pretreated through site appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of *Stormwater Best Management Practices*.
8. During construction of the project, no staging of equipment, of any kind, is permitted in waters of the U.S. or protected riparian buffers.
9. If concrete is used during construction, a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
10. The dimension, pattern and profile of the stream above and below the crossing should not be modified. Disturbed floodplains and streams should be restored to natural geomorphic conditions.

11. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of the NCDOT Construction and Maintenance Activities Manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
12. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream.
13. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
14. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this Certification.
15. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
16. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this Certification.
17. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this Certification.
18. Native riparian vegetation must be re-established within the construction limits of the project by the end of the growing season following completion of construction.
19. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated this permit without appropriate modification. Should waste or borrow sites be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.
20. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface water standards.
21. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor owned or leased borrow pits associated with the project. The reclamation measures and implementation must comply with the requirements of the Sedimentation Pollution Control Act.
22. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored upon completion of the project.
23. Compensatory mitigation for 1.25 acres of impacts to riverine and non-riverine wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts

8 SEE 401 MON (ATTACHED)

to wetlands through the North Carolina Ecosystem Enhancement Program (EEP) and that the EEP has agreed to implement the mitigation for this project. EEP has indicated in a letter dated June 6, 2006 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above referenced project, in accordance with the Tri-Party MOA signed on July 22, 2003, and the Dual-Party MOA signed on April 12, 2004.

24. A copy of this Water Quality Certification shall be posted on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
25. Upon completion of the project, the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed.
26. The permittee and its authorized agents shall conduct its activities in a manner consistent with State Water Quality Standards [including any requirements resulting from compliance with 303(d) of the Clean Water Act] and any other appropriate requirements of State and Federal law. If DWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use), that State or Federal law is being violated, or that further conditions are necessary to assure compliance, DWQ may re-evaluate and modify this certification.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 13th day of June 2007

DIVISION OF WATER QUALITY


Coleen H. Sullins
Director



Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins, Director
Division of Water Quality

October 31, 2007

Dr. Greg Thorpe, PhD., Manager
Planning and Environmental Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina, 27699-1548

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for the Proposed Widening of NC 16 (Old Providence Road) from SR 2948 (Rea Road Extension) in Union County to South of I-485 (Charlotte Outer Loop) in Mecklenburg County, Federal Aid Project No. STP-16(20), State Project No. 8.1672807, TIP U-2510A, DWQ No. 07-0221

Dear Dr. Thorpe:

Attached hereto is a modification of Certification No. 3613 issued to The North Carolina Department of Transportation (NCDOT) dated June 13, 2007. This modification is applicable only to the additional proposed activities. All authorized activities and conditions of the certification associated with the original Water Quality Certification, dated June 13, 2007, still apply except where superseded by this certification.

If we can be of further assistance, please do not hesitate to contact Polly Lespinasse at (704) 663-1699.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. Sullins', is written over a horizontal line.

for Coleen H. Sullins
Director

Attachments

cc: Steve Lund, US Army Corps of Engineers, Asheville Field Office
Marla Chambers, NC Wildlife Resources Commission
Marella Buncick, US Fish and Wildlife Service
Sonia Gregory, DWQ Wetlands Unit
File Copy

One
North Carolina
Naturally

**401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS**

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact permanently 1.28 acres of jurisdictional wetlands and 545 linear feet of jurisdictional streams in Union and Mecklenburg Counties. The project shall be constructed pursuant to the modification received September 11, 2007. The authorized impacts are as described below:

Stream Impacts in the Catawba River Basin

Site/Station (from/to)	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
2A (approximately 75+00/80+00)	99					0
2 (85+58/86+08)	162					0
**3 (124+69/124+95)				**40		
4 (145+26/146+25)	115					0
5 (193+96/194+32)	135					0
6 (203+57/203+68)	34					0

Total Stream Impacts for Project: 545 linear feet

****Stream impacts at Site 3 will be reduced by 40 linear feet as four box culverts will be replaced by a bridge.**

Wetland Impacts in the Catawba River Basin

Site/System Type	Fill (permanent) (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Area under Bridge (ac)	Total Wetland Impact (ac)
1 (Non-Riverine)	0.30			0.07			0.37
3 (Riverine)	0.09			0.07			0.16
4 (Riverine)	0.46		0.01	0.23			0.70
5 (Riverine)	0.04			0.01			0.05
Total	0.89		0.01	0.38			1.28

Total Wetland Impacts for Project: 1.28 (0.37 Non-Riverine/0.91 Riverine)

Open Water (Ponds) Impacts in the Catawba River Basin

Site	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
1	0.01		0.01
Total	0.01		0.01

Total Open Water Impacts for Project: 0.01 acres

The application provides adequate assurance that the discharge of fill material into the waters of the Catawba River Basin and wetlands in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your modified application received September 11, 2007. All authorized activities and conditions of the certification associated with the original Water Quality Certification dated June 13, 2007, still apply except where superceded by this certification. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions.

If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Conditions of Certification:

1. The modification request results in a reduction of 12 linear feet of permanent stream impact at Permit Site 5. The reduction in impacts is due to the elimination of a proposed ditch. The ditch will be replaced with a 24" pipe that is proposed to carry stormwater to a 72" crosspipe that empties into an unnamed tributary to Flat Branch.
2. The permittee shall comply with the "Construction Sequence for Site 3" attachment included in the modification to prevent the addition of sediment to the stream during the demolition of the existing four (4) barrel box culvert. The four (4) barrel box culvert will be replaced by a bridge at Permit Site 3. Removal of the culverts shall not cause destabilization of the stream at this location. If the stream becomes destabilized due to the culvert removal and/or the construction of the bridge, NCDOT will be required to stabilize the stream. This may include the installation of structures (i.e., cross-vanes). The installation of certain structures may require a permit modification. NCDOT staff shall contact DWQ staff for authorization prior to the installation of any measures within the stream.
3. Upon completion of the project, the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed.

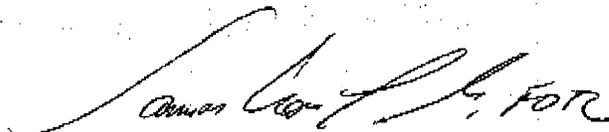
4. The permittee and its authorized agents shall conduct its activities in a manner consistent with State Water Quality Standards [including any requirements resulting from compliance with 303(d) of the Clean Water Act] and any other appropriate requirements of State and Federal law. If DWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use), that State or Federal law is being violated, or that further conditions are necessary to assure compliance, DWQ may re-evaluate and modify this certification.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 31st day of October 2007

DIVISION OF WATER QUALITY



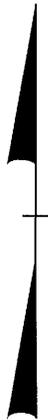
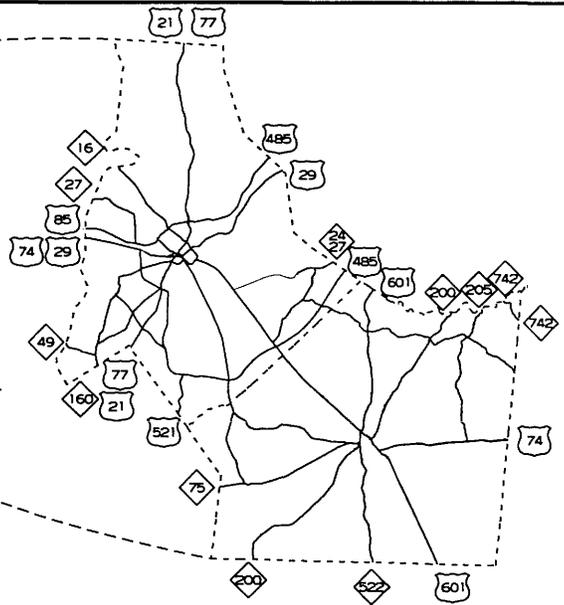
Coleen H. Sullins
Director

WQC No. 3613

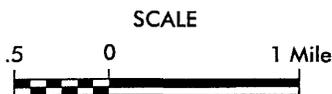
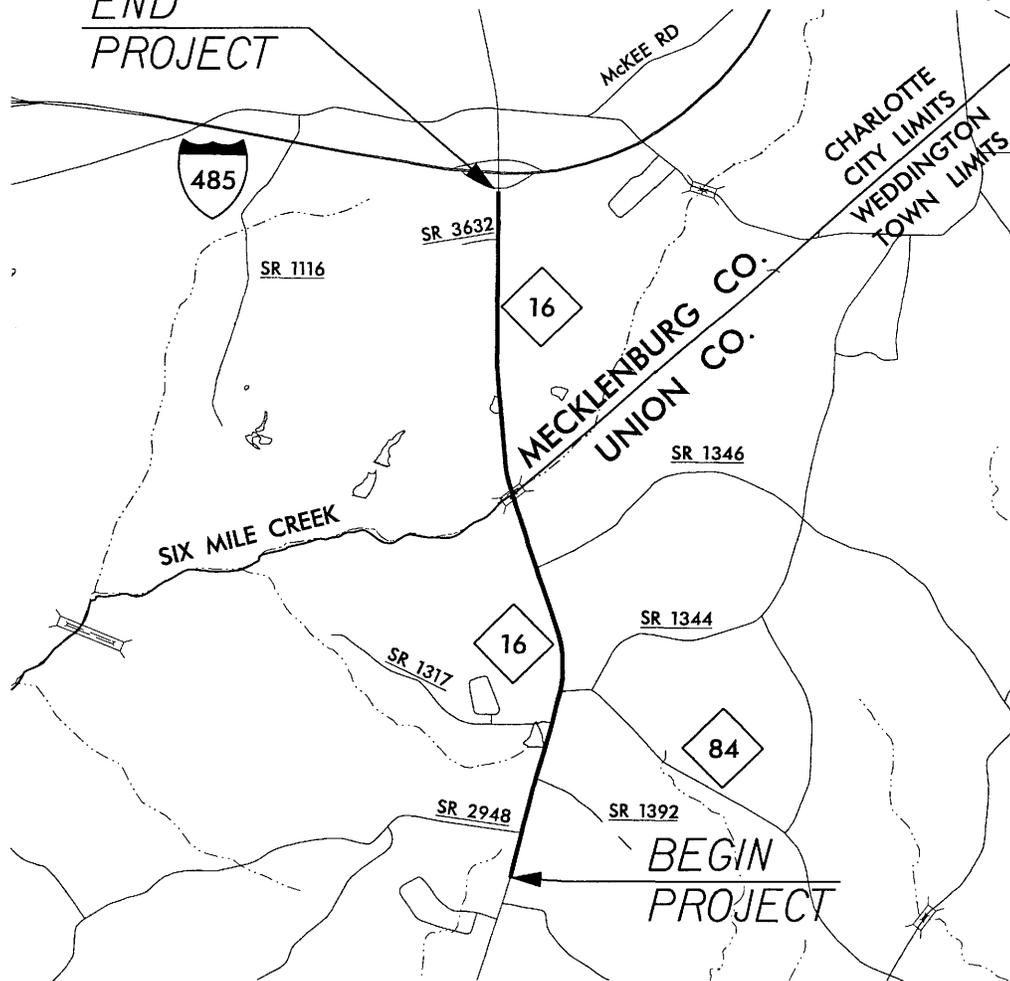


SEE INSET
BELOW

MECKLENBURG / UNION COUNTIES



END
PROJECT



N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

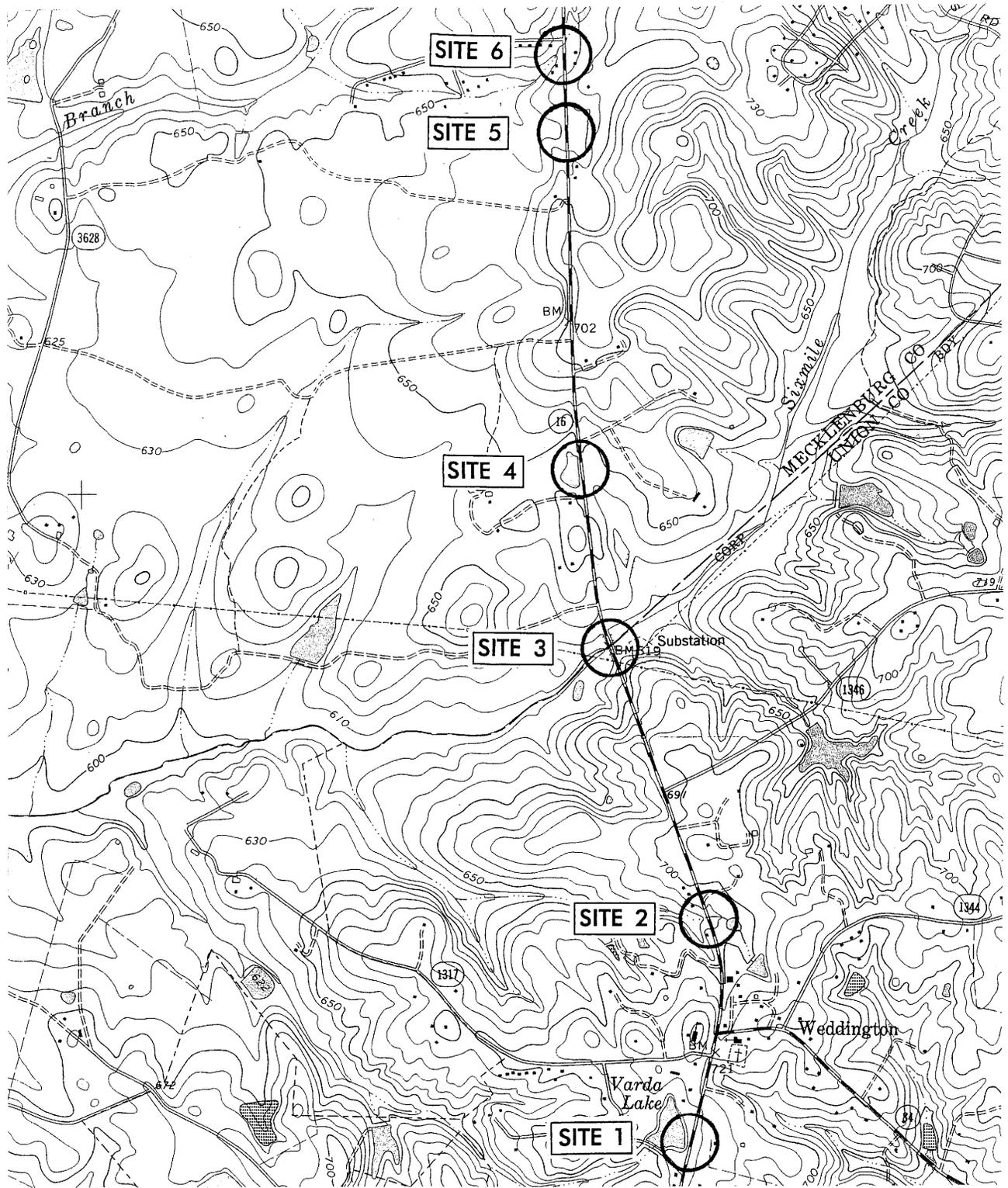
MECKLENGURG / UNION COUNTY

PROJECT: 34813.1.1 (U-2510A)

NC 16 WIDENING

SHEET 1 OF 23

01 / 25 / 05



N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
MECKLENGURG/UNION COUNTY
PROJECT: 34813.1.1 (U-2510A)
NC 16 WIDENING

SHEET 2 OF 23

01/25/05

REVISED 11/7/05

Project No. 34813.1.1 (U-2510A)

Property Owner List

Parcel Number	Name	Address
12	Grace S. Varda	127 Bluebird Lane Weddington, NC 28173
13	Harry F. Short	149 Providence Road South Weddington, NC 28173
14	Robin R. Branstrom	314 Eastover Road Charlotte, NC 28207
15	Roderick J. Smith	401 Henderson St. Mt. Olive, NC 28365
27	Fifty-Four Investment, LLC	4517 Randolph Road Charlotte, NC 28211
29	Micheal T. O'Brien	13429 Providence Road Mathews, NC 28105
48	Cy N. Bahakel	P O Box 32488 Charlotte, NC 28232
64	Hargett, LLC	210 Franklin Street Pineville, NC 28134
79	Maggie B. Moore	5117 Allison Lane Charlotte, NC 28277

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

MECKLENGURG/UNION COUNTY

PROJECT: 34813.1.1 (U-2510A)

NC 16 WIDENING

SHEET 3 OF 23

01/25/05

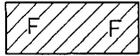
REVISED 11/7/05

LEGEND

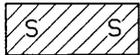
---WLB--- WETLAND BOUNDARY



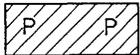
WETLAND



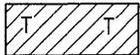
DENOTES FILL IN WETLAND



DENOTES FILL IN SURFACE WATER



DENOTES FILL IN SURFACE WATER (POND)



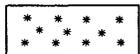
DENOTES TEMPORARY FILL IN WETLAND



DENOTES EXCAVATION IN WETLAND



DENOTES TEMPORARY FILL IN SURFACE WATER



DENOTES MECHANIZED CLEARING

— BZ — RIPARIAN BUFFER ZONE

← ← FLOW DIRECTION

— TB — TOP OF BANK

— WE — EDGE OF WATER

— C — PROP. LIMIT OF CUT

— F — PROP. LIMIT OF FILL

▲ PROP. RIGHT OF WAY

— NG — NATURAL GROUND

— PL — PROPERTY LINE

— TDE — TEMP. DRAINAGE EASEMENT

— PDE — PERMANENT DRAINAGE EASEMENT

— EAB — EXIST. ENDANGERED ANIMAL BOUNDARY

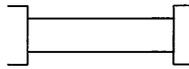
— EPB — EXIST. ENDANGERED PLANT BOUNDARY

▽ WATER SURFACE

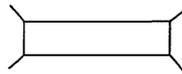
X X X LIVE STAKES

BOULDER

— COIR FIBER ROLLS



PROPOSED BRIDGE



PROPOSED BOX CULVERT

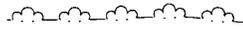


PROPOSED PIPE CULVERT

(DASHED LINES DENOTE EXISTING STRUCTURES)



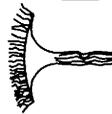
SINGLE TREE



WOODS LINE



DRAINAGE INLET



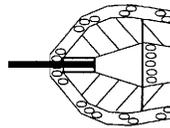
ROOTWAD



RIP RAP

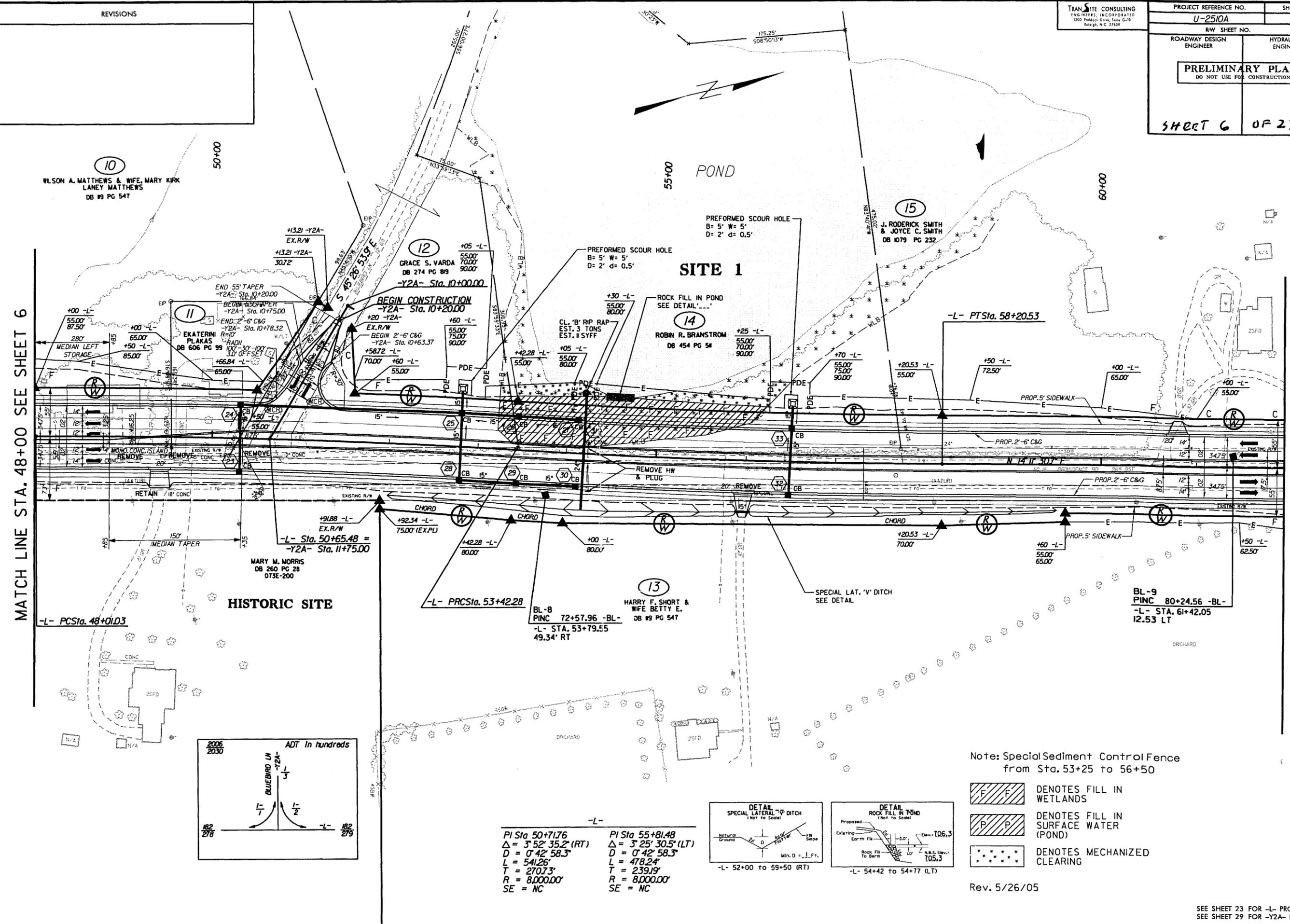


ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE



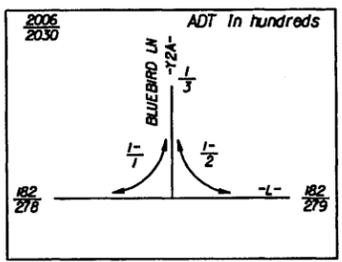
RIP RAP ENERGY DISSIPATOR BASIN

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
MECKLENBURG/UNION COUNTY
PROJECT: 34813.1.1 (U-2510A)
NC 16 WIDENING

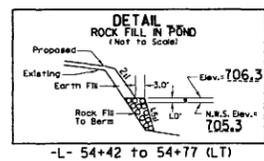
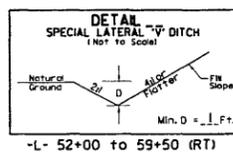


MATCH LINE STA. 48+00 SEE SHEET 6

MATCH LINE STA. 62+00 SEE SHEET 8



PI Sta 50+71.76 $\Delta = 3' 52' 35.2" (RT)$ $D = 0' 42' 58.3"$ $L = 541.26'$ $T = 270.73'$ $R = 8,000.00'$ $SE = NC$	PI Sta 55+81.48 $\Delta = 3' 25' 30.5" (LT)$ $D = 0' 42' 58.3"$ $L = 478.24'$ $T = 239.19'$ $R = 8,000.00'$ $SE = NC$
---	---



Note: Special Sediment Control Fence from Sta. 53+25 to 56+50

- DENOTES FILL IN WETLANDS
- DENOTES FILL IN SURFACE WATER (POND)
- DENOTES MECHANIZED CLEARING

Rev. 5/26/05

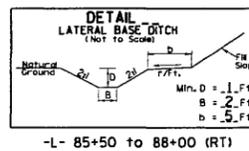
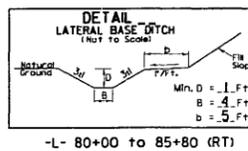
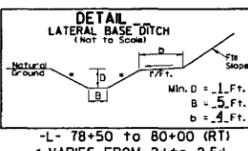
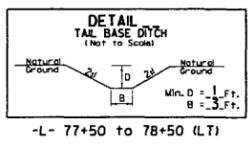
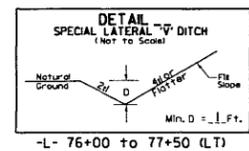
SEE SHEET 23 FOR -L- PROFILE
SEE SHEET 29 FOR -Y2A- PROFILE

03.001.002/Roadway/Prj/U2510a_rdy_psh07

-L-
 PI Sta 77+97.48
 $\Delta = 33^{\circ} 01' 30.7" (LT)$
 $D = 159' 46.9"$
 $L = 1654.26'$
 $T = 850.82'$
 $R = 2,870.00'$
 $SE = 04$
 $DS = 55 MPH$

MATCH LINE STA. 75+00 SEE SHEET 8

MATCH LINE STA. 88+00 SEE SHEET 10



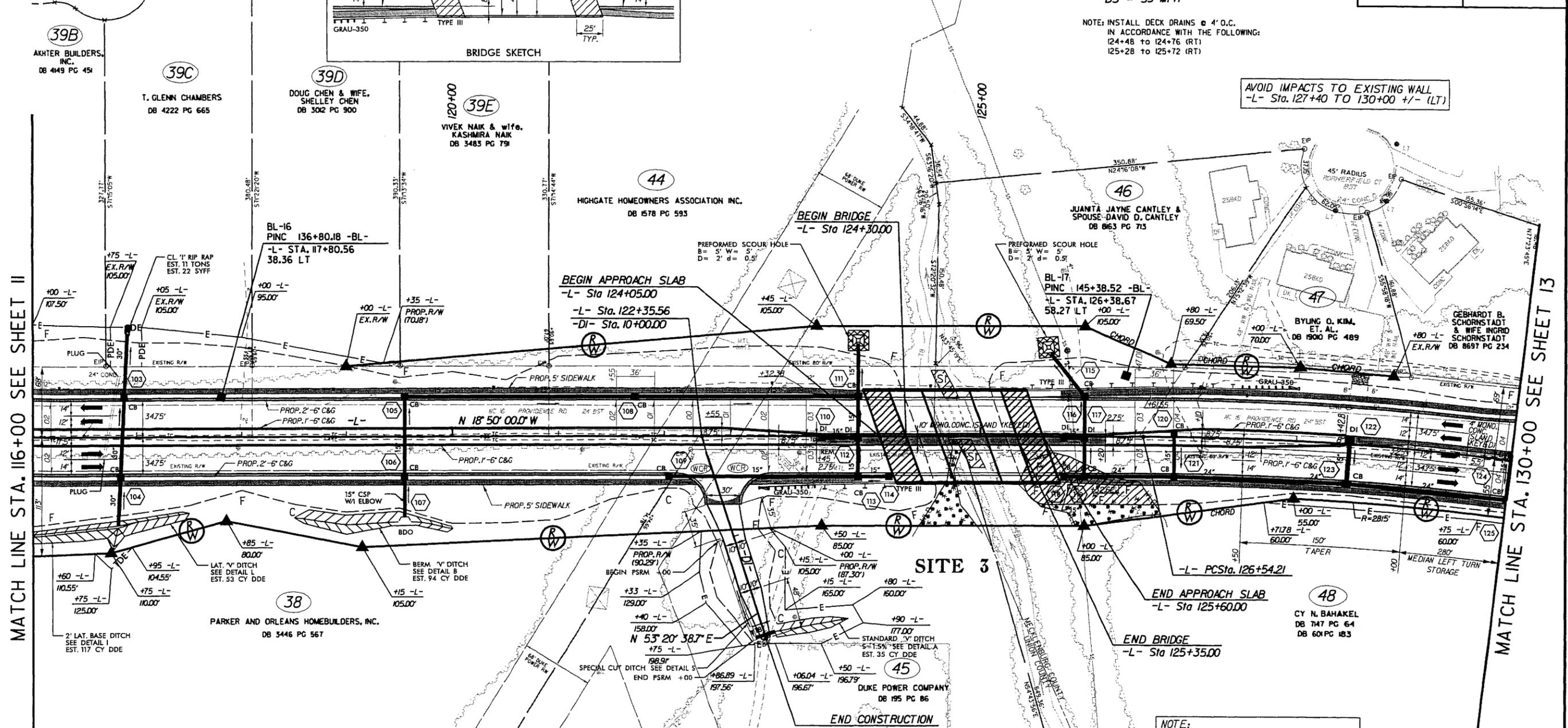
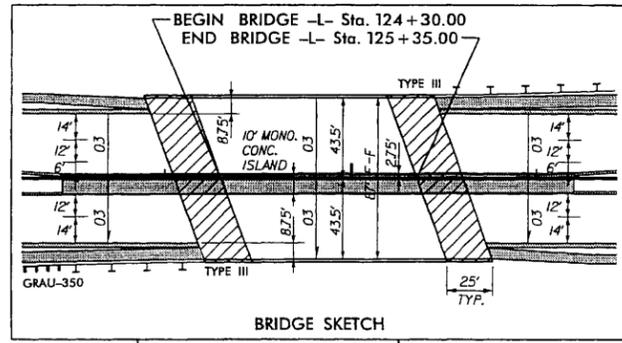
DENOTES FILL IN SURFACE WATER

03.001.002/Roadway/Proj/u2510a_r.dwg_psb09

PROJECT REFERENCE NO.	SHEET NO.
U-2510A	12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-L-
 PI Sta 129+81.53
 $\Delta = 13^{\circ}00'46.5"$ (RT)
 $D = 1^{\circ}59'46.9"$
 $L = 651.83'$
 $T = 327.32'$
 $R = 2,870.00'$
 $SE = 04'$
 $RO = 144'$
 $DS = 55$ MPH

NOTE: INSTALL DECK DRAINS @ 4' O.C.
 IN ACCORDANCE WITH THE FOLLOWING:
 124+48 TO 124+76 (RT)
 125+28 TO 125+72 (RT)

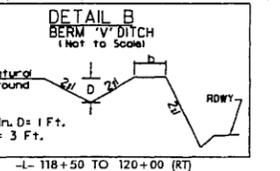
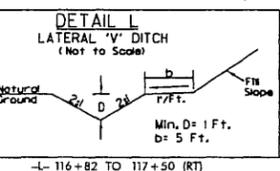
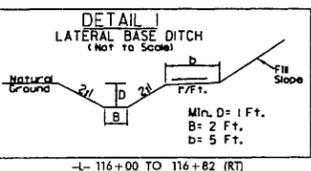
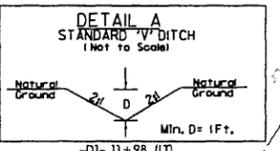
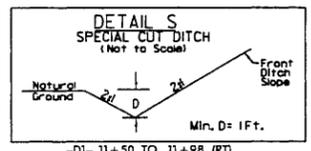


AVOID IMPACTS TO EXISTING WALL
 -L- Sta. 127+40 TO 130+00 +/- (LT)

NOTE:
 FOR EXISTING CULVERT REMOVAL
 REMOVE TOP SLAB AND WALLS
 RETAIN EXISTING FLOOR SLAB.

MATCH LINE STA. 116+00 SEE SHEET 11

MATCH LINE STA. 130+00 SEE SHEET 13



-DI-
 PI Sta 11+01.83
 $\Delta = 72^{\circ}53'20.4"$ (LT)
 $D = 229^{\circ}10'59.2"$
 $L = 31.80'$
 $T = 18.46'$
 $R = 250.00'$
 $SE = NC$

PI Sta 11+55.19
 $\Delta = 90^{\circ}00'02.9"$ (RT)
 $D = 163^{\circ}42'08.0"$
 $L = 54.98'$
 $T = 35.00'$
 $R = 350.00'$
 $SE = NC$

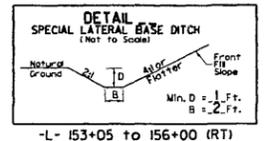
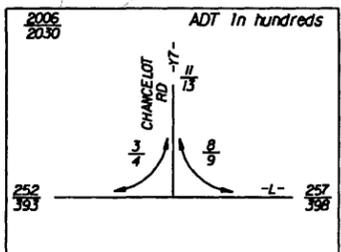
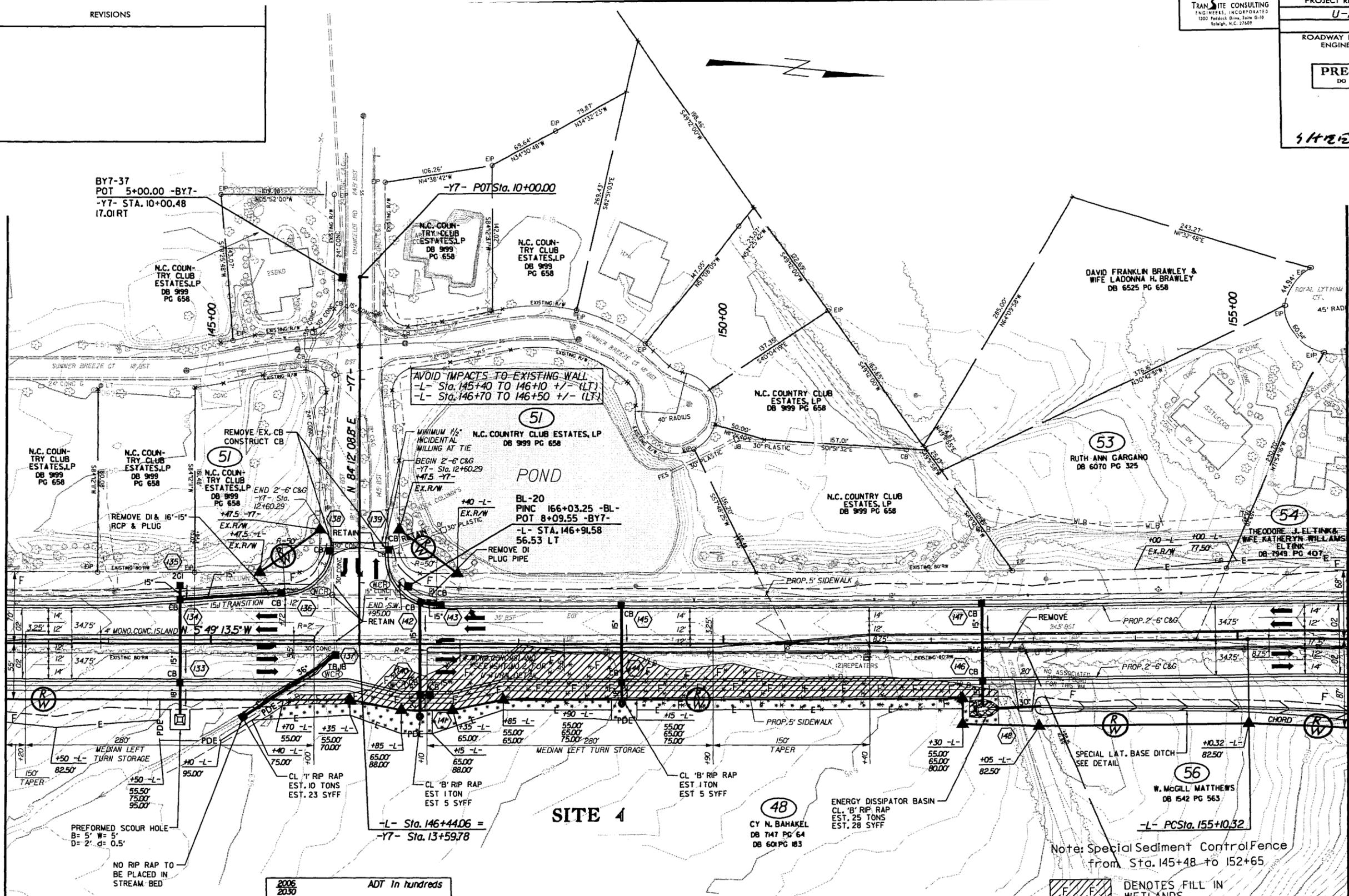
- DENOTES FILL IN WETLANDS
- DENOTES MECHANIZED CLEARING
- DENOTES TEMPORARY SURFACE WATER IMPACTS

Permit Drawing
 Sheet 12 of 23

SEE SHEET 25 & 26 FOR -L- PROFILE
 SEE SHEET 30 FOR -DI- PROFILE

MATCH LINE STA. 143+00 SEE SHEET 13

MATCH LINE STA. 156+00 SEE SHEET 15



-L-
 PI Sta 158+70.99
 $\Delta = 5^{\circ}09'45.4''$ (RT)
 $D = 0^{\circ}42'58.3''$
 $L = 720.84'$
 $T = 360.66'$
 $R = 8,000.00'$
 $SE = NC$
 $DS = 50 MPH$

Note: Special Sediment Control Fence from Sta. 145+48 to 152+65

- DENOTES FILL IN WETLANDS
- DENOTES FILL IN SURFACE WATER
- DENOTES EXCAVATION IN WETLAND
- DENOTES MECHANIZED CLEARING

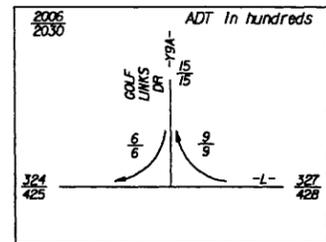
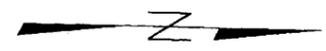
Rev. 5/26/05

03.001.002/Roadway/Proj/U2510a_rdy_psh14

REVISIONS

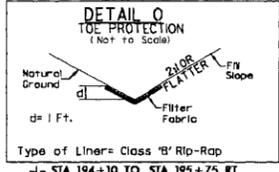
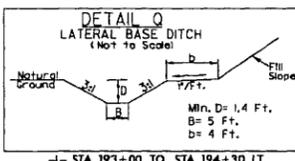
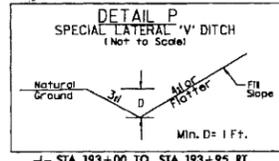
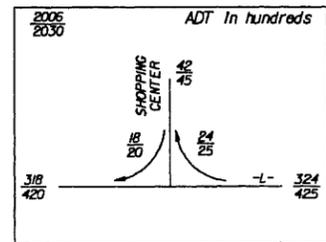
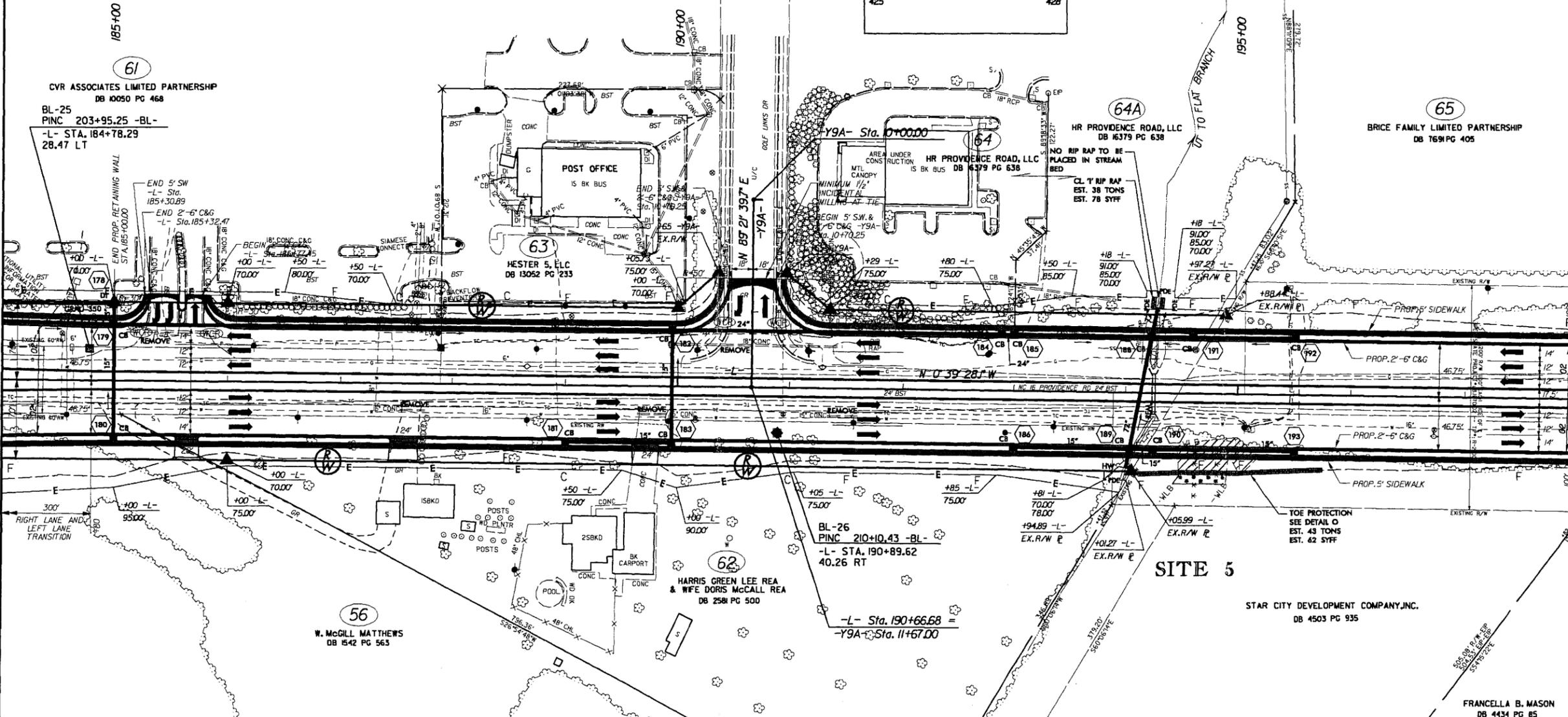
TRAN SITE CONSULTING
ENGINEERS, INCORPORATED
1300 Parkside Drive, Suite 2-10
Arling, N.C. 27409

PROJECT REFERENCE NO. U-2510A		SHEET NO. 17	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



MATCH LINE STA. 184+00 SEE SHEET 16

MATCH LINE STA. 198+00 SEE SHEET 18



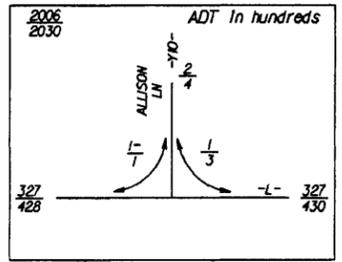
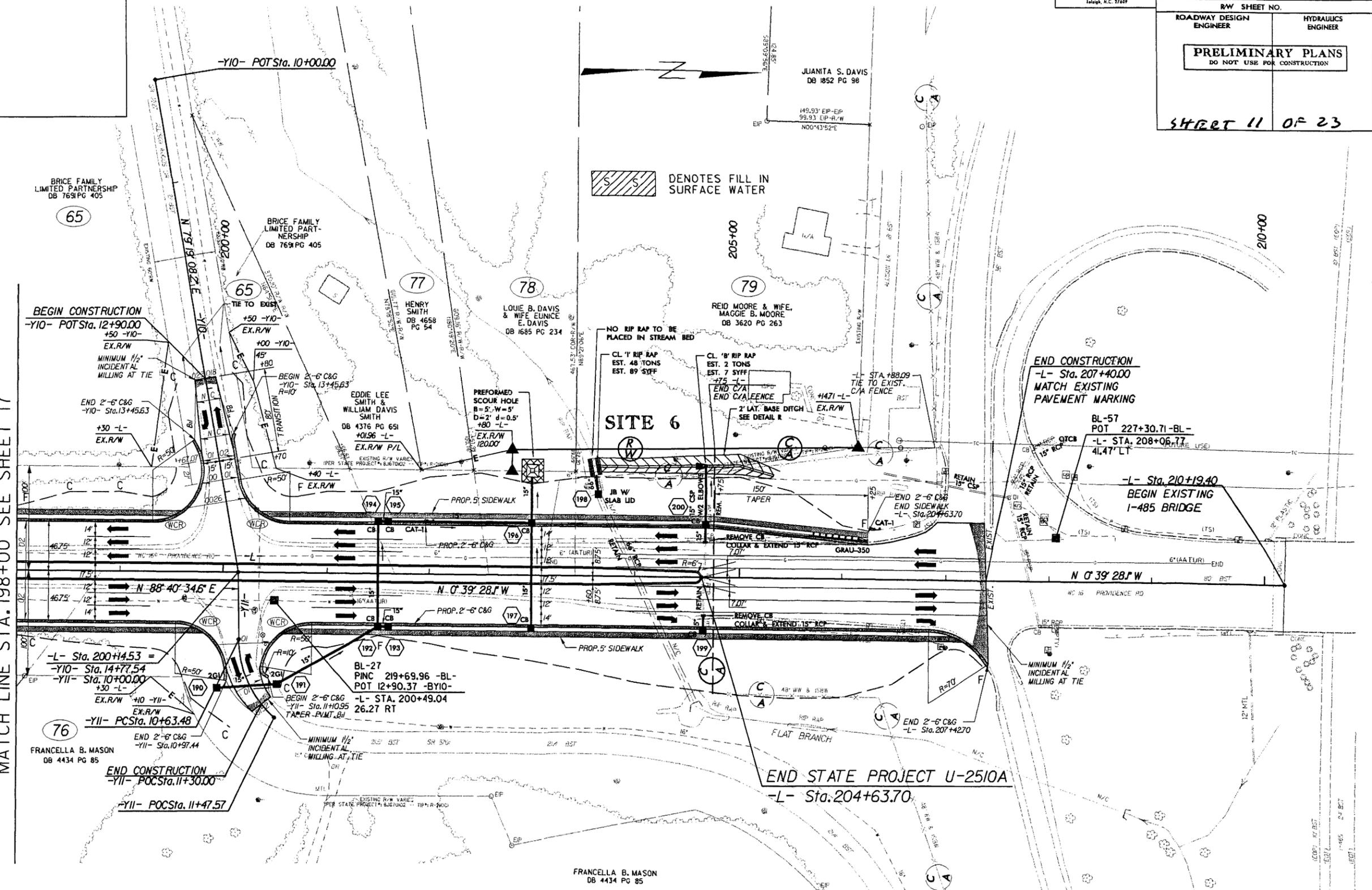
- DENOTES FILL IN WETLANDS
- DENOTES FILL IN SURFACE WATER
- DENOTES MECHANIZED CLEARING

Permit Drawing
Sheet 10 of 23
SEE SHEET 28 FOR -L- PROFILE

REVISED 5/16/07

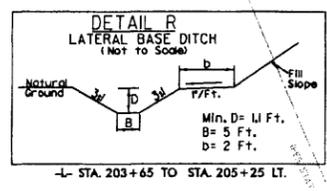
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MATCH LINE STA. 198+00 SEE SHEET 17



-Y11-

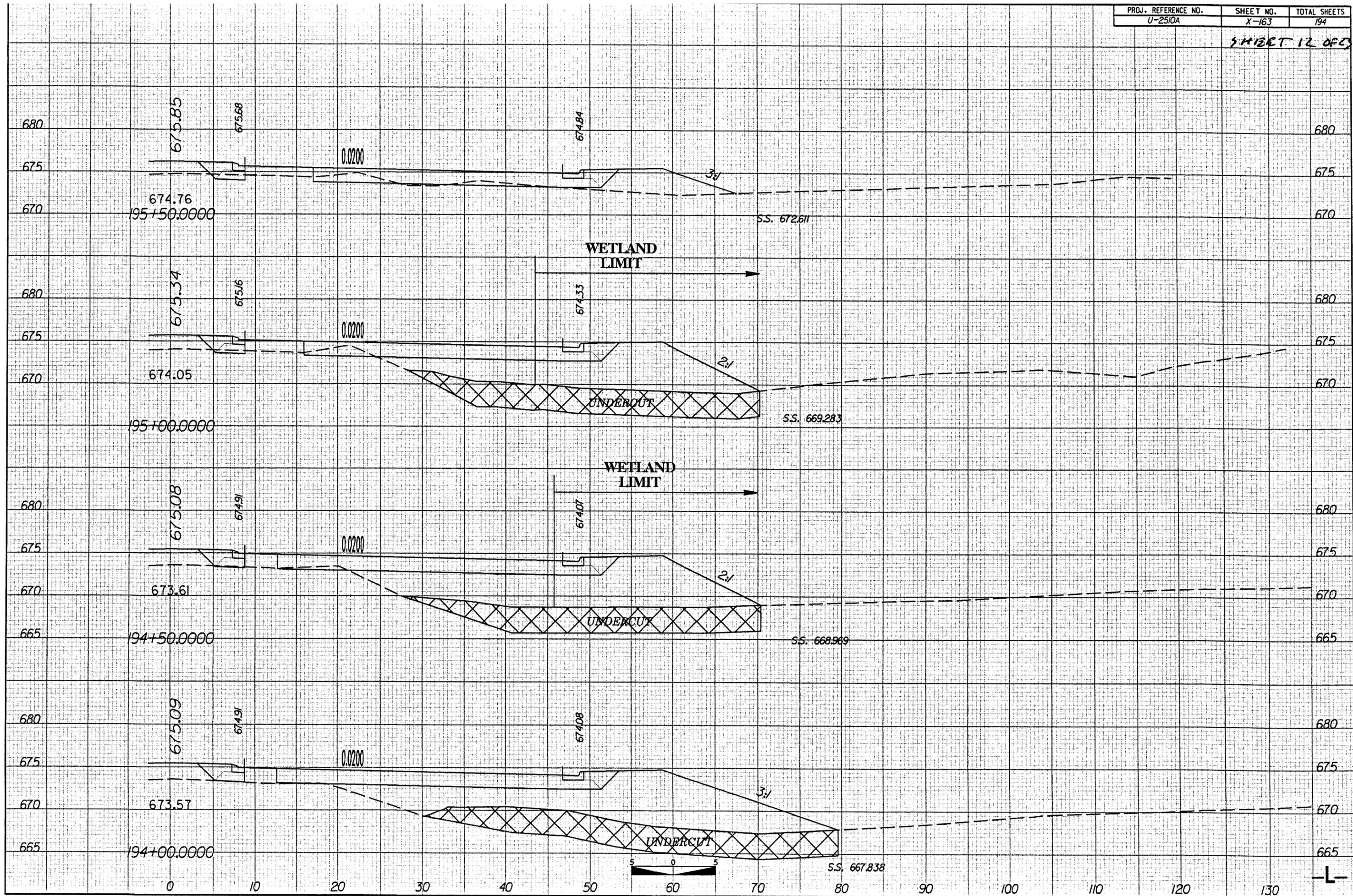
PI Sta 11+08.19
 $\Delta = 48' 10" 41.8" (LT)$
 $D = 57' 17" 44.8"$
 $L = 84.09'$
 $T = 44.71'$
 $R = 100.00'$
 $SE = 0'$
 $DS = 25 MPH$

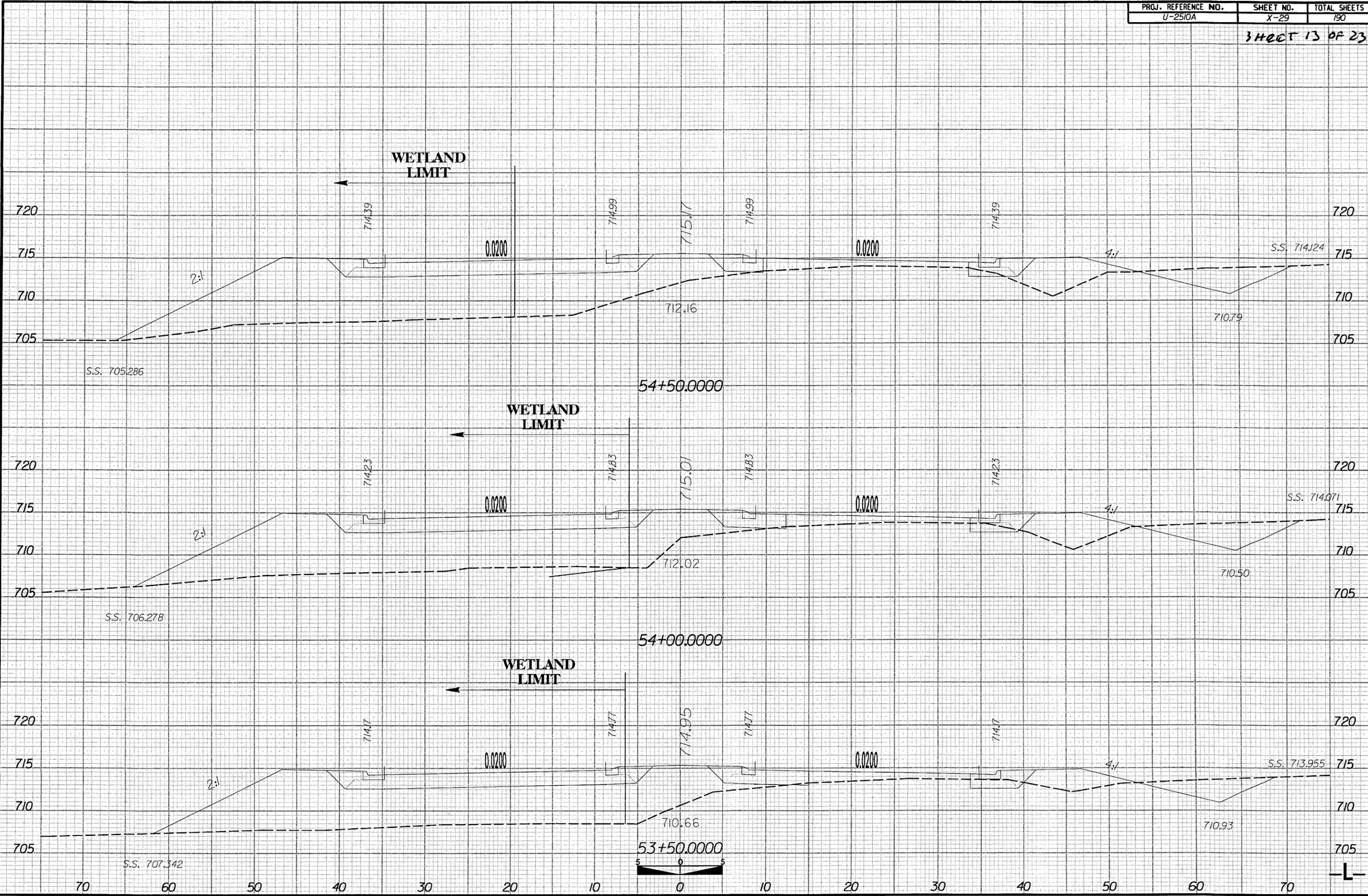


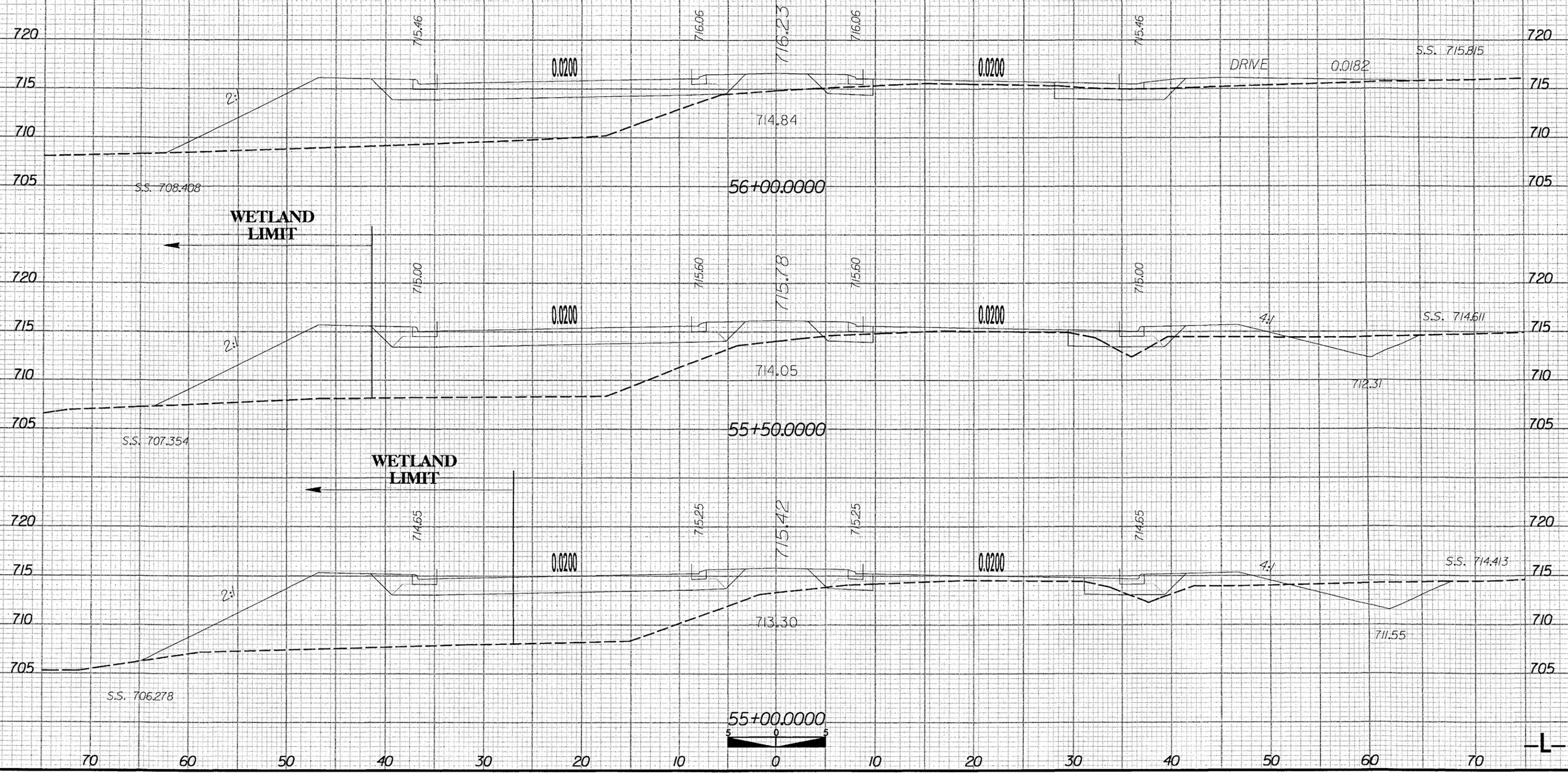
SEE SHEET 28 & 29 FOR -L- PROFILE
 SEE SHEET 31 FOR -Y10- PROFILE
 SEE SHEET 31 FOR -Y11- PROFILE

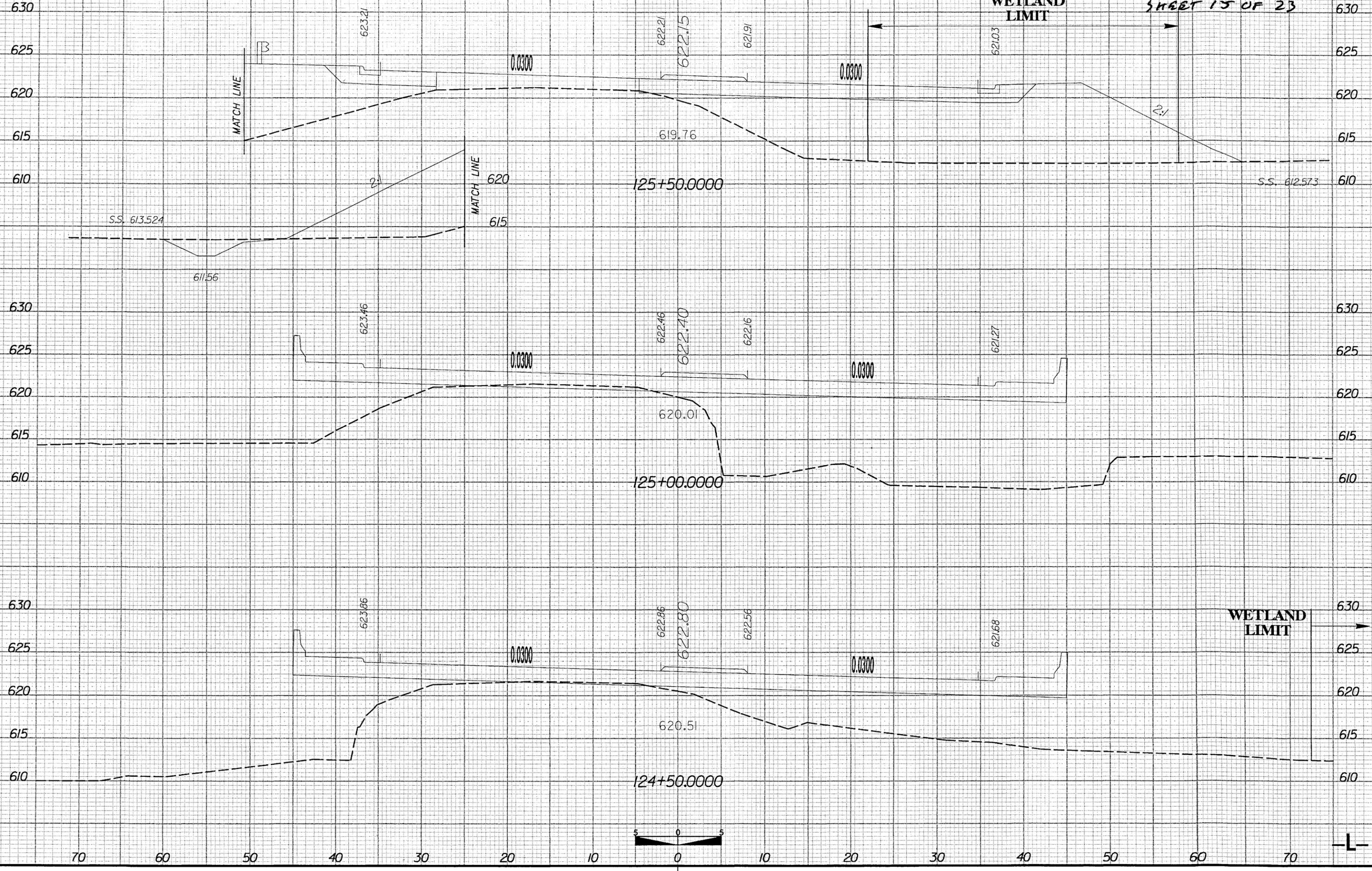
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SHEET 12 OF 19

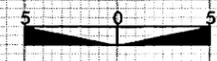
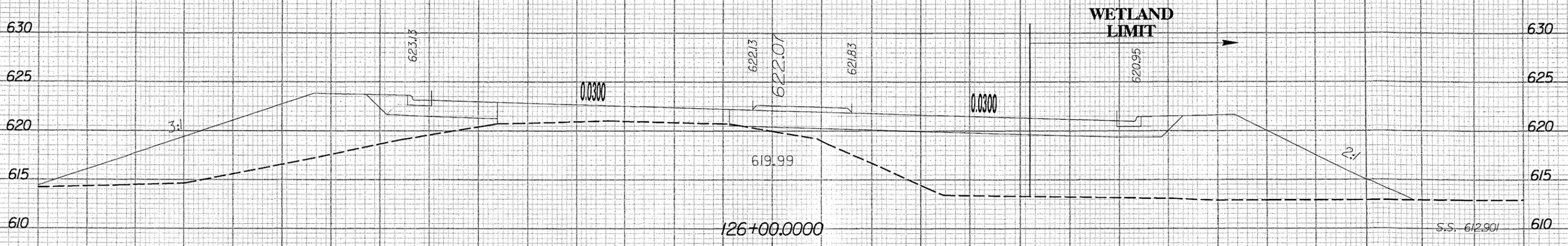
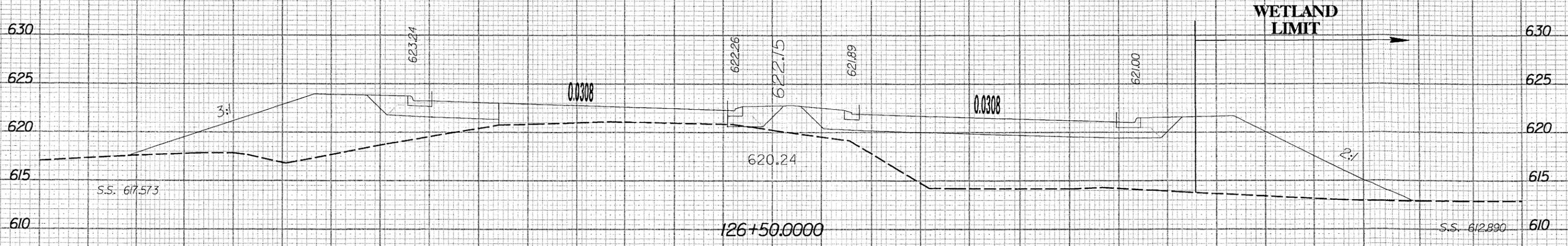
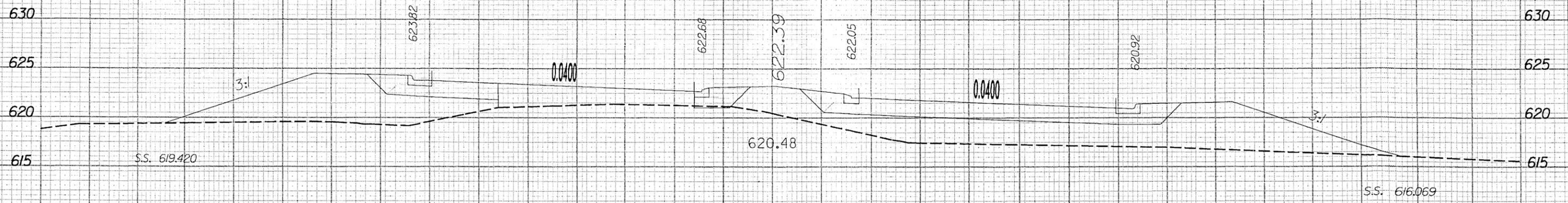






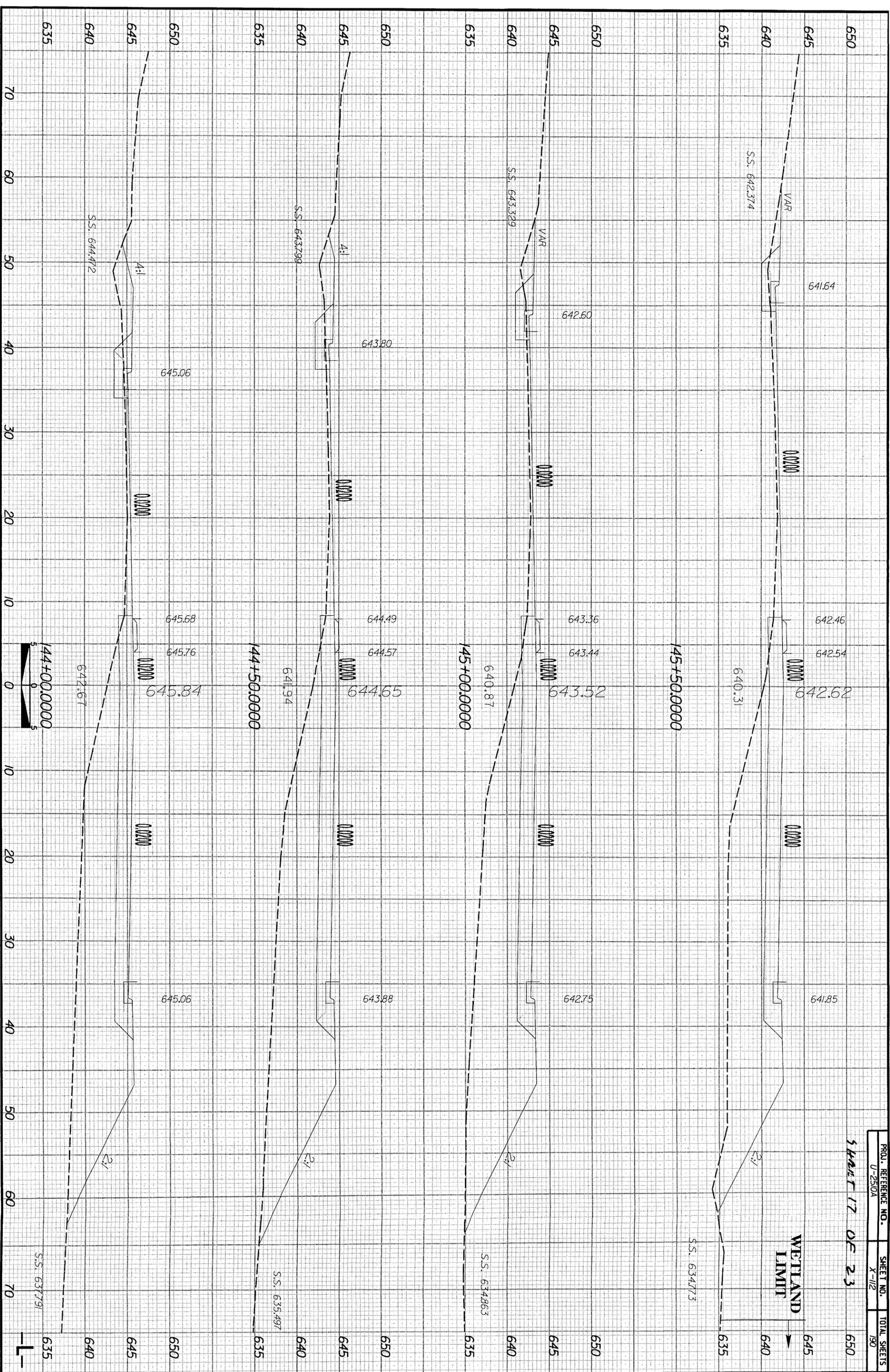


L



L

SHEET 17 OF 23

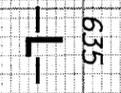


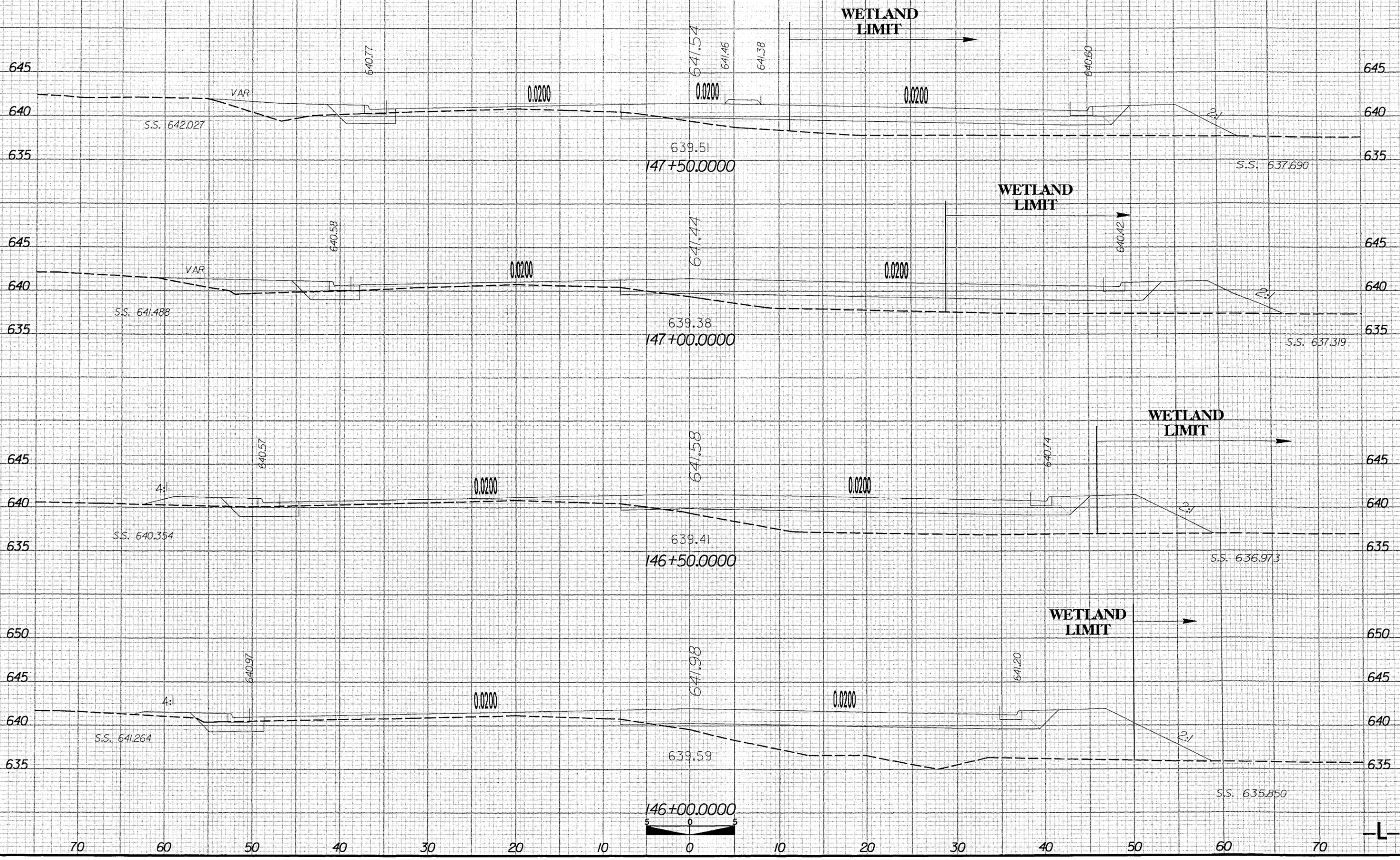
WETLAND LIMIT

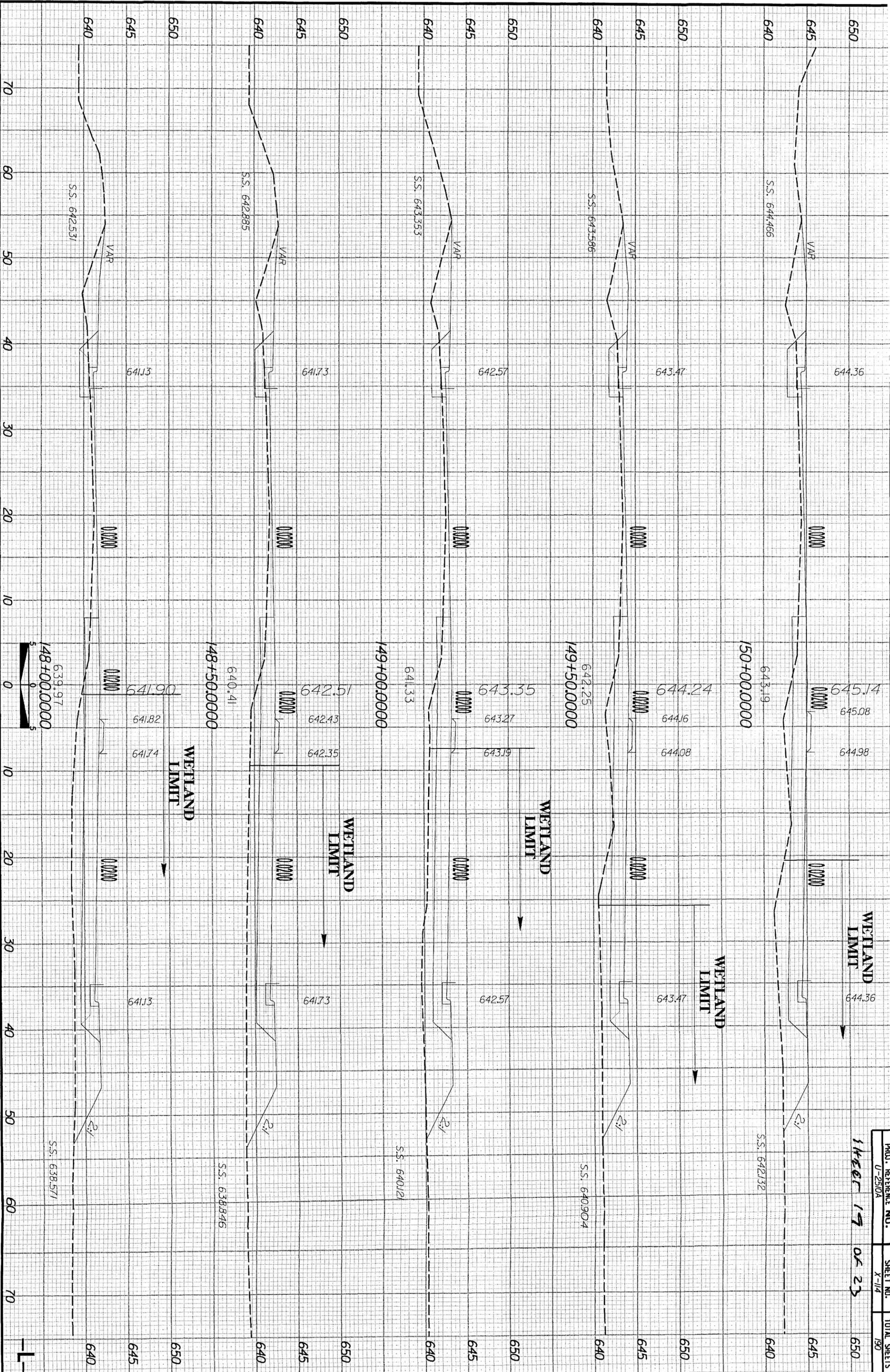
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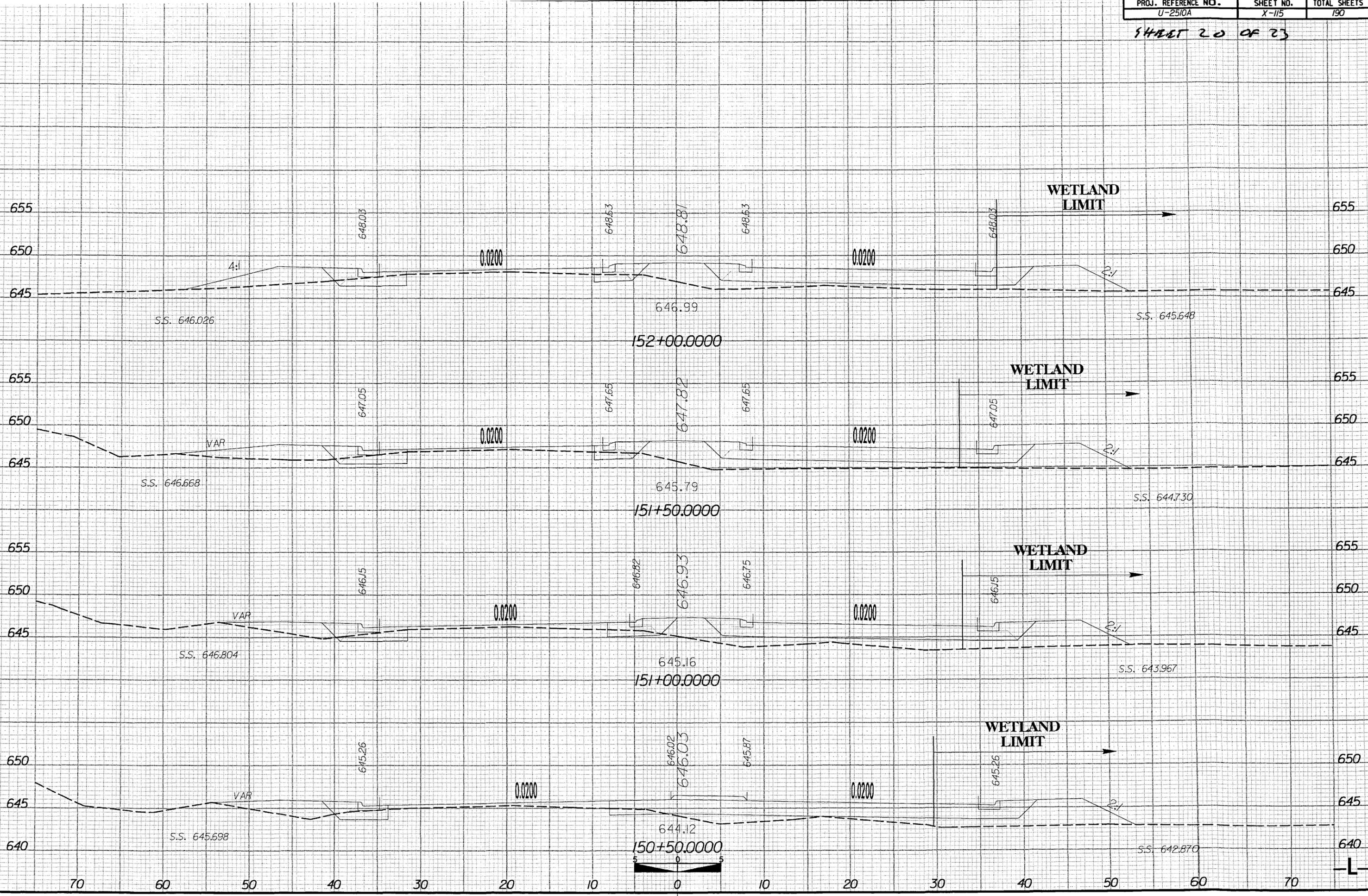
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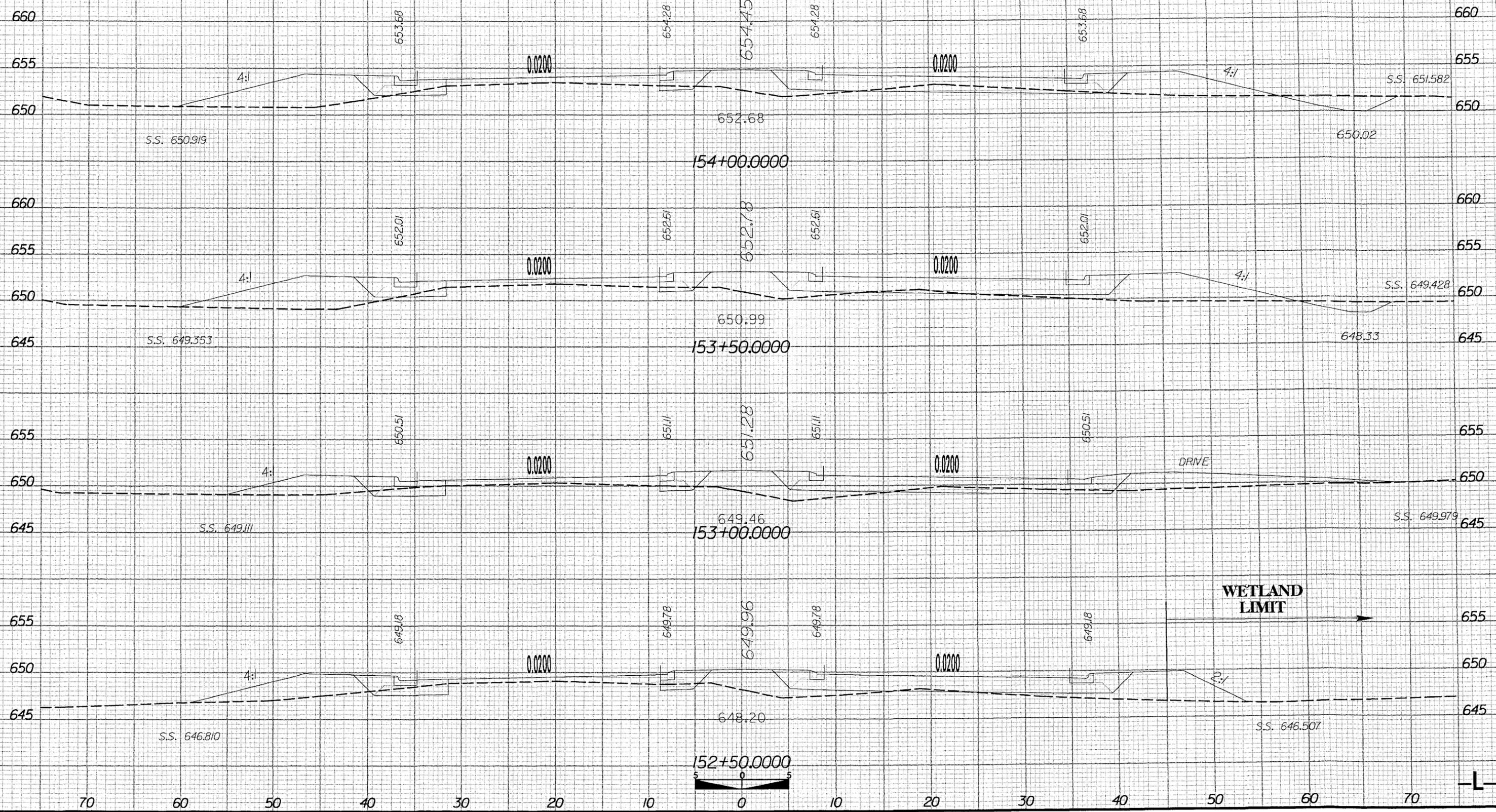
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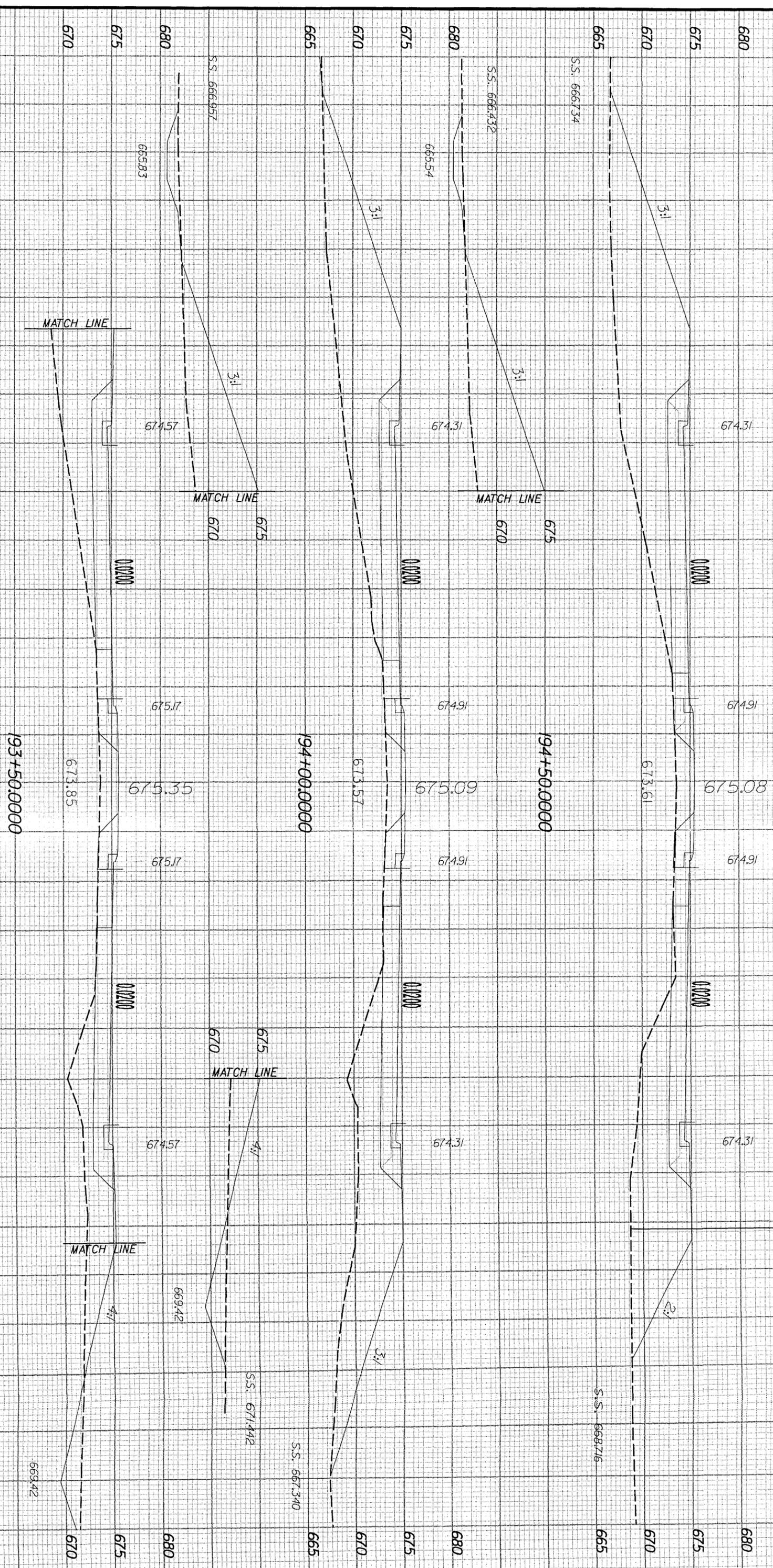








WETLAND LIMIT



L

SHEET 23 OF 23

