STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

NICHOLAS J. TENNYSON
SECRETARY

September 9, 2015

U.S. Army Corps of Engineers
Asheville Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN: Ms. Crystal C. Amschler, NCDOT Regulatory Coordinator

Subject: **Application for Individual Section 404 Permit and Section 401 Water Quality Certification** for the Proposed Addition of High Occupancy Toll (HOT) Lanes, and the Conversion of Existing High Occupancy Vehicular (HOV) Lanes to HOT lanes on approximately 26 Miles of Existing I-77 from I-277 (Brookshire Freeway – Exit 11) in Mecklenburg County to Exit 36 /NC 150 (Iredell County) and along I-277 from I-77 southward to North Brevard Street.

Project is Inclusive of NCDOT Project Numbers:
I-5405 (Central Section); Federal Aid Project NHF-077-1(209)9; WBS No. 45454.1.1
I-4750 AA (North Section); Federal Aid Project IMF-077-1(183)299; WBS No. 40099.1.1
I-3311C (South Section): Federal Aid Project NHS-077-1 (210); WBS No. 34181.1.1

Debit $570 from WBS 40099.1.1

Dear Ms. Amschler:

The North Carolina Department of Transportation (NCDOT), in cooperation with the Federal Highway Administration (FHWA), proposes to improve approximately 26 miles of I-77 by the introduction of High Occupancy Toll (HOT) lanes. Vehicles meeting High Occupancy Vehicle (HOV) requirements (three or more passengers, as well as buses and motorcycles) will be permitted to use the HOT lanes free of charge. Non-HOV vehicles opting to use the lanes would be assessed a variable fee. As more vehicles enter the HOT lanes and travel speeds in the HOT lanes begin to slow, the fee would rise to ensure a minimum speed is maintained in the HOT lanes. The Project will address travel delays by providing a travel option that results in more reliable local trip times and improves overall network efficiency.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-707-6100
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.GOV

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

The referenced project sections are described as:

- I-5405 Central Section - begins at Cindy Lane (SR 2523) on I-77 and ends 14.7 miles north, just north of Catawba Avenue (SR 5544): convert existing HOV lanes on I-77 to HOT lanes and extend northward to Exit 28. Add additional HOT lane in each direction from I-85 to Exit 28.
- I-4750AA North Section - begins north of Catawba Avenue and continues 8.3 miles north to just north of NC 150: construct one HOT lane in each direction along I-77 from Exit 28 (connecting to I-5405 HOT lane project) to Brawley School Road (Exit 35). North and southbound HOT designations begin/end at Brawley School Road (Exit 35).
- I-3311C South Section – begins at North Brevard Street on I-277 (East Brookshire Freeway) and continues north on I-77 to Cindy Lane, 3.8 miles:
    - Southbound I-77: Construct one HOT lane from the southern terminus of the existing southbound HOV lane (south of I-85) to I-277.
    - Southbound I-77: Construct an additional HOT lane southbound from the southern terminus of I-5405 (north of I-85/I-77 interchange) to I-277.
    - Northbound I-77: Construct two HOT lanes northbound from I-277 to the southern terminus of I-5405 (north of I-85)
    - Both directions of I-277: Construct one HOT lane in each direction from I-77 to North Brevard Street (with HOT lane designation beginning and ending at North Tryon St.)

Please see the enclosed ENG 4345 Application Form, acceptance letter from the Division of Mitigation Services (formerly Ecosystem Enhancement Program), Section 7 concurrence letter from USFWS, Agency Update Meeting minutes, Inter-Agency Permit Site Review Meeting minutes, Stormwater Management Plan (SMP), final permit drawings for the Central Section, preliminary permit drawings for the North and South Sections, and project design plans.

PROJECT PURPOSE AND NEED

The purpose of the proposed action is to provide travel time reliability to and from the major employment center (downtown Charlotte) to the rapidly growing residential communities of northern Mecklenburg and southern Iredell counties, particularly the Lake Norman area. Not only does this route serve the rapidly expanding base of daily commuters, it is also a major route for commerce.

Currently, heavy traffic occurs during peak periods within the project limits, resulting in frequent congestion and delays. The study area has grown faster than the financial resources have been available to complete long-term transportation improvements. The traffic congestion results in predictable delays, as well as excessive travel times for commuters and through-travelers. Predicted growth in the study area will only exacerbate travel in what is a part of the Interstate Highway System.

SUMMARY OF JURISDICTIONAL IMPACTS

Final design is included for the Central Section. Preliminary permit drawings have been included for the North and South Sections. Impact totals for the North and South Sections will be provided with the permit modification application. As such, total project impacts are provided in Tables 1 and 2 on the following pages.

Table 1 – Summary of Wetland Impacts for I-77 HOT Lanes Project

Section	Design Stage	Impact Type	Impact Area (ac)	Impacts requiring Mitigation (ac)
Central	Final	Temp Fill	0.06	0.01
		Fill	<0.01	
North	Preliminary	TBD	TBD	-
South	Preliminary	TBD	TBD	-
TOTAL WETLAND MITIGATION LIABILITY				**0.01**

Table 2 – Summary of Permanent Stream Impacts for I-77 HOT Lanes Project

Section	Design Stage	Impact Type	Impact (lf)	USACE Mitigation (lf)	DWR Mitigation (lf)
Central	Final	Perm Fill	185	185	190
		Bank Stabilization	225		
		Temporary	309		
North	Preliminary	Perm Fill	TBD	-	-
		Bank Stabilization			
South	Preliminary	Perm Fill	TBD	-	-
		Bank Stabilization			
TOTAL PERMANENT IMPACTS			410	185	190

Note: Impacts from bank stabilization that, cumulatively with permanent fill, exceeds 150' per stream, requires mitigation from DWR, but not from USACE

Summary of Utility Impacts:
No utility impacts are anticipated.

Summary of Mitigation:
The project has been designed to avoid and minimize impacts to jurisdictional areas throughout the National Environmental Policy Act (NEPA) and design processes. However, project impacts will necessitate compensatory mitigation for the unavoidable impacts. Mitigation will be provided by NC Division of Mitigation Services.

NEPA DOCUMENT STATUS

The National Environmental Policy Act (NEPA) documents published for this project include the Environmental Assessment (EA), which was completed and signed by the Federal Highway Administration (FHWA) on July 1, 2013, and the Finding of No Significant Impacts (FONSI), which was completed on October 16, 2013. Subsets of the project are designated by three NCDOT State Transportation Improvement Program (STIP) project numbers: I-5405 (Central Section), I-4750 AA (North and Central Sections), and I-3311C (South Section). Various Categorical Exclusion (CE) studies were completed for these proposed actions, starting as early as 2002 and culminating in 2012.

PROJECT SCHEDULE

The project will be permitted in phases due to project size and schedule. Table 3 presents the proposed project sections and phasing. The impacts in this application are based on final design for the Central Section, and preliminary design for the North and South Sections. Permit modifications requests will be submitted once the final design is completed for the north and south sections.

Table 3 – Project phasing for I-77 HOT Lanes Project

Section	Approximate Section Limits	Approximate Length	Approximate Construction Procurement
Central	SR 2523 (Cindy Lane) to north of SR 5544 (Catawba Avenue)	14.7 miles	Sept 2015
North	North of SR 5544 (Catawba Avenue) to north of NC 150	8.3 miles	Mar 2016
South	East Brookshire Freeway at North Brevard Street to Cindy Lane on I-77	3.8 miles	Aug 2016

INDEPENDENT UTILITY

The subject project is in compliance with 23 CFR Part 771.111(f), which lists the following FHWA characteristics of independent utility of a project:

1. The project connects logical termini and is of sufficient length to address environmental matters on a broad scope,
2. The project is usable and a reasonable expenditure, even if no additional transportation improvements are made in the area, and
3. The project does not restrict consideration of alternatives for any other reasonable foreseeable transportation improvements.

NATURAL RESOURCE STATUS

The subject project lies fully within the Catawba River Basin, USGS Hydrologic Units Codes 03050101 and 03050103. There are no Outstanding Resource Waters, High Quality Waters, nor are there any waters designated as WS-I or WS-II Water Supply waters within 1.0 mile of any portion of the project study area. More than 100 stream channels cross through portions of the project's study area, but only a

very small fraction of these stream channels occur within the proposed footprint of the project, as designed. The streams that will be impacted by the Central Section are noted in Table 4.

Wetland and stream delineations followed the field delineation method outlined in the *1987 Corps of Engineers Wetland Delineation Manual* (USACE 1987). Stream identification and classification followed the *Methodology for the Identification of Intermittent and Perennial Streams and Their Origins* (NC Division of Water Resources 2010 and 2005). The jurisdictional delineations have been verified by both the USACE and NCDWR.

303(d) Streams: Two streams within the study area are listed as 303(d) impaired streams; Irwin Creek and Long Creek. Irwin Creek ranges through the South Section. The impaired status of Irwin Creek and Long Creek is based on the presence of high levels of copper, lead and zinc. (Note: a third impaired status stream, Stumpy Creek, was identified by the natural resource investigators, but it lies up to 1.0 mile north of the project study area).

IMPACTS TO WATERS OF THE U.S.

Tables 4 and 5 summarize the impacts to jurisdictional water resources for the final design of the Central Section. Site numbers correspond with the permit (hydraulic) drawings included in this application. The stream and wetland numbers correspond the NRTR. A brief description of each impact will follow the Tables. Please note that station number ranges are provided for approximate locations and are not intended for linear measurements.

Table 4 – Impacts to Wetlands (Central Section Only)

Wetland Site	Project Section	NRTR Wetland Number	Perm. Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Temp. Fill (ac)
1-C	Central	WL	<0.01	-	--	0.06
		TOTAL IMPACTS	<0.01	-	-	0.06

Table 5 - Stream Impacts with Estimated Mitigation Liability (Central Section Only)

Stream Site	Stream Name/ NRTR ID	Perm. Fill (ac)	Temp. Fill (ac)	Permanent Channel Impacts (lf)	Bank Stabilization (lf)	Temporary Channel Impacts (lf)	COE-Required Mitigation (lf)	DWR-Required Mitigation (lf)
2-C	Dillons Twin Lakes and Lake Jo	-	0.01	-	40	60	-	-
3-C	Dillons Twin Lakes and Lake Jo	-	0.03	-	-	150	-	-
4-C	UT to Torrence Ck / SR	<0.01	-	33	-	-	33	-
5-C	UT to Torrence Ck / SP	<0.01	<0.01	35	65	17	35	-
6-C	UT to Torrence Ck / SN	<0.01	<0.01	26	21	42	26	-
7C	Caldwell Station Ck	0.05	0.02	91	99	40	91	190
TOTAL Stream Impacts		<0.07	<0.08	185	225	309	185	190

Note: Impacts from bank stabilization that, cumulatively with permanent fill, exceeds 150'per stream, requires mitigation from DWR, but not from USACE.

Wetland Permit Site 1-C: Roadway fill will result in a minimal permanent wetland impact (<0.01 acre). The construction of the roadway fill and a noise wall will require an additional 0.06 acre of temporary fill for equipment access.

Stream Permit Site 2-C: There will be approximately 0.01 acre (60 lf) of temporary stream impacts to tie in a grassed swale and for construction access. Approximately 40 lf of bank stabilization will be required.

Stream Permit Site 3-C: Approximately 150 lf of stream channel will be temporarily piped to accommodate construction access to stabilize the roadway embankment.

Stream Permit Site 4-C: Improvements to the median section will permanently impact approximately 33 lf of stream channel, which will be captured in an 18" RCP extension.

Stream Permit Site 5-C: To accommodate widening to the median, a 35 lf extension of a 30" RCP, and 65 lf of bank stabilization will be required. In addition, there will be <0.01 acre (17 lf) of temporary stream impacts associated with these activities.

Stream Permit Site 6-C: To accommodate widening to the median, an existing 8'X7' RCBC must be extended 26 lf and approximately 21 lf of stream embankment must be stabilized with stone. Approximately 42 lf of temporary stream impacts are necessary to accommodate de-watering and construction access.

Stream Permit Site 7-C: Two sections of 10'X8' RCBC must be extended a total of 69 lf to accommodate widening to the median section. A total of 22 lf of rock channel protection will be installed adjacent to the culvert extensions to prevent scouring. In addition, 99 lf of stream bank will be stabilized with stone. Approximately 40 lf of channel will receive temporary fill impacts for dewatering and construction access for described work.

FEDERALLY PROTECTED SPECIES

Plants and animals with a Federal classification of Endangered (E) or Threatened (T) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act (ESA) of 1973, as amended. As of April 2, 2015, the U.S. Fish and Wildlife Service (USFWS) lists five species for Mecklenburg County and as of July 24, 2015, three species for Iredell County (Table 6).

Table 6 – Federally protected species listed for Mecklenburg and Iredell Counties

Scientific Name	Common Name	County[1]	Federal Status[2]	Habitat Present	Biological Conclusion[3]
Myotis septentrionalis	northern long-eared bat	M, I	T	Yes	MANLTAA
Lasmigona decorata	Carolina heelsplitter	M	E	Yes	No Effect
Rhus michauxii	Michaux's sumac	M	E	No	No Effect
Helianthus schweinitzii	Schweinitz's sunflower	M	E	Yes	No Effect
Echinacea laevigata	smooth coneflower	M	E	No	No Effect
Hexastylis naniflora	dwarf-flowered heartleaf	I	T	Yes	No Effect
Bog turtle	Glyptemys muhlenbergii	I	T (S/A)	No	Not Required

[1]M – Mecklenburg County, I – Iredell County: [2]E-Endangered; [2]T-Threatened; [2]T (S/A) - threatened due to similarity of appearance. Taxa listed as T(S/A) are not biologically endangered or threatened and are not subject to Section 7 consultation; [3]MANLTAA-May Affect, Not Likely to Adversely Affect

In a letter dated August 20, 2015, the U.S. Fish and Wildlife Service concurred that project is in compliance with Section 7 of the Endangered Species Act (see enclosures).

INDIRECT & CUMULATIVE IMPACT ANALYSIS

Existing rules for the 401 Water Quality Certification Program (15A NCAC 2H .0506(b)(4)) require the NCDWR to determine a project "does not result in cumulative impacts, based on past or reasonably anticipated future impacts, that cause or will cause a violation of downstream water quality standards."

The project has been evaluated through the use of the Indirect and Cumulative Impact (ICI) Pre-screening procedure set forth in the NCDOT/NCDENR Guidance for Assessing the Indirect and Cumulative Impacts of Transportation Projects in North Carolina. Based on the Indirect and Cumulative Effect (ICE) Pre-screening applied specifically to this project, the conclusion is that the project has low potential to result in significant indirect and cumulative impacts, as defined by NEPA or the North Carolina Environmental Policy Act (NCEPA). The conclusion is based on the project's design and scope,

including its purpose and need, type, facility function and design year of 2017, in combination with evaluation of the demographic, land use and planning trends of the area in which the project is located. The data and evaluation supporting this conclusion are included in Atkins' May 2013 *Community Impact Assessment & Screening Indirect and Cumulative Effects Assessment.*

- Project improvements will be predominately within existing right of way and mitigation of potential impacts is not likely to result in project-induced effects. Project intends to introduce an option for more reliable travel times, but will not affect traffic or land use patterns in the area since, at present, it will not add any new access points or interchanges.
- Project has low potential for cumulative effects resulting from incremental effects of the project with other past, current and future projects in the area.
- Project is not expected to have an adverse effect on quality of human or natural environment.

CULTURAL RESOURCES

Section 4(f) and Section 6(f) Resources:
As presented in Section 5.1.6 of the Environmental Assessment, the alternative selected for construction does not require the acquisition of right of way or easements from any land or resource protected under Section 4(f) of the Department of Transportation Act of 1966, including any significant publicly owned park, recreation area, or wildlife and/or waterfowl refuge, or any land from an historic site of national, state, or local significance. There are six publicly owned parks or recreational areas adjacent to the study area of the project, but no right of way is required from these resources to build the project; therefore, the project will have no effect on Section 4(f) resources. There are no properties or resources in the project study area that have received grant money from the Land and Water Conservation Fund to be considered a Section 6(f) resource; therefore, the project will have no effect on Section 6(f) resources.

Archaeological and Historic Architectural Resources:
The proposed project is a Federally-funded project, and therefore it must comply with Section 106 of the National Historic Preservation Act (NHPA). NHPA requires the lead Federal agency (the NCDOT on behalf of FHWA) to consult with the North Carolina State Historic Preservation Office (SHPO [on behalf of the Advisory Council on Historic Preservation]) regarding the project's potential to impact archaeological resources eligible for or listed on the National Register of Historic Places (NRHP).

There are seven historic resources (two individual sites and five districts) adjacent to the project's study area, but the project will not require any land acquisition from these areas. The NCDOT and the FHWA met with the SHPO on February 19, 2013 and determined the project will have no effect on these properties. NCDOT and SHPO met on the remaining site at Oaklawn Park in the South Section on June 25, 2013 and determined that the work will have a conditional no adverse impact with the lone issue the design of the noise walls. It was agreed that the community would have the ability to comment on the appearance of the walls. SHPO concurrence letters are included in the Environmental Assessment.

STORMWATER MANAGEMENT PLAN

The Stormwater Management Plan (SMP) summarizes project stormwater management information, including post-construction stormwater best management practices (BMPs) selected to mitigate stormwater impacts. This information is used to support compliance with the department's NPDES

permit as well as other federal and State environmental permit applications during the design stage of a project. The Stormwater Management Plan is included with this application.

MITIGATION OPTIONS

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Avoidance measures were taken during the planning and NEPA compliance stages; minimization measures were incorporated as part of the project design.

AVOIDANCE & MINIMIZATION

Efforts have been taken, and will continue throughout construction, to first avoid and then minimize any impacts to Section 404 waters and wetlands. The following is a partial list of avoidance and minimization initiatives that have been undertaken on this project, and specifically for the Central Section:

- The majority of this project is widening toward the median. This avoids impacts to not only adjacent jurisdictional resources, but also other concerns such as forested fringes, 4(f) properties, FEMA Buyout Parcels, neighborhoods and private residences. Because the widening is to the interior, culvert extensions could be reduced in length in many situations which reduced the impact to the streams due to hydrological and hydraulic changes to the stream resulting from culvert capture**.** Specific avoidance examples in the Central Section occur at Sta. 340+00, 608+00, 736+00, 837+00, 875+00, and 885+00. In these areas, widening to the center and retaining the existing outside shoulder avoided impacts to jurisdictional areas.
- Retaining walls will be implemented where practicable to avoid and minimize expanding the roadway footprint into jurisdictional areas. This is primarily anticipated for the North and South Section designs which are currently preliminary.
- Side slopes have been steepened beyond typical in several areas to avoid jurisdictional impacts. Safety considerations allow this avoidance in only selected locations. Specific examples in the Central include Sta. 469+00, Sta. 517+00, Sta. 527+00, Sta. 669+00 and Sta. 679+00. Opportunities for this type of avoidance will also be evaluated and considered in the North and South Sections which are currently preliminary.
- NCDOT's Design Standards in Sensitive Watersheds will be used during the implementation of erosion and sedimentation control BMP's around Lake Norman and Byers Creek.
- Existing storm drainage systems and cross culverts have been utilized and retained when possible to collect and convey storm water. Using the existing systems will maintain existing drainage patterns and minimize additional discharge points that will require stabilization along the corridor
- When allowed by slope and velocities, grassed swales will be used to convey storm water.
- In areas where grassed swales are not feasible due to velocities, ditches will be stabilized by rip rap or permanent soil reinforcement matting.
- Preformed scour holes will be utilized where possible throughout the project. Specifically at Sta. 680+10 (RT) for the Central Section, a preformed scour hole is provided to diffuse the concentrated flow from storm drain outlet pipes into non-erosive sheet flow to surrounding water resources.
- Rip rap aprons/pads will be utilized where necessary to reduce velocity and erosion at pipe outlets.

- Rip rap aprons/pads will be utilized where necessary to reduce velocity and erosion at pipe outlets.
- Designers avoided or minimized temporary impacts where equipment access was needed in the vicinity of streams and wetlands for the purposes of installing drainage structures, conducting bank stabilization, or other activities.

COMPENSATORY MITIGATION

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. The overall I-77 HOT impacts are relatively minor for a project of this size due to primarily widening to the median coupled with design efforts to minimize impacts in jurisdictional areas. The unavoidable impacts will be compensated through in-lieu payment to the Division of Mitigation Services (DMS, formerly EEP). The DMS acceptance letter is attached. It should be noted that the letter cites TIP I-3311C, which currently includes only the South Section; however at the time it was drafted, Tip I-3311C encompassed the entire project. Revised acceptance letters will be requested as needed in accordance with the final designs of the North and South sections.

REGULATORY APPROVALS

Section 404: Application is hereby made for a USACE Individual 404 Permit as required for the above-described activities.

Section 401: We are hereby requesting a 401 Water Quality Certification from the NC Division of Water Resources. In compliance with Section 143-215.3D (e) of the NCAC, we will provide $570.00 to act as payment for processing the Section 401 permit application.

Thank you for your assistance with this project as we look forward to your approval for the final construction for the Central Section, and preliminary approval for the North and South sections, recognizing that these will be a permit modification for the final design. If you have any questions or need additional information, please contact Michael Turchy at either maturchy@ncdot.gov or (919) 707-6157. A copy of this permit application and its distribution list will also be posted on the NCDOT website at https://connect.ncdot.gov/resources/Environmental/Pages.

Sincerely,

for Richard W. Hancock, P.E., Manager
Project Development and Environmental Analysis Unit

cc: NCDOT Permit Application Standard Distribution List

U.S. ARMY CORPS OF ENGINEERS

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

OMB APPROVAL NO. 0710-0003
EXPIRES: 28 FEBRUARY 2013

Public reporting for this collection of information 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 this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). 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 form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

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.

(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 - Richard Middle - W Last - Hancock	First - Middle - Last -
Company - NCDOT-PDEA	Company -
E-mail Address -	E-mail Address -
6. APPLICANT'S ADDRESS:	9. AGENT'S ADDRESS:
Address- 1548 Mail Service Center	Address-
City - Raleigh State - NC Zip - 27699 Country - USA	City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. w/AREA CODE	10. AGENTS PHONE NOs. w/AREA CODE
a. Residence b. Business 919-707-6100 c. Fax 919-212-5785	a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ 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.

_____ _____
SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)
I-77 HOT Lanes Project

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Various - see drawings	Address
15. LOCATION OF PROJECT Latitude: ◦N 35.42241 Longitude: ◦W -80.86273	City - State- Zip-

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

State Tax Parcel ID Municipality

Section - Township - Range -

17. DIRECTIONS TO THE SITE

26 miles of I-77 from I-277 (Brookshire Freeway – Exit 11) in Mecklenburg County to NC 150 (Exit 36) in Iredell County (north terminus) and along I-277 from I-77 southward to North Brevard Street (south terminus)

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

The Project will improve and widen approximately 26 miles of I-77 from I-277 (Brookshire Freeway – Exit 11) in Mecklenburg County to NC 150 (Exit 36) in Iredell County (north terminus) and along I-277 from I-77 southward to North Brevard Street (south terminus) by implementing High Occupancy/Toll (HOT) lanes. Vehicles meeting High Occupancy Vehicle (HOV) requirements (three or more passengers, as well as buses and motorcycles) will be permitted to use the HOT lanes free of charge. Non-HOV vehicles opting to use the lanes would be assessed a variable fee. As more vehicles enter the HOT lanes and travel speeds in the HOT lanes begin to slow, the fee would rise to ensure a minimum speed is maintained in the HOT lanes. This will address travel delays by providing a travel option that results in more reliable local trip times and improves overall network efficiency. Construction will be phased over three sections (see attached cover letter for more detail regarding phasing).

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

The purpose of proposed action is to provide travel time reliability to and from the major employment center (downtown Charlotte) to the rapidly growing residential communities of northern Mecklenburg and southern Iredell counties, particularly the Lake Norman area. Not only does this route serve the rapidly expanding base of daily commuters, it is also a major route for regional commerce. Currently, heavy traffic occurs during peak periods within the project limits, resulting in frequent congestion and delays. The study area has grown faster than the financial resources have been available to complete long-term transportation improvements. The traffic congestion results in predictable delays, as well as excessive travel times for commuters and through-travelers. Predicted growth in the study area will only exacerbate travel in what is a part of the national Interstate Highway System. The Project will increase capacity, alleviate congestion, and improve traffic operations and trip reliability options along the corridor.

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

20. Reason(s) for Discharge

Impacts will result from the widening the roadway and shoulders, lengthening and/or replacing hydraulic structures, as well as bridge construction.

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 cover letter	See attached cover letter	See attached cover letter

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

Acres See attached cover letter

or

Linear Feet See attached cover letter

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

See attached cover letter

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 permit drawings.

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 Coord.					

* 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.

for 8-21-2015

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

Richard W. Hancock P.E.

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.

Ecosystem Enhancement PROGRAM

January 28, 2014

Mr. Richard W. Hancock, P.E.
Manager, Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Hancock:

Subject: EEP Mitigation Acceptance Letter:

I-3311C, Construct HOT Lanes in each direction on I-77 from 5th Street (Exit 10) to North of I-85, Mecklenburg County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and riparian wetland mitigation for the subject project. Based on the information supplied by you on January 23, 2014, the impacts are located in CU 03050103 of the Catawba River Basin in the Southern Piedmont (SP) Eco-Region, and are as follows:

Catawba 03050103 SP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	3,237.0	0.50	0	0	0	0

*Some of the stream and wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

This mitigation acceptance letter replaces the mitigation acceptance letter issued on March 12, 2013. This impact and associated mitigation need were under projected by the NCDOT in the 2013 impact data. EEP will commit to implement sufficient compensatory stream and riparian wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010 **and consistent with the Guidance for Expanded Service Area for Mitigating Impacts within the Lower Catawba River Basin adopted by the PACG-TC on September 12, 2006, and renewed on October 8, 2008.** If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,

for Jim Stanfill

James B. Stanfill
EEP Asset Management Supervisor

cc: Ms. Amanda Fuemmeler, USACE – Asheville Regulatory Field Office
Ms. Amy Chapman, Division of Water Quality, Wetlands/401 Unit
File: I-3311C Revised

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

July 20, 2015

Mr. Richard W. Hancock
North Carolina Department of Transportation
Project Development and Environmental Analysis Unit
1598 Mail Service Center
Raleigh, NC 27699-1598

Subject: Endangered Species Concurrence for the Proposed I-77 High Occupancy/Toll Lanes from Exit 11 to NC 150 in Mecklenburg and Iredell Counties, Divisions 10 and 12, TIPs-I-3311C, I-5405 and I-4750AA.

Dear Richard:

We have reviewed your concurrence request and supporting documentation regarding potential impacts to the federally listed threatened northern long-eared bat (NLEB) (Myotis septentrionalis) for the subject project. We provide the following comments in accordance with the provisions of Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

The North Carolina Department of Transportation (NCDOT) proposes to convert the existing High Occupancy Vehicle (HOV) lanes to High Occupancy Toll (HOT) lanes and extend them northward to NC 150 in Mecklenburg and Iredell Counties. The majority of the project will occur in the existing median of I-77. Some habitat for the NLEB exists along the project corridor and had been evaluated for potential impacts from project implementation.

According to the information provided, a search for mines and caves was conducted in the project footprint and within a quarter mile of the project and none were found. All structures that could provide suitable habitat for NLEB were checked for bat use and none was observed. Although potential summer roosting habitat in the form of forested patches does exist in the project corridor, the overall habitat is very poor quality due to proximity to the existing interstate, residential and commercial development adjacent to the interstate and the condition and scattered nature of trees that have been maintained in this urban setting.

Based on the absence of wintering habitat, no evidence of bats use on existing structures, and the poor quality of potential summer habitat for the subject project, we agree that implementation of TIPs-I-3311C, I-5405 and I-4750AA is "not likely to adversely affect" northern long-eared bat in the project area. In view of this, we believe the requirements under Section 7(c) of the Act are fulfilled. However, obligations under Section 7 of the Act must be reconsidered if: (1) new

information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

If you have questions about these comments, please contact Ms. Marella Buncick of our staff at 828/258-3939, Ext. 237. In any future correspondence concerning this project, please reference our Log No. 4-2-12-116.

Sincerely,

- - original signed - -

Janet Mizzi
Field Supervisor

MEETING MINUTES

Meeting Name: **Interagency Project Agency Update Meeting, I-77 HOT Lanes Project (TIP#'s I-3311C, I-5405, I-4750AA in Mecklenberg and Iredell Counties)**

Date & Time: **December 10, 2014 1:00 PM**

Location: **NCDOT Office (Raleigh)**

PURPOSE: To update agencies on the award of the project, issues associated with project development, and to present the proposed permitting approach for the project.

TEAM MEMBERS:

Name	Agency	Present	
Mitch Batuzich	FHWA	☒	
Crystal Amschler	USACE	☒	
Marella Buncick	USFWS	☒	
Marla Chambers	NCWRC	☒	By phone
Dr. Cynthia Van Der Wiele	USEPA	☒	
Alan Johnson	DWR	☒	

SUPPORTING STAFF:

Name	Affiliation	Present	
Virginia Mabry	TPMU	☒	
Jeff Wyatt	Division 12	☒	
Trish Beam	Division 12	☒	
Andrew Nottingham	Hydraulics	☒	
Michael Turchy	HES	☒	
Stephen Morgan	Hydraulics	☒	
David Stark	TPMU	☒	
Carla Dagnino	NES	☒	
Pablo del Monte	SCC – Design	☒	
Francisco Galdeno	I-77 Mobility Partners	☒	
Derek Ivie	SCC – Environmental	☒	
Jose Barrau	LBG – Design	☒	
Walter Roberts	LBG – Design	☒	
Dean Hatfield	LBG – Design	☒	

MINUTES

1. Project Update – Virginia Mabry provided an update of the Project to date.
    a) Project consists of three separate TIPs that have been combined (TIP#'s I-3311C, I-5405, I-4750AA)
    b) Prior CE for I-5405 was wrapped into an EA for all three TIPs, covering I-277 north to the north terminus.
        a. EA signed July 2013, with FONSI in October 2013
        b. Critical north/south corridor. Project will provide trip reliability and relieve congestion
    c) Three alternatives in EA, with only differences being number of HOT lanes in each direction.
    d) NCDOT's first large Public Private Partnership
    e) Most widening is to the median.
    f) Schedule mandate is critical and will be a challenge due to volume of work and permitting timeline.
    g) Very important project for the entire region.
    h) Not a Merger Project

2. Introduction - All attendees were introduced.

3. Presentation by Design/Build Contractor
    a. Pablo del Monte explained how the Developer (I-77 Mobility Partners) and Design/Build Contractor (Sugar Creek Contractors) are organized.
    b. Limits of the Project and three Sections were presented along with some of the constraints
        i. South Section – Utility conflicts, ROW acquisitions, and Railroad issues will delay design of this section. Environmental issues include Irwin Creek, which parallels I-77, and FEMA Buyout parcels near Oaklawn Avenue.

            DWR and USACE asked about the proposed impacts to Irwin Creek. SCC advised that they are planning to avoid placing the creek in a box as was evaluated by the FONSI, but impacts are not currently known until Design is advanced. SCC is exploring avoidance and minimization of impacts to Irwin Creek. A Section 4(f) property east of the ROW prevents relocation of the stream.

            DWR asked about FEMA Buyout Property west of the ROW. SCC stated that the FONSI evaluated re-alignment of Oaklawn Ave which would take portions of the Buyout Property; however, they are working to keep Oaklawn on the current geometry to avoid this impact to the Buyout Property.

        ii. Central Section – Most widening is to the median. Very few environmental impacts in this Section, which are mostly limited to culvert extensions. Design can begin very soon for this section.
        iii. North Section – Widening will occur to the median. Section involves three crossings of Lake Norman along the existing causeway with one bridge widening. The only permanent fill to Lake Norman would likely be associated with bridge columns, although some temporary work platforms would be required. SCC advised that the HOT lanes will not carry large trucks or vehicles, and the new HOT lanes will drain to the median, while existing lanes will drain mostly to the outside.

            DWR asked if Lake Management has been consulted. Virginia Mabry advised that NCDOT has initiated discussions with FERC and a simplified permit process is anticipated, since widening is to the median.

    c. Permitting Approach was presented to the agencies in which SCC sought agency input. SCC plans to submit a permit application in April 2015 for the entire project with final hydraulic design information for the central section and preliminary design for the north and south sections. SCC plans to modify the permit once final hydraulic design is achieved for the north section, and then again as final hydraulic design is achieved for the south section.
        i. DWR expressed concerns with having a situation where multiple modifications occur for each section as design progresses. SCC explained that it plans to submit only one modification per section, so the concern shouldn't be an issue.
        ii. USACE asked why design will not be completed for all sections prior to permit application. SCC explained the NCDOT schedule makes it impossible to construct if construction cannot begin in available sections until all design is complete. ROW, Railroad, and utility conflicts in the south section will delay design for approximately one year.
        iii. DWR expressed concerns with permitting the north and south sections based on preliminary design, since the permit would authorize impacts based on preliminary design. SCC stated that this could be prevented by adding language to the permit approval limiting the authorization to those areas where final hydraulic design is achieved and reviewed.
        iv. USACE advised that it is preferable to have final design in order to make a permit decision, but they will consider the proposed approach, and get back with the team in the near future.
        v. A general discussion occurred regarding the viability of the project as stand-alone sections, and the schedule restraint components.

d. Proposed project timeline was reviewed. The project is non-Merger, but NCDOT still intends to conduct 4B and 4C type meetings to ensure full agency review and input opportunity. Initial permit application is anticipated to be submitted in May 2015.

e. SCC and NCDOT stated that they want to work hand-in-hand with the agencies, want to know what agency needs are, and want to provide any information that would be beneficial to the agencies. NCDOT advised that there are volumes of project information that will be made available on the internet to all attendees. SCC and NCDOT desire the agencies to be vetted in the Project and asked agencies for surety in the proposed approach.

4. Meeting Adjourned

MEETING MINUTES

Meeting Name: **Interagency Project Agency Update Meeting, I-77 HOT Lanes Project (TIP#'s I-3311C, I-5405, I-4750AA in Mecklenberg and Iredell Counties)**

Date & Time: **July 7, 2015 1:00 PM**

Location: **NCDOT Office (Raleigh)**

PURPOSE: To update agencies on the award of the project, issues associated with project development, and to present the proposed permitting approach for the project.

TEAM MEMBERS:

Name	Agency	Present	
Mitch Batuzich	FHWA	☐	
Crystal Amschler	USACE	☒	By phone
Marella Buncick	USFWS	☒	By phone
Marla Chambers	NCWRC	☒	By phone
Dr. Cynthia Van Der Wiele	USEPA	☐	
Alan Johnson	DWR	☐	
Donna Hood	NCDENR	☒	
Amy Chapman	NCDENR	☒	

SUPPORTING STAFF:

Name	Affiliation	Present	
Virginia Mabry	TPMU	☒	By Phone
Jeff Wyatt	Division 12	☐	
Trish Beam	Division 12	☐	
Andrew Nottingham	Hydraulics	☐	
Michael Turchy	HES	☒	
Stephen Morgan	Hydraulics	☒	
David Stark	TPMU	☒	
Carla Dagnino	NES	☒	
Pam Williams	NCDOT	☒	
Jamie Lancaster	NCDOT	☒	
Ray Lovinggood	NCDOT	☒	
Eric Midkilf	NCDOT	☒	
Stewart Bashan	Division 10	☒	By Phone
Rodger Rochelle	Division 10	☒	By Phone
Scott Cole	Division 10	☒	By Phone
Pablo del Monte	SCC – Design	☒	
Francisco Galdeno	I-77 Mobility Partners	☐	
Derek Ivie	SCC – Environmental	☒	
Jose Barrau	LBG – Design	☐	
Walter Roberts	LBG – Design	☒	
Dean Hatfield	LBG – Design	☒	
David Brandes	LBG – Environmental	☒	
Carroll Barker	LBG – Environmental	☒	
David Hannan	I-77 Mobility Partners	☒	
Joe Garcia	LBG – Design	☒	
Farrell Sikes	LBG - Design	☒	
Judson Dalton	English Construction	☒	
Wilson Dickerson	SCC – Design	☒	
Steve Smith	SCC – Design	☒	

MINUTES

1. Project Review/Update – Virginia Mabry provided an update of the Project to date since the December 10, 2015 informational meeting.

a) Project still consists of three separate TIPs that have been combined (TIP#'s I-3311C, I-5405, I-4750AA).
b) Prior CE for I-5405 was wrapped into an EA for all three TIPs, covering I-277 north to the northern terminus.
    a. EA signed July 2013, with FONSI in October 2013
    b. Critical north/south corridor. Project will provide trip reliability and relieve congestion
c) Most widening is to the median.
d) Discussed the nature of this meeting as informational with more detail than was presented in December.
e) David Stark went over the December meeting and notified attendees that financial closure had been reached. That this is a P3 project, but much of the look and feel from a permit standpoint would resemble a design-build process moving forward.

2. Introduction - All attendees were introduced.

3. Presentation by Design/Build Contractor

a. Pablo del Monte discussed the updates that were going to be presented, and discussed some of the review aides, including KMZ files, to be provided by the Team. The KMZ will not replace the impact drawings, but will aid agency reviews. Pablo began a PowerPoint presentation that was distributed to the phone participants.

b. Pablo went over the organization of the P3 team, I-77 Mobility Partners, Sugar Creek Construction, and Louis Berger as lead designer, along with other partners.

c. Phased Permitting: the twenty six mile project is divided into three sections, North / Central / South. Permitting will be phased as follows: SCC plans to submit a permit application in August 2015 for the entire project with final design information for the Central Section and preliminary design for the North and South Sections.

d. Two Permit Modifications: once final design is achieved for the north section SCC will submit a Permit Modification with the final design information for this North Section. A similar process will take place for the South Section at a later date.

e. Pablo described the sections:
    a. South – I-77 from I-277 intersection to Cindy Lane
        i. Construct median I-77/277 HOT lanes inside where possible
        ii. Fly over connecting I77 and I277.
        iii. Discussed existing and proposed typical sections showing graphics of each
    b. Central – I-77 from Cindy Lane to Catawba Avenue. Most widening will occur to the inside, where possible.
    c. North – I-77 from Catawba Avenue to Mooresville
        i. Three crossings of the causeway at Lake Norman – one bridge crossing. New lanes drain towards the median on the causeway section and heavy truck traffic will not permitted.
        ii. Widening will preliminarily occur in the median.

f. Permitting – A site review meeting has been set for July 22, 2015. Application submittal is anticipated in August, 2015.
    a. Final design information for Central Section.
    b. Preliminary design information for North and South.
    c. Permit modification for North and South sections will be requested after design is finalized in those areas.
    d. Impacts in preliminary sections will be identified with best available information with anticipation towards any potential impacts.

g. Key features and constraints in the South Section
    a. Irwin Creek impacts were discussed. SCC notes that design is preliminary, but will try to avoid and minimize impacts as much as possible.
    b. FEMA properties at Oaklawn and Oaklawn Cemetery. EA proposed a new straight bridge alignment of Oaklawn Avenue Bridge. SCC is attempting to maintain the existing alignment to avoid impacts.
    c. Discussed extensively how Irwin Creek may be impacted. Irwin Creek was moved when the original I-77 was constructed and impacts for this project will likely occur both upstream and downstream.
    d. USACE asked if Irwin Creek will be relocated, or placed in a box culvert. SCC advised that it is currently under consideration to relocate the creek where possible, but the feasibility and extent are currently still being evaluated due to design and ROW availability. The initial permit application will anticipate boxed culverts per the FONSI until design is advanced in the South Section. At a minimum, there will be an extension of culvert upstream and downstream.
    e. Discussion occurred about the specific nature versus the preliminary nature of the North and South Sections. The P3 team will show as much design as possible, but advised that the North and South will have modifications, with the intent that changes should be reductions in impacts.

h. Key features and constraints to the Central Section
    a. Majority on the inside
    b. Optimized to avoid impacts
    c. Most culverts not impacted or slightly impacted

i. Key features and constraints to the North Section
    a. Critical watershed – water supply Lake Norman (Water Supply IV)
    b. Lake Norman Bridge
        i. Likely drilled piers (not considered mitigable impacts) with temporary impacts (work peninsulas) for staging and construction.
        ii. Gap will be closed between the existing bridges (northbound and southbound)
        iii. Note that heavy trucks will not be allowed in the HOT lanes

j. Goals for Jurisdictional Water Impacts and Water Quality
    a. Reduce impacts from the EA and FONSI, where possible, through avoidance and minimization during design optimization.
    b. Widen to the inside as much as possible.
    c. Avoid Catawba River Riparian Buffer impacts through utilization of the existing transportation facility.
    d. Noise Wall locations to be revised to reduce clearing and need for additional right-of-way.
    e. Utilize existing storm sewer facilities and outfalls, where possible.
    f. Maximize the use of grass swales as a primary BMP for water quality.
    g. Design and construct hazardous spill basins in the North Section where feasible and room allows. Constrained by available space at Lake Norman.

k. Maximize ease of agency review
    a. Goal is to get all parties involved early and facilitate easier impacts review.
    b. SCC will provide KMZ files to supplement Impact Sheets. Discussed KMZ files and how they could be used during review.
    c. SCC noted that Designer, Contractor, and Developer were all present and involved, and pointed out that the Developer will maintain and operate the facility for 50 years.

l. Requests for agency consideration
    a. The team will identify specific upland areas and will ask the agencies for permission to begin in the uplands before permit is issued.
        i. Will be well outside jurisdictional areas.
        ii. Will be demonstrated that the work will not impact jurisdictional areas.
        iii. Will be subject to standard design reviews.
        iv. Permit application is anticipated in August, 2015; would like to begin construction in specific upland areas in September (Central Section).
        v. Identified upland areas will be presented at the July 22, 2015 site review meeting.

vi. USACE discussed its ability to approve in that it does not have jurisdiction outside of waters of the U.S. and, therefore, P3 team can start construction outside these areas. Work would have to proceed "at risk" in that subsequent Permit review/approval will not take into consideration any such works carried out at P3 team's risk. The P3 team understands that no formal agency approval will be granted but would like to keep USACE fully informed.

m. Anticipated Project and Permitting Schedule and Dates

a.	Complete construction	2018
b.	Construction duration	36 Months
c.	Permit site review meeting	July 22, 2015
d.	Permit application submittal	August 2015
e.	Permit issued	Late 2015
f.	Begin Construction	Late 2015
g.	Permit modification – North	Early 2016
h.	Begin construction North	Mid 2016
i.	Permit modification – South	Mid to Late 2016
j.	Begin construction – South	Late 2016

n. General discussion
   a. David Stark asked DWR about the 760' full pond elevation. Since the delineated water boundary is much lower, do the agencies wish to see one or the other, or both. The consensus was to show both on the impact drawings.
   b. Discussed in detail Lake Norman impacts.
      i. The work peninsulas for the drilled shafts – temporary fill for construction access.
      ii. Four 48" drilled piers anticipated (not considered mitigable impacts).
      iii. Discussed buffers and how to show the existing transportation facility on the impact drawings.
      iv. Discussed tree impacts and amounts of removal. Coordination with USFWS will need to be completed regarding the northern long-eared bat. NCDOT indicated that surveys have been completed, preliminary clearing estimates have been identified, and NCDOT will coordinate with USFWS for clearance.
      v. Additional discussion regarding upland construction
         1. September is the desired time to begin construction in identified areas.
         2. Understands the Corps will not provide permission formally – but all parties desire to be informed and will provide opinions (non-binding).
         3. Developer and team understands this work will be at their own risk.
      vi. KMZ files – How will these help – NCDOT hydraulics and SCC took the agencies through the Google Earth application and demonstrated the information compiled for agency use.
         1. Does not replace the impact sheets, but has been prepared to aid in agency review.
         2. Water nomenclature matches that found in the NRTRs and EA. Two names provided for Central Section (NRTR name/EA name).
         3. P3 team and NCDOT requested the agencies' feedback on usefulness.
         4. Files will be provided at the end of the weeks.
         5. The P3 teams recommends keeping the KMZ files small to maximize functionality.

o. Meeting Adjourned

MEETING MINUTES

Meeting Name: **Interagency I-77 HOT Lanes Project – Central Section Permit Site Review Meeting (Final)**

I-5405, I-4750AA in Mecklenburg County

Date & Time: **July 22, 2015 1:00 PM**

Location: **NCDOT Office (Raleigh)**

TEAM MEMBERS:

Name	Agency	Present	
Mitch Batuzich	FHWA	☐	
Crystal Amschler	USACE	☒	
Marella Buncick	USFWS	☒	
Marla Chambers	NCWRC	☒	
Dr. Cynthia Van Der Wiele	USEPA	☒	
Alan Johnson	DWR	☐	
Donna Hood	NCDENR, DWR	☒	

PARTICIPANTS:

Name	Affiliation	Present	
Virginia Mabry	NCDOT	☒	
Donna Jackson	NCDOT	☒	
Michael Turchy	NES	☒	
Stephen Morgan	NCDOT, Hydraulics	☒	
David Stark	NCDOT, PPU	☒	
Nat Hunter	NCDOT	☒	By Phone
Carla Dagnino	NCDOT, NES	☒	
Theresa Ellerby	NCDOT, PDEA	☒	
Scott Allen	NCDOT	☒	By Phone
Ray Lovinggood	NCDOT, Hydraulics	☒	
Rachel Evans	NCDOT, PPU	☒	
Paul Garrett	NCDOT, PPU	☒	
Mark Staley	NCDOT, REU	☒	
Rodger Rochelle	NCDOT	☒	
Pablo del Monte	SCC – Design	☒	
Derek Ivie	SCC – Environmental	☒	
Jose Barrau	LBG – Design	☒	By Phone
Walter Roberts	LBG – Design	☒	
Dean Hatfield	LBG – Design	☒	
David Brandes	LBG – Environmental	☒	
Carroll Barker	LBG – Environmental	☒	
David Hannon	I-77 Mobility Partners	☒	
Joe Garcia	LBG – Design	☒	By Phone
Farrell Sikes	LBG - Design	☒	
Judson Dalton	SCC - Construction	☒	
Randy Turner	Three Oaks Engineering	☒	
Steve Smith	SCC – Construction	☒	
Carlos Garcia	SCC	☒	
Jose Rodriguez	SCC - Construction	☒	

PURPOSE: The purpose of this meeting was to review the hydraulic design and resulting environmental impacts for the **Central Section** of the Project. The plans were reviewed, addressing each impact site sequentially. These minutes represent a summary of the items discussed during the meeting.

1. Project Update – Virginia Mabry provided short introduction with purpose of the meeting.

2. Introduction – Introductions were made by all in attendance.

3. Pablo del Monte reminded agencies that this will be a phased permitting process, with preliminary hydraulic design in the North and South Sections and final hydraulic design in the Central Section. Derek Ivie proceeded through the Central Section impact drawings to present the project impacts.

4. Site 1-C:
    - Impacts to the wetland are a result of temporary access needs to construct the fill slope and construct a noise barrier along the roadway shoulder.
    - A very small permanent impact (<0.01ac) will occur across the tip of the wetland.
    - The noise barrier has been pulled as close as possible to the roadway to minimize impact.
    - Permanent impact will be very small.
    - No comments.

5. Site 2-C:
    - Permanent impacts are limited to ditch outfall protection and bank stabilization.
    - Temporary impacts are anticipated to facilitate construction access and to construct the fill slope near the existing headwall.
    - No culvert extension will occur at this location, upstream or downstream.
    - It was asked if this work is necessary – the roadway shift for the widening is to the east in this location and avoids impacts to the west.

6. Site 3-C
    - Temporary impacts to the parallel stream are anticipated to insure adequate room to construct the adjacent fill slope, erosion control, and potential haul road.
    - The impact would ensure normal downstream flows through temporary piping.
    - **Typical comment for temporary impacts: Temporary impacts will be returned to pre-construction contours and stabilized in accordance with NCDOT's BMP Toolbox.**
    - SCC will attempt to avoid this temporary impact if possible.
    - No additional comments.

7. Site 4-C:
    - This is a connection of an opening between two existing culvert features as a result of roadway widening to the median.
    - Stream impact at this location will be a total take.
    - The ditch line will be raised and drainage will flow into the system through a grass swale and newly constructed drop inlet.
    - No comments.

8. Site 5-C:
    - Widening to the median with pipe extension.
    - The jurisdictional limit of the stream begins in the median. The beginning of the jurisdictional stream will be labeled "Begin JS".
    - Permanent impacts include pipe extension and bank stabilization north and south of the stream.
    - Temporary fill will be required to construct the culvert and manage the watercourse.
    - **Typical Comment for all impact calculations: Impacts should be rounded to the nearest linear foot.**
    - No additional comments.

9. Site 6-C:
    - Two box culvert (8'x7') extensions will occur within the median.
    - Permanent impacts to the stream include the culvert extensions with bank stabilization between the new extensions.
    - Temporary impacts for dewatering are anticipated outside of the median for managing the watercourse (dewatering), however, SCC will try to manage dewatering from the median.
    - No comments.

10. Site 7-C:
    - Two box culvert (10'x8') extensions will occur within the median.
    - Permanent impacts to the stream include the culvert extensions with bank stabilization beyond the extensions.
    - Temporary impacts for dewatering are anticipated outside of the median for managing the watercourse (dewatering), however, SCC will try to manage dewatering from the median.
    - It was asked if the stream will flow through both barrels – both barrels of culvert are at the same elevation. Adjustments to this culvert will cause FEMA issues with a raising of the water surface elevation downstream. Development exists both up and downstream, and raising the water surface elevation will be a problem at this location. Therefore, sills and baffles are not considered an option for this location.
    - A photo was reviewed with USFWS. USFWS asked that SCC review opportunities to improve the existing ponding between the two culverts. It was noted that extension of the culverts may improve, but will not remove this condition.
    - USFWS asked if the quantity of bank stabilization proposed is necessary and asked about the stability of the stream. Louis Berger stated that field reviews indicated existing bank erosion that is likely resultant from high flows during "flash" events that come and go quickly. It was noted that existing rock riprap was observed at the culvert openings, and the slope towards the stream is not severe.
    - Existing culverts are not to be replaced.
    - It was agreed upon that the team would look for opportunities to improve the situation if possible given the constraints of additional stream impact and FEMA restrictions.
    - Bank erosion would be examined and the amount of riprap shown would be evaluated.
    - **UPDATE:** After the meeting, SCC and Louis Berger reviewed opportunities to decrease ponding and reduce the amount of proposed bank stabilization impacts. Options considered and determinations include:
        - **i.** Correct ponding via box culverts across entire median – This option would eliminate ponding between the culverts, but would increase water surface elevations (causing FEMA issues) and downstream velocities and would increase the impacts at Site 7-C to a total take. **Not selected due to potential FEMA issues and total take of Site 7-C.**
        - **ii.** Correct ponding via raising the streambed – This option would eliminate ponding between the culverts, but would require adding fill and rock channel stabilization to the entire length of the stream, increasing impacts at Site 7-C to a total take. **Not selected due to total take of Site 7-C.**
        - **iii.** Reduce bank stabilization impacts via adjusted grading in the median south of the Site – This option (preferred/selected) allows for slowed storm water flows into the Site from the median to the south, retains stabilization at swale outfalls, reduces the amount of total permanent impacts (bank stabilization), and includes riprap at the outfall of the eastern culvert and inlet of the western culvert to prevent future scouring. While this selected option does not correct existing ponding, some ponding occurs naturally in stream systems (pool and riffle). **Selected, as it limits the impacts to the stream and helps prevent future scouring.**

This concluded review of Central Section impacts.

MEETING MINUTES

Meeting Name: **Interagency I-77 HOT Lanes Project – North Section Permit Site Review Meeting (Preliminary)**

I-4750AA in Iredell County

Date & Time: **July 22, 2015 1:00 PM**

Location: **NCDOT Office (Raleigh)**

TEAM MEMBERS:

Name	Agency	Present	
Mitch Batuzich	FHWA	☐	
Crystal Amschler	USACE	☒	
Marella Buncick	USFWS	☒	
Marla Chambers	NCWRC	☒	
Dr. Cynthia Van Der Wiele	USEPA	☒	
Alan Johnson	DWR	☐	
Donna Hood	NCDENR, DWR	☒	

PARTICIPANTS:

Name	Affiliation	Present	
Virginia Mabry	NCDOT	☒	
Donna Jackson	NCDOT	☒	
Michael Turchy	NES	☒	
Stephen Morgan	NCDOT, Hydraulics	☒	
David Stark	NCDOT, PPU	☒	
Nat Hunter	NCDOT	☒	By Phone
Carla Dagnino	NCDOT, NES	☒	
Theresa Ellerby	NCDOT, PDEA	☒	
Scott Allen	NCDOT	☒	By Phone
Ray Lovinggood	NCDOT, Hydraulics	☒	
Rachel Evans	NCDOT, PPU	☒	
Paul Garrett	NCDOT, PPU	☒	
Mark Staley	NCDOT, REU	☒	
Rodger Rochelle	NCDOT	☒	
Pablo del Monte	SCC – Design	☒	
Derek Ivie	SCC – Environmental	☒	
Jose Barrau	LBG – Design	☒	By Phone
Walter Roberts	LBG – Design	☒	
Dean Hatfield	LBG – Design	☒	
David Brandes	LBG – Environmental	☒	
Carroll Barker	LBG – Environmental	☒	
David Hannon	I-77 Mobility Partners	☒	
Joe Garcia	LBG – Design	☒	By Phone
Farrell Sikes	LBG - Design	☒	
Judson Dalton	SCC - Construction	☒	
Randy Turner	Three Oaks Engineering	☒	
Steve Smith	SCC – Construction	☒	
Carlos Garcia	SCC	☒	
Jose Rodriguez	SCC - Construction	☒	

PURPOSE: The purpose of this meeting was to review the preliminary hydraulic design and resulting environmental impacts for the **North Section** of the Project. The plans were reviewed, addressing each impact site sequentially. These minutes represent a summary of the items discussed during the meeting.

1. Derek Ivie reminded agencies that this will be a phased permitting process, with preliminary hydraulic design in the North. An additional site review meeting, if necessary, will preclude a permit modification, which will be submitted once design is finalized for the North Section. Derek Ivie proceeded through the North Section impact drawings to present project impacts.

2. Site 1-N
    - Permanent impacts to the stream include culvert extension and bank stabilization.
    - Temporary impacts are anticipated to construct the culvert extension, manage the watercourse, and facilitate construction access to construct the proposed adjacent fill slope north of the culvert.
    - SCC Design team is considering widening to the west that will remove this impact, but space constraints are anticipated to prohibit this shift.
    - NCDENR noted past water quality issues/complaints to the west associated with Lowe's Headquarters – mainly sediment deposits in a recreational cove of Lake Norman.
    - No additional comments.

3. Site 2-N:
    - Permanent impacts are limited to non-mitigable columns within Lake Norman to support the new bridge structure between the existing northbound and southbound bridges.
    - Temporary impacts (0.06 ac) consist of work pads within Lake Norman to facilitate construction of the new bridge columns/bents in the median.
    - DWR noted a potential concern with blocking boat access under the bridge. SCC noted that the work pads will be constructed one at a time.
    - It was noted that, due to the grade of the existing bridges (which must be matched), the drainage from the deck of the new bridge will be direct discharge. This is consistent with the current condition. The bridge is a zero slope bridge (flat). No practicable alternative to direct discharge from the bridge.

This concluded review of North Section impacts.

MEETING MINUTES

Meeting Name: **Interagency I-77 HOT Lanes Project – South Section Permit Site Review Meeting (Preliminary)**

I-3311C in Mecklenburg County

Date & Time: **July 22, 2015 1:00 PM**

Location: **NCDOT Office (Raleigh)**

TEAM MEMBERS:

Name	Agency	Present	
Mitch Batuzich	FHWA	☐	
Crystal Amschler	USACE	☒	
Marella Buncick	USFWS	☒	
Marla Chambers	NCWRC	☒	
Dr. Cynthia Van Der Wiele	USEPA	☒	
Alan Johnson	DWR	☐	
Donna Hood	NCDENR, DWR	☒	

PARTICIPANTS:

Name	Affiliation	Present	
Virginia Mabry	NCDOT	☒	
Donna Jackson	NCDOT	☒	
Michael Turchy	NES	☒	
Stephen Morgan	NCDOT, Hydraulics	☒	
David Stark	NCDOT, PPU	☒	
Nat Hunter	NCDOT	☒	By Phone
Carla Dagnino	NCDOT, NES	☒	
Theresa Ellerby	NCDOT, PDEA	☒	
Scott Allen	NCDOT	☒	By Phone
Ray Lovinggood	NCDOT, Hydraulics	☒	
Rachel Evans	NCDOT, PPU	☒	
Paul Garrett	NCDOT, PPU	☒	
Mark Staley	NCDOT, REU	☒	
Rodger Rochelle	NCDOT	☒	
Pablo del Monte	SCC – Design	☒	
Derek Ivie	SCC – Environmental	☒	
Jose Barrau	LBG – Design	☒	By Phone
Walter Roberts	LBG – Design	☒	
Dean Hatfield	LBG – Design	☒	
David Brandes	LBG – Environmental	☒	
Carroll Barker	LBG – Environmental	☒	
David Hannon	I-77 Mobility Partners	☒	
Joe Garcia	LBG – Design	☒	By Phone
Farrell Sikes	LBG - Design	☒	
Judson Dalton	SCC - Construction	☒	
Randy Turner	Three Oaks Engineering	☒	
Steve Smith	SCC – Construction	☒	
Carlos Garcia	SCC	☒	
Jose Rodriguez	SCC - Construction	☒	

PURPOSE: The purpose of this meeting was to review the preliminary hydraulic design and resulting environmental impacts for the **South Section** of the Project. The plans were reviewed, addressing each impact site sequentially. These minutes represent a summary of the items discussed during the meeting.

1. Derek Ivie reminded agencies that this will be a phased permitting process, with preliminary hydraulic design (best current information) in the South Section. An additional site review meeting, if necessary, will preclude a permit modification, which will be submitted once design is finalized for the South Section.

2. **General Comment**: Discussion occurred with regards to the level of design provided for the South Section. USACE expected to see more design with regards to the impacts in this Section. NCDOT clarified that the intent is to disclose the anticipated impacts in this section. The team will come back before the agencies to provide final design/details for impacts prior to submitting a permit modification for this section. NCDOT stated that this approach is consistent with similar projects in the past, and SCC noted that the permit, once issued, could contain conditions that do not authorize construction of impacts in preliminary sections. USACE noted that this approach would need to be verified as acceptable. Derek Ivie proceeded through the South Section impact drawings to present project impacts.

3. Site 1-S
    - Permanent fill impacts anticipated to the stream anticipated as a result of widening of I-277 to the west.
    - At this time, it is not determined whether this will be piped or relocated.
    - No comments.

4. Site 2-S
    - Existing Oaklawn Bridge alignment is proposed to be retained to minimize permanent impacts to FEMA buyout parcels and Oaklawn Cemetery, as was considered during NEPA.
    - Structure widening at Oaklawn will occur, and will include at least partial demolition.
    - Temporary impact for demolition and to reconstruct.
    - No comments.

5. Sites 3A-S, 3B-S, and 3C-S
    - Permanent impacts to Irwin Creek associated with roadway widening to the outside and extension of the existing boxed culverts.
    - Temporary impacts to construct the boxed culverts and manage flows.
    - NEPA documents anticipated over 2,000 feet of the stream to be impacted by box culvert extension.
    - Irwin Creek was historically relocated when I-77 was constructed.
    - Physical constraints of a privacy wall and a Section 4F property restrict the relocation of Irwin Creek towards the east, and the long term stability of a tall retaining wall limit the feasibility of a wall at this location.
    - The impact sheets reflect EA impacts for this stream; however, the team is working to minimize impacts with less culvert and exploring wall options to minimize impacts, if possible.
    - USACE asked if it was a possibility to avoid – it is possible to minimize impacts, but more study will be required through detailed design – likely cannot avoid, but may be able to minimize.

6. Site 3C-S
    - No comments.

7. Site 4-S
    - Temporary impacts to the wetland for construction access to demolish an abandoned pedestrian walkway bridge.
    - Work in wetland will be required be able to set the structure down and to control the demolition.

- No comments.
- **Additional Note:** An additional site has been identified near the east Right-of-Way where the pedestrian bridge crosses over Dillons Twin Lakes. Temporary impacts to this stream are anticipated for demolition access. This additional site will be added to the Impact Drawings.

8. Site 5-S
    - Slope from preliminary grading shows toe of fill slope along jurisdictional edge – will need temporary impacts to construct this slope, and minor permanent impacts are anticipated based on the preliminary slope stakes.
    - Discussion occurred regarding the uncertainty of permanent impacts at this site. It was decided that permanent impact estimates should be increased at this time until detailed design is advanced and impact needs are known.

9. Site 6-S/7-S
    - Permanent impacts associated with construction of HOT lanes to the east.
    - 7-S is a total take of the stream.
    - 6-S impact is a result of culvert extension to the east.
    - Temporary impacts are anticipated for construction access and dewatering.
    - No comments.
    - **UPDATE:** Since the meeting, the team has identified the potential need to further shift the widening eastward. As a result of this shift, the impact to 6-S would result in a total take of the stream with boxed culverts. This will be reflected in subsequent permit drawings.

This concluded review of South Section impacts.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.02; Released April 2015)

General Project Information

WBS Element:		**TIP Number:**	I-5405	**Project Type:**	Roadway Widening	**Date:**	7/29/2015
NCDOT Contact:	Virginia Mabry			**Contractor / Designer:**	Pablo Del Monte, PE		
	Address:	1020 Birch Ridge Drive Door B1, Building B Raleigh, NC 27610		**Address:**	Sugar Creek Construction, LLC 6135 Lakeview Rd., Suite 250 Charlotte, NC 28269		
	Phone:	919-707-6604		**Phone:**	817-470-9498		
	Email:	vmabry@ncdot.gov		**Email:**	pdelmonte@sugarcreekllc.us		
City/Town:	Charlotte & Huntersville			**County(ies):**	Mecklenburg		
River Basin(s):	Catawba			**CAMA County?**	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	14.57 miles	**Surrounding Land Use:**	Agricultural, residential, commercial, and forests				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)	344.0	ac.		247.2	ac.		
Typical Cross Section Description:	The proposed cross-section for most of the project is an eight to ten lane, concrete median barrier divided section utilizing 10' paved shoulders; with areas where the median becomes a variable width grass median. Lanes along I-77 are 12'.			Existing I-77 ranges from a 2 to 6 lane roadway with a variable width grass median. All travel lanes are 12', outside paved shoulders are 10', and inside paved shoulders vary from 3' to 6'.			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	231,400	Year: 2035	Existing:	185,400	Year:	2012
General Project Narrative: (Description of Minimization of Water Quality Impacts)	See attached narrative.						

Waterbody Information

Surface Water Body (1):	UT to Dillons Twins Lakes and Lake Jo		**NCDWR Stream Index No.:**	11-137-1-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAQ			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

WBS Element:	TIP No.: I-5405	County(ies): Mecklenburg	Page 2 of 15

Additional Waterbody Information

Surface Water Body (2):	UT to Dillons Twins Lakes and Lake Jo		**NCDWR Stream Index No.:**	11-137-1-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAP			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (3):	Dillons Twins Lakes and Lake Jo		**NCDWR Stream Index No.:**	11-137-1-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (4):	UT to Dillons Twins Lakes and Lake Jo		**NCDWR Stream Index No.:**	11-137-1-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAN			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (5):	UT to Dillons Twins Lakes and Lake Jo		**NCDWR Stream Index No.:**	11-137-1-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAW			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

WBS Element: **TIP No.:** I-5405 **County(ies):** Mecklenburg

Additional Waterbody Information

Surface Water Body (6):	UT to Dillons Twins Lakes and Lake Jo		**NCDWR Stream Index No.:**	11-137-1-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAM			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (7):	UT to Dillons Twins Lakes and Lake Jo		**NCDWR Stream Index No.:**	11-137-1-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAR			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (8):	UT to McIntyre Creek		**NCDWR Stream Index No.:**	11-120-3-(1)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAL			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (9):	UT to McIntyre Creek		**NCDWR Stream Index No.:**	11-120-3-(1)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAK			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	No	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

WBS Element: **TIP No.:** I-5405 **County(ies):** Mecklenburg

Additional Waterbody Information

Surface Water Body (10):	UT to McIntyre Creek	**NCDWR Stream Index No.:**	11-120-3-(1)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SAJ			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (11):	UT to McIntyre Creek	**NCDWR Stream Index No.:**	11-120-3-(1)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SAI			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (12):	UT to Long Creek	**NCDWR Stream Index No.:**	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SAH			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (13):	UT to Long Creek	**NCDWR Stream Index No.:**	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SAG			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

WBS Element:	TIP No.: I-5405	County(ies): Mecklenburg	Page 5 of 15

Additional Waterbody Information

Surface Water Body (14):	UT to Long Creek		**NCDWR Stream Index No.:**	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAF			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (15):	Long Creek		**NCDWR Stream Index No.:**	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	copper (Cu)	lead (Pb)	zinc (Zn)			
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (16):	UT to Long Creek		**NCDWR Stream Index No.:**	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAD			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (17):	Dixon Branch		**NCDWR Stream Index No.:**	11-120-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

WBS Element:	TIP No.:	I-5405	County(ies):	Mecklenburg	Page	6	of	15

Additional Waterbody Information

Surface Water Body (18):	UT to Dixon Branch		**NCDWR Stream Index No.:**	11-120-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAB			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (19):	UT to Dixon Branch		**NCDWR Stream Index No.:**	11-120-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAA			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (20):	UT to Dixon Branch		**NCDWR Stream Index No.:**	11-120-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SZ			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (21):	UT to Vances Twin Lake		**NCDWR Stream Index No.:**	11-137-1-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SY			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

WBS Element:	TIP No.:	I-5405	County(ies):	Mecklenburg	Page	7	of	15

Additional Waterbody Information

Surface Water Body (22):	UT to Vances Twin Lake		**NCDWR Stream Index No.:**	11-137-1-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SX			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (23):	UT to Dixon Branch		**NCDWR Stream Index No.:**	11-120-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SV			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (24):	UT to Dixon Branch		**NCDWR Stream Index No.:**	11-120-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SU			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (25):	UT to Dixon Branch		**NCDWR Stream Index No.:**	11-120-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SW			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

WBS Element: **TIP No.:** I-5405 **County(ies):** Mecklenburg

Additional Waterbody Information

Surface Water Body (26):	UT to Torrence Creek		**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	ST			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (27):	UT to Torrence Creek		**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SS			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (28):	UT to Torrence Creek		**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SR			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (29):	UT to Torrence Creek		**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SQ			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

WBS Element:	TIP No.: I-5405	County(ies): Mecklenburg	Page 9 of 15

Additional Waterbody Information

Surface Water Body (30):	UT to Torrence Creek	**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SO			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (31):	UT to Torrence Creek	**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SP			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (32):	Torrence Creek	**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (33):	UT to Torrence Creek	**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SN			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

WBS Element: **TIP No.:** I-5405 **County(ies):** Mecklenburg

Additional Waterbody Information

Surface Water Body (34):	UT to Torrence Creek		**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SM			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (35):	UT to Torrence Creek		**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SL			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (36):	UT to Torrence Creek		**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SK			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (37):	UT to Torrence Creek		**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SJ			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

WBS Element:	TIP No.:	I-5405	County(ies):	Mecklenburg	Page	11	of	15

Additional Waterbody Information

Surface Water Body (38):	UT to Torrence Creek	**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SI			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (39):	UT to Torrence Creek	**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SH			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (40):	UT to Torrence Creek	**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SG			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (41):	UT to Torrence Creek	**NCDWR Stream Index No.:**	11-115-4		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)		
		Supplemental Classification:	None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SF			**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

WBS Element: **TIP No.:** I-5405 **County(ies):** Mecklenburg

Additional Waterbody Information

Surface Water Body (42):	UT to Caldwell Station Creek		**NCDWR Stream Index No.:**	11-115-2-(1)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SE			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (43):	Caldwell Station Creek		**NCDWR Stream Index No.:**	11-115-2-(1)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (44):	UT to McDowell Creek		**NCDWR Stream Index No.:**	11-115-(1.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SD			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (45):	UT to McDowell Creek		**NCDWR Stream Index No.:**	11-115-(1.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SC			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

WBS Element: **TIP No.:** I-5405 **County(ies):** Mecklenburg

Additional Waterbody Information

Surface Water Body (46):	UT to McDowell Creek		**NCDWR Stream Index No.:**	11-115-(1.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SB			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (47):	McDowell Creek		**NCDWR Stream Index No.:**	11-115-(1.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (48):	UT to Catawba River		**NCDWR Stream Index No.:**	11-115-(1.5)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Water Supply IV (WS-IV)	Class B		
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SA			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (49):	UT to Dixon Branch		**NCDWR Stream Index No.:**	11-120-1		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAC			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.02; Released April 2015)

WBS Element: **TIP No.:** I-5405 **County(ies):** Mecklenburg

Swales

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
7	-L3NB- 388+15 RT 35.2943800 / -80.8507380	(3) Dillons Twins Lakes	2.0	3.0	3.0	0.9	95	223	2.61%	1.8	2.0	2.6	3.0	Yes	No
31	-L3NB- 721+87 LT 35.3839458 / -80.8495412	(31)UT to Torrence	2.0	3.0	3.0	0.3	30	101	4.00%	0.6	2.0	0.9	2.5	Yes	No
31	-L3NB- 722+20 LT 35.3840156 / -80.8495144	(31)UT to Torrence	2.0	3.0	3.0	0.1	13	65	4.00%	0.4	1.8	0.5	2.1	Yes	No
34	-L3SB- 773+10 RT 35.3971234 / -80.8550659	(33)UT to Torrence	2.0	6.0	6.0	1.8	178	856	0.79%	6.3	2.0	8.9	2.3	Yes	No
35	-L3NB- 773+00 LT 35.3970276 / -80.8548795	(33)UT to Torrence	2.0	6.0	6.0	0.2	24	533	0.34%	0.4	0.7	0.5	0.8	No	No
35	-L3NB- 775+05 LT 35.3975374 / -80.8551985	(33)UT to Torrence	2.0	3.0	3.0	0.1	13	196	3.78%	0.2	1.5	0.3	1.7	No	No
35	-L3SB- 775+75 RT 35.3975374 / -80.8551985	(33)UT to Torrence	2.0	6.0	6.0	0.4	37	140	1.95%	1.2	1.9	1.8	2.1	No	No
36	-L3SB- 777+20 RT 35.3840156 / -80.855031	(33)UT to Torrence	2.0	3.0	3.0	0.9	89	399	1.12%	1.6	1.9	4.3	2.5	No	No
47	-L3SB- 956+30 RT 35.4453898 / -80.8692356	(43)Caldwell Station Creek	2.0	6.0	6.0	3.3	328	913	1.21%	3.9	2.0	5.5	2.4	Yes	No
48	-L3NB- 954+95 LT 35.4452407 / -80.8688079	(43)Caldwell Station Creek	2.0	3.0	3.0	4.6	458	947	1.30%	11.3	2.0	16.1	3.8	Yes	No
49	-L3NB- 956+19 LT 35.4455462 / -80.8692617	(43)Caldwell Station Creek	2.0	3.0	3.0	7.1	707	1316	2.53%	11.5	2.0	16.4	4.0	Yes	No

Additional Comments

Typical roadway ditches generally have a 6:1 foreslope with a 4:1 tie-in backslope; the profile of these typical roadway ditches follows the existing I77 profile, between 0.3%-4%, which in most cases allows for grass lined ditches.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.02; Released April 2015)

WBS Element: **TIP No.:** I-5405 **County(ies):** Mecklenburg

Preformed Scour Holes and Energy Dissipators

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Energy Dissipator Type	Riprap Type	Drainage Area (ac)	Conveyance Structure	Pipe/Structure Dimensions (in)	Q10 (cfs)	V10 (fps)	BMP Associated w/ Buffer Rules?
28	-L3NB- 680+34 RT 35.3733145 / -80.8448759	(17)Dixon Branch	PSH	Class 'B'	2.1	Pipe	18	7.1	4.0	No

Additional Comments

* Refer to the NCDOT Best Management Practices Toolbox (2014), NCDOT Standards, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels (July 2006), as applicable, for design guidance and criteria.

Central Section SMP Narrative

The I-77 High Occupancy Toll (HOT) Lanes P3 Project involves widening the existing facility by adding HOT Lanes to help alleviate congestion and provide additional capacity for growing communities. This portion of the I-77 HOT Lanes project is the Central section (I-5405) in Mecklenburg County. The Central section begins on I-77 at Cindy Lane traveling north along I-77 and ending north of Catawba Avenue. The existing facility will be widened to the median and/or to the outside in order to accommodate the additional lanes and proposed noise barriers.

Proposed roadway modifications were designed with respect to minimizing environmental impacts to the maximum extent practicable. Where the corridor allowed, the proposed improvements were shifted away from jurisdictional streams and wetlands to avoid impacts. Retaining walls were implemented in some locations to avoid expanding the roadway footprint into jurisdictional areas. The side slopes in fill areas were steepened to minimize any impacts to jurisdictional features. In areas having existing wide medians, the work was performed in the median area which minimizes any construction activities outside of the existing roadway shoulders. By not increasing the overall footprint of the existing roadway where possible, impending impacts to jurisdictional areas were minimized.

Best Management Practices will be utilized to reduce the environmental impacts and promote water quality both during construction and post-construction. Most roadway improvements were designed to have open shoulder typical sections and any proposed fill or cut areas will be stabilized preferably with grass upon completion. These grassed shoulders will serve as a filter strip as roadway water sheet flows from the facility. Where practicable, grass swales and grass roadway ditches will collect roadway storm water along the project and convey it to existing discharge points. The swales will be designed to have non-erosive velocities and will be stabilized with grass. Where high velocities prevent the use of grass swales, ditches will be stabilized by the placement of rip rap or permanent soil reinforcement matting. In some locations, the use of preformed scour holes were implemented. This approach allowed for the runoff velocities and erosion to be kept minimal prior to discharging into jurisdictional waters.

Existing storm drainage systems and cross culverts will be utilized and retained if possible to collect and convey storm water. Using the existing systems will maintain existing drainage patterns and minimize additional discharge points that will require stabilization along the corridor. Any new proposed pipe outlets will be properly stabilized with geotextile fabric and rip rap to reduce velocities and erosion. New outlet pipes will discharge as far away from jurisdictional features as possible.

Any reinforced concrete box culverts that need to be extended will be carefully constructed in dry conditions, where feasible, using impervious dikes, etc. to minimize siltation and turbidity within the stream. Rip rap will be placed along the stream bank at new culvert outlets for permanent bank stabilization, where necessary. Grassed swales carrying storm water to jurisdictional streams will have stabilized outfalls to jurisdictional streams to prevent erosion. Rip rap placement in the bed of jurisdictional streams will be limited to the minimum amounts necessary to stabilize the channel.

09/08/99

TIP PROJECT: I-5405/I-4750AA

CONTRACT: C203406

$TIME$
$DATE$
$FILE$
$PENTBL$

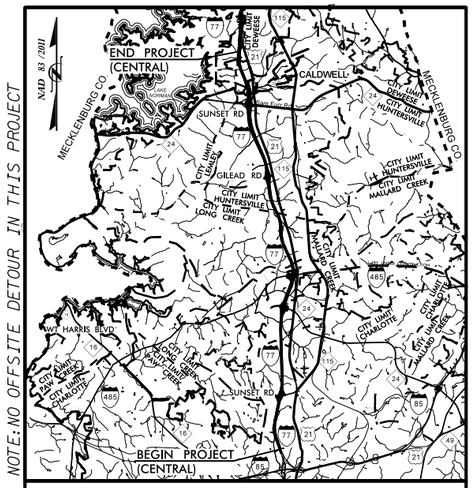
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

PERMIT DRAWING
SHEET 01 OF 27

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5405/I-4750AA	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45454.3.P3S1		P.E.



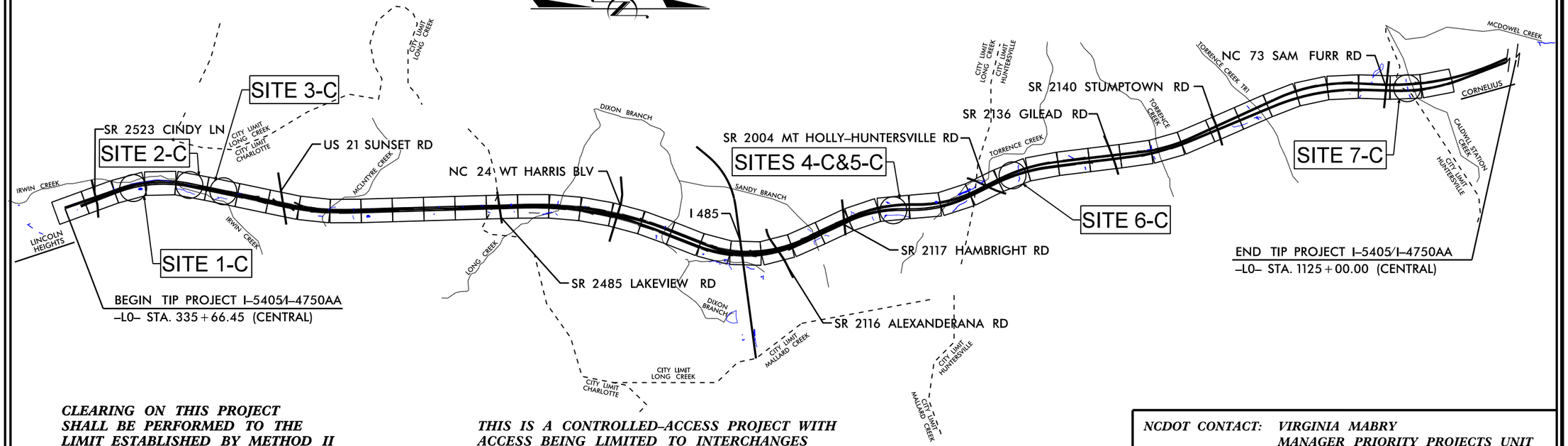
VICINITY MAP SHOWING LOCATION OF STATE PROJECT I-77 HOTLANES

LOCATION: *I-77 FROM NORTH OF I-85 TO NORTH OF NC 73 (SAM FURR RD.)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, SIGNING, ITS, GUARDRAIL, PAVEMENT MARKINGS, TOLLING STRUCTURES /EQUIPMENT AND STRUCTURES*

WETLAND AND STREAM IMPACTS (CENTRAL SECTION)

NAD 83 /2011



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMIT ESTABLISHED BY METHOD II

THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES

NCDOT CONTACT: *VIRGINIA MABRY*
MANAGER PRIORITY PROJECTS UNIT

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = 185,400
ADT 2035 = 231,400
DHV = 10 %
D = 60 %
T = 8 % *
V = 70 MPH
* (TTST 4% + DUAL 4%)
FUNC. CLASS = INTERSTATE "STATE WIDE TIER"

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5405/I-4750AA = *14.950 MI*

LENGTH STRUCTURES TIP PROJECT I-5405/I-4750AA = *0.023 MI*

TOTAL LENGTH OF TIP PROJECT I-5405/I-4750AA = *26.089 MI*

Prepared for NCDOT In the Office of:
LOUIS BERGER
8150 Brookriver Drive, Suite S-320
Dallas, Texas 75247
License No.: F-0840

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: TBD

JOSE M. BARRAU, P.E.
ROADWAY DESIGN ENGINEER

JOE M. GARCIA P.E.
HYDRAULICS ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
I-5405	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING SHEET 02 OF 27

0 50 100

NAD 83/2011

SITE 1-C

MATCH LINE SHEET 5 -L0- STA 359+00

MATCH LINE SHEET 7 -L0- STA 373+00

SLATER RD

TS Sta. 360+12.98

SC Sta. 364+17.64

CS Sta. 362+29.85

SC Sta. 365+30.18

JUNIPER DR

-NW6-

-L3SB-

-L3NB-

PROP. -NW6-
-L3SB- STA. 361+09.61
(45.48' RT) FACE OF WALL

PROP. -NW6-
-L3SB- STA. 362+89.25
(45.75' RT) FACE OF WALL

PROP. -NW7-
-L3SB- STA. 365+09.83
(100.29' RT) FACE OF WALL

PROP. -NW7-
-L3SB- STA. 366+01.47
(102.19' RT) FACE OF WALL

PROP. -NW7-
-L3SB- STA. 366+77.44
(110.37' RT) FACE OF WALL

PROP. -NW7-
-L3SB- STA. 367+80.50
(140.14' RT) FACE OF WALL

RETAIN 30" RCP

RETAIN 18" RCP

RETAIN 24" RCP

RETAIN JB

REMOVE 15" RCP

REMOVE DI

Conv. DI To JB

Conv. JB To 2GI

RETAIN DI

RETAIN 15" RCP

RETAIN 2-6'X6' RCBC

RETAIN CONCRETE DITCH

EXISTING CONC DITCH

EXIST SOUNDWALL

COLLAR AND EXTEND

RETAIN 15" CMP

PROP. RETAINING WALL NO. 2

PROP. SINGLE-FACED CONCRETE BARRIER

KENNEDY BRANCH TRIBUTARY

KENNEDY BRANCH

EXISTING R/W

RU LLC
16819 / 644

JPG PROPERTIES LLC
23362 / 884

WILLIE MAE TRAPP
23434 / 97

LLOYD AND TEAIM EDWARDS
06044 / 976

EDWARDS LLOYD
06044 / 974

VUE Z MOUA
11010 / 021

BOOKER CHARLES JR
10182 / 958

TARA PROPERTIES INC
18831 / 128

JOYCE D WADDELL
245735 / 907

THOMAS E JR AND NELLIE BARBOUR
01651 / 445

EVERETTE B CURLEE
04785 / 375

EVERETTE B CURLEE
04614 / 113

MRS DENA J A WEAVER
19617 / 134

FRANKLIN A TYSON
26272 / 462

RBC REAL ESTATE FINANCE INC
24758 / 658

BARBARA P SHOAFF
04334 / 698

ROBERT J AND BARBARA P SHOAFF
04386 / 937

DONA LEE PEACOCK SIMMONS
05975 / 095

LESLIE GAIL GORDAN
20732 / 667

JOSE R MARCO
23224 / 812

CONNIE BUTLER
24188 / 495

SUSAN TURNER SANDERSON
08821 / 285

LAURICE HADDAD
25722 / 770

MILLER W HENRY
06709 / 288

WILLIAM W JR AND DEBORAH S C CROSS
19780

TALVIN J JOHNSON
20625 / 241

DENOTES FILL IN WETLAND

DENOTES TEMPORARY FILL IN WETLAND

-L3SB-		-L3NB-		
PIs Sta 362+82.77	PI Sta 377+96.83	PIs Sta 357+37.05	PIs Sta 364+08.07	PI Sta 378+44.13
Θs = 1° 59' 55.4"	Δ = 26° 45' 07.1" (RT)	Δ = 2° 49' 26.6" (RT)	Θs = 0° 25' 48.7"	Δ = 26° 15' 04.0" (RT)
Ls = 404.66'	D = 0° 59' 16.3"	D = 0° 17' 11.3"	Θs = 1° 31' 36.7"	D = 1° 01' 00.4"
LT = 269.79'	L = 2,708.08'	L = 985.79'	Ls = 300.33'	L = 2,581.78'
ST = 134.90'	T = 1,379.19'	T = 492.99'	LT = 178.23'	T = 1,313.96'
	R = 5,800.00'	R = 20,000.00'	ST = 122.13'	R = 5,635.00'
	e = 3.60%	e = NC		e = 3.30%
	RO = 300'	RO = N/A		RO = 300'
	DS = 70 MPH	DS = 70 MPH		DS = 70 MPH

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 52.
2.) FOR -L3SB- PROFILE SEE SHEET 52.

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

10-JUL-2015 08:24
I:\P_PWP-pms.30384\I-5405_HYD_PRM_WET_PSH_006-01.dgn
imgarcia CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 03 OF 27

0 50 100

NAD 83/2011

MATCH LINE SHEET 5
-L0- STA 359+00

MATCH LINE SHEET 7
-L0- STA 373+00

SLATER RD

TS Sta. 360+12.98

SC Sta. 364+17.64

CS Sta. 362+29.58

SC Sta. 365+30.18

-NW6-

-L3SB-

-L3NB-

JUNIPER DR

CHARNELL LANE

PROP. -NW6-
-L3SB- STA. 361+09.61
(45.48' RT) FACE OF WALL

PROP. -NW6-
-L3SB- STA. 362+89.25
(45.75' RT) FACE OF WALL

PROP. -NW7-
-L3SB- STA. 365+09.83
(100.29' RT) FACE OF WALL

PROP. -NW7-
-L3SB- STA. 366+01.47
(102.19' RT) FACE OF WALL

PROP. -NW7-
-L3SB- STA. 366+77.44
(110.37' RT) FACE OF WALL

PROP. -NW7-
-L3SB- STA. 367+80.50
(140.12' RT) FACE OF WALL

PROP. RETAINING WALL NO. 2

PROP. SINGLE-FACED CONCRETE BARRIER

RETAIN 30" RCP

RETAIN 18" RCP

RETAIN 15" RCP

RETAIN 24" RCP

RETAIN 2-6'X6' RCBC

RETAIN CONCRETE DITCH

RETAIN JB

RETAIN DI

RETAIN 15" CMP

REMOVE 15" RCP

REMOVE DI

Conv. JB To 2GI

Conv. DI To JB

Conv. DI To 2GI

EXIST SOUNDWALL

COLLAR AND EXTEND

SITE 1-C

RU LLC
16819 / 644

JPG PROPERTIES LLC
23362 / 884

WILLIE MAE TRAPP
23434 / 97

LLOYD AND TEAIM EDWARDS
06044 / 976

EDWARDS LLOYD
06044 / 974

VUE Z MOUA
11010 / 021

BOOKER CHARLES JR
10182 / 958

TARA PROPERTIES INC
18831 / 128

JOYCE D MADDELL
245735 / 907

THOMAS E JR AND NELLIE BARBOUR
01651 / 445

EVERETTE B CURLEE
04785 / 375

EVERETTE B CURLEE
04614 / 113

MRS DENA J A WEAVER
19617 / 134

FRANKLIN A TYSON
26272 / 462

BARBARA P SHOAFF
04334 / 698

ROBERT J AND BARBARA P SHOAFF
04386 / 937

DONA LEE PEACOCK SIMMONS
05975 / 095

LESLIE GAIL GORDAN
20732 / 667

JOSE R MARCO
23224 / 812

CONNIE BUTLER
24188 / 495

SUSAN TURNER SANDERSON
08821 / 285

LAURICE HADDAD
25722 / 770

MILLER W HENRY
06709 / 288

WILLIAM W JR AND DEBORAH S C CROSS
19780

TALVIN J JOHNSON
20625 / 241

RBC REAL ESTATE FINANCE INC
24758 / 658

DENOTES FILL IN WETLAND

DENOTES TEMPORARY FILL IN WETLAND

-L3SB-		-L3NB-		
PIs Sta 362+82.77	PI Sta 377+96.83	PI Sta 357+37.05	PIs Sta 364+08.07	PI Sta 378+44.13
Θs = 1°59'55.4"	Δ = 26°45'07.1" (RT)	Δ = 2°49'26.6" (RT)	Θs = 0°25'48.7"	Δ = 26°15'04.0" (RT)
Ls = 404.66'	D = 0°59'16.3"	D = 0°17'11.3"	Θs = 1°31'36.7"	D = 1°01'00.4"
LT = 269.79'	L = 2,708.08'	L = 985.79'	Ls = 300.33'	L = 2,581.78'
ST = 134.90'	T = 1,379.19'	T = 492.99'	LT = 178.23'	T = 1,313.96'
	R = 5,800.00'	R = 20,000.00'	ST = 122.13'	R = 5,635.00'
	e = 3.60%	e = NC		e = 3.30%
	R0 = 300'	R0 = N/A		R0 = 300'
	DS = 70 MPH	DS = 70 MPH		DS = 70 MPH

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 52.
2.) FOR -L3SB- PROFILE SEE SHEET 52.

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

10-JUL-2015 08:56
I:\P_PWP-cms\30334\I-5405_HYD_PRM_WET_PSH_006-02.dgn
imgarcia CAMARGO

ENLARGEMENT SHEET

20' 0' 20'

PROJECT REFERENCE NO.	SHEET NO.
I-5405	6A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 04 OF 27

NAD 83/2011

RETAIN 24" RCP

370+00

-L3SB-

Conv. DI To JB

2GI

-L0-

370+00

RETAIN 24" RCP

-L3NB-

15" CMP

PROP. RETAINING WALL NO. 2

PROP. SINGLE-FACED CONCRETE BARRIER

WOODS

T

F

RETAIN 1

DENOTES FILL IN WETLAND

DENOTES TEMPORARY FILL IN WETLAND

SITE 1-C

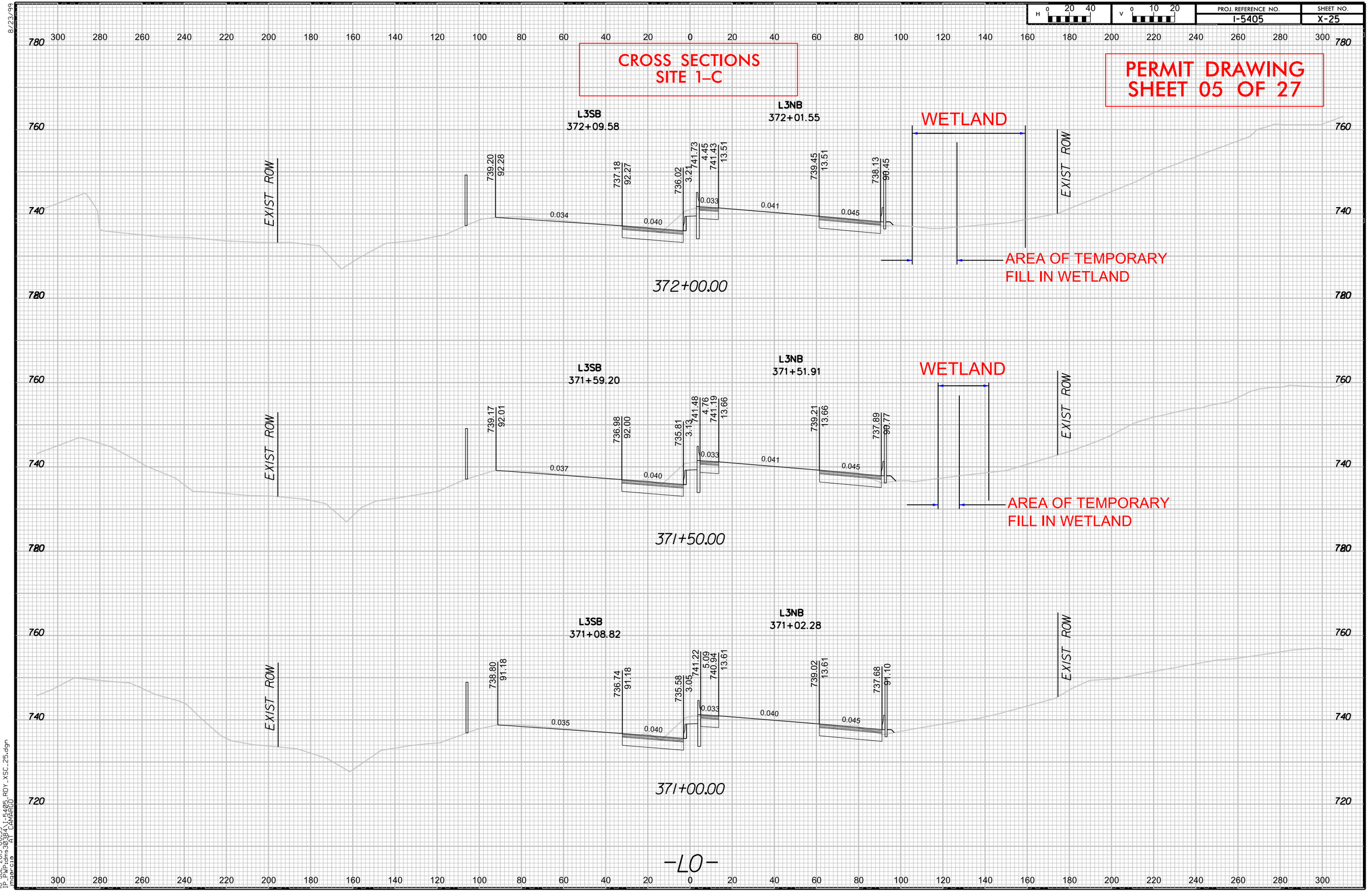
10-JUL-2015 0h28
IP PWP:pms30384\I-5405_HYD_PRM_WET_PSH_006-03.dgn
image:c1b AT CAMARGO

8/23/99

H	V	PROJ. REFERENCE NO.	SHEET NO.
0 20 40	0 10 20	I-5405	X-25

CROSS SECTIONS SITE 1–C

PERMIT DRAWING SHEET 05 OF 27



10-JUL-2005 00:35
jp pw:\ams.0002\jp.I-5405_RDY_XSC_25.dgn
jmarcotte

8/23/99

H	V	PROJ. REFERENCE NO.	SHEET NO.
0 20 40	0 10 20	I-5405	X-26

CROSS SECTIONS SITE 1–C

PERMIT DRAWING SHEET 06 OF 27

780 760 740 720

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

EXIST ROW

L3SB
373+60.73

739.93
92.42

737.81
92.41

736.65
3.39

742.61
3.58

742.29
13.14

0.035 0.040 0.033 0.041 0.045

L3NB
373+50.47

740.36
13.14

739.06
89.58

EXIST ROW

373+50.00

L3SB
373+10.35

739.78
92.48

737.62
92.47

736.45
3.33

742.28
3.86

741.97
13.31

0.036 0.040 0.033 0.041 0.045

L3NB
373+00.83

740.03
13.31

738.73
89.86

WETLAND

AREA OF TEMPORARY FILL IN WETLAND

373+00.00

L3SB
372+59.97

739.60
92.42

737.40
92.41

736.24
3.27

741.96
4.15

741.66
13.06

0.037 0.040 0.033 0.039 0.045

L3NB
372+51.19

739.81
13.06

738.48
90.15

WETLAND

AREA OF TEMPORARY FILL IN WETLAND

AREA OF TEMPORARY FILL IN WETLAND

372+50.00

–L0–

10: JUL-205 08:35
JP: pw:\ams.0002.A1-5405_RDY_XSC_26.dgn
image:ca AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 07 OF 27

0 50 100

NAD 83/2011

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

SECRETARY OF HOUSING AND URBAN DEVELOPMENT 24240 / 150
LORETTA D BRIGHAM 19102 / 271
MELVIN MCCROREY 17411 / 738
KEON D STOKES 18431 / 653
STEPHEN I CURETON 17884 / 73
SHEILA A PIERCE 18066 / 989
GLADYS L ANDERSON 15979 / 234
RANDY T CLARK 08269 / 888
BEATTIES FORD ROAD CHURCH OF CHRIST 10186 / 614
WILLIAMS MEMORIAL PRESBYTERIAN CHURCH INC 01721 / 165
MILE 1 5

CS Sta. 391+25.72
CS Sta. 391+11.86
ST Sta. 395+30.38
ST Sta. 395+45.10

END PROP. –NW7–
–L3SB– STA. 393+63.16
(48.15' RT) FACE OF WALL

PROP. –NW7–
–L3SB– STA. 392+20.29
(48.95' RT) FACE OF WALL

EXISTING R/W
EXISTING R/W VARIES
WOODS
CONC HW
PROP. RETAINING WALL NO. 2
RETAIN 18" RCP
RETAIN 12" CMP
RETAIN 15" CMP
RETAIN DI
RETAIN 48" RCP
RETAIN 15" RCP
REMOVE 15" RCP
REMOVE DI
RETAIN 2-7'X7' RCBC
EXIST SOUNDWALL
PROP. SINGLE-FACED CONCRETE BARRIER
ROCK CHECK DAM, EVERY 25 FT.
CLASS "I" RIP RAP AT EMBANKMENT EST. 49 TONS EST. 44 SY GF SEE DETAIL K
LATERAL GRASS SWALE SEE DETAIL 'G'
SEE INSET "A" FOR BEGINNING OF DITCH
KENNEDY BRANCH

-L0- PI Sta 377+98.80
Δ = 26° 11' 10.3" (RT)
D = 0° 58' 45.9"
L = 2,673.66'
T = 1,360.59'
R = 5,850.00'
Pls Sta 392+56.29
Θs = 2° 07' 17.8"
Ls = 433.24'
LT = 288.85'
ST = 144.43'

-L3SB- PI Sta 377+96.83
Δ = 26° 45' 07.1" (RT)
D = 0° 59' 16.3"
L = 2,708.08'
T = 1,379.19'
R = 5,800.00'
e = 3.60%
RO = 300'
DS = 70 MPH
Pls Sta 392+60.62
Θs = 1° 59' 55.4"
Ls = 404.66'
LT = 269.79'
ST = 134.90'

-L3NB- PI Sta 378+44.13
Δ = 26° 15' 04.0" (RT)
D = 1° 01' 00.4"
L = 2,581.78'
T = 1,313.96'
R = 5,635.00'
e = 3.30%
RO = 300'
DS = 70 MPH
Pls Sta 392+27.91
Θs = 1° 46' 06.0"
Ls = 347.83'
LT = 231.90'
ST = 115.95'

N 11° 46' 51.7" E
N 11° 46' 12.4" E

MATCH LINE SHEET 7
–L0– STA 387+00.00

MATCH LINE SHEET 9
–L0– STA 401+00.00

SITE 2–C

INSET A

MATCH LINE SHEET 6
–L0– STA 387+00.00

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 54.
2.) FOR –L3SB– PROFILE SEE SHEET 54.

02-SEP-2015 15:09
I:\P_PWP\dnz2463\I-5405_HYD_PRM_WET_PSH_008-01.dgn
imgarcia AT CAMARGO

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

PROJECT REFERENCE NO.	SHEET NO.
I-5405	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING SHEET 08 OF 27

NAD 83/2011

0 50 100

MILE 1 5

SECRETARY OF HOUSING AND URBAN DEVELOPMENT 24240 / 150
LORETTA D BRIGHAM 19102 / 271
MELVIN MCCROREY 17411 / 738
KEON D STOKES 18431 / 653
STEPHEN I CURETON 17884 / 73
SHEILA A PIERCE 18066 / 989
GLADYS L ANDERSON 15979 / 234
RANDY T CLARK 08269 / 888
BEATTIES FORD ROAD CHURCH OF CHRIST 10186 / 614
WILLIAMS MEMORIAL PRESBYTERIAN CHURCH INC 01721 / 165
PERRY J AND SHERRI A WELCH 13144 / 218
PERRY J WELCH 06299 / 510
LEILA NADINE SADLER 13921 / 528
N C STATE HIGHWAY COMMISSION 03372 / 281

CS Sta. 391+25.72
CS Sta. 391+11.86
CS Sta. 391+11.96
ST Sta. 395+30.38
ST Sta. 395+45.10
ST Sta. 394+59.78

PROP. –NW7– –L3SB– STA. 392+20.29 (48.95' RT) FACE OF WALL
END PROP. –NW7– –L3SB– STA. 393+63.16 (48.15' RT) FACE OF WALL

EXISTING R/W
EXISTING R/W VARIES
WOODS
KENNEDY BRANCH
EXIST SOUNDWALL

RETAIN 18" RCP
15" RCP
RETAIN 12" CMP
RETAIN DI
RETAIN 15" CMP
RETAIN 48" RCP
RETAIN 15" RCP
RETAIN 2–7'X7' RCBC
REMOVE 15" RCP
REMOVE DI
PROP. RETAINING WALL NO. 2
PROP. SINGLE-FACED CONCRETE BARRIER
CLASS "I" RIP RAP AT EMBANKMENT EST. 49 TONS EST. 44 SY GF SEE DETAIL K
ROCK CHECK DAM, EVERY 25 FT.
LATERAL GRASS SWALE SEE DETAIL 'G'
SEE INSET "A" FOR BEGINNING OF DITCH

-L0-
-L3SB-
-L3NB-

MATCH LINE SHEET 7 -L0- STA 387+00.00
MATCH LINE SHEET 9 -L0- STA 401+00.00

SITE 2–C

INSET A

MATCH LINE SHEET 6 -L0- STA 387+00.00

-L0-		-L3SB-		-L3NB-	
PI Sta 377+98.80	PIs Sta 392+56.29	PI Sta 377+96.83	PIs Sta 392+60.62	PI Sta 378+44.13	PIs Sta 392+27.91
Δ = 26° 11' 10.3" (RT)	Θs = 2° 07' 17.8"	Δ = 26° 45' 07.1" (RT)	Θs = 1° 59' 55.4"	Δ = 26° 15' 04.0" (RT)	Θs = 1° 46' 06.0"
D = 0° 58' 45.9"	Ls = 433.24'	D = 0° 59' 16.3"	Ls = 404.66'	D = 1° 01' 00.4"	Ls = 347.83'
L = 2,673.66'	LT = 288.85'	L = 2,708.08'	LT = 269.79'	L = 2,581.78'	LT = 231.90'
T = 1,360.59'	ST = 144.43'	T = 1,379.19'	ST = 134.90'	T = 1,313.96'	ST = 115.95'
R = 5,850.00'		R = 5,800.00'		R = 5,635.00'	
		e = 3.60%		e = 3.30%	
		R0 = 300'		R0 = 300'	
		DS = 70 MPH		DS = 70 MPH	

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 54.
2.) FOR –L3SB– PROFILE SEE SHEET 54.

DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

02-SEP-2015 15:44
I:\P_PWP\dnc2463\J-5405_HYD_PRM_WET_PSH_008-02.dgn
imgar019 AT CAMARGO

ENLARGEMENT SHEET

20' 0' 20'

PROJECT REFERENCE NO.	SHEET NO.
I-5405	8A

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 09 OF 27

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83/2011

RETAIN 18" RCP

INV=745.52'

15" RCP

DI

INV=747.20'

TOP=749.50'

WOODS

CONTROL CABINET

-L3SB-

390+00

PROP. RETAINING WALL NO. 2

-L0-

390+00

REMOVE 15" RCP

REMOVE DI

RETAIN 2-7'X7' RCBC

390+00

REMOVE DI

-L3NB-

INV=745.28'

TOP=753.01'

2GI

INV=748.78'

15" RCP

15" RCP-III

DI

2GI

CONTROL CABINET

SITE 2-C

RETAIN 15" RCP

S

JS

WOODS

ROCK CHECK DAM, EVERY 25 FT.

CLASS "I" RIP RAP AT EMBANKMENT
EST. 49 TONS
EST. 44 SY GF
SEE DETAIL K

KENNEDY BRANCH

LATERAL GRASS SWALE
SEE DETAIL 'G'

02-SEP-2015 15:17
I:\Projects\2-4633.1-5405_HYD_PRM_WET_PSH_008-03.dgn
imgarcia
A: CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	9

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING SHEET 10 OF 27

0 50 100

NAD 83/2011

WILLIAMS MEMORIAL PRESBYTERIAN CHURCH INC 01721 / 165

BISHOP S C MADISON 16948 / 114

ESPERANZA ROSAS ALANIS 25928 / 449

TARA V STINSON 13087 / 215

LAQUINSHA N KELLY 12725 / 841

BISHOP S C MADISON 16948 / 114

GRACIE STEWART 23840 / 113

ANDREA WILLIAMS 23018 / 914

FRANCES R COLEMAN 13466 / 416

BISHOP S C MADISON 16948 / 114

BRENDA BRIGGS 21513 / 172

PIET A ZANER 20175 / 346

CARRIE GARRIS 21160 / 779

GIL A CASTRO 23216 / 671

CAITLIN CRISTEENE HOWELL 19429 / 477

BUJAR HODAJ 24466 / 339

ARRCORP LLC 17617 / 538

MP REAL ESTATE INVESTMENTS 25423 / 448

HAMILTON OAKS 1265

EXISTING R/W VARIES

MATCH LINE SHEET 8
-L0- STA 401+00.00

MATCH LINE SHEET 10
-L0- STA 415+00.00

RETAIN DI

RETAIN 15" RCP

RETAIN 30" CMP

RETAIN 30" RCP

RETAIN 15" CMP

RETAIN 60" CMP

RETAIN 18" RCP

RETAIN 18" CMP

RETAIN CONCRETE DITCH

REMOVE DI

Adj. DI

2GI

PROP. SINGLE-FACED CONCRETE BARRIER

PROP. RETAINING WALL NO. 3

GRAU 350 TL-3

-L3SB-

-L3NB-

-L0-

N 11° 46' 51.7" E

N 11° 46' 12.4" E

405+00

410+00

415+00

WOODS

KENNEDY BRANCH TRIBUTARY

72" CONC DITCH

N C STATE HIGHWAY COMMISSION 03355 / 041

WILLIAM F MARSHALL JR 06612 / 216

THOMAS F LYNCH JR 04891 / 836

SITE 3-C

BEGIN PROP. -NW8-
-L3NB- STA. 410+81.94
(54.50' RT) FACE OF WALL

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 55.
2.) FOR -L3SB- PROFILE SEE SHEET 55.

09-JUL-2015 18:56
I:\P_PWP\dms\9633\I-5405_HYD_PRM_WET_PSH_009-01.dgn
mfuentesville
AT HYUNDAY

PROJECT REFERENCE NO.	SHEET NO.
I-5405	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

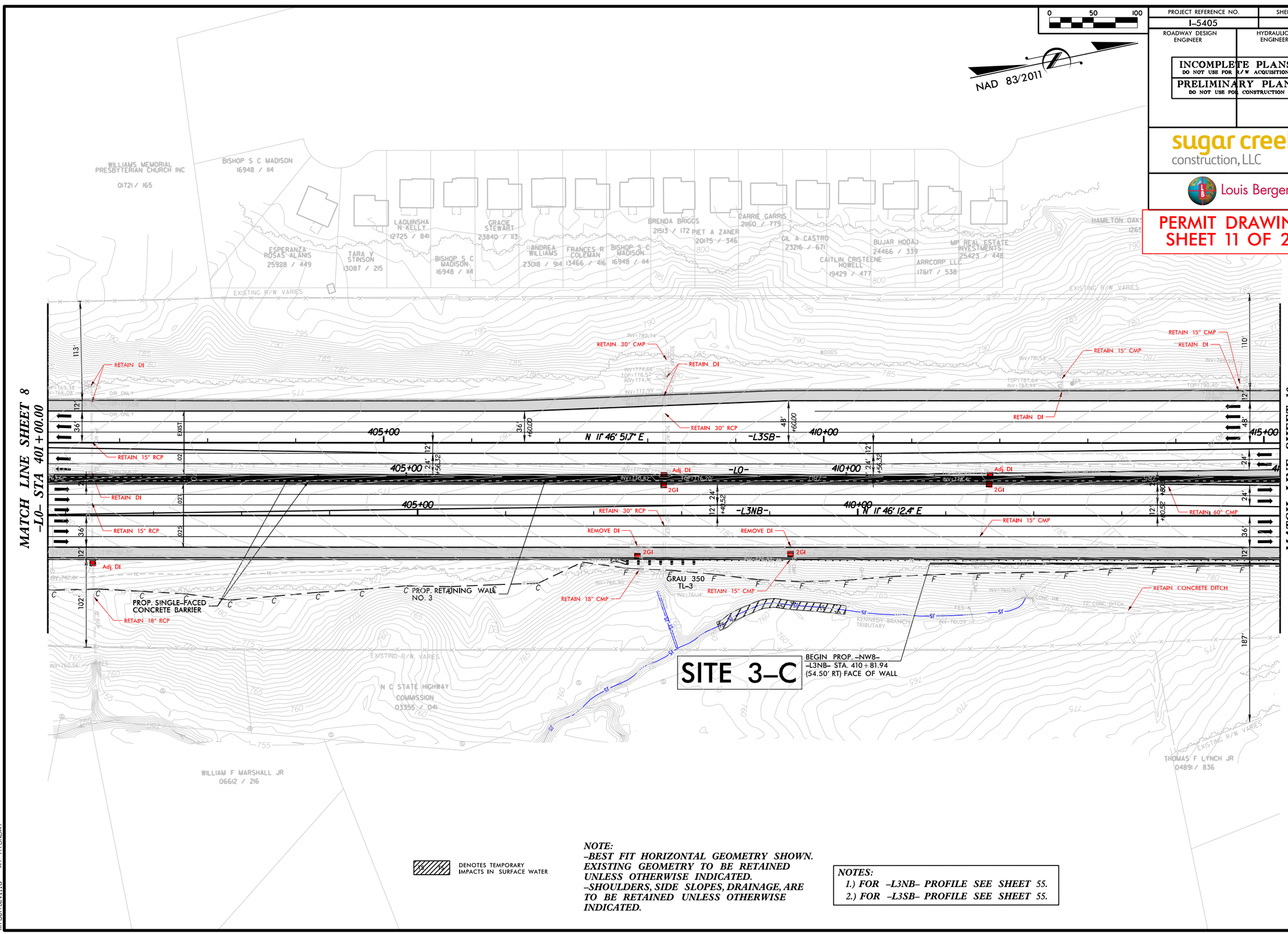
sugar creek construction, LLC

Louis Berger

PERMIT DRAWING SHEET 11 OF 27

0 50 100

NAD 83/2011



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 55.
2.) FOR -L3SB- PROFILE SEE SHEET 55.

09-JUL-2015 18:58
I:\P_PWP\dms\9633\I-5405_HYD_PRM_WET_PSH_009-02.dgn
mfuentesville
AT HYUNDAY

ENLARGEMENT SHEET

20′ 0′ 20′

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I-5405	9A

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

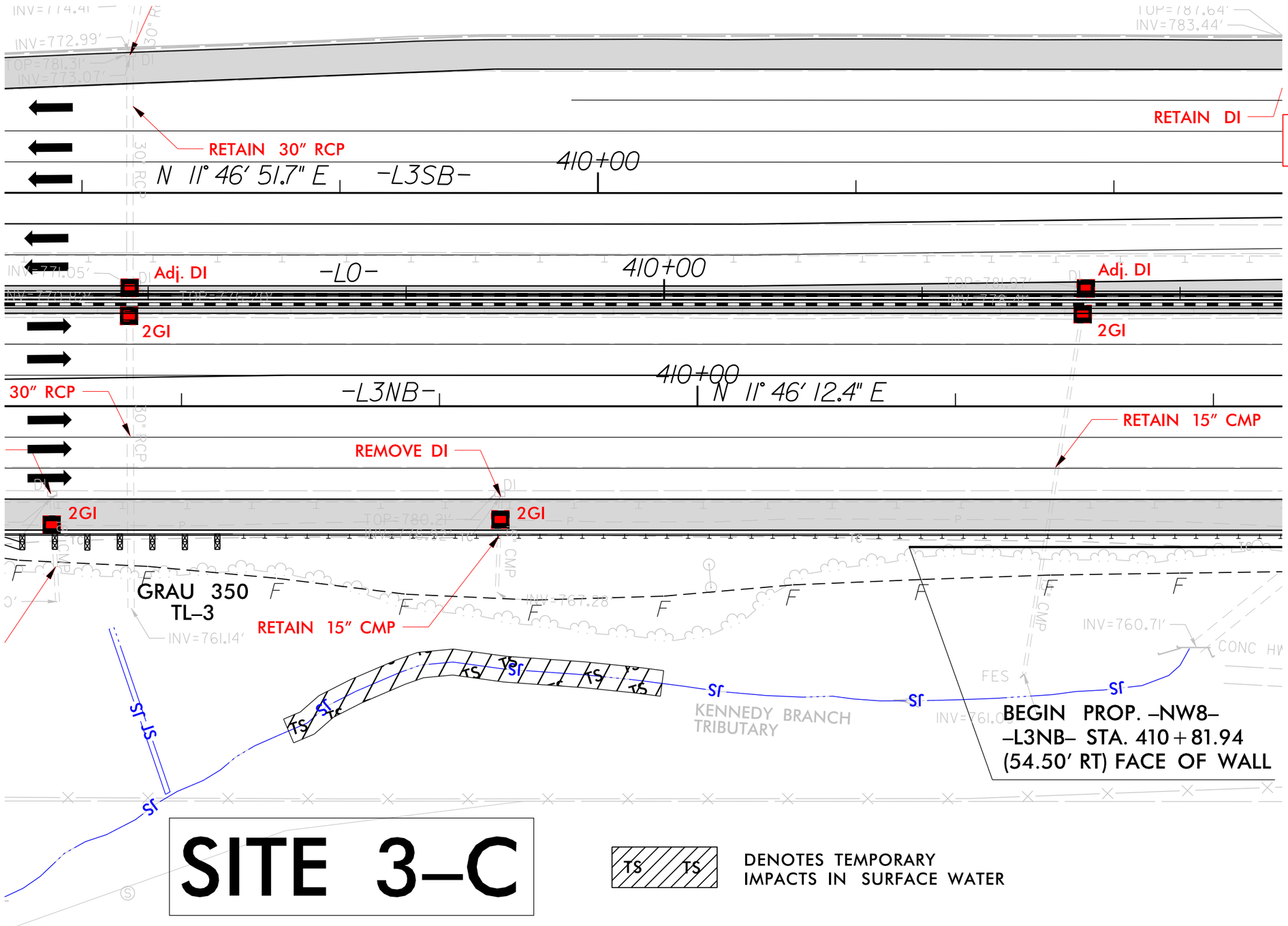
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 12 OF 27



SITE 3-C

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

09-JUL-2015 19:00
I:\P_PWP\dgn\2963\I-5405_HYD_PRM_WET_PSH_009-03.dgn
mfuentesville
AT HYUNDAY

PROJECT REFERENCE NO.	SHEET NO.
I-5405	31
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING SHEET 13 OF 27

0 50 100

JOYCE MCKINNEY R/T KELLER 19764 / 312

SB LAND LLC 25647 / 133

JOHN W DELLINGER 12529 / 524

JOHN W DELLINGER 12529 / 524

NAD 83/2011

MILE 2 1

EXISTING R/W

RETAIN CONCRETE DITCH

RETAIN CONCRETE DITCH

RETAIN 42" RCP

RETAIN 15" RCP

RETAIN 30" RCP

RETAIN 42" RCP

RETAIN 30" RCP

CS Sta. 719+40.48

CS Sta. 717+65.73

ST Sta. 724+57.23

TS Sta. 724+94.85

MATCH LINE SHEET 30 -L0- STA 709+00.00

MATCH LINE SHEET 32 -L0- STA 723+00.00

710+00

715+00

720+00

-L3SB-

-L0-

-L3NB-

CAT-1

GRAU 350 TL-3

BEGIN JS

TS

SITE 5-C

SITE 4-C

18" RCP-III

42" RCP-III

COLLAR AND EXTEND

REMOVE RIPRAP

LATERAL GRASS SWALE SEE DETAIL 'G'

LATERAL GRASS SWALE SEE DETAIL 'H'

CLASS "I" RIP RAP AT EMBANKMENT EST. 100 TONS EST. 42 SY GF SEE DETAIL J

CLASS "I" RIP RAP AT EMBANKMENT EST. 18 TONS EST. 16 SY GF SEE DETAIL K

ROCK CHECK DAM, EVERY 25 FT.

N 0° 19' 15.7" E

DIXON BRANCH TRIBUTARY

CFI PROPERTIES LLC 15279 / 495

E & J OF HUNTERSVILLE LLC 22500 / 255

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 77.
2.) FOR -L3SB- PROFILE SEE SHEET 77.

-L0-	-L3SB-	-L3NB-
PI Sta 708+25.24 Δ = 21° 33' 27.2" (RT) D = 0° 57' 17.7" L = 2,257.50' T = 1,142.26' R = 6,000.00'	PIs Sta 720+65.49 Θs = 1° 47' 25.8" Ls = 375.00' LT = 250.01' ST = 125.01'	PI Sta 709+94.59 Δ = 21° 57' 54.1" (RT) D = 0° 54' 34.0" L = 2,415.18' T = 1,222.60' R = 6,300.00' e = 3.40% RO = 300' DS = 70 MPH	PIs Sta 718+82.41 Θs = 1° 47' 25.8" Ls = 350.00' LT = 233.35' ST = 116.68'	PI Sta 707+26.21 Δ = 21° 31' 42.4" (RT) D = 1° 01' 23.3" L = 2,104.16' T = 1,064.63' R = 5,600.00' e = 3.80% RO = 300' DS = 70 MPH	PIs Sta 724+48.44 Θs = 1° 54' 17.8" Ls = 380.35' LT = 253.58' ST = 126.80'

30-AUG-2015 15:13
J:\P_PW\dnc2163\3\I-5405_HYD_PRM_WET_PSH_031-01.dgn
imagesio

PROJECT REFERENCE NO.	SHEET NO.
I-5405	31

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING SHEET 14 OF 27

0 50 100

NAD 83/2011

JOYCE MCKINNEY R/T KELLER 19764 / 312

SB LAND LLC 25647 / 133

JOHN W DELLINGER 12529 / 524

JOHN W DELLINGER 12529 / 524

DONNA IVE 0286

MILE 2 1

RETAIN CONCRETE DITCH

RETAIN CONCRETE DITCH

RETAIN 42" RCP

RETAIN 15" RCP

RETAIN 30" RCP

CS Sta. 719+40.48

CS Sta.

CLASS "I" RIP RAP AT EMBANKMENT EST 100 TONS EST 120 SY GF SEE DETAIL J

CLASS "I" RIP RAP AT EMBANKMENT EST 18 TONS EST 16 SY GF SEE DETAIL K

-L3SB-

-L0-

-L3NB-

CAT-1

GRAU 350 TL-3

LATERAL GRASS SWALE SEE DETAIL 'G'

LATERAL GRASS SWALE SEE DETAIL 'H'

ROCK CHECK DAM, EVERY 25 FT.

COLLAR AND EXTEND

REMOVE RIPRAP

18" RCP III

42" RCP III

BEGIN JS

TS

N 0° 19' 15.7" E

MATCH LINE SHEET 30 -L0- STA 709+00.00

MATCH LINE SHEET 32 -L0- STA 723+00.00

SITE 5-C

SITE 4-C

CS Sta. 717+65.73

ST Sta. 724+15.73

TS Sta. 724+94.85

EXISTING R/W

DIXON BRANCH TRIBUTARY

CFI PROPERTIES LLC I5279 / 495

E & J OF HUNTERSVILLE LLC 22500 / 255

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 77.
2.) FOR –L3SB– PROFILE SEE SHEET 77.

-L0-		-L3SB-		-L3NB-	
PI Sta 708+25.24	PIs Sta 720+65.49	PI Sta 709+94.59	PIs Sta [illegible]	PI Sta 707+26.21	PIs Sta 718+82.41
Δ = 21° 33' 27.2" (RT)	Θs = 1° 47' 25.8"	Δ = 21° 57' 54.1" (RT)	Θs = [illegible]	Δ = 21° 31' 42.4" (RT)	Θs = 1° 47' 25.8"
D = 0° 57' 17.7"	Ls = 375.00'	D = 0° 54' 34.0"	Ls = [illegible]	D = 1° 01' 23.3"	Ls = 350.00'
L = 2,257.50'	LT = 250.01'	L = 2,415.18'	LT = [illegible]	L = 2,104.16'	LT = 233.35'
T = 1,142.26'	ST = 125.01'	T = 1,222.60'	ST = [illegible]	T = 1,064.63'	ST = 116.68'
R = 6,000.00'		R = 6,300.00'		R = 5,600.00'	
		e = 3.40%		e = 3.80%	
		RO = 300'		RO = 300'	
		DS = 70 MPH		DS = 70 MPH	

	Θs = 1° 47' 25.8"	Θs = 1° 54' 17.8"
	Ls = 375.00'	Ls = 380.35'
	LT = 250.01'	LT = 253.58'
	ST = 125.01'	ST = 126.80'

30-AUG-2015 15:15
JP PWP:dm2 963:X\I-5405_HYD_PRM_WET_PSH_031-02.dgn
imagesio AT CAMARGO

ENLARGEMENT SHEET

20' 0' 20'

PROJECT REFERENCE NO.	SHEET NO.
I-5405	31A

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

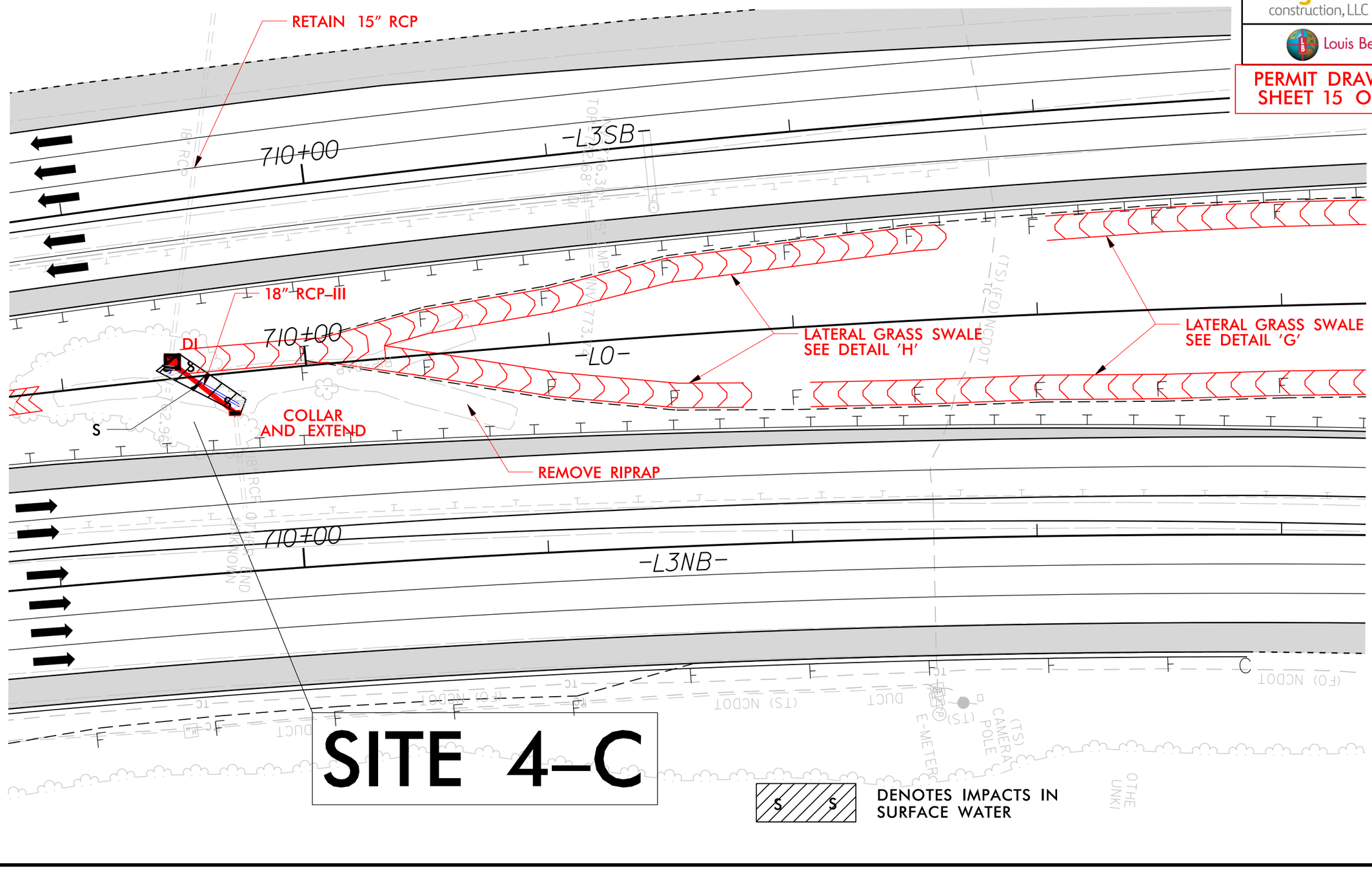
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 15 OF 27

NAD 83/2011



SITE 4-C

S S DENOTES IMPACTS IN SURFACE WATER

30-AUG-2015 15:16
I:\P_PWP\dms\26333_I-5405_HYD_PRM_WET_PSH_031-03.dgn
imagerig AT CAMARGO

ENLARGEMENT SHEET

20' 0' 20'

PROJECT REFERENCE NO.	SHEET NO.
I-5405	31B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 16 OF 27

NAD 83/2011

CLASS "I" RIP RAP
AT EMBANKMENT
EST. 100 TONS
EST. 92 SY GF
SEE DETAIL J

RETAIN 30" RCP

720+00
-L3SB-

BEGIN JS

CLASS "I" RIP RAP
AT EMBANKMENT
EST. 18 TONS
EST. 16 SY GF
SEE DETAIL K

SITE 5-C

GRAU 350
TL-3
TS

LATERAL
GRASS SWALE
SEE DETAIL 'H'

720+00
-LO-

S SWALE

LATERAL GRASS SWALE
SEE DETAIL 'H'

ROCK CHECK DAM,
EVERY 25 FT.

COLLAR AND EXTEND
CAT-1

30" RCP-II

720+00
-L3NB-

ROCK CHECK
DAM,
EVERY 25 FT.

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

30-AUG-2015 15:18
IP_PWP:dm2_963(X)_I-5405_HYD_PRM_WET_PSH_031-04.dgn
A1 CAMARGO
mgarcia

5/14/99

sugar creek construction, LLC

Louis Berger

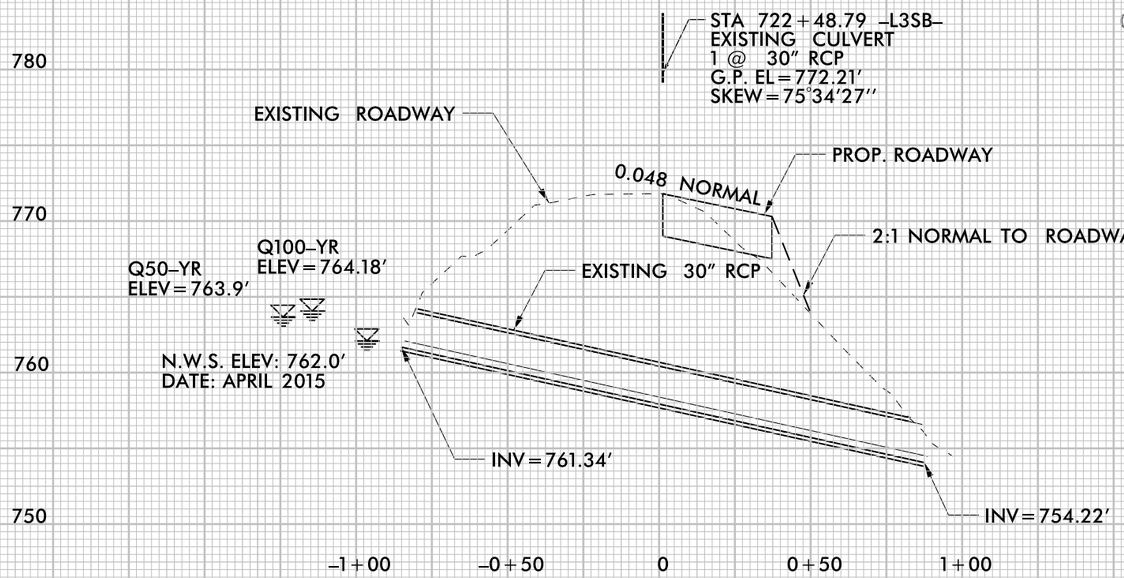
PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

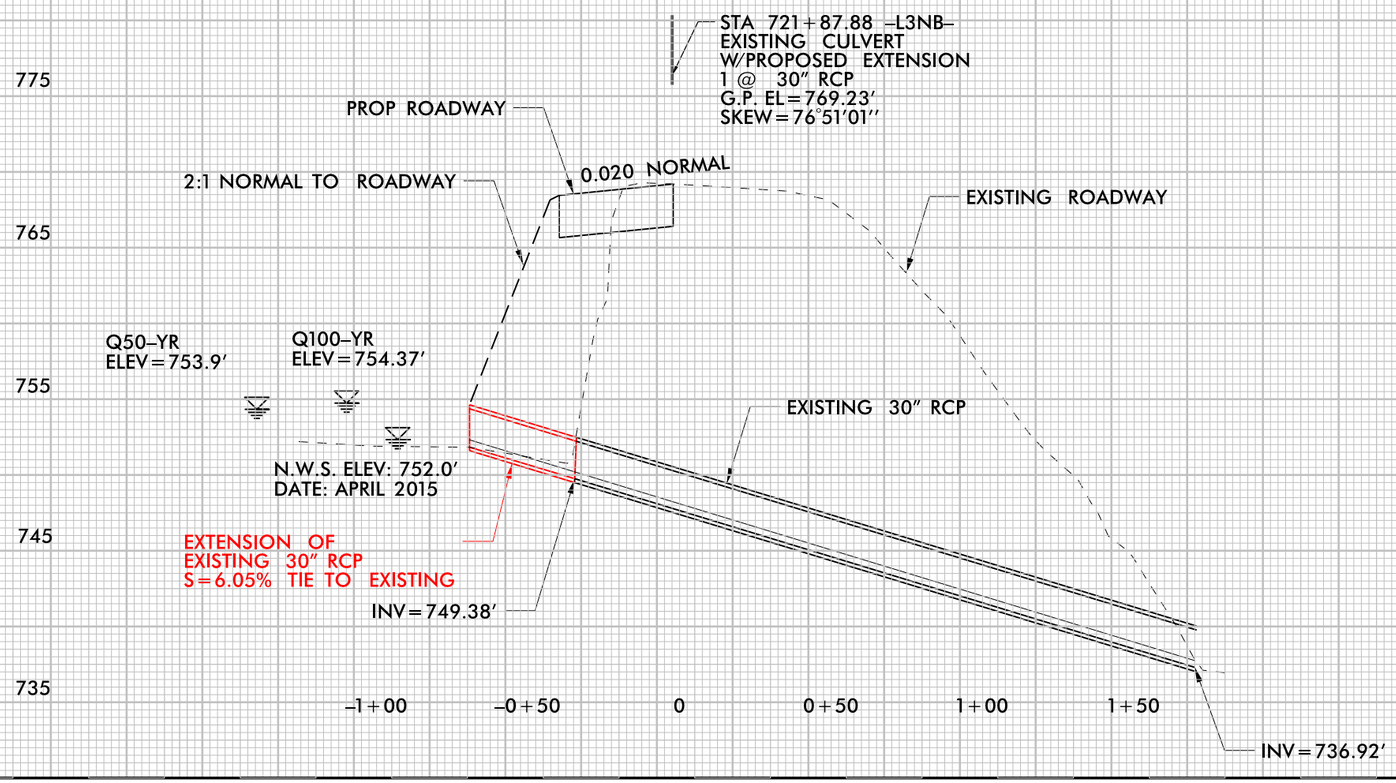
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 17 OF 27

SITE 5–C





03-AUG-2015 08:38
D:\Projects\0633_I-5405_HYD_PRM_WET_PFL_01.dgn
Preferences: AT_HYDRAULICS

PROJECT REFERENCE NO.	SHEET NO.
I-5405	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING SHEET 18 OF 27

0 50 100

NAD 83/2011

MILE 2 2

SITE 6–C

BANK OF AMERICA (BY MERGER) 04754 / 416

SC Sta. 766+49.03

SC Sta. 767+47.63

SC Sta. 765+96.62

EXISTING R/W

MATCH LINE SHEET 34 –L0– STA 765+00.00

MATCH LINE SHEET 36 –L0– STA 779+00.00

765+00 770+00 775+00

–L0– –L3SB– –L3NB–

RETAIN DI

RETAIN 18" RCP

REMOVE DI

REMOVE 24" RCP

ROCK CHECK DAM, EVERY 125 FT.

LATERAL GRASS SWALE SEE DETAIL 'G'

COLLAR AND EXTEND

LATERAL GRASS SWALE SEE DETAIL 'H'

Conv. DI To JB

REMOVE CONCRETE DITCH

REMOVE 18" RCP

RETAIN 8'X7' RCBC

CLASS "I" RIP RAP AT EMBANKMENT EST. 8 TONS EST. 7.5 SY SEE DETAIL J

CLASS "I" RIP RAP AT EMBANKMENT EST. 18 TONS EST. 12 SY SEE DETAIL K

CLASS "I" RIP RAP AT EMBANKMENT EST. 38 TONS EST. 34 SY SEE DETAIL J

CLASS "I" RIP RAP AT EMBANKMENT EST. 8 TONS EST. 5.5 SY SEE DETAIL K

EXTEND 8'X7' RCBC

LATERAL BASE DITCH SEE DETAIL 'F'

RETAIN CONCRETE DITCH

SEE INSET "A" FOR BEGINNING OF DITCH

GRAU 350 TL-3

CAT-1

TS

FLORENCE CREEK TRIBUTARY

THE BOWMAN GROUP 08014 / 813

INTEGRITY MANAGEMENT LL 24230 / 920

KEFFER PROPERTIES LP 09973 / 922

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 81.
2.) FOR –L3SB– PROFILE SEE SHEET 81.

–L0–		–L3SB–		–L3NB–
PIs Sta 765+29.04	PI Sta 777+61.08	PIs Sta 766+30.49	PI Sta 779+21.60	PI Sta 775+90.68
θs = 1° 21' 57.6"	Δ = 16° 45' 28.1" (RT)	θs = 1° 18' 27.0"	Δ = 17° 20' 15.4" (RT)	Δ = 16° 15' 17.3" (RT)
Ls = 360.00'	D = 0° 45' 32.0"	Ls = 351.43'	D = 0° 44' 38.8"	D = 0° 45' 50.2"
LT = 240.01'	L = 2,208.21'	LT = 234.29'	L = 2,330.01'	L = 2,127.75'
ST = 120.01'	T = 1,112.05'	ST = 117.15'	T = 1,173.98'	T = 1,071.07'
	R = 7,550.00'		R = 7,700.00'	R = 7,500.00'
			e = 2.80%	e = 2.10%
			RO = 300'	RO = 300'
			DS = 70 MPH	DS = 70 MPH

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

INSET A

01-SEP-2015 19:05
I:\P_PWP\cdot\25633\I-5405_HYD_PRM_WET_PSH_035-01.dgn
imgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING SHEET 19 OF 27

0 50 100

NAD 83/2011

MILE 2 2

BANK OF AMERICA (BY MERGER)
04754 / 416

SITE 6-C

SC Sta. 766+49.03

SC Sta. 767+47.63

SC Sta. 765+96.62

EXISTING R/W

-L0- 765+29.04

-L3SB- 766+30.49

-L3NB- 775+90.68

-L0- 779+21.60

MATCH LINE SHEET 34 -L0- STA 765+00.00

MATCH LINE SHEET 36 -L0- STA 779+00.00

MATCH LINE SHEET 35 -L0- STA 779+00.00

765+00 770+00 775+00 780+00

B-77 B-77 GRAU 350 TL-3

RETAIN DI

RETAIN 18" RCP

REMOVE DI

REMOVE 24" RCP

COLLAR AND EXTEND

ROCK CHECK DAM, EVERY 125 FT.

LATERAL GRASS SWALE SEE DETAIL 'G'

LATERAL GRASS SWALE SEE DETAIL 'H'

Conv. DI To JB

24" RCP-III

REMOVE CONCRETE DITCH

LATERAL BASE DITCH SEE DETAIL 'F'

REMOVE 18" RCP

RETAIN 8'X7' RCBC

RETAIN CONCRETE DITCH

CLASS "I" RIP RAP AT EMBANKMENT EST. 8 TONS EST. 7.3 SY OF SEE DETAIL J

CLASS "I" RIP RAP AT EMBANKMENT EST. 18 TONS EST. 16 SY OF SEE DETAIL K

CLASS "I" RIP RAP AT EMBANKMENT EST. 38 TONS EST. 34 SY OF SEE DETAIL J

CLASS "I" RIP RAP AT EMBANKMENT EST. 58 TONS EST. 5.2 SY OF SEE DETAIL K

EXTEND 8'x7' RCBC

RETAIN CONCRETE DITCH

RETAIN 8'X7' RCBC

SEE INSET "A" FOR BEGINNING OF DITCH

CAT-1

GRAU 350 TL-3

LATERAL GRASS SWALE SEE DETAIL 'G'

TS

TORRENCE CREEK TRIBUTARY

CONC DITCH

THE BOWMAN GROUP
08014 / 813

INTEGRITY MANAGEMENT LL
24230 / 920

KEFFER PROPERTIES LP
09973 / 922

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 81.
2.) FOR -L3SB- PROFILE SEE SHEET 81.

-L0-		-L3SB-		-L3NB-
PIs Sta 765+29.04	PI Sta 777+61.08	PIs Sta 766+30.49	PI Sta 779+21.60	PI Sta 775+90.68
θs = 1° 21' 57.6"	Δ = 16° 45' 28.1" (RT)	θs = 1° 18' 27.0"	Δ = 17° 20' 15.4" (RT)	Δ = 16° 15' 17.3" (RT)
Ls = 360.00'	D = 0° 45' 32.0"	Ls = 351.43'	D = 0° 44' 38.8"	D = 0° 45' 50.2"
LT = 240.01'	L = 2,208.21'	LT = 234.29'	L = 2,330.01'	L = 2,127.75'
ST = 120.01'	T = 1,112.05'	ST = 117.15'	T = 1,173.98'	T = 1,071.07'
	R = 7,550.00'		R = 7,700.00'	R = 7,500.00'
			e = 2.80%	e = 2.10%
			RO = 300'	RO = 300'
			DS = 70 MPH	DS = 70 MPH

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

INSET A

01-SEP-2015 19:08
I:\P_PWP\dfs\29633\I-5405_HYD_PRM_WET_PSH_035-02.dgn
imgerola
AT CAMARGO

ENLARGEMENT SHEET

SITE 6–C

20' 0' 20'

PROJECT REFERENCE NO.	SHEET NO.
I–5405	35A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 20 OF 27

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83/2011

TS
TS
TS

CLASS "I" RIP RAP
AT EMBANKMENT
EST. 8 TONS
EST. 7.5 SY GF
SEE DETAIL J

775+00

-L3SB-

REMOVE 24" RCP

REMOVE DI

CLASS "I" RIP RAP
AT EMBANKMENT
EST. 18 TONS
EST. 17 SY GF
SEE DETAIL K

RETAIN 8X'7' RCBC

RETAIN CONCRETE DITCH

775+00

HW

CAT–1

EXTEND
8'x7' RCBC

-III

ALE

GRAU 350
TL–3

DI

REMOVE CONCRETE DITCH

S

CAT–1

GRAU 350
TL–3

-LO-

LATERAL GRASS SWALE
SEE DETAIL 'G'

CLASS "I" RIP RAP
AT EMBANKMENT
EST. 38 TONS
EST. 34 SY GF
SEE DETAIL J

REMOVE DI

775+00

EXTEND
8'x7' RCBC

CLASS "I" RIP RAP
AT EMBANKMENT
EST. 6 TONS
EST. 5.5 SY GF
SEE DETAIL K

LATERAL BASE DITCH
SEE DETAIL 'F'

-L3NB-

REMOVE 18" RCP

RETAIN 8X'7' RCBC

TS
TS

RETAIN CONCRETE DITCH

RETAIN CONCRETE DITCH

CONC DITCH

30-AUG-2015 15:24
jp_PWP_dms2:\633\I-5405_HYD_PRM_WET_PSH_035-03.dgn
imagerig AT CAMARGO

5/14/99

sugar creek construction, LLC

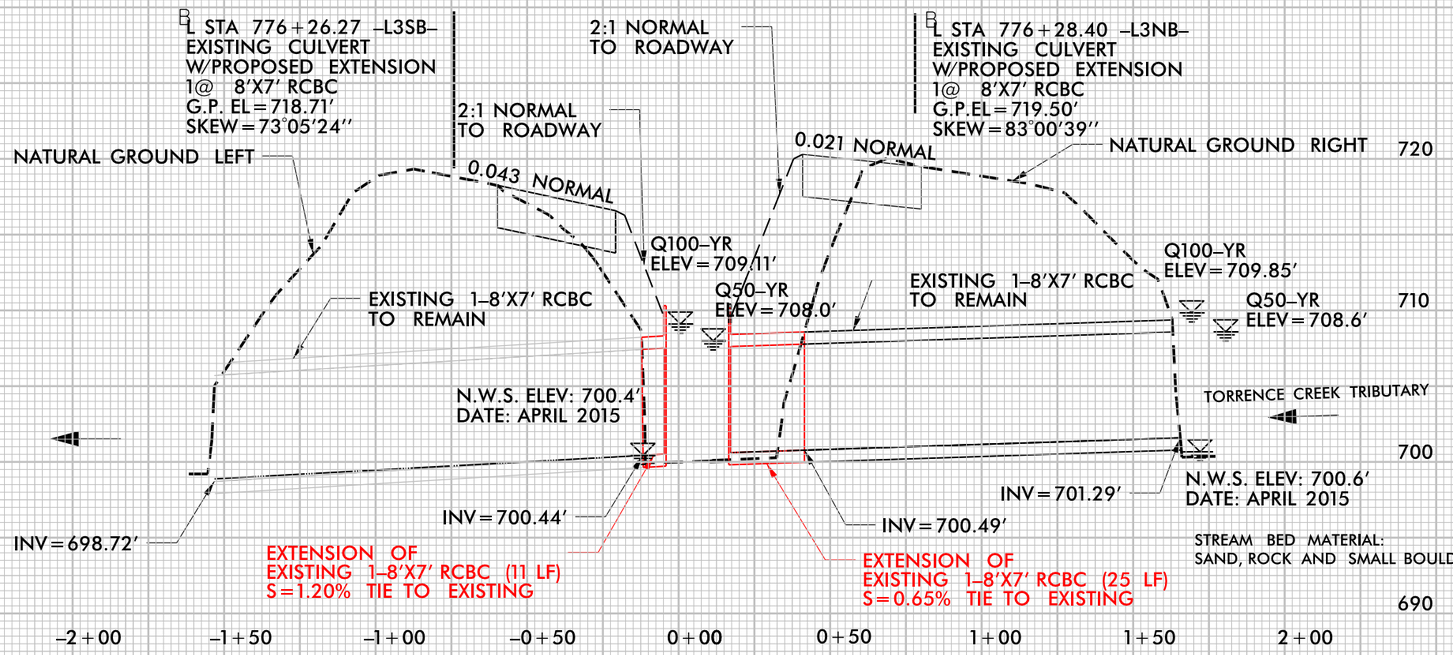
Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 21 OF 27

SITE 6–C



31-AUG-2015 16:33
\\Hntbfs01\Projects\2633\11-5405_HYD_PRM_WET_PFL_02.dgn
User:jmcdonald
Active Model: A1 HYDRAULIC

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 94.
2.) FOR –L3SB– PROFILE SEE SHEET 94.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

0 50 100

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I-5405	48
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 22 OF 27

NORTHCROSS COMMONS LP
07410 / 950

BEGIN PROP. –NW14–
–L3SB– STA. 954+63.85
(236.57' LT) FACE OF WALL

G PARTNERSHIP LP
25471 / 867

CALDWELL STATION CREEK

MATCH LINE SHEET 47
–L0– STA 947+00.00

MATCH LINE SHEET 49
–L0– 961+00.00

–L3SB–

–L3NB–

–L0–

RETAIN DI

RETAIN 18" RCP

RETAIN 15" RCP

RETAIN 2–10'X8' RCBC

Conv. DI To JB

RETAIN 15" CMP

LATERAL GRASS SWALE SEE DETAIL 'G'

ROCK CHECK DAM, EVERY 83 FT.

EXTEND 2–10'X8' RCBC

CLASS "I" RIP RAP AT EMBANKMENT EST. 24.5 TONS EST. 22 SY GF SEE DETAIL K

CLASS "I" RIP RAP AT EMBANKMENT EST. 43 TONS EST. 39 SY GF SEE DETAIL J

CLASS "I" RIP RAP EST. 22 TONS

CLASS "I" RIP RAP AT EMBANKMENT EST. 24.5 TONS EST. 22 SY GF SEE DETAIL K

ROCK CHECK DAM, EVERY 40 FT.

CAT–1

GRAU 350 TL–3

RETAIN 36" RCP

36" RCP

COLLAR AND EXTEND

LATERAL BASE DITCH SEE DETAIL L

CLASS "I" RIP RAP AT EMBANKMENT EST. 54 TONS EST. 49 SY GF SEE DETAIL J

CLASS "I" RIP RAP EST. 28 TONS

ROCK CHECK DAM, EVERY 72 FT.

PROPOSED SWALE AND CHECK DAMS (CONTINUE TO STA 969+27 –L3NB– (LT)

RETAIN 30" CMP

RETAIN 24" RCP

SITE 7–C

TS Sta. 946+91.5

SC Sta. 950+40.59

CS Sta. 948+58.43

ST Sta. 953+23.26

N 1°38'28" E 257'

NORTHCROSS LAND & DEVELOPMENT
08969 / 542

HUNTERSVILLE HOSPITALITY LLC
09898 / 793

HUNTERSVILLE SUITES LLC
09361 / 004

WILLIAM BROCK WAINSCOTT
14576 / 236

EXISTING R/W

–L0–	–L3SB–		–L3NB–	
PIs Sta 947+30.10	PI Sta 931+75.77	PI Sta 969+88.36	PI Sta 949+24.12	PI Sta 963+91.87
Θs = 1°09' 39.6"	Θs = 1°18' 32.9"	Δ = 26°12' 46.8" (LT)	Θs = 1°18' 30.9"	Δ = 20°02' 04.2" (LT)
Ls = 385.00'	Ls = 348.45'	D = 0°29' 53.6"	Ls = 349.44'	D = 0°44' 56.3"
LT = 256.67'	LT = 232.30'	L = 5,261.28'	LT = 232.97'	L = 2,674.96'
ST = 128.34'	ST = 116.15'	T = 2,677.51'	ST = 116.49'	T = 1,351.28'
PI Sta 965+93.58		R = 11,500.00'		R = 7,650.00'
Δ = 20°42' 10.0" (LT)		e = NC		e = 3.50%
D = 0°36' 11.2"		RO = N/A		RO = 300'
L = 3,432.65'		DS = 70 MPH		DS = 70 MPH
T = 1,735.25'				
R = 9,500.00'				

02-SEP-2015 15:19
I:\I_PWP\dms2463\I-5405_HYD_PRM_WET_PSH_048-01.dgn
imagerie
AT CAMARGO

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 94.
2.) FOR –L3SB– PROFILE SEE SHEET 94.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

0 50 100

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I-5405	48
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 23 OF 27

NORTHCROSS COMMONS LP
07410 / 950

BEGIN PROP. –NW14–
–L3SB– STA. 954+63.85
(236.57' LT) FACE OF WALL

G PARTNERSHIP LP
25471 / 867

SC Sta. 948+58.43

MATCH LINE SHEET 47
–L0– STA 947+00.00

MATCH LINE SHEET 49
–L0– 961+00.00

RETAIN DI
RETAIN 18" RCP
RETAIN 15" RCP
RETAIN 2-10'X8' RCBC
Conv. DI To JB
RETAIN 15" CMP
RETAIN 36" RCP
RETAIN 30" CMP
RETAIN 24" RCP

ROCK CHECK DAM, EVERY 83 FT.
EXTEND 2-10'x8' RCBC
ROCK CHECK DAM, EVERY 40 FT.
LATERAL GRASS SWALE SEE DETAIL 'G'
LATERAL BASE DITCH SEE DETAIL L
COLLAR AND EXTEND

CLASS "I" RIP RAP AT EMBANKMENT EST. 24.5 TONS EST. 22 SY GF SEE DETAIL K
CLASS "I" RIP RAP AT EMBANKMENT EST. 43 TONS EST. 39 SY GF SEE DETAIL J
CLASS "I" RIP RAP AT EMBANKMENT EST. 54 TONS EST. 49 SY GF SEE DETAIL J
CLASS "I" RIP RAP EST. 22 TONS
CLASS "I" RIP RAP EST. 28 TONS
CLASS "I" RIP RAP AT EMBANKMENT EST. 24.5 TONS EST. 22 SY GF SEE DETAIL K

PROPOSED SWALE AND CHECK DAMS CONTINUE TO STA 969+27 –L3NB– (LT)

SITE 7-C

GRAU 350 TL-3
CAT-1
B-77
N 1° 38' 12.8" E

-L3SB-
-L3NB-
-L0-

NORTHCROSS LAND & DEVELOPMENT
08969 / 542

HUNTERSVILLE HOSPITALITY LLC
09898 / 793

HUNTERSVILLE SUITES LLC
09361 / 004

CALDWELL STATION CREEK

WILLIAM BROCK WAINSCOTT
14576 / 236

EXISTING R/W

-L0-	-L3SB-	-L3NB-
PIs Sta 947+30.10 θs = 1° 09' 39.6" Ls = 385.00' LT = 256.67' ST = 128.34'	PIs Sta 931+75.77 θs = 1° 18' 32.9" Ls = 348.45' LT = 232.30' ST = 116.15'	PIs Sta 949+24.12 θs = 1° 18' 30.9" Ls = 349.44' LT = 232.97' ST = 116.49'
PI Sta 965+93.58 Δ = 20° 42' 10.0" (LT) D = 0° 36' 11.2" L = 3,432.65' T = 1,735.25' R = 9,500.00'	PI Sta 969+88.36 Δ = 26° 12' 46.8" (LT) D = 0° 29' 53.6" L = 5,261.28' T = 2,677.51' R = 11,500.00' e = NC RO = N/A DS = 70 MPH	PI Sta 963+91.87 Δ = 20° 02' 04.2" (LT) D = 0° 44' 56.3" L = 2,674.96' T = 1,351.28' R = 7,650.00' e = 3.50% RO = 300' DS = 70 MPH

02-SEP-2015 15:21
P:\PWP_dms2-pw33\I-5405_HYD_PRM_WET_PSH_048-02.dgn
mgarcia
AT CAMARGO

ENLARGEMENT SHEET

20' 0' 20'

PROJECT REFERENCE NO.	SHEET NO.
I-5405	48A

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 24 OF 27

955+00 -L3SB-

955+00 -LO-

955+00

-L3NB-

CULVERT

NCDOT DUCT

HW

SS

WOODS

CAT-1

ROCK CHECK DAM, EVERY 40 FT.

ROCK CHECK DAM, EVERY 83 FT.

EXTEND 2-10'x8' RCBC

LATERAL GRASS SWALE SEE DETAIL 'G'

CLASS "I" RIP RAP AT EMBANKMENT EST. 24.5 TONS EST. 22 SY GF SEE DETAIL K

CLASS "I" RIP RAP AT EMBANKMENT EST. 43 TONS EST. 39 SY GF SEE DETAIL J

CLASS "I" RIP RAP EST. 22 TONS

CLASS "I" RIP RAP AT EMBANKMENT EST. 24.5 TONS EST. 22 SY GF SEE DETAIL K

CLASS "I" RIP RAP AT EMBANKMENT EST. 54 TONS EST. 49 SY GF SEE DETAIL J

CLASS "I" RIP RAP EST. 28 TONS

LATERAL BASE DITCH SEE DETAIL L

EXTEND 2-10'x8' RCBC

ROCK CHECK DAM, EVERY 77 FT.

10'X8' DOUBLE BARREL RCBC

RETAIN 2-10'X8' RCBC

NAD 83/2011

SITE 7-C

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

02-SEP-2015 15:22
I:\5_PWP\dms2-2633\I-5405_HYD_PRM_WET_PSH_048-03.dgn
imgarcia
AT CAMARGO

5/14/99

sugar creek construction, LLC

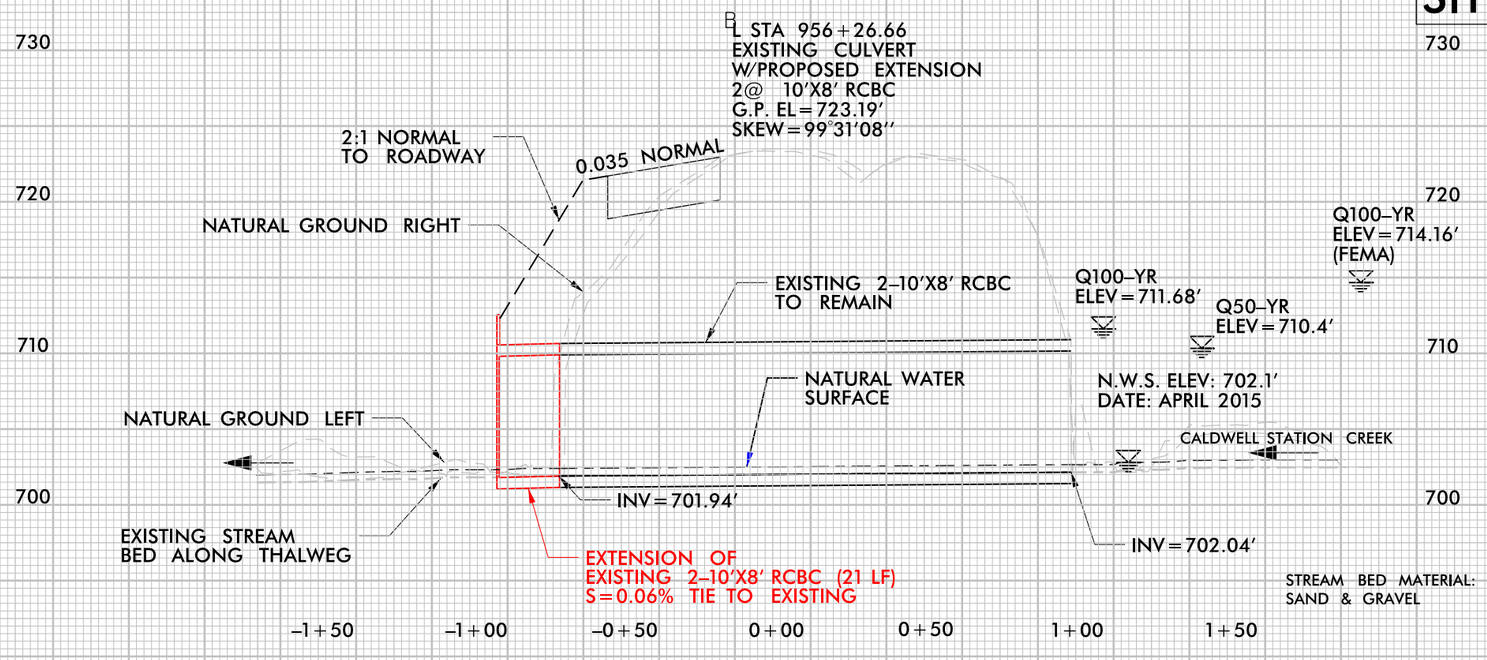
Louis Berger

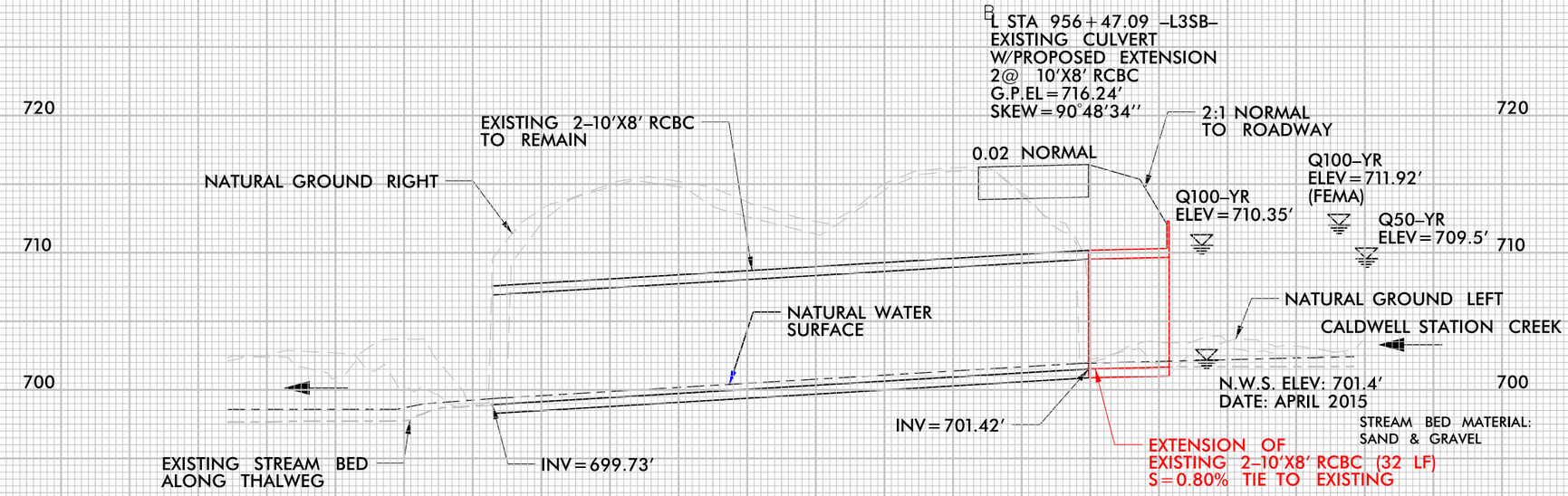
PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SITE 7–C

PERMIT DRAWING
SHEET 25 OF 27





JP AUG-2015 15:46
P:\PA\Jacobs\263531_1-5405_HYD_PRM_WET_PFL_03.dgn
JP HYDRAULICS

PROJECT REFERENCE NO.	SHEET NO.
I–5405	2C

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

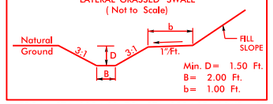
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 26 OF 27

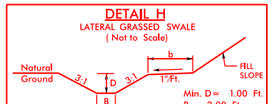
DETAIL G
LATERAL GRASSED SWALE
(Not to Scale)



Min. D= 1.50 Ft.
B= 2.00 Ft.
b= 1.00 Ft.

FROM STA. 385+92 TO STA. 388+15 –L3NB– (RT)
FROM STA. 764+47 TO STA. 773+10 –L3SB– (RT)
FROM STA. 777+20 TO STA. 781+28 –L3SB– (RT)
FROM STA. 944+42 TO STA. 956+30 –L3SB– (RT)
FROM STA. 952+35 TO STA. 954+95 –L3NB– (LT)
FROM STA. 956+19 TO STA. 969+27 –L3NB– (LT)

DETAIL H
LATERAL GRASSED SWALE
(Not to Scale)

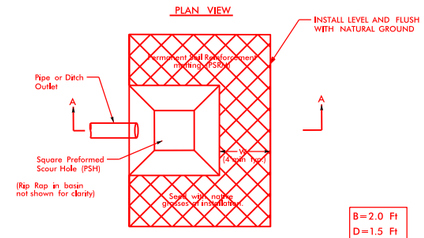


Min. D= 1.00 Ft.
B= 2.00 Ft.
b= 1.00 Ft.

FROM STA. 720+92 TO STA. 721+87 –L3NB– (LT)
FROM STA. 722+20 TO STA. 722+83 –L3NB– (LT)
FROM STA. 767+65 TO STA. 773+00 –L3NB– (LT)
FROM STA. 773+17 TO STA. 775+05 –L3NB– (LT)
FROM STA. 773+28 TO STA. 775+75 –L3SB– (RT)

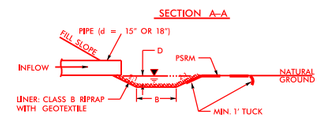
PREFORMED SCOUR HOLE
*NOT TO SCALE

PLAN VIEW



B=2.0 Ft
D=1.5 Ft
W=4.0 Ft

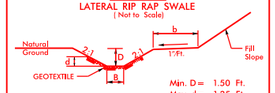
SECTION A–A



3/08

STA. 680+34 –L3NB– (RT)

DETAIL F
LATERAL RIP RAP SWALE
(Not to Scale)



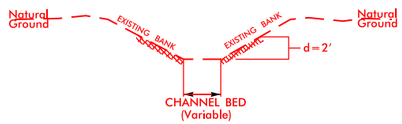
Min. D= 1.50 Ft.
Max. d= 1.25 Ft.
B= 1.50 Ft.
b= 1.00 Ft.

*When B is < 6.0'

Type of Liner= Class I Rip–Rap

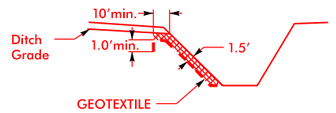
FROM STA. 385+90 TO STA. 386+85 –L3NB– (LT)
FROM STA. 386+85 TO STA. 388+15 –L3NB– (LT)
FROM STA. 775+50 TO STA. 776+30 –L3NB– (LT)
FROM STA. 951+75 TO STA. 954+96 –L3NB– (LT)
FROM STA. 955+46 TO STA. 955+95 –L3NB– (LT)

DETAIL J
PIPE OUTLET CHANNEL
(Not to Scale)



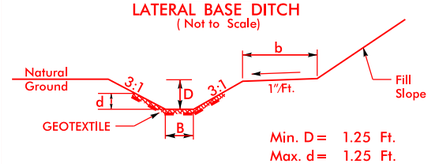
Class I Rip–Rap

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= CL I Rip–Rap

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.25 Ft.
Max. d= 1.25 Ft.
B= 1 Ft.
b= 5 Ft.

Type of Liner= CL I Rip–Rap

FROM STA. 954+96 TO STA. 955+46 –L3NB– LT

02-SEP-2015 15:24
I:\Projects\2963\I-5405_HYD_PRM_WET_002C.dgn
imgarcia
AT CAMARGO

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1-C	371+40 - 372+80 RT	TEMP. FILL / ACCESS	< 0.01	0.06								
2-C	388+12 - 388+58 RT	TEMP. FILL / ACCESS							0.01		60	
		BANK STABILIZATION								40		
3-C	407+60 - 411+90 RT	TEMP. FILL							0.03		150	
4-C	709+50 MID	FILL						< 0.01		33		
5-C	721+97 - 722+03 MED	30" RCP						< 0.01	< 0.01	35	17	
		BANK STABILIZATION								65		
6-C	776+15 - 776+25 MED	8' x 7' RCBC						< 0.01		26		
		BANK STABILIZATION								21		
	776+15 - 776+25 LT/RT	8' x 7' RCBC / DEWATERING							< 0.01		42	
7-C	955+50-956+05 MED	2@10'x8' RCBC/CHAN. PROT.						0.05		91		
		BANK STABILIZATION								99		
	955+50-956+05 LT/RT	2@10'x8' RCBC / DEWATERING							0.02		40	
TOTALS*:			< 0.01	0.06				0.07	0.08	410	309	0

*Rounded totals are sum of actual impacts

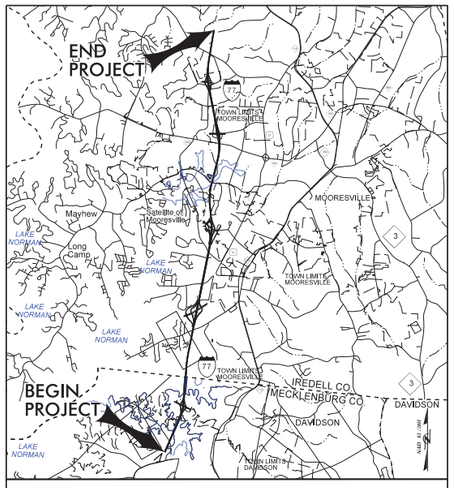
NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
08-03-2015
MECKLENBURG
I-5405 / I-4750AA
Central Section

Revised 2013 10 24

8/12/2015 12:58:42 PM
P:\Ibg-pw1nt-01.us.lbgcorp.com:PWLBG2014\Documents\DB P3 Services\Ferrovial\DB I-77 HOT Lanes\Technical\I-77B Plan Sheet Files\Hydraulics\PERMITS_Environmental\Drawings\North\I-4750AA
I-77_permit.tbl
09/08/99

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG & IREDELL COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I–4750AA	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45454.3.P3S1		P.E.

sugar creek construction, LLC

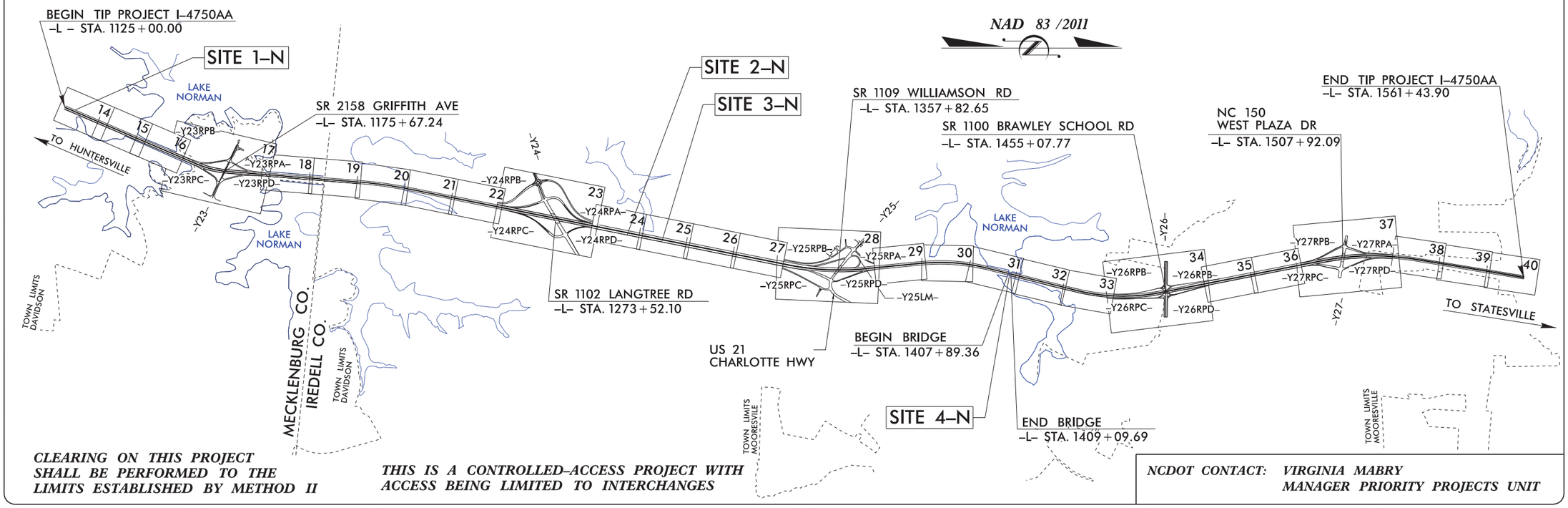
PERMIT DRAWING
SHEET 1 OF 11

LOCATION: *I–77 FROM NORTH OF SR 5544 (CATAWBA AVE.) TO NORTH OF NC 150 (WEST PLAZA DR.)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, SIGNING, ITS, GUARDRAIL, PAVEMENT MARKINGS, TOLLING STRUCTURES /EQUIPMENT AND STRUCTURES*

WETLAND AND STREAM IMPACTS (NORTH SECTION)

NAD 83 /2011



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

THIS IS A CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES

NCDOT CONTACT: *VIRGINIA MABRY*
MANAGER PRIORITY PROJECTS UNIT

GRAPHIC SCALES

PLANS: 50 25 0 50 100
PROFILE (HORIZONTAL): 50 25 0 50 100
PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2012	=	185,400
ADT 2035	=	231,400
DHV	=	10 %
D	=	60 %
T	=	8 % *
V	=	70 MPH

* (TTST 4% + DUAL 4%)
FUNC. CLASS = INTERSTATE
"STATEWIDE TIER"

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I–4750AA	=	*8.245 MI*
LENGTH STRUCTURES TIP PROJECT I–4750AA	=	*0.023 MI*
TOTAL LENGTH OF TIP PROJECT I–4750AA	=	*8.268 MI*

Prepared for NCDOT In the Office of:
LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605
License No.: F-0840

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: TBD

DEAN HATFIELD, P.E.
PROJECT ENGINEER

R. D. ODELL, P. E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER *P.E.*

TIP PROJECT: I–4750AA

CONTRACT: C203406

PROJECT REFERENCE NO.	SHEET NO.
C203406	14
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 2 OF 11

0' 50' 100'

NAD 83/2011

REVISIONS

SITE 1-N

BEGIN TIP PROJECT I-4750AA
BEGIN NORTH SECTION
-L- Sta. 1125+00.00

MATCH LINE SEE SHEET 13
-L- STA. 1125+00.00

MATCH LINE SEE SHEET 15
-L- STA. 1137+00.00

1975 LLC
21052 / 804

BRANDON L RIDGE
21529 / 549

ELIZABETH KENTON, LLC
21586 / 224

GERALD SCHROEDER
09928 / 868

2SBKD

WOODS

60' WD

BEGIN PROP. RETAINING WALL -L- STA. 1126+50.00

END PROP. RETAINING WALL -L- STA. 1131+00.00

REMOVE EXIST. GUARDRAIL

PROP. SINGLE-FACE CONCRETE BARRIER

PROP. NOISE WALL -NW16- 2,376 LF

PROP. -NW16- -L- STA. 1132+75.00 (67' LT) FACE OF WALL

PROP. -NW16- -L- STA. 1134+50.00 (110' LT) FACE OF WALL

1000' SB EGRESS

GRAU-350 TL-3

B-77

EXISTING R/W

INV=774.54'

INV=767.03'

INV=772.68'

14' PS

4' BUFFER

RETAIN

-L-

1130+00

1135+00

20:1

REMOVE DI CONSTRUCT SP. 2GI

REMOVE DI, SP. 2GI

TOP=781.39'

TOP=775.91'

TOP=776.63'

N 23°14'29.9" E

+90.00

+70.00

TIE TO EXISTING

REMOVE GUARDRAIL IN MEDIAN

PROP. NOISE WALL -NW17- 2,291 LF

PROP. SINGLE-FACE CONCRETE BARRIER

PROP. DOUBLE FACED CONC. BARRIER

REMOVE EXIST. GUARDRAIL

1000' NB INGRESS

48" WW

END PROP. -NW17- -L- STA. 1132+36.00 (67' RT) FACE OF WALL

DO NOT DISTURB FENCE

LAKE NORMAN

48" CML

CURB

BST

3SBKAPT

WMCI CHARLOTTE III LLC
16556 / 246

JS JS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTES:

1.) FOR -L- PROFILE SEE SHEET 52.

8/12/2015 12:59:45 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	14
R/W SHEET NO.	

0′ 50′ 100′

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 3 OF 11

NAD 83/2011

REVISIONS

1975 LLC
21052 / 804

BRANDON L RIDGE
21529 / 549

ELIZABETH KENTON, LLC
21586 / 224

GERALD SCHROEDER
09928 / 868

BEGIN TIP PROJECT I-4750AA
BEGIN NORTH SECTION
-L- Sta. 1125+00.00

SITE 1-N

BEGIN PROP. RETAINING WALL -L- STA. 1126+50.00

END PROP. RETAINING WALL -L- STA. 1131+00.00

PROP. SINGLE-FACE CONCRETE BARRIER

REMOVE EXIST. GUARDRAIL

PROP. NOISE WALL -NW16- 2,376 LF

PROP. -NW16- -L- STA. 1132+75.00 (67′ LT) FACE OF WALL

1000′ SB EGRESS

PROP. -NW16- -L- STA. 1134+50.00 (110′ LT) FACE OF WALL

GRAU-350 TL-3

B-77

14′ PS

4′ BUFFER

RETAIN

REMOVE DI CONSTRUCT SP. 2GI

REMOVE DI, SP. 2GI

20:1

1130+00

1135+00

N 23°14′29.9″ E

REMOVE GUARDRAIL IN MEDIAN

TIE TO EXISTING

PROP. NOISE WALL -NW17- 2,291 LF

PROP. SINGLE-FACE CONCRETE BARRIER

PROP. DOUBLE FACED CONC. BARRIER

REMOVE EXIST. GUARDRAIL

1000′ NB INGRESS

END PROP. -NW17- -L- STA. 1132+36.00 (67′ RT) FACE OF WALL

DO NOT DISTURB FENCE

LAKE NORMAN

WMCI CHARLOTTE, LLLC
16556 / 246

MATCH LINE SEE SHEET 13 -L- STA. 1125+00.00

MATCH LINE SEE SHEET 15 -L- STA. 1137+00.00

JS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTES:

1.) FOR -L- PROFILE SEE SHEET 52.

8/12/2015 12:59:20 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	24
R/W SHEET NO.	

0′ 50′ 100′

PERMIT DRAWING
SHEET 4 OF 11

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

MATCH LINE SEE SHEET 23 –L– STA. 1285+00.00

MATCH LINE SEE SHEET 25 –L– STA. 1299+00.00

LANGTREE PROPERTIES LLC
01829 / 1238

LANGTREE PROPERTIES LLC
01753 / 2303

HAMMONS JOHN O
REVOCABLE TRUST
01753 / 1125

HAMMONS JOHN O
REVOCABLE TRUST
01650 / 0497

LANGTREE DEVELOPMENT GROUP LLC
02174 / 0499

LANGTREE DEVELOPMENT GROUP LLC
02174 / 0499

SITE 2-N

WOODS

BOULDERS

RIP RAP

MTL

EXISTING R/W

ALCOVE ROAD
20' BST

48" WW

48" CMP

18" RCP

15" CMP

18" GP

24" CONC

DWSD

SIGN

DI

HW

REBAR

NAIL

INV=771.35′

INV=796.69′

INV=788.23′

INV=798.09′

INV=809.76′
INV=806.58′

INV=805.65′

INV=799.49′

INV=776.8

INV=789.41′

INV=792.07′
TOP=780.35′

INV=786.46′
TOP=779.95′

TOP=788.43′
INV=783.46′

INV=779.36′
TOP=784.25′

TOP=786.11′
INV=782.69′

RETAIN

REMOVE EXIST. GUARDRAIL

REMOVE GUARDRAIL IN MEDIAN

REMOVE EXISTING HW, CONSTRUCT JB w/Slab Lid

REMOVE AND RESET CHAIN LINK FENCE

REMOVE GUARDRAIL

REMOVE AND RESET EXIST. GUARDRAIL

PROP. DOUBLE FACED CONC. BARRIER

DO NOT DISTURB FENCE

GRAU–350 TL–2

GRAU–350 TL–3

TIE PROP. FENCE TO NOISE WALL

PROP. NOISE WALL –NW24–
1,740 LF

BEGIN PROP. –NW24–
–L– STA. 1297+30.00
(106′ LT) FACE OF WALL

BEGIN EXPRESSWAY GUTTER
–L– +00.00

END EXPRESSWAY GUTTER
–L– +75.00

–Y24RPD– ST Sta. 10+00.00 =
–L– POT Sta. 1285+56.87 (46.0′ RT)

10+00

1290+00

1295+00

–L–

N 11° 18′ 25.6″ E

14′ PS

10′ PS

10′ EXIST. PS

11′ PS

12′

36′

4′ BUFFER

.02

I–77 SBL
54B′ BST

I–77 NBL
41A′ BST

I–77 SBL
54A′ BST

I–77 SBL
50.3′ BST

15″ SP. 2GI

REMOVE DI CONSTRUCT SP. 2GI

DENOTES IMPACTS IN SURFACE WATER

NOTES:

1.) FOR –L– PROFILE SEE SHEET 64.

8/12/2015 12:59:24 PM
$FILE$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	24
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 5 OF 11

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

LANGTREE PROPERTIES LLC
01829 / 1238

LANGTREE PROPERTIES LLC
01753 / 2303

HAMMONS JOHN O
REVOCABLE TRUST
01753 / 1125

HAMMONS JOHN O
REVOCABLE TRUST
01650 / 0497

MW 32.0

25840

45' PRIVATE R/W

EXISTING R/W

WOODS

RIP RAP

BOULDERS

REMOVE EXIST. GUARDRAIL

BEGIN EXPRESSWAY GUTTER -L- +00.00

END EXPRESSWAY GUTTER -L- +75.00

PROP. NOISE WALL -NW24-
1,740 LF

BEGIN PROP. -NW24-
-L- STA. 1297+30.00
(106' LT) FACE OF WALL

ALCOVE ROAD
20' BST

INV=771.35'

INV=796.69'

INV=788.23'

DO NOT DISTURB FENCE

GRAU-350 TL-2

GRAU-350 TL-3

REMOVE AND RESET CHAIN LINK FENCE

REMOVE GUARDRAIL

TIE PROP. FENCE TO NOISE WALL

RETAIN

14' PS

10' PS

48" CMP

INV=783.46'

TOP=784.25'

INV=786.45'
TOP=791.95'

I-77 SBL
54B' BST

I-77 SBL
50.3° BST

I-77 NBL
41.4' BST

I-77 NBL
54.4' BST

4' BUFFER

36'

12'

11' PS

.02

15"

SP. 2GI

REMOVE DI CONSTRUCT SP. 2GI

I290+00

-L-

I295+00

N 11° 18' 25.6" E

INV=799.49'
TOP=805.65'

INV=792.07'
TOP=796.39'

INV=782.69'
TOP=786.11'

10' EXIST. PS

I0+00

-Y24RPD- ST Sta. I0+00.00 =
-L- POT Sta. I285+56.87 (46.0' RT)

REMOVE GUARDRAIL IN MEDIAN

REMOVE EXISTING HW, CONSTRUCT JB w/Slab Lid

INV=789.41'

INV=796.09'

INV=806.58'
TOP=809.76'

REBAR

NAIL

DO NOT DISTURB FENCE

PROP. DOUBLE FACED CONC. BARRIER

REMOVE AND RESET EXIST. GUARDRAIL

SIGN

SITE 2-N

LANGTREE DEVELOPMENT GROUP LLC
02174 / 0499

LANGTREE DEVELOPMENT GROUP LLC
02174 / 0499

DENOTES IMPACTS IN SURFACE WATER

NOTES:

1.) FOR -L- PROFILE SEE SHEET 64.

MATCH LINE SEE SHEET 23
-L- STA. 1285+00.00

MATCH LINE SEE SHEET 25
-L- STA. 1299+00.00

8/12/2015 I259s29 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	25
R/W SHEET NO.	

0' 50' 100'

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 6 OF 11

NAD 83/2011

REVISIONS

MATCH LINE SEE SHEET 24 –L– STA. 1299+00.00

MATCH LINE SEE SHEET 26 –L– STA. 1313+00.00

HAMMONS JOHN Q
REVOCABLE TRUST
01650 / 0497

KIPKA JAMES EDWARD JR
01628 / 2328

STEWART TRAVIS M &
01525 / 2126

TRAVIS M & STEWART
01524 / 2169

LANGTREE DEVELOPMENT GROUP LLC
02174 / 0499

PERRIN RD
25' RW

EDGEWATER RD
40' RW

1300+00 1305+00 1310+00

-L-

N 11° 18' 25.6" E

RETAIN EX. BASIN DO NOT DISTURB

CULVERT EXTENSION
CLASS I RIP RAP

SITE 3-N

TOWN OF MOORESVILLE SANITARY SEWER EASEMENT DB 1061 PG 151

TOWN OF MOORESVILLE SANITARY SEWER EASEMENT DB 1448 PG 1

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

NOTES:

1.) FOR –L– PROFILE SEE SHEET 65.

8/12/2015 12:59:33 PM
$FILE$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	25
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 7 OF 11

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

NAD 83/2011

REVISIONS

MATCH LINE SEE SHEET 24 –L– STA. 1299+00.00

MATCH LINE SEE SHEET 26 –L– STA. 1313+00.00

HAMMONS JOHN Q
REVOCABLE TRUST
01650 / 0497

KIPKA JAMES EDWARD JR
01628 / 2328

STEWART TRAVIS M &
01525 / 2126

TRAVIS M & STEWART
01524 / 2169

LANGTREE DEVELOPMENT GROUP LLC
02174 / 0499

PROP. –NW24–
–L– STA. 1299+10.00
(106' LT) FACE OF WALL

PROP. –NW24–
–L– STA. 1299+18.00
(98' LT) FACE OF WALL

PROP. NOISE WALL –NW24–
1,740 LF

REMOVE FENCE

RETAIN GUARDRAIL

RETAIN EX. BASIN
DO NOT DISTURB

CULVERT EXTENSION
CLASS I RIP RAP

SITE 3-N

REMOVE AND RESET
EXIST. GUARDRAIL

PROP. DOUBLE FACED
CONC. BARRIER

REMOVE GUARDRAIL
IN MEDIAN

1300+00 1305+00 –L– 1310+00

N 11° 18' 25.6" E

+80.00

1000'
NB & SB INGRESS / EGRESS

TOWN OF MOORESVILLE
SANITARY SEWER EASEMENT
DB 1061 PG 151

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN
SURFACE WATER

NOTES:

1.) FOR –L– PROFILE SEE SHEET 65.

8/12/2015 10:05 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	31
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 8 OF 11

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

NAD 83/2011

SITE 4-N

MATCH –L– STA. 1397+00.00 SEE SHEET 30

MATCH –L– STA. 1411+00.00 SEE SHEET 32

KEVIN M & PATRICIA DAVIDSON

KEVIN M & PATRICIA DAVIDSON
01547 / 0795

ISBKD

RICKY L & JOHN F HILEMAN
091E / 0388

LAKE NORMAN

WD. BOAT DOCK

EXISTING TRANSPORTATION FACILITY

WOODS

10' GR

EXISTING R/W

BZ 1

BZ 2

JS

TB

B–77

RIP RAP

CONC DITCH

RETAIN

MTL

INV=771.68'

I–77 SBL
38.8' BST

I–77 NBL
38.4' BST

SP TB DI

REMOVE DI

1400+00

15" X 18" TEE

18" CMP

N 13° 50' 46.7" E

15"

INV=769.16'

1405+00

INV=757.50'

48" W

PIER IMPACTS

TS

INV=767.12'

1410+00

INV=767.36'

CONC

W WATERLYNN RD
18" BST

SIGN

GRIER A HAGER
0393 / 0531

HAGER J M EST
02039 / 2470

M & J LAND INC
0783 / 0837

TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTES:
- TOP OF BANK (TB) REPRESENTS 760 CONTOUR.
- EXISTING RIPRAP TO BE RESTORED UNDERNEATH THE BRIDGE, NO ADDITIONAL RIPRAP PROPOSED.
- EXISTING CHANNEL NOT TO BE MORE THAN 50% BLOCKED BY TEMPORARY WORK PAD AT WATER SURFACE AND ONLY ONE TEMPORARY WORK PAD TO BE INSTALLED IN LAKE NORMAN AT A TIME. SUPPORT WORKS MAY BE CONDUCTED FROM A BARGE, WHEN FEASIBLE.

NOTES:

1.) FOR –L– PROFILE SEE SHEET 72.

REVISIONS

8/12/2015 1:00:09 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	31
R/W SHEET NO.	

0′ 50′ 100′

PERMIT DRAWING
SHEET 9 OF 11

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

SITE 4-N

MATCH LINE SEE SHEET 30 -L- STA. 1397+00.00

MATCH LINE SEE SHEET 32 -L- STA. 1411+00.00

KEVIN M & PATRICIA DAVIDSON
KEVIN M & PATRICIA DAVIDSON
01547 / 0795
RICKY L & JOHN F HILLMAN
091E / 0388
ND BOAT DOCK
EXISTING TRANSPORTATION FACILITY
EXISTING R/W
W WATERLYNN RD
18' BST
GRIER A HAGER
0393 / 0531
HAGER J M EST
02039 / 2420
M & J LAND INC
0783 / 0837

B-77
RETAIN
REMOVE DI
SP TB DI
15" X 18" TEE
1400+00
1405+00
1410+00
N 13° 50' 46.7" E
-L-
I-77 SBL 38.8' BST
I-77 NBL 38.4' BST
I-77 NBL 38.1' BST
INV=767.36'
INV=767.12'
PIER IMPACTS
TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTES:
- TOP OF BANK (TB) REPRESENTS 760 CONTOUR.
- EXISTING RIPRAP TO BE RESTORED UNDERNEATH THE BRIDGE, NO ADDITIONAL RIPRAP PROPOSED.
- EXISTING CHANNEL NOT TO BE MORE THAN 50% BLOCKED BY TEMPORARY WORK PAD AT WATER SURFACE AND ONLY ONE TEMPORARY WORK PAD TO BE INSTALLED IN LAKE NORMAN AT A TIME. SUPPORT WORKS MAY BE CONDUCTED FROM A BARGE, WHEN FEASIBLE.

NOTES:

1.) FOR -L- PROFILE SEE SHEET 72.

8/12/2015 1:00:13 PM
$FILES$
I-77_permit.tbl

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	72
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 10 OF 11

-SBL-

PI = 1399+74.00
EL = 781.24'
VC = 341'
K = 2809
DS = 80+ MPH

(-)1.2126%

(-)1.3340%

PROP GRADE -L-
SOUTHBOUND PGL

EXIST GROUND

PI = 1405+45.00
EL = 773.62'
VC = 430'
K = 322
DS = 80+ MPH

(-)1.3340%

(+)0.0000%

BEGIN BRIDGE
-L- STA.1407+89.36

END BRIDGE
-L- STA.1409+09.69

LAKE NORMAN BRIDGE

(+)0.0000%

MAX.TARGET
NORMAL OPERATING
ELEV.758.0' MSL

TS

SEE SHEET 31 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411

-NBL-

PI = 1405+35.00
EL = 773.62'
VC = 440'
K = 376
DS = 80+ MPH

(-)1.1705%

PROP GRADE -L-
NORTHBOUND PGL

EXIST GROUND

(-)1.1705%

(+)0.0000%

BEGIN BRIDGE
-L- STA.1407+89.36

END BRIDGE
-L- STA.1409+09.69

LAKE NORMAN BRIDGE

(+)0.0000%

MAX.TARGET
NORMAL OPERATING
ELEV.758.0' MSL

TS

SEE SHEET 31 FOR PLAN

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

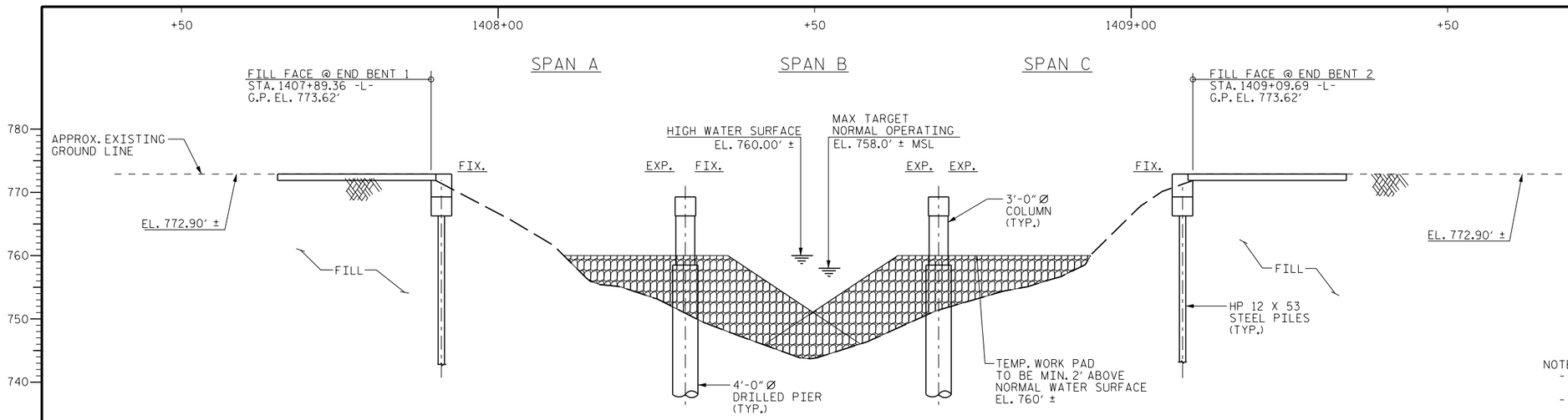
NOTE:
EXISTING CHANNEL NOT TO BE MORE THAN 50% BLOCKED BY TEMPORARY WORK PAD AT WATER SURFACE AND ONLY ONE TEMPORARY WORK PAD TO BE INSTALLED IN LAKE NORMAN AT A TIME. SUPPORT WORKS MAY BE CONDUCTED FROM A BARGE, WHEN FEASIBLE.

830 820 810 800 790 780 770 760 750 740

1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411

8/12/2015 1:00:17 PM
$FILES$
I-77_permit.tbl

PERMIT DRAWING
SHEET 11 OF 11

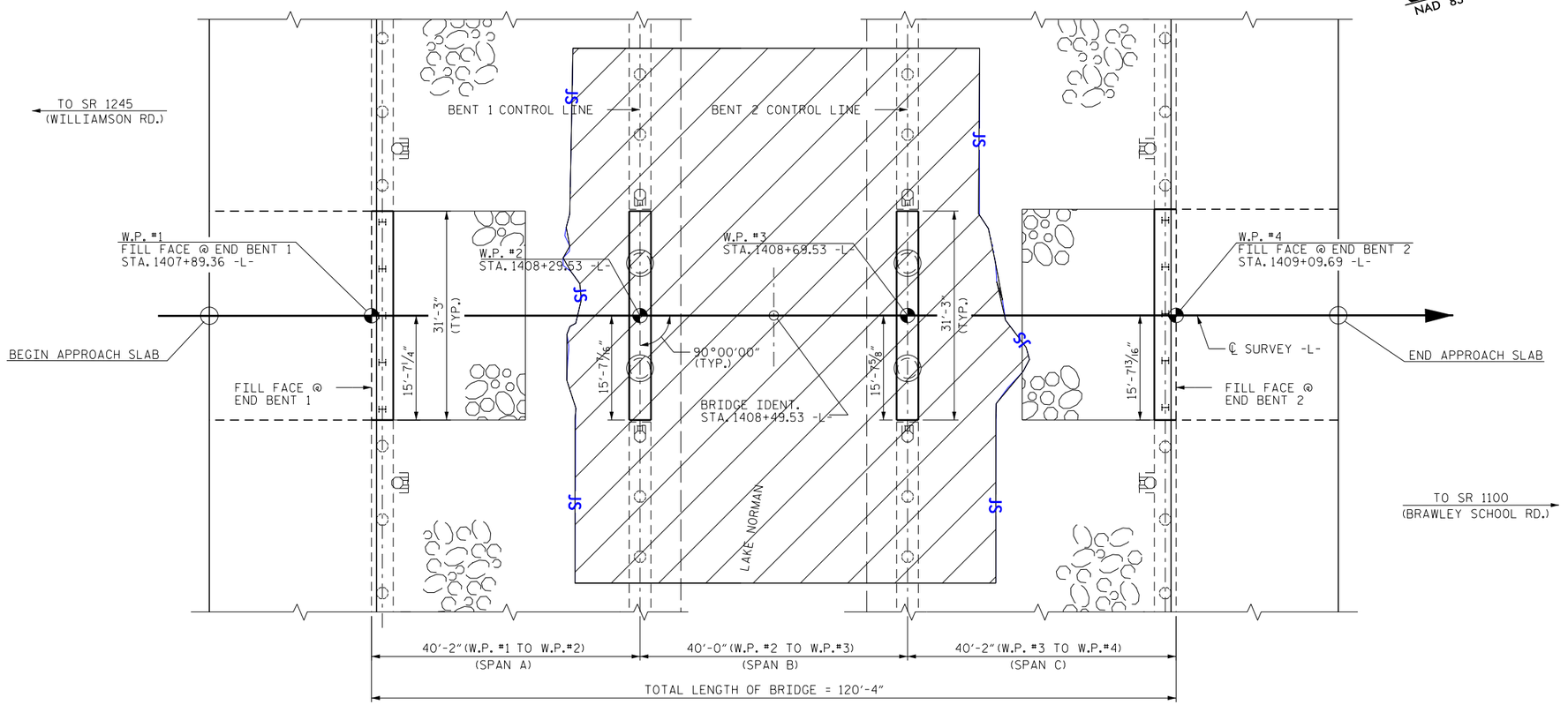


SECTION ALONG GRADE LINE

(SECTION ALONG ℄ -L-)

NOTES:
- EXISTING RIPRAP TO BE RESTORED UNDERNEATH THE BRIDGE. NO ADDITIONAL RIPRAP PROPOSED.
- EXISTING CHANNEL NOT TO BE MORE THAN 50% BLOCKED BY TEMPORARY WORK PAD AT WATER SURFACE AND ONLY ONE TEMPORARY WORK PAD TO BE INSTALLED IN LAKE NORMAN AT A TIME. SUPPORT WORKS MAY BE CONDUCTED FROM A BARGE, WHEN FEASIBLE.

NAD 83



PLAN

PROJECT NO. I-4750AA

IREDELL COUNTY

STATION: 1408+49.53 -L-

WIDENING AND REHABILITATION OF BRIDGE No. 480052 & 480053

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PRELIMINARY GENERAL DRAWING FOR BRIDGE WIDENING ON I-77NB & I-77SB LANES OVER LAKE NORMAN BETWEEN SR-1245 AND SR-1100

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DRAWN BY : M. HOGAN DATE : 6/15
CHECKED BY : DATE :
DESIGN ENGINEER OF RECORD : DATE :

sugar creek construction, LLC

Louis Berger

Prepared by:
LOUIS BERGER
1001 Wade Avenue, Suite 400
Raleigh, NC 27605-3322
NC COA No. F-0840

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S16-1
TOTAL SHEETS 2

I-77_permit.tbl
PDF.pltcfg
1:00:21 PM
8/12/2015
$FILES$

TIP PROJECT: I-3311C

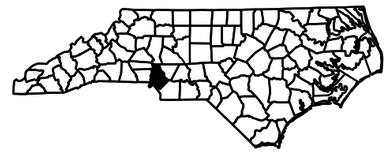
CONTRACT: C203406

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.		1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

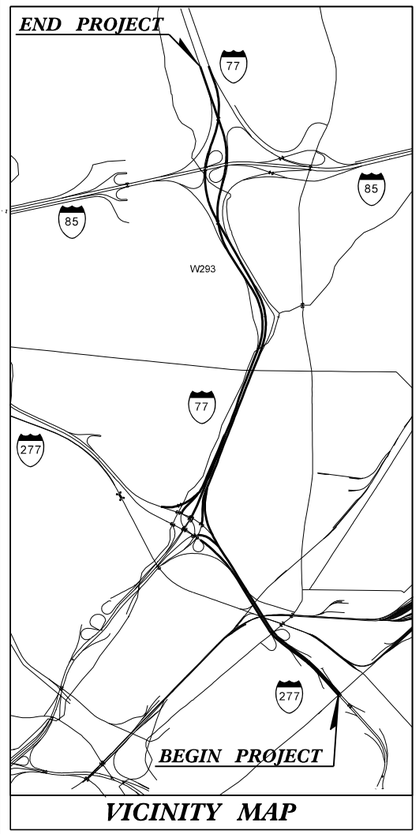


PERMIT DRAWING SHEET 1 OF 19

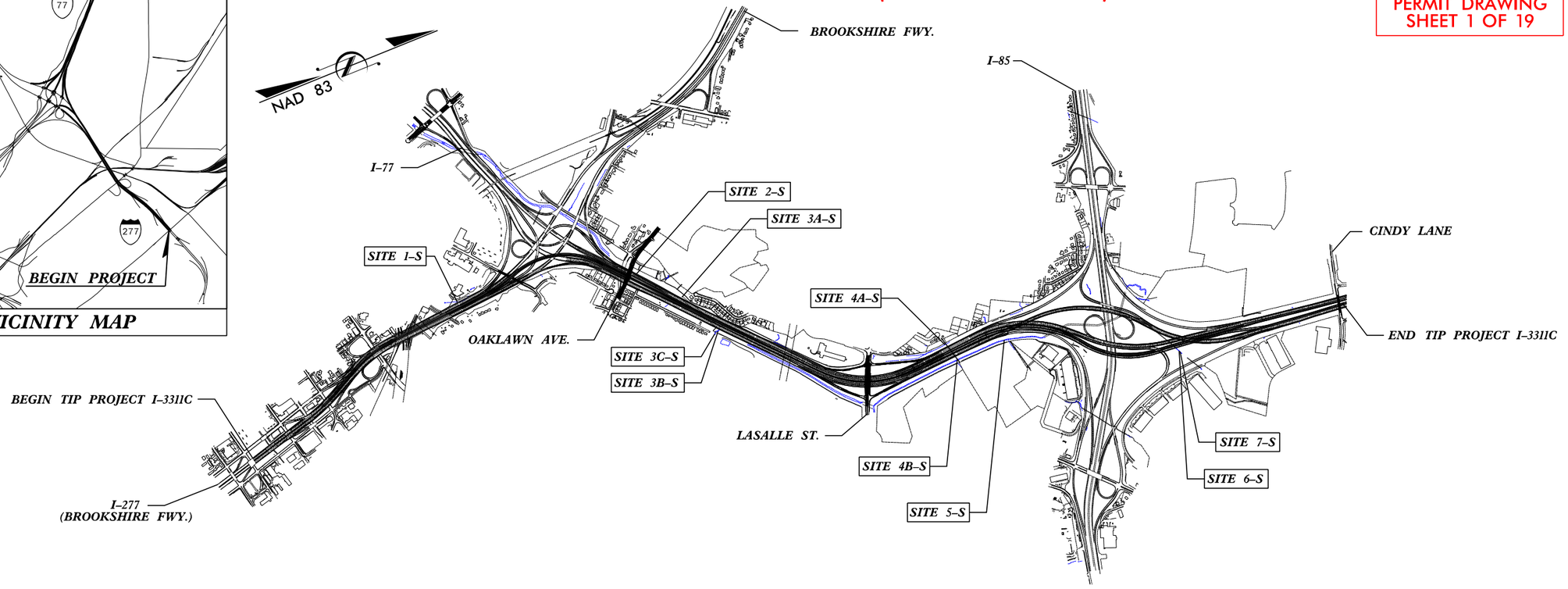
LOCATION: *I–277 FROM N. BREVARD ST. TO I–77*
2.6 MILES OF INTERSTATE 77
FROM MM 11.2 TO MM 13.8

TYPE OF WORK: *GRADING, PAVING, DRAINAGE, SIGNING, ITS, GUARDRAIL, PAVEMENT MARKINGS, TOLLING STRUCTURES/EQUIPMENT AND STRUCTURE*

WETLAND AND STREAM IMPACTS (SOUTH SECTION)



VICINITY MAP



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT
ADT

FUNC CLASS =
PRINCIPAL ARTERIAL

PROJECT LENGTH

Prepared In the Office of:
LOUIS BERGER
1000 Wade Ave, Suite 400, Raleigh NC, 27605

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

PROJECT ENGINEER

PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
C203406	7

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 2 OF 19

0' 50' 100'

SITE 1-S

NAD 83/2011

145

150

PI Sta. 145+41.36

PI Sta. 151+85.83

ST Sta. 141+73.89

N 82° 26' 59" W

N 82° 26' 59" W

ISBKBUS

ISWDS

SIZE UNKNOWN INACCESSIBLE

BST PARKING

ISMTLBUS

MTL CAN

GRAVEL PARKING

BST PARKING

WOODS

BROOKSHIRE FREEWAY 41.0' BST

CONC BRIDGE BST OVER I-77

RR SWITCH

RR SIGNAL BOX

MTL BULKHEAD

RUINS

SHED

MTL CAN

ISFD

EXISTING R/W VARIES

EXISTING RR R/W

EXISTING R/W

REVISIONS

8/12/2015 4:20:04 PM
$FILES$
I-77_permit.tbl

S S	FILL IN SURFACE WATERS
TS TS	TEMPORARY FILL IN SURFACE WATERS

PROJECT REFERENCE NO.	SHEET NO.
C203406	7
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 3 OF 19

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

SITE 1-S

NAD 83/2011

PI Sta. 145+41.36

PI Sta. 151+85.83

ST Sta. 141+73.89

145

150

N 31°25'59"W

N 31°25'59"W

ISBKBUS

ISMTLBUS

SIZE UNKNOWN INACCESSIBLE

BST PARKING

GRAVEL PARKING

MTL CAN

RUINS

SHED

WOODS

CONC BRIDGE BST OVER I-77

BROOKSHIRE FREEWAY 4LD BST

EXISTING R/W VARIES

EXISTING R/W

ST

TS

S

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

REVISIONS

8/12/2015 4:20:10 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

PERMIT DRAWING
SHEET 4 OF 19

NAD 83/2011

SITE 1-S

PT Sta. 17+42.96

PC Sta. 10+00.00

TS Sta. 160+78.05

SC Sta. 162+54.05

CS Sta. 164+91.70

ST Sta. 165+85.67

PT Sta. 14+17.96

TS Sta. 166+08.45

SC Sta. 167+58.45

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

REVISIONS

8/12/2015 4:20:4 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	8
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 5 OF 19

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

SITE 1-S

PT Sta. 17+42.96

PC Sta. 10+00.00

TS Sta. 160+78.05

SC Sta. 162+54.05

ST Sta. 165+91.70

ST Sta. 166+58.67

PT Sta. 17+85.14

SC Sta. 167+58.45

TS Sta. 169+08.45

PT Sta. 14+17.96

M 20° 21' 08" W

M 21° 59' 32" W

M 20° 21' 08" W

N 05° 17' 04" E 100.37'

N 03° 20' 20" E 99.08'

N 24° 20' 03" E 92.40'

N 39° 43' 38" E 70.17'

N 17° 00' 14" E 78.87'

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

8/12/2015 4:20:9 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	10
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 6 OF 19

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

SITE 2-S

SITE 3A-S

PC Sta. 10+00.00

PCC Sta. 12+93.85

PC Sta. 187+38.17

PC Sta. 188+74.56

PC Sta. 210+15.90

PCC Sta. 211+35.86

PT Sta. 15+34.57

PT Sta. 213+22.61

PRC Sta. 218+43.45

PC Sta. 183+09.02

CS Sta. 204+07.41

ST Sta. 184+59.01

ST Sta. 205+62.39

PC Sta. 16+71.87

PC Sta. 208+47.96

PCC Sta. 210+61.88

PRT Sta. 190+59.15

PC Sta. 19+99.06

PC Sta. 215+78.67

I-277 RD AC

I-77 SBL

I-77 NBL

N 20° 32' 09.4" E

N 21° 58' 41.3" E

N 21° 21' 15.7" E

N 87° 44' 12.3" E

N 22° 33' 56.7" E

N 20° 23' 24.3" E

OAKLAWN AVENUE

ANDRILL TERRACE

GENESIS PARK PL 26' BST

TINNIN AVE 25' BST

WOODS

EXISTING R/W

S/S	FILL IN SURFACE WATERS
TS/TS	TEMPORARY FILL IN SURFACE WATERS

8/12/2015 4:20:24 PM
$FILE$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	10
R/W SHEET NO.	

PERMIT DRAWING
SHEET 7 OF 19

0' 50' 100'

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

SITE 2-S

SITE 3A-S

PC Sta. 10+00.00

PCC Sta. 12+93.85

PC Sta. 187+38.17

PI Sta. 188+74.56

PC Sta. 201+35.90

PCC Sta. 211+55.86

PT Sta. 215+34.57

PI Sta. 213+22.61

PRC Sta. 218+43.45

PC Sta. 183+09.02

CS Sta. 204+07.41

ST Sta. 184+59.90

ST Sta. 205+62.39

PC Sta. 187+87.87

PCC Sta. 208+47.96

PCC Sta. 190+59.15

POT Sta. 190+59.15

PC Sta. 215+78.67

PC Sta. 199+06

N 20° 32' 09.4" E

N 21° 58' 41.3" E

N 21° 21' 15.7" E

N 87° 42' 12.3" E

N 22° 33' 56.7" E

N 20° 23' 24.3" E

I-77 RD AC

I-77 SBL

I-77 NBL

EL SBL

EL NBL

ANDRILL TERRACE

TANNIN AVE

GENESIS PARK PL

WOODS

ISFD

ISBKD

ISBK & FD

WD DECK

WD SHED

SHED

UTL PEDS

EXISTING R/W

EXISTING R/W VARIES

10' DRAINAGE EASEMENT 3/EN PB 009 G 019

10' SANITARY SEWER EASEMENT PER PB 009 PG 019

10' RW WALL

12' BST CURB

25' BST

26' BST

8" CLAY

12" BST

15" RCP

18" CONC

24" CONC

30" CONC

36" CONC

48" CHL

60" CHL

48" CONC SW

9.5' CONC

5' CLF

6' CLF

4' STEEL

2' UNK

3' STEEL

TS TEMPORARY FILL IN SURFACE WATERS

JS FILL IN SURFACE WATERS

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

20

8/12/2015 4:20:29 PM
$FILE$
I-77_per-mit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	11
R/W SHEET NO.	

PERMIT DRAWING
SHEET 8 OF 19

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER

REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

0' 50' 100'

SITE 3A-S

SITE 3C-S

SITE 3B-S

CITY OF CHARLOTTE

BOSTON JR, JAMES F

HICKLEN, NATHANIEL

TATE, CHAMOS PRIDE

STINSON, YVONNE FRENCH

THOMAS, DORIS DAVIDSON

BLACKMON, LOLA C

MASSEY, SHIRLEY E

WHITE, CLARENCE LEWIS

TINNER JR, WARREN T

WILLIAMSON

BROWN, ELAINE T

BENNETT, ROGERS

CRAWFORD, DORIS H

CURRY, IRENE NEAL

CHARLES PAGE

DONNA BIAS

RUBIN, SARAH YOUNG

SHADD, JESSIE

DEAN STREET

WADDELL STREET

PC Sta. 221+30.33

PT Sta. 219+55.34

PT Sta. 222+93.54

PC Sta. 225+29.18

PT Sta. 227+30.31

PC Sta. 228+05.00

N 21°22'19.8" E

N 22°06'59.8" E

BM #2
ELEV. 657.44

BM
ELEV. 661.96

CULVERT #1
13'x12' RCBC

GENESIS PARK PL 26' BST

TIES TO CULVERT PER PLANS

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

8/12/2015 4:20:34 PM
$FILE$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	11
R/W SHEET NO.	

PERMIT DRAWING
SHEET 9 OF 19

0' 50' 100'

NAD 83/2011

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

SITE 3A-S

SITE 3C-S

SITE 3B-S

PC Sta. 228+05.00

PT Sta. 225+29.18

PC Sta. 227+30.31

PT Sta. 222+93.54

PC Sta. 221+30.33

PT Sta. 219+55.34

N 21°22'19.8" E

N 22°06'59.8" E

CITY OF CHARLOTTE

BOSTON JR, JAMES F

HICKLEN, NATHANIEL

TATE, CHAMOS PRIDE

STINSON, YVONNE FRENCH

THOMAS, DORIS DAVIDSON

BLACKMON, LOLA C

MASSEY, SHIRLEY E

WHITE, CLARENCE LEWIS

TINNER JR, WARREN T

WILLIAMSON

BROWN, ELAINE T

BENNETT, ROGERS

CRAWFORD, DORIS H

DUFFY, IRENE NEAL

CHARLES PAGE

DONNA BIAS

RUBIN, SARAH YOUNG

SHADD, JESSIE

DEAL STREET

VALLEY CURB

I-77 SBL

I-77 NBL

TIES TO CULVERT PER PLANS

GENESIS PARK PL 26' BST

MECKLENBURG

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

8/12/2015 4:20:39 PM
$FILES$
I-77_permit.tbl

0' 50' 100'

PERMIT DRAWING
SHEET 10 OF 19

PROJECT REFERENCE NO.	SHEET NO.
C203406	12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

NAD 83/2011

GRISSETT, BILLY

PAYSOUR, RENEE P

JONES, CLARA H

CLARK, MARGUERITE

STEPHENS, BARBARA M

MCDUFFIE, JEAN S

ALLEN & SWAIN, JOSEPH

WATT, SAMUEL L

LEE, ALAN F

DUKE POWER CO

PT Sta. 236+79.32

PT Sta. 236+06.35

PC Sta. 239+92.48

PC Sta. 242+73.30

SITE 3B-S

FILL IN SURFACE WATERS

REVISIONS

8/12/2015 4:20:44 PM
$FILES$
I-77_perm1.tbl

NAD 83/2011

0' 50' 100'

PERMIT DRAWING
SHEET 11 OF 19

PROJECT REFERENCE NO.	SHEET NO.
C203406	12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

GRISSETT, BILLY

PAYSOUR, RENEE P

JONES, CLARA H

CLARK, MARGUERITE

STEPHENS, BARBARA M

DUKE POWER CO

MCDUFFIE, JEAN S

ALLEN & SWAIN, JOSEPH

WATT, SAMUEL L

LEE, VALANE F

PT Sta. 236+79.32

PT Sta. 236+06.35

PC Sta. 239+92.48

PC Sta. 242+73.30

SITE 3B-S

FILL IN SURFACE WATERS

8/12/2015 4:20:49 PM
$FILE$
I-77_permit.tbl

NAD 83/2011

0' 100' 200'

PERMIT DRAWING
SHEET 12 OF 19

PROJECT REFERENCE NO.	SHEET NO.
C203406	13
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

SITE 3B-S

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

REVISIONS

8/12/2015 4:20:54 PM
$FILES$
I-77_permit.tbl

NAD 83/2011

0' 100' 200'

PERMIT DRAWING
SHEET 13 OF 19

PROJECT REFERENCE NO.	SHEET NO.
C203406	13
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

SITE 3B-S

POT Sta. 10+00.00

PC Sta. 11+29.30

PT Sta. 13+18.36

PC Sta. 13+51.02

PC Sta. 14+54.68

PT Sta. 15+48.58

PC Sta. 15+74.23

PT Sta. 18+70.44

PRC Sta. 17+16.87

PC Sta. 17+59.74

PC Sta. 19+38.58

POT Sta. 21+58.85

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

REVISIONS

8/12/2015 4:20:59 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	14
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 14 OF 19

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

SITE 4A-S

SITE 4B-S

SITE 5-S

GABRIELLA'S PALACE LLC
DB 2314 PG 271
PB 2369 PG 185

NCDOT
DB 03468 PG 485
PB 0004 PG 579

CHARLOTTE MECKLENBURG BOARD OF EDUCATION
DB 02247 PG 046

MCNEIL AND BY ENT, SAMUEL S
DB 01767 PG 308
PB 0003 PG 382

DOUGLAS, JESSE W
DB 02967 PG 492
PB 0003 PG 382

WILSON, MARY CATHEY
DB 04038 PG 0382
PB 0003 PG 382

CHAMBERS, ELLA LOUISE
DB 04626 PG 351
PB 0003 PG 382

STORY, JASON E
DB 8899 PG 584
PB 1844 PG 527

DUNLAP, JOHN B DB 03057 PG 622
DB 03988 PG 542
PB 1844 PG 527

BELTON, MARJORIE R
PB 1844 PG 527

BOYD, I
DB 1335
PB 0003

CAM DEVELOPMENT LLC
DB 19681 PG 120
PB 0004 PG 579

CHARLOTTE MECKLENBURG BOARD OF EDUCATION
DB 02247 PG 046
PB 0003 PG 162

PT Sta. 17+99.40

PT Sta. 28+23.72

POT Sta. 28+28.12

I-77 SBL

I-77 NBL

BK NOISE BARRIER

EXISTING R/W

WOODS

BM #7
ELEV. 674.85

FILL IN SURFACE WATERS

TEMPORARY FILL IN WETLANDS

TEMPORARY FILL IN SURFACE WATERS

8/12/2015 4:21:04 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	14
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 15 OF 19

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

SITE 4A-S

SITE 4B-S

SITE 5-S

PT Sta. 17+99.40

PC Sta. 28+29.72

POT Sta. 28+82.00

GABRIELLAS PALACE LLC
DB 23114 PG 271
PB 2369 PG 185

NCDOT
DB 03468 PG 485
PB 0004 PG 579

CHARLOTTE MECKLENBURG BOARD OF EDUCATION
DB 02247 PG 046

MCNEIL AND BY ENT, SAMUEL S
DB 0767 PG 308
PB 0003 PG 382

DOUGLAS, JESSE W
DB 02967 PG 492
PB 0003 PG 382

CHAMBERS, ELLA LOUISE
DB 04626 PG 351
PB 0003 PG 382

WILSON, MARY
DB 0409
PB 0003

STORY, JASON E
DB 8859
PB 1844

DUNLAP, JOHN
DB 0255
PB 0003

BOYD, I
DB 1335
PB 0003

BELTON, MARJORIE R
DB 03557 PG 622
PB 1844 PG 527

DUNLAP, JOHN B
DB 03588 PG 547
PB 1844 PG 527

CAM DEVELOPMENT LLC
DB 19681 PG 120
PB 0004 PG 579

CHARLOTTE MECKLENBURG BOARD OF EDUCATION
DB 02247 PG 046
PB 0003 PG 162

JTIONS LLC
695
161

EVANGELINE MASSEY
2354 / 695

UNION HEIGHTS DR

I-77 SBL

I-77 NBL

I-77 NBL (ABAND)

EXISTING R/W

18" VC

BK NOISE BARRIER

CONC DITCH

AXLE

WOODS

CONC

MTL

BST

EOP

EOI

TOP=686.75'

N 30°58'49.5"W

N 30°29'30"W 328.41'

N 30°29'30"W 170.87'

N 55°30'30"E 554.00'

N 39°59'48" W 554.00'

S 20°08'42" W 151.24'

S 09°03'57" W 457.56'

S 10°42'09" W 149.08'

N 73°17'19" W 151.04'

S 23°45'00" W 320.00'

S 20°05'50" W 150.08'

N 15°03'59" W 168.85'

N 19°19'59" W 168.85'

N 19°19'59" W 168.85'

S 19°19'59" E 168.85'

S 19°19'59" E 168.85'

S 19°19'59" E

PROJECT REFERENCE NO.	SHEET NO.
C203406	15
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 16 OF 19

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
REGISTERED ENGINEER	REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

SITE 5-S

FILL IN SURFACE WATERS

8/12/2015 4:24:4 PM
$FILE$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	15
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER

REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 17 OF 19

0' 50' 100'

NAD 83/2011

SITE 5-S

FILL IN SURFACE WATERS

REVISIONS

8/12/2015 4:29:49 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	17
R/W SHEET NO.	

0' 50' 100'

PERMIT DRAWING
SHEET 18 OF 19

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

SITE 7-S

SITE 6-S

JAMES, NANCY CAROL DB 13800 PG 423

JAMES, NANCY CAROL DB 13769 PG 382 PG 779

POT Sta. 332+34.42

PT Sta. 320+15.17

TS Sta. 326+84.08

PC Sta. 328+01.30

SC Sta. 328+84.08

CS Sta. 329+43.25

PT Sta. 329+87.35

ST Sta. 331+43.22

PC Sta. 331+41.58

N 20° 59' 50" W 69.50'

N 20° 35' 12" W

N 12° 14' 39" W

EXISTING R/W

RAMP TO I-85 SOUTH

RAMP TO I-77 NORTH

I-77 SBL

I-77 NBL

OVERHEAD SIGN

CONC RETAINING WALL

CONC DITCH

RETAINING WALL

CONC HW

CONC RE-DIVIDING WALL

JB LOC APPROX

WOODS

RIPRAP

BST SHOULDER

30" CONC C&G

18" CONC C&G

48" CONC SW

48" CONC VALLEY GUTTER

24" RCP

30" RCP

15" RCP

60" CHL

40' BST

23.5' BST

22.5' BST

150' BST

BST VARIES

HOV LANE 14' BST

7.5' BST

8.0' BST

12.5' BST

47.0' BST

13.5' BST

7.8' BST

35.2' BST

320 325 330 330

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

8/12/2015 4:21:24 PM
$FILES$
I-77_permit.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	17
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

PERMIT DRAWING
SHEET 19 OF 19

0' 50' 100'

NAD 83/2011

SITE 7-S

SITE 6-S

PT Sta. 320+15.17

TS Sta. 326+84.08

PC Sta. 328+01.30

SC Sta. 328+84.08

CS Sta. 329+43.25

ST Sta. 331+43.22

PC Sta. 331+41.58

POT Sta. 332+34.42

JAMES, NANCY CAROL DB 13800 PG 423

JAMES, NANCY CAROL PB 382 DB 13769 PG 779

I-77 SBL

I-77 NBL

RAMP TO I-77 SOUTH

RAMP TO I-77 NORTH

EXISTING R/W

60' CHL

48" CONC VALLEY GUTTER

30" CONC C&G

24" RCP

30" RCP

18" RCP

15" RCP

PIPE PLUGGED PER 1.33IA

CONC DITCH

RIPRAP

WOODS

BST SHOULDER

FILL IN SURFACE WATERS

TEMPORARY FILL IN SURFACE WATERS

REVISIONS

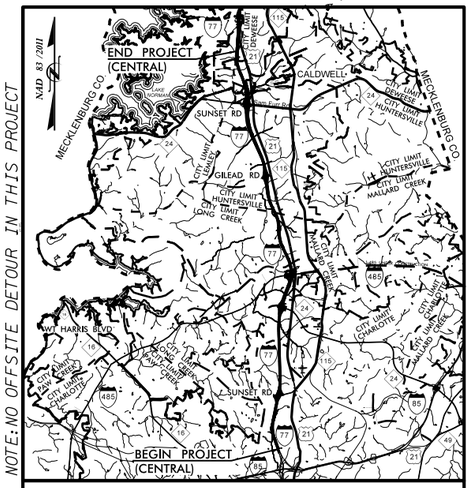
8/12/2015 4:21:29 PM
$FILE$
I-77_permit.tbl

TIP PROJECT: I-5405

CONTRACT: C203406

$DATE$
$FILE$
$PENTBL$
$TIME$

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



NOTE: NO OFFSITE DETOUR IN THIS PROJECT

VICINITY MAP SHOWING LOCATION OF STATE PROJECT I-77 HOTLANES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5405	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
45454.3.P3S1		P.E.	

LOCATION: *I-77 FROM NORTH OF I-85 TO NORTH OF NC 73 (SAM FURR RD.)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, SIGNING, ITS, GUARDRAIL, PAVEMENT MARKINGS, TOLLING STRUCTURES /EQUIPMENT AND STRUCTURES*

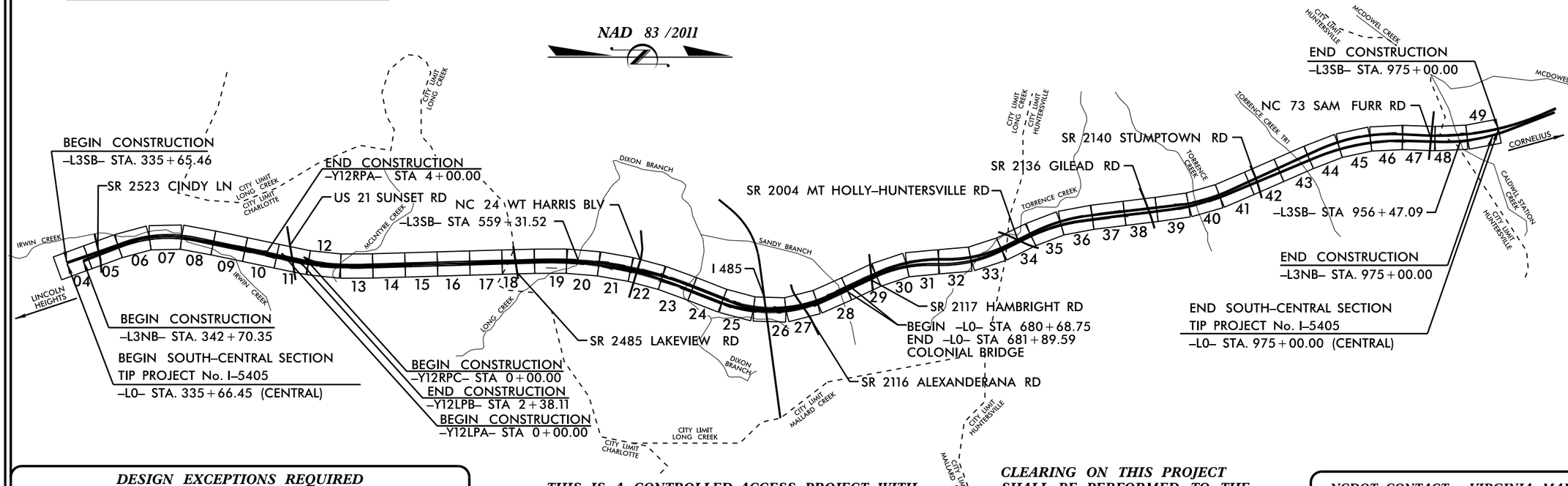
sugar creek construction, LLC

PRELIMINARY ROADWAY PLANS
SUBMITTAL NO. D009-R1
JULY 15, 2015

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83 /2011



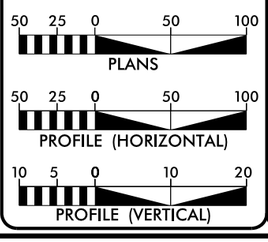
DESIGN EXCEPTIONS REQUIRED
VERTICAL CLEARANCE: CINDY LANE & GILEAD RD
8' MEDIAN SHOULDER: SUNSET RD, LAKEVIEW RD & SAM FURR RD

THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMIT ESTABLISHED BY METHOD II

NCDOT CONTACT: VIRGINIA MABRY MANAGER PRIORITY PROJECTS UNIT

GRAPHIC SCALES



DESIGN DATA

ADT 2012	=	185,400
ADT 2035	=	231,400
DHV	=	10 %
D	=	60 %
T	=	8 % *
V	=	70 MPH

* (TTST 4% + DUAL 4%)
FUNC. CLASS = INTERSTATE "STATE WIDE TIER"

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5405	=	*11.977 MI*
LENGTH STRUCTURES TIP PROJECT I-5405	=	*0.023 MI*
TOTAL LENGTH OF TIP PROJECT I-5405	=	*11.954 MI*

Prepared for NCDOT in the Office of:
LOUIS BERGER GROUP, Inc.
8150 Brookriver Drive, Suite S-320
Dallas, Texas 75247
License No.: F-12788

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: TBD

JOSE M. BARRAU, P.E.
PROJECT ENGINEER

JOE M. GARCIA P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER *P.E.*

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
I-5405	1B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line

- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

$TIME$
$DATE$
$FILEL$
$PENTBL.S$

PROJECT REFERENCE NO.	SHEET NO.
I-5405	2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

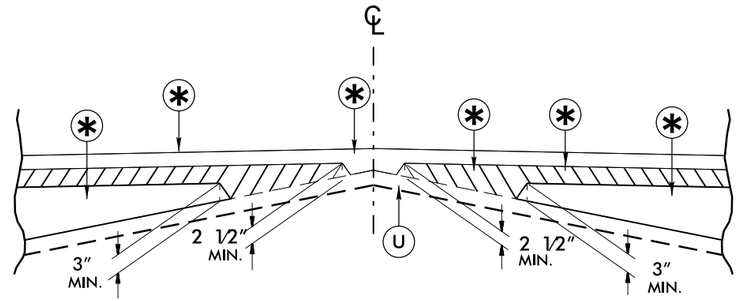
sugar creek construction, LLC

Louis Berger

PAVEMENT SCHEDULE

ITEM	DESCRIPTION
C1	Prop. Approx. 1.5" Depth Asphalt Concrete Surface Course, Type S9.5D, at an Average Rate of 112 lbs. Per sq. yard Per 1" Depth
C2	TBD
C3	Prop. Var. Depth Asphalt Concrete Surface Course, Type S9.5D, at an Average Rate of 112 lbs. Per sq. yard Per 1" Depth
D1	TBD
D2	TBD
D3	Prop. Var. Depth Asphalt Concrete Intermediate Course, Type I19.0D, at an Average Rate of 114 lbs. Per sq. yard Per 1" Depth, to be placed in layers not less than 2.5" in Depth or greater than 4" in Depth.
E1	TBD
E2	TBD
E3	Prop. Var. Depth Asphalt Concrete Base Course, Type B25.0C, at an Average Rate of 114 lbs. Per sq. yard Per 1" Depth, to be placed in layers not less than 3" in Depth or greater than 5.5" in Depth.
R1	Prop. 2'-6" Concrete Curb and Gutter
R2	Prop. Shoulder Berm Gutter
R3	Prop. Single Faced Concrete Barrier
R4	Prop. Double Faced Concrete Barrier
S	Prop. 4" Concrete Sidewalk
T	Earth Material
U	Existing Pavement (Asphalt)
W	Var. Depth Asphalt Pavement
Y	Milled Rumble Strips

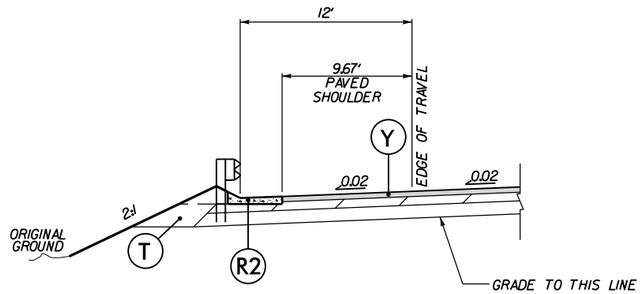
Note: All pavement edge slopes are 1:1 unless noted otherwise.



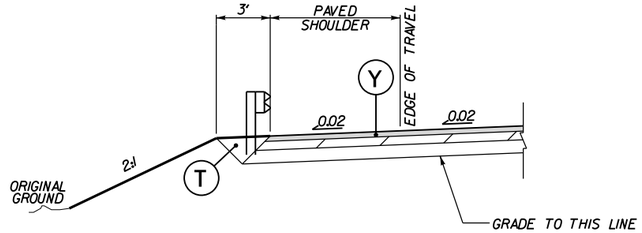
Detail Showing Method of Wedging

✱ NOTE: FOR PAVEMENT TYPES AND DEPTHS SEE RELEVANT TYPICAL SECTION

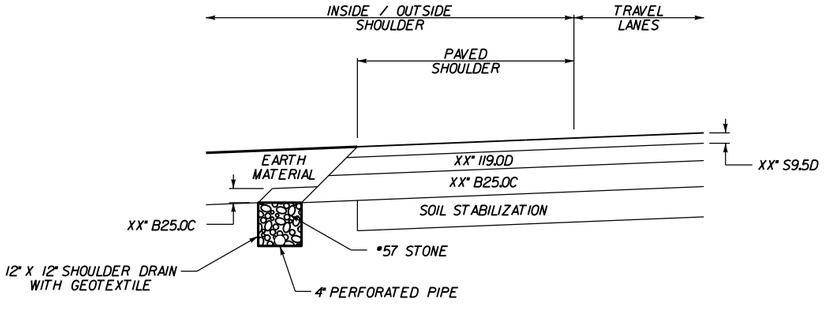
NOTE: NOT TO SCALE



DETAIL 'A'

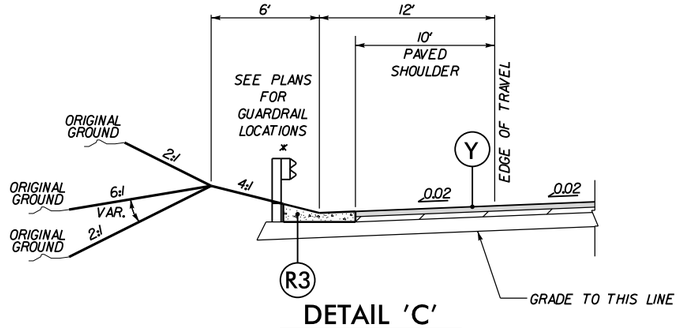


DETAIL 'B'

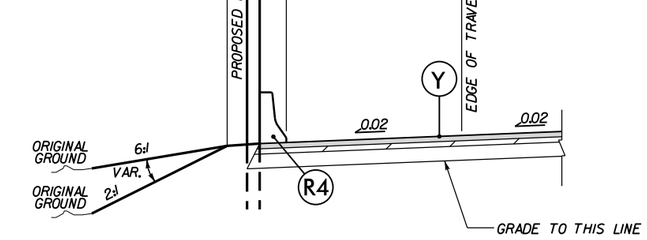


SHOULDER DRAIN DETAIL

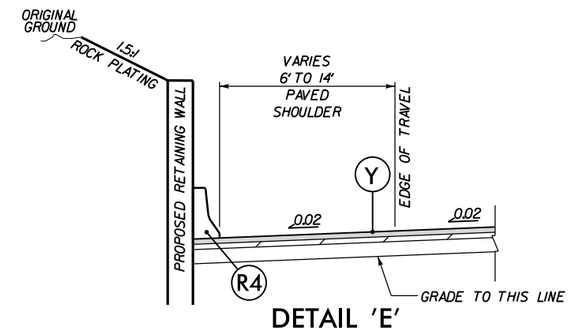
(TO BE REVISED WITH PAVEMENT DESIGN)



DETAIL 'C'



DETAIL 'D'



DETAIL 'E'

$TIME$
$DATE$
$FILES$
$PENTBLS$

Note: All pavement edge slopes are 1:1 unless noted otherwise.

Note: Typical Sections are for tangent sections only; see plans and cross-sections for superelevation.

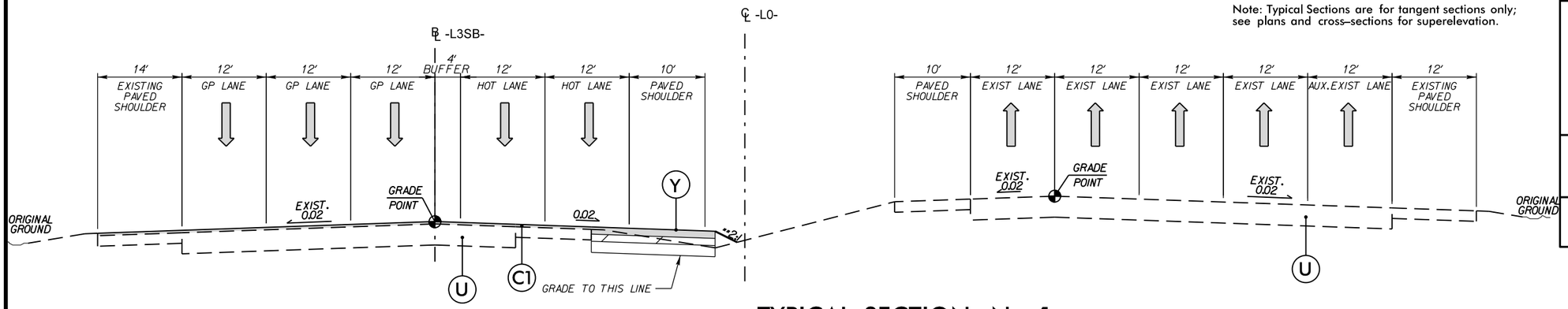
PROJECT REFERENCE NO.	SHEET NO.
I-5405	2A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

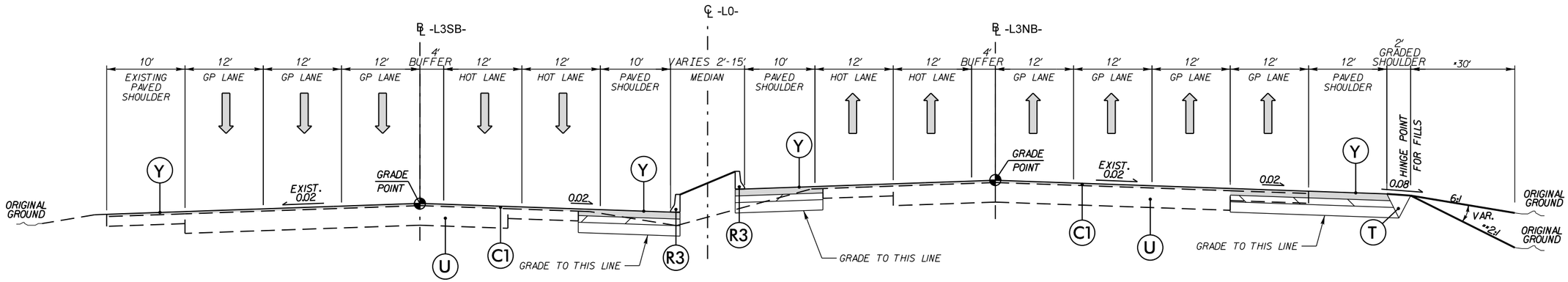
Louis Berger

NOTE: NOT TO SCALE



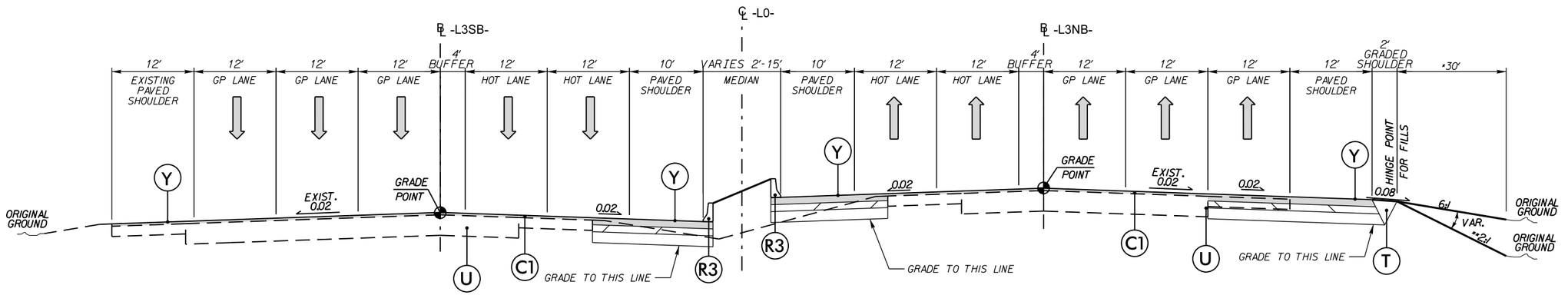
TYPICAL SECTION No. 1

–L0– BEGIN TO STA 342+60



TYPICAL SECTION No. 2

–L0– STA 342+60 TO STA 366+00, STA 660+00 TO STA 680+68.75 & STA 681+89.59 TO STA 694+00



TYPICAL SECTION No. 3

–L0– STA 366+00 TO STA 378+00, STA 397+00 TO STA 428+00 & STA 750+00 TO STA 765+00

• WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

•• VAR. TO 4:1 MAX INSIDE INTERCHANGES

• SHOULDER WIDTH TO BE INCREASED 3′ WHERE GUARDRAIL IS USED.

08-JUL-2015 17:48
I:\P_PWP-dms\22482_I-5405_RDY_TYP_002A.dgn
cagonzalez AT BERLIN

PROJECT REFERENCE NO.	SHEET NO.
I-5405	2B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

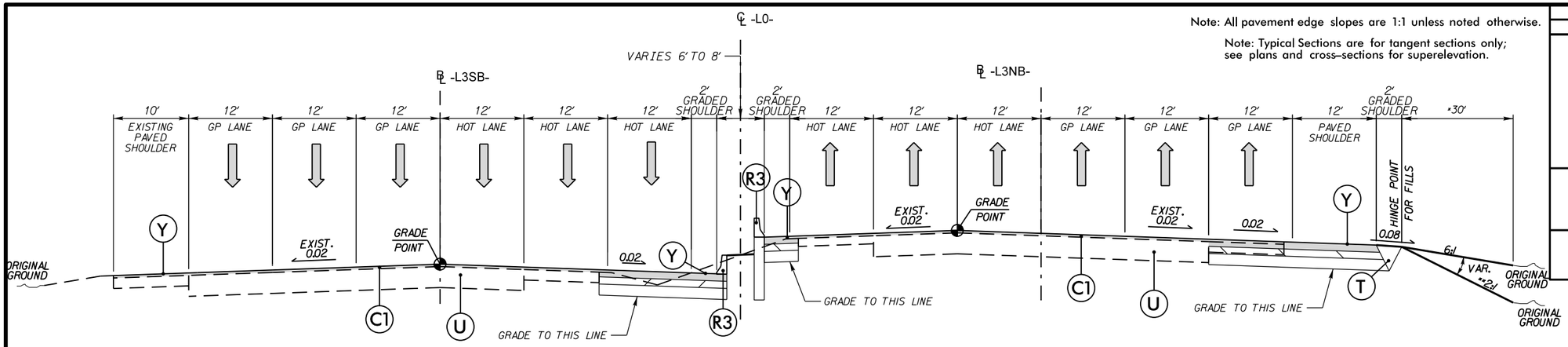
sugar creek construction, LLC

Louis Berger

Note: All pavement edge slopes are 1:1 unless noted otherwise.

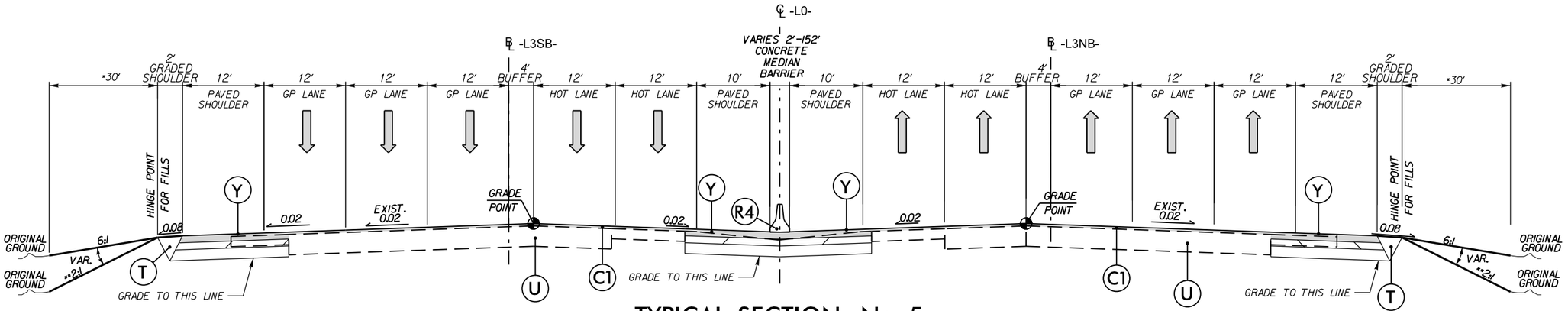
Note: Typical Sections are for tangent sections only; see plans and cross-sections for superelevation.

NOTE: NOT TO SCALE



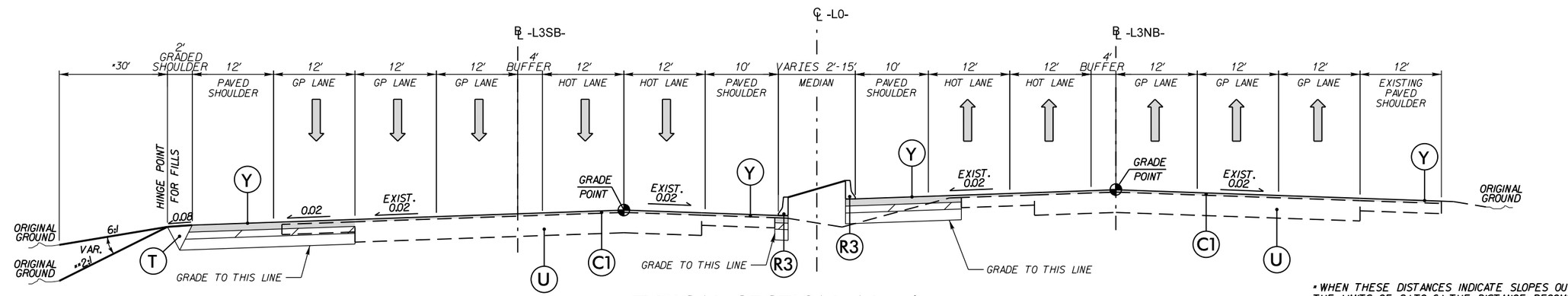
TYPICAL SECTION No. 4

INGRESS / EGRESS
–L0– STA 378+00 TO STA 397+00



TYPICAL SECTION No. 5

–L0– STA 428+00 TO STA 443+00 & STA 525+00 TO STA 545+00



TYPICAL SECTION No. 6

–L0– STA 443+00 TO STA 492+00, STA 512+00 TO STA 525+00 & STA 545+00 TO STA 550+00

* WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

** VAR. TO 4:1 MAX INSIDE INTERCHANGES

* SHOULDER WIDTH TO BE INCREASED 3' WHERE GUARDRAIL IS USED.

08-JUL-2015 17:48
I:\PWP-dms\224482\I-5405_RDY_TYP.002B.dgn
cgonzalez
AT BERM10

PROJECT REFERENCE NO.	SHEET NO.
I-5405	2C
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

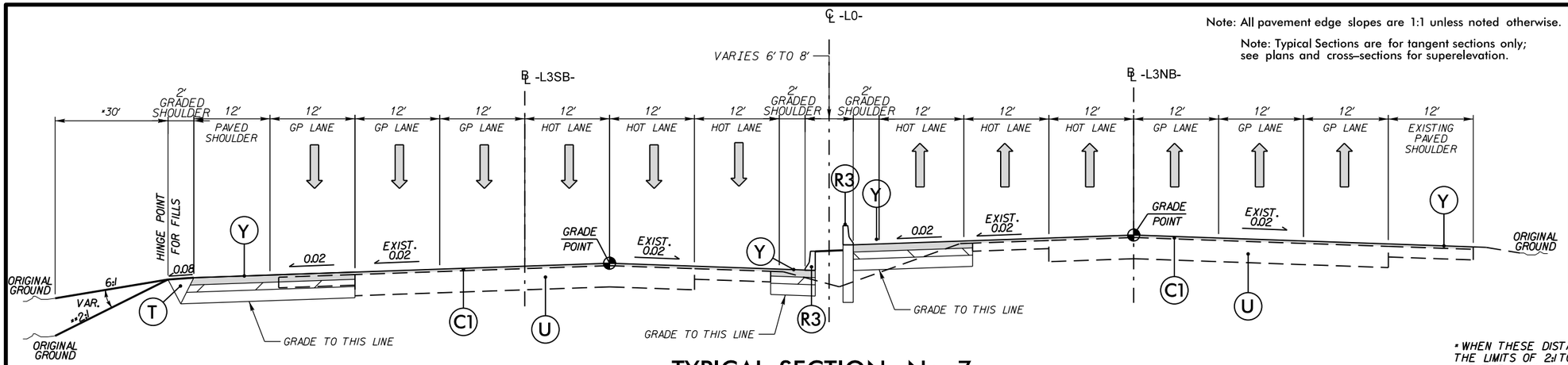
sugar creek construction, LLC

Louis Berger

NOTE: NOT TO SCALE

Note: All pavement edge slopes are 1:1 unless noted otherwise.

Note: Typical Sections are for tangent sections only; see plans and cross-sections for superelevation.



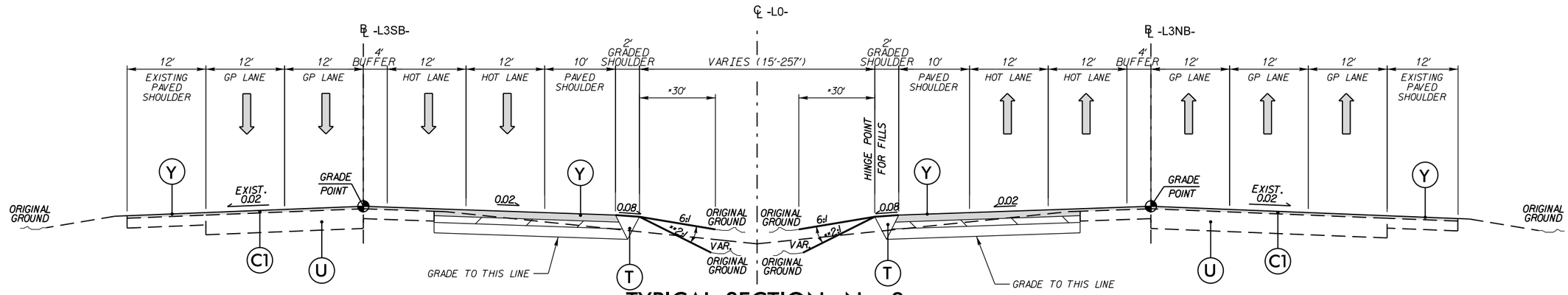
TYPICAL SECTION No. 7

INGRESS / EGRESS
–L0– STA 492+00 TO STA 512+00

* WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

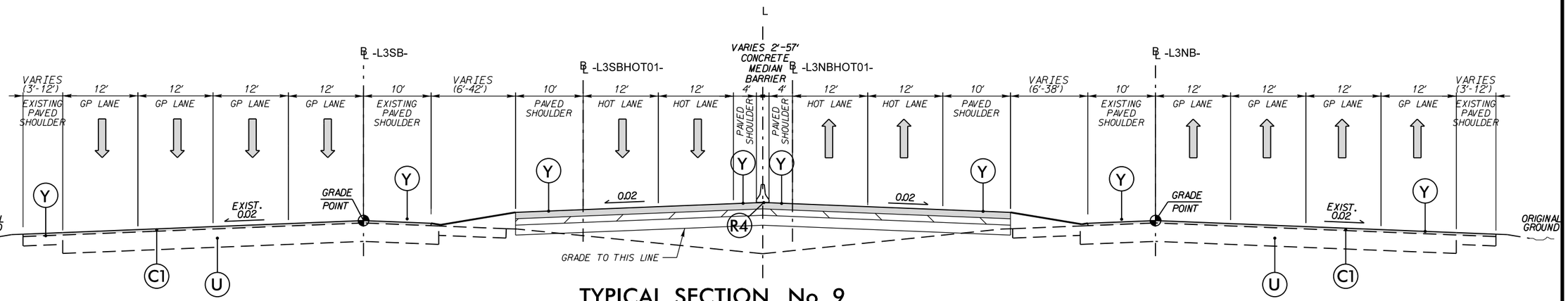
** VAR. TO 4:1 MAX INSIDE INTERCHANGES

* SHOULDER WIDTH TO BE INCREASED 3' WHERE GUARDRAIL IS USED.



TYPICAL SECTION No. 8

–L0– STA 550+00 TO STA 579+00, STA 709+00 TO STA 730+00 & 765+00 TO STA 801+00



TYPICAL SECTION No. 9

–L0– STA 579+00 TO 593+00 & 633+00 TO 660+00

08-JUL-2015 17:49
I:\P_PWP-pn\22482\I-5405_ROY_TYP_002C.dgn
cgonzalez
AT BERLIN

PROJECT REFERENCE NO.	SHEET NO.
I-5405	2D
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

Note: All pavement edge slopes are 1:1 unless noted otherwise.

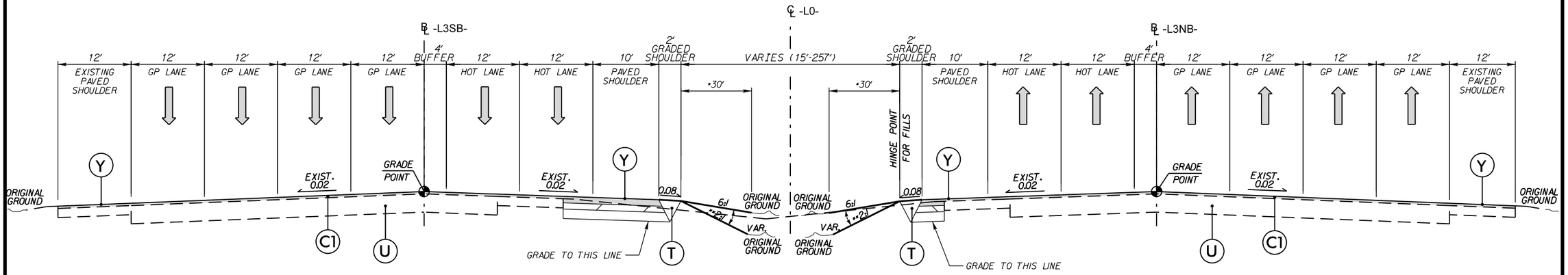
Note: Typical Sections are for tangent sections only; see plans and cross-sections for superelevation.

* WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

** VAR. TO 4:1 MAX INSIDE INTERCHANGES

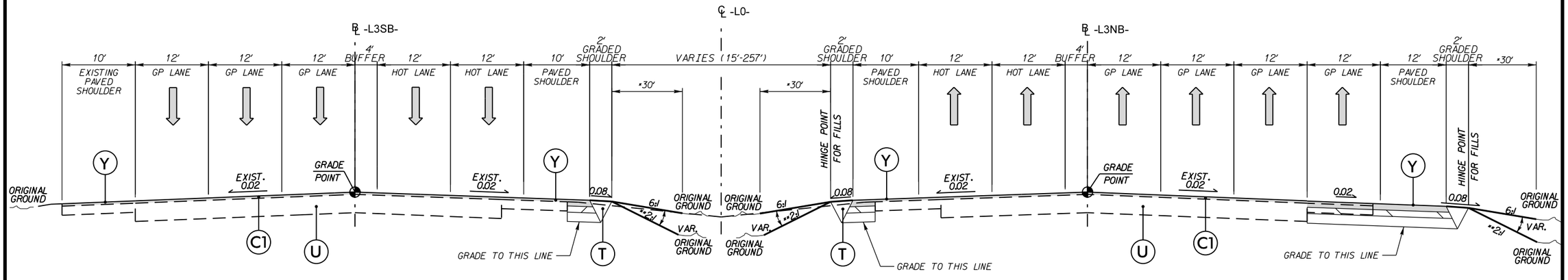
• SHOULDER WIDTH TO BE INCREASED 3' WHERE GUARDRAIL IS USED.

NOTE: NOT TO SCALE



TYPICAL SECTION No. 10

–L0– STA 593+00 TO STA 633+00



TYPICAL SECTION No. 11

–L0– STA 694+00 TO STA 709+00

08-JUL-2015 17:49
I:\PWP-dms\24821\I-5405_RDY_TYP_0020.dgn
cgonzalez
AT BERM 10

PROJECT REFERENCE NO.	SHEET NO.
I-5405	2E

ROADWAY DESIGN ENGINEER

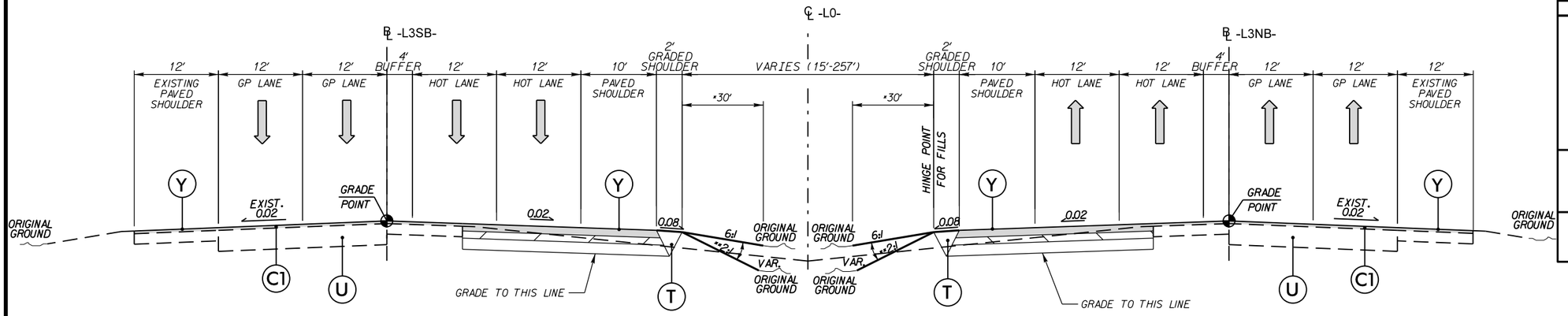
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

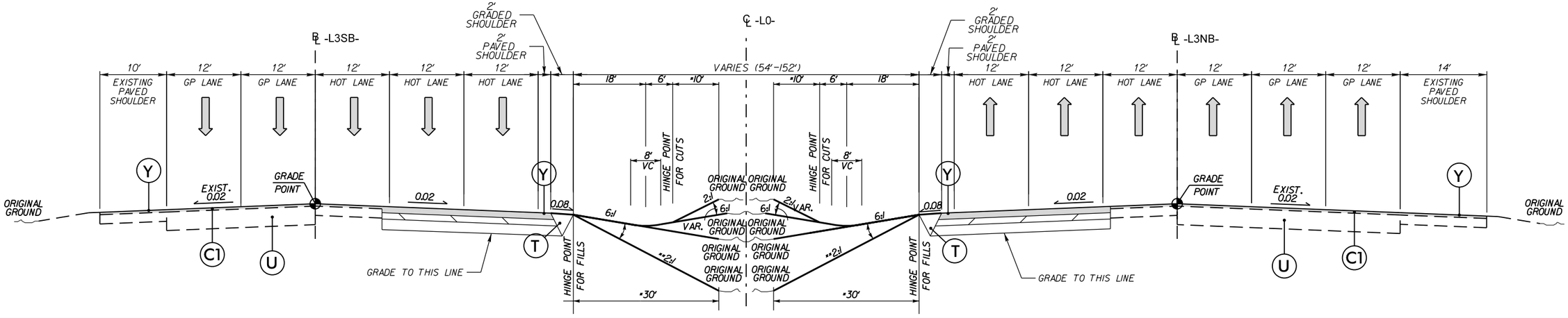
Louis Berger

NOTE: NOT TO SCALE



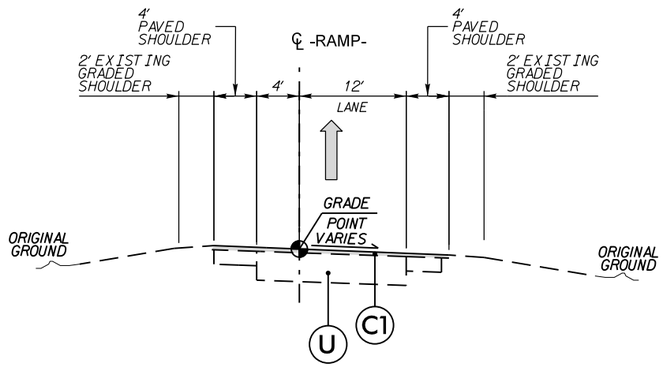
TYPICAL SECTION No. 12

–L0– STA 801+00 TO STA 975+00



TYPICAL SECTION No. 13

INGRESS / EGRESS
–L0– STA 730+00 TO 750+00



TYPICAL SECTION No. 14

-Y12LPA-, -Y12LPB-, Y12RPB-, Y12RPC- & -I485RPD-

Note: All pavement edge slopes are 1:1 unless noted otherwise.

Note: Typical Sections are for tangent sections only; see plans and cross–sections for superelevation.

* WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

** VAR. TO 4:1 MAX INSIDE INTERCHANGES

• SHOULDER WIDTH TO BE INCREASED 3' WHERE GUARDRAIL IS USED.

08-JUL-2015 17:49
I:\P_PWP_dms\224821_I-5405_RDY_TYP_002E.dgn
cgonzalez AT BERLIN

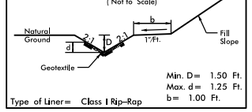
PROJECT REFERENCE NO.	SHEET NO.
I-5405	2C
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

DETAIL 'A'
LATERAL 'V' DITCH
(Not to Scale)

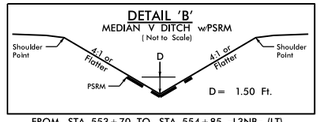


Min. D= 1.50 Ft.
Max. d= 1.25 Ft.
b= 1.00 Ft.

Type of Liner= Class I Rip–Rap

FROM STA. 574+95 TO STA. 580+00 –L3NB– (LT)
FROM STA. 575+17 TO STA. 583+18 –L3SB– (RT)
FROM STA. 590+70 TO STA. 596+66 –L3NB– (LT)
FROM STA. 591+25 TO STA. 597+30 –L3SB– (RT)
FROM STA. 597+30 TO STA. 597+95 –L3SB– (RT)
FROM STA. 598+00 TO STA. 602+00 –L3SB– (RT)
FROM STA. 602+00 TO STA. 608+70 –L3SB– (RT)
FROM STA. 596+66 TO STA. 597+50 –L3NB– (LT)
FROM STA. 608+35 TO STA. 610+50 –L3NB– (LT)
FROM STA. 610+60 TO STA. 624+60 –L3NB– (LT)
FROM STA. 615+15 TO STA. 625+36 –L3SB– (RT)
FROM STA. 624+60 TO STA. 628+67 –L3NB– (LT)
FROM STA. 629+33 TO STA. 633+00 –L3NB– (LT)
FROM STA. 637+49 TO STA. 639+10 –L3SB– (RT)
FROM STA. 639+10 TO STA. 652+90 –L3SB– (RT)
FROM STA. 642+35 TO STA. 647+80 –L3NB– (LT)
FROM STA. 652+90 TO STA. 658+65 –L3SB– (RT)
FROM STA. 722+80 TO STA. 726+20 –L3NB– (LT)
FROM STA. 726+20 TO STA. 737+00 –L3NB– (LT)
FROM STA. 723+00 TO STA. 729+30 –L3SB– (RT)
FROM STA. 737+00 TO STA. 737+30 –L3NB– (LT)
FROM STA. 739+00 TO STA. 743+15 –L3NB– (LT)
FROM STA. 781+30 TO STA. 782+90 –L3SB– (RT)
FROM STA. 783+15 TO STA. 789+25 –L3SB– (RT)
FROM STA. 789+50 TO STA. 792+90 –L3SB– (RT)
FROM STA. 789+87 TO STA. 792+95 –L3NB– (LT)
FROM STA. 792+90 TO STA. 793+15 –L3SB– (RT)
FROM STA. 793+20 TO STA. 798+85 –L3SB– (RT)
FROM STA. 792+95 TO STA. 794+15 –L3NB– (LT)
FROM STA. 794+25 TO STA. 799+00 –L3NB– (LT)
FROM STA. 800+95 TO STA. 802+55 –L3NB– (LT)
FROM STA. 802+60 TO STA. 806+95 –L3NB– (LT)
FROM STA. 806+95 TO STA. 809+95 –L3NB– (LT)
FROM STA. 810+75 TO STA. 815+00 –L3NB– (LT)
FROM STA. 808+05 TO STA. 813+90 –L3SB– (RT)
FROM STA. 813+90 TO STA. 820+90 –L3SB– (RT)
FROM STA. 820+90 TO STA. 821+80 –L3SB– (RT)
FROM STA. 821+85 TO STA. 827+10 –L3SB– (RT)
FROM STA. 820+95 TO STA. 825+64 –L3NB– (LT)
FROM STA. 825+70 TO STA. 827+55 –L3NB– (LT)
FROM STA. 828+77 TO STA. 831+95 –L3NB– (LT)
FROM STA. 842+56 TO STA. 848+10 –L3NB– (LT)
FROM STA. 859+80 TO STA. 862+73 –L3SB– (RT)
FROM STA. 861+31 TO STA. 863+13 –L3NB– (LT)
FROM STA. 862+73 TO STA. 868+70 –L3SB– (RT)
FROM STA. 863+13 TO STA. 867+10 –L3NB– (LT)
FROM STA. 895+14 TO STA. 898+35 –L3SB– (RT)
FROM STA. 898+40 TO STA. 901+85 –L3SB– (RT)
FROM STA. 901+85 TO STA. 904+90 –L3SB– (RT)
FROM STA. 892+77 TO STA. 897+75 –L3NB– (LT)
FROM STA. 897+81 TO STA. 903+00 –L3NB– (LT)
FROM STA. 904+90 TO STA. 905+20 –L3SB– (RT)
FROM STA. 909+24 TO STA. 914+10 –L3SB– (RT)
FROM STA. 914+10 TO STA. 919+18 –L3SB– (RT)
FROM STA. 905+90 TO STA. 914+80 –L3NB– (LT)
FROM STA. 914+80 TO STA. 918+70 –L3NB– (LT)
FROM STA. 919+18 TO STA. 922+60 –L3SB– (RT)
FROM STA. 918+70 TO STA. 921+05 –L3NB– (LT)
FROM STA. 921+20 TO STA. 928+05 –L3NB– (LT)
FROM STA. 927+37 TO STA. 928+40 –L3SB– (RT)

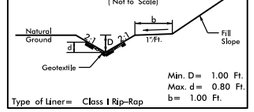
DETAIL 'B'
MEDIAN V DITCH wPSRM
(Not to Scale)



D= 1.50 Ft.

FROM STA. 553+70 TO STA. 554+85 –L3NB– (LT)
FROM STA. 554+85 TO STA. 568+80 –L3NB– (LT)
FROM STA. 568+80 TO STA. 574+85 –L3NB– (LT)
FROM STA. 661+67 TO STA. 667+10 –L3NB– (LT)
FROM STA. 667+10 TO STA. 668+30 –L3NB– (LT)
FROM STA. 700+14 TO STA. 708+82 –L3SB– (RT)
FROM STA. 744+00 TO STA. 751+20 –L3NB– (LT)
FROM STA. 751+20 TO STA. 755+20 –L3NB– (LT)
FROM STA. 828+80 TO STA. 835+00 –L3NB– (LT)
FROM STA. 835+00 TO STA. 841+93 –L3NB– (LT)
FROM STA. 850+62 TO STA. 854+10 –L3NB– (LT)
FROM STA. 854+10 TO STA. 855+80 –L3NB– (LT)
FROM STA. 855+85 TO STA. 860+20 –L3NB– (LT)

DETAIL 'C'
LATERAL 'V' DITCH
(Not to Scale)

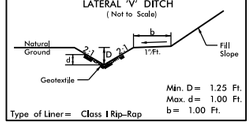


Min. D= 1.00 Ft.
Max. d= 0.80 Ft.
b= 1.00 Ft.

Type of Liner= Class I Rip–Rap

FROM STA. 632+89 TO STA. 637+49 –L3SB– (RT)
FROM STA. 729+35 TO STA. 732+90 –L3SB– (RT)
FROM STA. 732+95 TO STA. 736+35 –L3SB– (RT)
FROM STA. 738+80 TO STA. 741+95 –L3SB– (RT)
FROM STA. 742+00 TO STA. 743+65 –L3SB– (RT)
FROM STA. 737+45 TO STA. 739+00 –L3NB– (LT)
FROM STA. 743+20 TO STA. 744+00 –L3NB– (LT)
FROM STA. 773+15 TO STA. 775+10 –L3NB– (LT)
FROM STA. 798+85 TO STA. 800+90 –L3SB– (RT)
FROM STA. 799+00 TO STA. 800+95 –L3NB– (LT)
FROM STA. 809+95 TO STA. 810+70 –L3NB– (LT)
FROM STA. 815+00 TO STA. 820+95 –L3NB– (LT)
FROM STA. 841+70 TO STA. 847+75 –L3SB– (RT)
FROM STA. 860+20 TO STA. 861+31 –L3NB– (LT)
FROM STA. 965+95 TO STA. 970+95 –L3SB– (RT)

DETAIL 'D'
LATERAL 'V' DITCH
(Not to Scale)

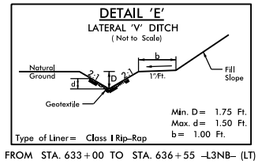


Min. D= 1.25 Ft.
Max. d= 1.00 Ft.
b= 1.00 Ft.

Type of Liner= Class I Rip–Rap

FROM STA. 597+65 TO STA. 599+67 –L3NB– (LT)
FROM STA. 599+67 TO STA. 603+48 –L3NB– (LT)

DETAIL 'E'
LATERAL 'V' DITCH
(Not to Scale)

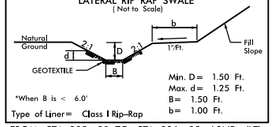


Min. D= 1.75 Ft.
Max. d= 1.50 Ft.
b= 1.00 Ft.

Type of Liner= Class I Rip–Rap

FROM STA. 633+00 TO STA. 636+55 –L3NB– (LT)

DETAIL F
LATERAL RIP RAP SWALE
(Not to Scale)



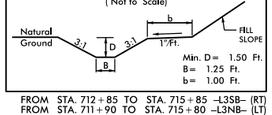
Min. D= 1.50 Ft.
Max. d= 1.25 Ft.
B= 1.50 Ft.
b= 1.00 Ft.

*When B is < 6.0'

Type of Liner= Class I Rip–Rap

FROM STA. 385+90 TO STA. 386+85 –L3NB– (LT)
FROM STA. 386+85 TO STA. 388+15 –L3NB– (LT)
FROM STA. 775+50 TO STA. 776+30 –L3NB– (LT)
FROM STA. 951+75 TO STA. 954+96 –L3NB– (LT)
FROM STA. 955+46 TO STA. 955+95 –L3NB– (LT)

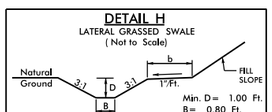
DETAIL G
LATERAL GRASSED SWALE
(Not to Scale)



Min. D= 1.50 Ft.
B= 1.25 Ft.
b= 1.00 Ft.

FROM STA. 712+85 TO STA. 715+85 –L3SB– (RT)
FROM STA. 711+90 TO STA. 715+80 –L3NB– (LT)
FROM STA. 716+95 TO STA. 720+80 –L3NB– (LT)
FROM STA. 764+47 TO STA. 764+65 –L3SB– (RT)
FROM STA. 764+65 TO STA. 773+15 –L3SB– (RT)
FROM STA. 778+40 TO STA. 778+77 –L3SB– (RT)
FROM STA. 778+77 TO STA. 781+30 –L3SB– (RT)
FROM STA. 868+70 TO STA. 872+35 –L3SB– (RT)
FROM STA. 874+70 TO STA. 876+73 –L3SB– (RT)
FROM STA. 867+10 TO STA. 874+65 –L3NB– (LT)
FROM STA. 875+35 TO STA. 877+14 –L3NB– (LT)
FROM STA. 876+73 TO STA. 879+77 –L3SB– (RT)
FROM STA. 879+82 TO STA. 884+55 –L3SB– (RT)
FROM STA. 886+45 TO STA. 890+73 –L3SB– (RT)
FROM STA. 877+14 TO STA. 884+00 –L3NB– (LT)
FROM STA. 890+73 TO STA. 895+05 –L3SB– (RT)
FROM STA. 928+40 TO STA. 933+43 –L3SB– (RT)
FROM STA. 928+05 TO STA. 932+45 –L3NB– (LT)
FROM STA. 933+43 TO STA. 937+94 –L3SB– (RT)
FROM STA. 939+45 TO STA. 944+40 –L3SB– (RT)
FROM STA. 932+45 TO STA. 936+53 –L3NB– (LT)
FROM STA. 941+45 TO STA. 946+45 –L3NB– (LT)
FROM STA. 944+40 TO STA. 947+43 –L3SB– (RT)
FROM STA. 947+43 TO STA. 956+40 –L3SB– (RT)
FROM STA. 956+80 TO STA. 961+23 –L3SB– (RT)
FROM STA. 946+45 TO STA. 951+75 –L3NB– (LT)
FROM STA. 961+23 TO STA. 970+05 –L3SB– (RT)
FROM STA. 970+95 TO STA. 975+05 –L3SB– (RT)
FROM STA. 969+80 TO STA. 974+85 –L3NB– (LT)

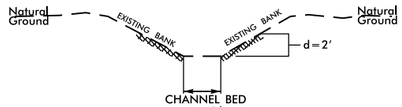
DETAIL H
LATERAL GRASSED SWALE
(Not to Scale)



Min. D= 1.00 Ft.
B= 0.80 Ft.
b= 1.00 Ft.

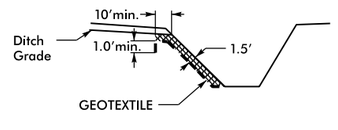
FROM STA. 710+25 TO STA. 712+85 –L3SB– (RT)
FROM STA. 709+50 TO STA. 711+90 –L3NB– (LT)
FROM STA. 720+80 TO STA. 721+80 –L3NB– (LT)
FROM STA. 722+15 TO STA. 722+80 –L3NB– (LT)
FROM STA. 773+20 TO STA. 776+05 –L3SB– (RT)
FROM STA. 767+65 TO STA. 773+10 –L3NB– (LT)

DETAIL J
PIPE OUTLET CHANNEL
(Not to Scale)



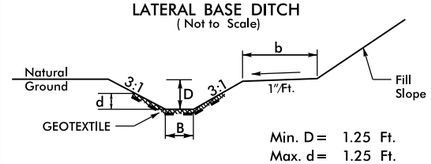
Class I Rip–Rap

DETAIL K
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= CL I Rip–Rap

DETAIL L
LATERAL BASE DITCH
(Not to Scale)



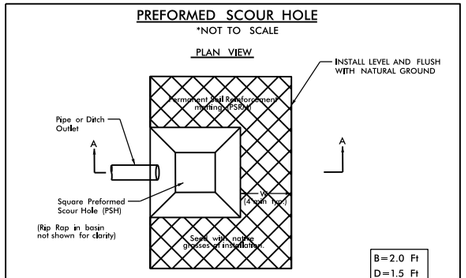
Min. D= 1.25 Ft.
Max. d= 1.25 Ft.
B= 1 Ft.
b= 5 Ft.

Type of Liner= CL I Rip–Rap

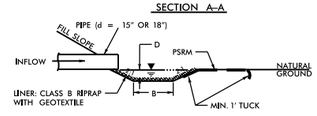
FROM STA. 954+96 TO STA. 955+46 –L3NB– LT

PREFORMED SCOUR HOLE
*NOT TO SCALE

PLAN VIEW



SECTION A–A



3:08

STA. 680+34 –L3NB– (RT)

18-AUG-2015 14:43
IP_PWP:dms296781\I-5405_HYD_DET_002C.dgn
imagerclb AT CAMARGO

NAD 83/2011

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	4

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

CHURCH OF CHARLOTTE INC.
FRIENDSHIP MISSIONARY BAPTIST
DB 17612 PG 944

POT Sta. 335+40.00
POT Sta. 335+65.46

EXISTING R/W

WOODS

RETAIN CONCRETE DITCH

PROP. SINGLE-FACED CONCRETE BARRIER

RETAIN 2–30" RCP

REMOVE HW

-L3SB-

340+00

N 18° 58' 06.2" W

COLLAR AND EXTEND

BEGIN CONSTRUCTION
-L3SB- STA 335+65.46

-LO-

GRASS MEDIAN

BEGIN CENTRAL SEGMENT
-LO- STA 335+66.45

RETAIN CONCRETE DITCH

COLLAR AND EXTEND

REMOVE HW

RETAIN 42" RCP

RETAIN 2–30" RCP

RETAIN 36" RCP

-L3NB-

N 21° 01' 49.6" W

BEGIN COSNTRUCTION
-L3NB- STA 342+70.35

RETAIN CONCRETE DITCH

REALTY ASSOCIATES FUND IX LP T
25168 / 890

REALTY ASSOCIATES FUND IX LP T
25168 / 890

REALTY ASSOCIATES FUND IX LP T
25168 / 890

I-77 I-85 REALTY LLC
26421 / 605

I-77 I-85 REALTY LLC
21783 / 351

POT Sta. 342+70.39

MATCH LINE SEE SHEET XX -LO- STA 331+00.00

MATCH LINE SEE SHEET 5 -LO- STA 345+00.00

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 50.
2.) FOR –L3SB– PROFILE SEE SHEET 50.

01-SEP-2015 20:00
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_004.dgn
jmarcia
AT CAMARGO

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTE:
DESIGN EXCEPTION FOR 15'–11" VERTICAL CLEARANCE OF CINDY LANE OVER I–77.

MILE 1 4

CHURCH OF CHARLOTTE INC.
FRIENDSHIP MISSIONARY BAPTIST
DB 17612 PG 944

0 50 100

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I–5405	5

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

RU LLC
16819 / 644

CINDY LANE

SLATER RD

EXISTING R/W

WOODS

BEGIN PROP. –NW6–
–L3SB– STA. 356+96.15
(50.35' LT) FACE OF WALL

PC Sta. 356+26.38

RETAIN DI & JB

RETAIN 24" RCP

RETAIN 30" RCP

RETAIN 18" RCP

PROP. SINGLE–FACED CONCRETE BARRIER

MATCH LINE SHEET 4
–L0– STA 345+00

N 18° 58' 06.2" W

–L3SB–

350+00

355+00

–L0–

N 21° 01' 49.6" W

–L3NB–

RETAIN 15" CMP

PROP. RETAINING WALL NO. 1

BEGIN PROP. –NW7–
–L3NB– STA. 351+05.40
(234.30' RT) FACE OF WALL

PROP. –NW7–
–L3NB– STA. 352+36.40
(201.70' RT) FACE OF WALL

PROP. –NW7–
–L3NB– STA. 354+67.47
(137.02' RT) FACE OF WALL

PROP. –NW7–
–L3NB– STA. 356+00.69
(115.18' RT) FACE OF WALL

PC Sta. 352+44.06

JUNIPER DR

MEADOW KNOLL DR

CONC FLUME

EVERETTE B CURLEE 04785 / 375

EVERETTE B CURLEE 04614 / 113

I-77 I-85 REALTY LLC
21783 / 351

MEADOW HILL OF NEVIN LLC
14498 / 982

MEADOWHILL RESIDENTIAL ASSOCIATION INC
19696 / 273

JAMES R ARCHIE
24069 / 625

PATRICIA A AND MARCUS B II FREEMAN
21572 / 473

ANTHONY J MURPHY
17854 / 900

CALVIN TORIANO LOCKHART
24499 / 959

LATONYA L STAFFORD
23858 / 484

REGINA HICKS
17854 / 907

CYNTHIA D ARCHIE
16322 / 177

VALERIE DRAKEFORD
2119 / 886

GIVONNA L WILSON
16573 / 300

TAJUAN S BELTON

SHARDA M COLBERT
18869 / 211

NICHOLAS D OBENS
20475 / 300

POTENTIATE LLC
26433 / 059

HARVEST SMITH JR
26475 / 353

MWAKA D MUNWAY
18004 / 232

MATCH LINE SHEET 6
–L0– STA 359+00.00

–L0–	–L3NB–
PI Sta 359+13.79	PI Sta 357+37.05
Δ = 1° 38' 47.9" (RT)	Δ = 2° 49' 26.6" (RT)
D = 0° 17' 11.3"	D = 0° 17' 11.3"
L = 574.78'	L = 985.79'
T = 287.41'	T = 492.99'
R = 20,000.00'	R = 20,000.00'
	e = NC
	RO = N/A
	DS = 70 MPH

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 51.
2.) FOR –L3SB– PROFILE SEE SHEET 51.

01-SEP-2015 20:01
C:\Users\jmarcario\Desktop\ROWYPLANSHEETS-IMPACTJS\I-5405_ROY_PSH_005.dgn
RT CAMARGO
jmarcario

PROJECT REFERENCE NO.	SHEET NO.
I-5405	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

RU LLC
16819 / 644

SLATER RD

JPG PROPERTIES LLC
23362 / 884

WILLIE MAE TRAPP
23434 / 97

EDWARDS LLOYD
06044 / 974

VUE Z MOUA
11010 / 021

BOOKER CHARLES JR
10182 / 958

BOOKER CHARLES JR
10182 / 958

EARL T MCLENDON
13631 / 1

LLOYD AND TEAIM EDWARDS
06044 / 976

TS Sta. 360+12.98

CS Sta. 362+01.16

SC Sta. 364+17.64

SC Sta. 364+38.20

EXISTING R/W

PROP. –NW6–
–L3SB– STA. 361+09.61
(45.48' RT) FACE OF WALL

PROP. –NW6–
–L3SB– STA. 362+89.25
(45.75' RT) FACE OF WALL

PROP. RETAINING WALL NO. 2

MATCH LINE SHEET 5
–LO– STA 359+00

MATCH LINE SHEET 7
–LO– STA 373+00

–L3SB–

–L3NB–

–LO–

EXIST SOUNDWALL

JUNIPER DR

CHARNELL LANE

PROP. –NW7–
–L3SB– STA. 365+09.83
(100.29' RT) FACE OF WALL

PROP. –NW7–
–L3SB– STA. 366+01.47
(102.19' RT) FACE OF WALL

PROP. –NW7–
–L3SB– STA. 366+77.44
(110.37' RT) FACE OF WALL

PROP. –NW7–
–L3SB– STA. 367+45.25
(139.40' RT) FACE OF WALL

PROP. SINGLE-FACED CONCRETE BARRIER

TARA PROPERTIES INC
18831 / 128

JOYCE D WADDELL
245735 / 907

THOMAS E JR AND NELLIE BARBOUR
01651 / 445

EVERETTE B CURLEE
04785 / 375

EVERETTE B CURLEE
04614 / 113

MRS DENA J A WEAVER
19617 / 134

FRANKLIN A TYSON
26272 / 462

RBC REAL ESTATE FINANCE INC
24758 / 658

e = 3.60%

BARBARA P SHOAFF
04334 / 698

ROBERT O AND BARBARA P SHOAFF
04386 / 937

DONA LEE PEACOCK SIMMONS
05875 / 095

JOSE MARIO
23224 / 812

CONNIE BUTLER
24188 / 495

SUSAN TURNER SANDERSON
08821 / 285

LESLIE GAIL GORDAN
20732 / 667

LAURICE HADDAD
25722 / 770

19780 / 266

PAMELA HAWKINS
16621 / 63

WILLIAM W JR AND DEBORAH S C CROSS

MILLER W HENRY
06709 / 288

TALVIN J JOHNSON
20625 / 241

–LO–		
PI Sta 359+13.79	PIs Sta 363+41.32	PI Sta 377+98.80
Δ = 1° 38' 47.9" (RT)	Θs = 0° 20' 22.3"	Δ = 26° 11' 10.3" (RT)
D = 0° 17' 11.3"	Θs = 1° 09' 38.9"	D = 0° 58' 45.9"
L = 574.78'	Ls = 237.04'	L = 2,673.66'
T = 287.41'	LT = 140.15'	T = 1,360.59'
R = 20,000.00'	ST = 96.90'	R = 5,850.00'

–L3SB–		–L3NB–		
PIs Sta 362+82.77	PI Sta 377+96.83	PI Sta 357+37.05	PIs Sta 364+08.07	PI Sta 378+44.13
Θs = 1° 59' 55.4"	Δ = 26° 45' 07.1" (RT)	Δ = 2° 49' 26.6" (RT)	Θs = 0° 25' 48.7"	Δ = 26° 15' 04.0" (RT)
Ls = 404.66'	D = 0° 59' 16.3"	D = 0° 17' 11.3"	Θs = 1° 31' 36.7"	D = 1° 01' 00.4"
LT = 269.79'	L = 2,708.08'	L = 985.79'	Ls = 300.33'	L = 2,581.78'
ST = 134.90'	T = 1,379.19'	T = 492.99'	LT = 178.23'	T = 1,313.96'
	R = 5,800.00'	R = 20,000.00'	ST = 122.13'	R = 5,635.00'
	e = 3.60%	e = NC		e = 3.30%
	RO = 300'	RO = N/A		RO = 300'
	DS = 70 MPH	DS = 70 MPH		DS = 70 MPH

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 52.
2.) FOR –L3SB– PROFILE SEE SHEET 52.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

01-SEP-2015 20:02
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_006.dgn
jmarcia
RT CAMARDO

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

0 50 100

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I-5405	7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

JAMES L SUMMERLIN 04079 / 445
DEBORAH R ADAMS 17954 / 193
ARLENE R GRIER 10947 / 059
NANCE WILHELMINA 10962 / 591
LIBERTY OAK INC 09460 / 422
LIBERTY OAK INC 09460 / 422
SHARLA R BYRD 21974 / 843
GLORIA L ACOSTA 25649 / 055
TAMBRIA L RABUCK 22937 / 282
ROSEMARY B WILSON 12411 / 574
JEFFERY L LAND 12162 / 966
TONY PHAM PHAM 25182 / 913
CECELIA SMALLS 22526 / 398
EARL L MCLENDON 13631 / 1

EXISTING R/W PER PB 30 PG 517 AND PB 32 PG 889
EXISTING R/W
KENNEDY BRANCH
WOODS
FES INV=730.87'
INV=732.37'
FES INV=734.09'
INV=735.72'
PROP. –NW6–
RETAIN 18" RCP
RETAIN 2–7'X7' RCBC
375+00
380+00 –L3SB–
385+00
380+00 –L0–
380+00 –L3NB–
375+00
385+00
Conv. DI To JB
18" RCP–III
INV=733.46'
INV=733.26'
INV=737.98'
INV=738.28'
INV=742.82'
TOP=741.88'
TOP=738.28'
2GI
GRASS MEDIAN
RETAIN 42" RCP
RETAIN 18" RCP
REMOVE DI
INV=744.48'
INV=744.28'
15" RCP–II
REMOVE 15" RCP
INV=743.24'
LATERAL BASE DITCH SEE DETAIL 'G'
CROCK CHECK DAM, EVERY 25 FT.
Conv. DI To JB
TOP=740.36'
INV=734.70'
DI
PROP. RETAINING WALL NO. 2
PROP. SINGLE–FACED CONCRETE BARRIER
RETAIN 42" CMP
RETAIN 15" CMP
15" CMP
DIR ONLY
INV=745.07'
INV=746.88'
INV=748.76'
Adj. DI
INV=735.89'
TOP=737.97'
RETAIN 15" RCP
TOP=736.01'
INV=733.77'
RETAIN DI
RETAIN 15" RCP
EXIST SOUNDWALL
EXISTING R/W
EDNA BEAVER TURNER 02504 / 247
HERBERT W POTTS AND ALBERT S FORD 18595 / 657
BILLY R CAMPO 04712 / 445
JOHNNY AND BEVERLY MOSES (H/W) 12323 / 113
ALFRED E AND HELEN T NELSON (H/W) 12325 / 640
JOHNNY MOSES 17856 / 284
BOBBY JOE SHULER 02508 / 534
CHOU VANG 23246 / 829
JOSEPH VINCENT POLK 17912 / 955
JOSEPH VINCENT POLK 17912 / 955
JUNIPER DR
TERESA GATEWOOD 13452 / 261
KELLIE FLANAGAN 11390 / 854
KELLIE FLANAGAN 09727 / 613
JAMES W HADDOCK 03607 / 229
JAMES HADDOCK 17887 / 717
15" RCP

MATCH LINE SHEET 9 –L0– STA 373+00.00

MATCH LINE SHEET 8 –L0– STA 387+00.00

–L0–	–L3SB–	–L3NB–
PI Sta 377+98.80	PI Sta 377+96.83	PI Sta 378+44.13
Δ = 26° 11' 10.3" (RT)	Δ = 26° 45' 07.1" (RT)	Δ = 26° 15' 04.0" (RT)
D = 0° 58' 45.9"	D = 0° 59' 16.3"	D = 1° 01' 00.4"
L = 2,673.66'	L = 2,708.08'	L = 2,581.78'
T = 1,360.59'	T = 1,379.19'	T = 1,313.96'
R = 5,850.00'	R = 5,800.00'	R = 5,635.00'
	e = 3.60%	e = 3.30%
	R0 = 300'	R0 = 300'
	DS = 70 MPH	DS = 70 MPH

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 53.
2.) FOR –L3SB– PROFILE SEE SHEET 53.

01-SEP-2015 20:03
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_007.dgn
jmarcia
AT CAMARGO

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

NAD 83/2011

MILE 1 5

MATCH LINE SHEET 7 –L0– STA 387+00.00

MATCH LINE SHEET 9 –L0– STA 401+00.00

SECRETARY OF HOUSING AND URBAN DEVELOPMENT 24240 / 150

LORETTA D BRIGHAM 19102 / 271

MELVIN MCCROREY 17411 / 738

KEON D STOKES 18431 / 653

STEPHEN I CURETON 17884 / 73

SHEILA A PIERCE 18066 / 989

GLADYS L ANDERSON 15979 / 234

RANDY T CLARK 08269 / 888

BEATTIES FORD ROAD CHURCH OF CHRIST 10186 / 614

WILLIAMS MEMORIAL PRESBYTERIAN CHURCH INC 01721 / 165

CS Sta. 391+25.72

CS Sta. 391+11.86

ST Sta. 395+30.38

ST Sta. 395+45.10

END PROP. –NW7– –L3SB– STA. 393+63.16 (48.15' RT) FACE OF WALL

PROP. –NW7– –L3SB– STA. 392+20.29 (48.95' RT) FACE OF WALL

EXISTING R/W

EXISTING R/W VARIES

WOODS

RETAIN 18" RCP

15" RCP

INV=745.5

INV=747.20'

TOP=749.50'

DI

RETAIN 12" CMP

CONC HW

INV=746.99'

INV=753.40'

TOP=761.33'

INV=756.34'

CONTROL CABINET

TOP=761.14'

INV=755.70'

DIR ONLY

RETAIN DI

INV=755.97'

INV=756.24'

INV=756.32'

TOP=763.93'

RETAIN 15" CMP

INV=763.51'

15" CMP

TOP=766.34'

INV INACCESSIBLE

RETAIN DI

390+00

395+00

400+00

-L3SB-

-L0-

-L3NB-

RETAIN 48" RCP

RETAIN 15" RCP

Adj. DI

INV=745.12'

TOP=761.17'

2GI

N 11° 46' 51.7" E

N 11° 46' 12.4" E

REMOVE 15" RCP

REMOVE DI

RETAIN 2-7'X7' RCBC

GRAD 350 TL-3

TOP=753.01'

INV=748.78'

INV=745.28'

TOP=756.97'

INV=752.24'

TOP=761.01'

INV=757.08'

INV=753.52'

TOP=765.45'

INV=760.97'

EXIST SOUNDWALL

CAT-1

RETAIN 15" CMP

INV=758.10'

PROP. SINGLE-FACED CONCRETE BARRIER

RETAIN 15" RCP

PROP. RETAINING WALL NO. 2

INV=741.14'

INV=750.83'

ROCK CHECK DAM, EVERY 25 FT.

CLASS "I" RIP RAP AT EMBANKMENT EST. 49 TONS EST. 44 SY GF SEE DETAIL K

LATERAL GRASS SWALE SEE DETAIL 'G'

KENNEDY BRANCH

PERRY J AND SHERRIA WELCH 13144 / 218

BEATTIES FORD ROAD CHURCH OF CHRIST 10186 / 614

N C STATE HIGHWAY COMMISSION 03372 / 281

RUBY L BECHTOLD 04089 / 879

PERRY J WELCH 06299 / 510

LEILA NADINE SADLER 13921 / 528

CS Sta. 391+11.86

ST Sta. 394+52.78

-L0-		-L3SB-		-L3NB-	
PI Sta 377+98.80	PIs Sta 392+56.29	PI Sta 377+96.83	PIs Sta 392+60.62	PI Sta 378+44.13	PIs Sta 392+27.91
Δ = 26° 11' 10.3" (RT)	Θs = 2° 07' 17.8"	Δ = 26° 45' 07.1" (RT)	Θs = 1° 59' 55.4"	Δ = 26° 15' 04.0" (RT)	Θs = 1° 46' 06.0"
D = 0° 58' 45.9"	Ls = 433.24'	D = 0° 59' 16.3"	Ls = 404.66'	D = 1° 01' 00.4"	Ls = 347.83'
L = 2,673.66'	LT = 288.85'	L = 2,708.08'	LT = 269.79'	L = 2,581.78'	LT = 231.90'
T = 1,360.59'	ST = 144.43'	T = 1,379.19'	ST = 134.90'	T = 1,313.96'	ST = 115.95'
R = 5,850.00'		R = 5,800.00'		R = 5,635.00'	
		e = 3.60%		e = 3.30%	
		R0 = 300'		R0 = 300'	
		DS = 70 MPH		DS = 70 MPH	

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 54.
2.) FOR –L3SB– PROFILE SEE SHEET 54.

02-SEP-2015 15:58
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJSV1-5405_RDY_PSH_008.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

WILLIAMS MEMORIAL PRESBYTERIAN CHURCH INC
01721 / 165

BISHOP S C MADISON
16948 / 114

ESPERANZA ROSAS ALANIS
25928 / 449

TARA V STINSON
13087 / 215

LAQUINSHA N KELLY
12725 / 841

BISHOP S C MADISON
16948 / 114

GRACIE STEWART
23840 / 113

ANDREA WILLIAMS
23018 / 914

FRANCES R COLEMAN
13466 / 416

BISHOP S C MADISON
16948 / 114

BRENDA BRIGGS
21513 / 172

PIET A ZANER
20175 / 346

CARRIE GARRIS
21160 / 779

GIL A CASTRO
23216 / 671

CAITLIN CRISTEENE HOWELL
19429 / 477

BUJAR HODAJ
24466 / 339

ARRCORP LLC
17617 / 538

MP REAL ESTATE INVESTMENTS
25423 / 448

HAMILTON OAKS HOMEOWNERS ASSOC
12654 / 183

EXISTING R/W VARIES

MATCH LINE SHEET 8
-L0- STA 401+00.00

MATCH LINE SHEET 10
-L0- STA 415+00.00

RETAIN DI
RETAIN 15" RCP
RETAIN 30" CMP
RETAIN 30" RCP
RETAIN 18" RCP
RETAIN 15" CMP
RETAIN 60" CMP
RETAIN CONCRETE DITCH
REMOVE DI
Adj. DI
2GI
DIR ONLY
FULL OF DEBRIS
WOODS
PROP. SINGLE-FACED CONCRETE BARRIER
PROP. RETAINING WALL NO. 3
GRAU 350 TL-3
KENNEDY BRANCH TRIBUTARY
72" CONC DITCH
CONC HW
FES

405+00 N 11° 46' 51.7" E -L3SB-
410+00 N 11° 46' 12.4" E -L3NB-
-L0-

BEGIN PROP. -NW8- -L3NB- STA. 410+81.94 (54.50' RT) FACE OF WALL

N C STATE HIGHWAY COMMISSION
03372 / 281

N C STATE HIGHWAY COMMISSION
03355 / 041

BOARD OF EDUCATION CHARLOTTE MECKLENBURG
01638 / 240

WILLIAM F MARSHALL JR
06612 / 216

JOSEPH V. POLK
21836 / 691

THOMAS F LYNCH JR
04891 / 836

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 55.
2.) FOR -L3SB- PROFILE SEE SHEET 55.

01-SEP-2015 20:06
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_009.dgn
jmarcia AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

NAD 83/2011

0 50 100

MCARTHUR SANDERS
03991 / 563

CONSTANCE H FLUID
07280 / 165

GARFIELD GAITHER
06790 / 479

WILLIE C PRATT
04222 / 771

WILLIE C PRATT
03997 / 550

TOMMIE L MCCLEAVE
03840 / 703

WELLS FARGO BANK
25893 / 848

STACIE J GALLMAN
22521 / 341

ROSALIND J MACKEY
08274 / 152

CHARLES W STURDIVANT
13513 / 943

MINNIE A STOVER
18495 / 965

HAMILTON CIR

NORTH CAROLINA STATE HWY COMM
03373 / 364

HAMILTON OAKS HOMEOWNERS ASSOC
12654 / 183

EXISTING R/W VARIES

KENNEDY BRANCH TRIBUTARY

INV=755.62'
CONC HW
RETAIN 60" CMP

INV=780.10'
FES
INV=780.44'
RETAIN 15" CMP
RETAIN DI
INV=793.34'
INV=794.65'
TOP=798.33'

WOODS
72" CONC DITCH
RETAIN CONCRETE DITCH
INV=798.05'
INV=798.49'
TOP=800.15'
RETAIN 15" RCP
RETAIN DI
TOP=800.22'
INV=797.05'

PC Sta. 426+67.92
PC Sta. 428+69
216'

MATCH LINE SHEET 9
-L0- STA 415+00.00

420+00
425+00
-L3SB- N 11° 45' 57.0" E
RETAIN 15" CMP
RETAIN 36" RCP
Adj DI
TOP=793.15'
INV=787.67'
15" RCP-III
2GI
-L0-
GRASS MEDIAN
TOP=799.81'
INV=787.23'

415+00
420+00
425+00
-L3NB- N 11° 45' 57.0" E
0+00
CAT-1
12" CONC SHOW
72" CONC DITCH
RETAIN CONCRETE DITCH
POWER METER
PROP. SINGLE-FACED CONCRETE BARRIER
PROP. RETAINING WALL NO. 3
INV=785.53'
FES
WOODS
PROP. -NW8-
-L3NB- STA. 422+84.88
(54.50' RT) FACE OF WALL
PROP. -NW8-
-L3NB- STA. 423+85.01
(58.50' RT) FACE OF WALL
PROP. -NW8-
-L3NB- STA. 424+70.55
(58.58' RT) FACE OF WALL
PROP. -NW8-
-L3NB- STA. 425+77.53
(61.22' RT) FACE OF WALL
PROP. -NW8-
-L3NB- STA. 428+51.16
(103.58' RT) FACE OF WALL
-Y12RPB-
RETAIN 18" RCP
INV=788.66'
INV=793.68'
INV=792.68'
CONC HW
MATCH LINE SHEET 11
-L0- STA 429+00.00

PC Sta. 425+47.22
PC Sta. 0+00.00
PC Sta. 1+56.82
PC Sta. 4+39.24

ELIZABETH COLLIER SMITH FAMILY
11874 / 737

WAYNE R FRAZIER
11424 / 102

THOMAS F LYNCH JR
04891 / 836

LEXINGTON APARTMENTS LLC
16027 / 68

-L0-	-L3SB-	-L3NB-
PI Sta 428+60.76	PI Sta 430+20.34	PI Sta 427+67.84
Δ = 0°53'02.1" (LT)	Δ = 0°41'29.8" (LT)	Δ = 1°00'40.4" (LT)
D = 0°13'45.1"	D = 0°13'45.1"	D = 0°13'45.1"
L = 385.68'	L = 301.77'	L = 441.23'
T = 192.84'	T = 150.89'	T = 220.62'
R = 25,000.00'	R = 25,000.00'	R = 25,000.00'
	e = NC	e = NC
	RO = N/A	RO = N/A
	DS = 70 MPH	DS = 70 MPH

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 56.
2.) FOR –L3SB– PROFILE SEE SHEET 56.

01-SEP-2015 20:07
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACT.JS\I-5405_RDY_PSH_010.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

-L0-

PI Sta 428+60.76
Δ = 0° 53' 02.1" (LT)
D = 0° 13' 45.1"
L = 385.68'
T = 192.84'
R = 25,000.00'

PI Sta 432+46.76
Δ = 0° 53' 07.3" (RT)
D = 0° 13' 45.1"
L = 386.31'
T = 193.16'
R = 25,000.00'

-L3SB-

PI Sta 430+20.34
Δ = 0° 41' 29.8" (LT)
D = 0° 13' 45.1"
L = 301.77'
T = 150.89'
R = 25,000.00'
e = NC
RO = N/A
DS = 70 MPH

PI Sta 433+18.79
Δ = 0° 40' 35.1" (RT)
D = 0° 13' 45.1"
L = 295.14'
T = 147.57'
R = 25,000.00'
e = NC
RO = N/A
DS = 70 MPH

PI Sta 452+07.00
Δ = 13° 26' 23.7" (LT)
D = 0° 28' 38.9"
L = 2,814.85'
T = 1,413.91'
R = 12,000.00'
e = NC
RO = N/A
DS = 70 MPH

-L3NB-

PI Sta 427+67.84
Δ = 1° 00' 40.4" (LT)
D = 0° 13' 45.1"
L = 441.23'
T = 220.62'
R = 25,000.00'
e = NC
RO = N/A
DS = 70 MPH

PI Sta 432+08.13
Δ = 1° 00' 25.0" (RT)
D = 0° 13' 45.1"
L = 439.37'
T = 219.69'
R = 25,000.00'
e = NC
RO = N/A
DS = 70 MPH

PI Sta 452+04.37
Δ = 13° 27' 22.8" (LT)
D = 0° 28' 53.3"
L = 2,794.80'
T = 1,403.86'
R = 11,900.00'
e = NC
RO = N/A
DS = 70 MPH

-L0-

PI Sta 428+60.76
Δ = 0° 53' 02.1" (LT)
D = 0° 13' 45.1"
L = 385.68'
T = 192.84'
R = 25,000.00'

PI Sta 432+46.76
Δ = 0° 53' 07.3" (RT)
D = 0° 13' 45.1"
L = 386.31'
T = 193.16'
R = 25,000.00'

PI Sta 452+00.98
Δ = 13° 28' 20.9" (LT)
D = 0° 28' 59.2"
L = 2,788.75'
T = 1,400.83'
R = 11,860.00'

NISBET OIL CO
06681 / 255

EXISTING R/W VARIES

60" CONC DITCH

PRC Sta. 430+53.60

PC Sta. 0+00.00

PRC Sta. 431+71.22

PCC Sta. 1+22.86

PT Sta. 2+52.77

PT Sta. 434+66.36

SUNSET RD

RETAIN 60" CMP

PC Sta. 437+93.09

PC Sta. 438+00.15

PCC Sta. 0+00.00

PT Sta. 0+28.30

66" CONC DITCH

RETAIN CONCRETE DITCH

END CONSTRUCTION
END RESURFACE
-Y12LPA- STA. 0+00.00
MATCH EXIST PVMT
SLOPE & ELEV.

-Y12LPA-

RETAIN 15" RCP

RETAIN DI

RETAIN JB

RETAIN 18" RCP

PROP. SINGLE-FACED CONCRETE BARRIER

GRAU 350
TL-3

CAT-1

END CONSTRUCTION
END RESURFACE
-Y12RPC- STA. 0+00
MATCH EXIST PVMT
SLOPE & ELEV.

-Y12RPC-

N 25° 40' 38.7" E

PROP. DOUBLE-FACED CONCRETE BARRIER

MATCH LINE SHEET 10
-L0- STA 429+00.00

MATCH LINE SHEET 12
-L0- STA 443+00.00

430+00

435+00

440+00

N 11° 45' 57.0" E

-L3SB-

-L3NB-

-L0-

24" RCP-III

18" RCP-III

JB w/MH

2GI

REMOVE DI

REMOVE 24" RCP

RETAIN 24" RCP

RETAIN CONCRETE DITCH

PROP. DOUBLE-FACED CONCRETE BARRIER

END CONSTRUCTION
END RESURFACE
-Y12RPB- STA. 6+90.05
MATCH EXIST PVMT
SLOPE & ELEV.

-Y12RPB-

N 28° 32' 52.5" E

5+00

PRC Sta. 429+88.44

PT Sta. 5+96.06

POT Sta. 6+90.05

PT Sta. 434+27.81

GRAU 350
TL-3

PROP. RETAINING WALL NO. 2

END PROP. -NW8-
-L3NB- STA. 433+78.18
(265.39' RT) FACE OF WALL

EXISTING R/W VARIES

MOTEL SYSTEMS LLC
10602 / 617

VON PATEL
06017 / 189

VONT FOUND PATEL
06017 / 183

SUNSET RD

24" MAIN

TZ CONC DITCH

POT Sta. 0+00.00

PC Sta. 438+00.51

PC Sta. 0+00.00

PRC Sta. 1+47.45

PT Sta. 2+38.11

BEGIN CURB & GUTTER

END CURB & GUTTER

RETAIN DI

RETAIN 15" RCP

RETAIN CB

END CONSTRUCTION
END RESURFACE
-Y12LPB- STA. 2+38.11
MATCH EXIST PVMT
SLOPE & ELEV.

NOTE:
DESIGN EXCEPTION FOR 8' MEDIAN SHOULDER.

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 57.
2.) FOR -L3SB- PROFILE SEE SHEET 57.

01-SEP-2015 20:08
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_011.dgn
jmarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

NAD 83/2011

0 50 100

MILE 1 6

CK NORTHPARK XIII LLC
09008 / 714

MSC REAMES ROAD LLC
23096 / 478

NISBET OIL CO
06681 / 255

REAMES ROAD LLC
24833 / 641

SC Sta. 2+85.11

CS Sta. 6+12.97

ST Sta. 7+70.62

MATCH LINE SHEET 11
-L0- STA 443+00.00

MATCH LINE SHEET 13
-L0- STA 457+00.00

EXISTING R/W

RETAIN CONCRETE DITCH
RETAIN DI
RETAIN 15" RCP
RETAIN 18" RCP
RETAIN 30" RCP
RETAIN 54" RCP
REMOVE DI
REMOVE 15" RCP
REMOVE 24" RCP
24" RCP-III
18" RCP-III
JB wMH
72" CONC DITCH
PROP. SINGLE-FACED CONCRETE BARRIER
WOODS
GRASS MEDIAN
FES
CONC HW
-Y12RPC-
-L3SB-
-L0-
-L3NB-

FERGUSON ENTERPRISES INC
23054 / 014

NISBET TRAVEL CENTERS INC
08098 / 799

-L0-	-L3SB-	-L3NB-
PI Sta 452+00.98	PI Sta 452+07.00	PI Sta 452+04.37
Δ = 13° 28' 20.9" (LT)	Δ = 13° 26' 23.7" (LT)	Δ = 13° 27' 22.8" (LT)
D = 0° 28' 59.2"	D = 0° 28' 38.9"	D = 0° 28' 53.3"
L = 2,788.75'	L = 2,814.85'	L = 2,794.80'
T = 1,400.83'	T = 1,413.91'	T = 1,403.86'
R = 11,860.00'	R = 12,000.00'	R = 11,900.00'
	e = NC	e = NC
	RO = N/A	RO = N/A
	DS = 70 MPH	DS = 70 MPH

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 58.
2.) FOR –L3SB– PROFILE SEE SHEET 58.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

01-SEP-2015 20:09
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_012.dgn
jmgarcia
AT CAMARGO

NAD 83/2011

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

CK NORTHPARK XIII LLC
09008 / 714

PETERSON NORTHPARK LLC
08308 / 609

CK NORTHPARK XIV LLC
09284 / 493

FERGUSON ENTERPRISES INC
23054 / 014

MECKLENBURG COUNTY
06376 / 454

MATCH LINE SHEET 13
-L0- STA 457+00.00

MATCH LINE SHEET 15
-L0- STA 471+00.00

PT Sta. 465+88.89

PT Sta. 466+07.94

PT Sta. 465+95.31

N 1° 40' 26.7" W

N 1° 41' 25.8" W

KENNEDY BRANCH TRIBUTARY

EXISTING R/W

WOODS

GRASS MEDIAN

RETAIN CONCRETE DITCH

RETAIN 54" RCP

RETAIN 15" RCP

RETAIN 24" RCP

RETAIN 18" RCP

RETAIN DI

REMOVE DI

REMOVE 15" RCP

PROP. SINGLE-FACED CONCRETE BARRIER

PROP. RETAINING WALL NO. 5

66" CONC DITCH

NCDOT CAMERA SENSOR CTL CABINET

ELEC METER

-L3SB-

-L0-

-L3NB-

460+00

465+00

470+00

-L0-	-L3SB-	-L3NB-
PI Sta 452+00.98 Δ = 13° 28' 20.9" (LT) D = 0° 28' 59.2" L = 2,788.75' T = 1,400.83' R = 11,860.00'	PI Sta 452+07.00 Δ = 13° 26' 23.7" (LT) D = 0° 28' 38.9" L = 2,814.85' T = 1,413.91' R = 12,000.00' e = NC R0 = N/A DS = 70 MPH	PI Sta 452+04.37 Δ = 13° 27' 22.8" (LT) D = 0° 28' 53.3" L = 2,794.80' T = 1,403.86' R = 11,900.00' e = NC R0 = N/A DS = 70 MPH

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 59.
2.) FOR -L3SB- PROFILE SEE SHEET 59.

01-SEP-2015 20:41
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_013.dgn
jmarcia
AT CAMARGO

NAD 83/2011

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

CK NORTHPARK XV LLC
09957 / 277

XI KNICKERBOCKER PROPERTIES INC
09448 / 894

PC Sta. 476+89.38

PRC Sta. 479+46.53

PT Sta. 481+96.52

MATCH LINE SHEET 13 –L0– STA 471+00.00

MATCH LINE SHEET 15 –L0– STA 485+00.00

EXISTING R/W*

WOODS

FES (TILTED)

INV=772.73'

INV=766.55'

INV=778.64'

INV=774.06'

CONC HW

INV=784.85'

RETAIN 15" RCP

RETAIN 24" RCP

RETAIN 42" RCP

18" RCP III

475+00

480+00

N 1° 40' 26.7" W

N 1° 41' 25.8" W

-L3SB-

-L0-

-L3NB-

REMOVE DI

COLLAR AND EXTEND

2GI

TOP=768.08'
INV=775.12'

GRASS MEDIAN

TOP=781.02'
INV=782.54'

Adj. DI

TOP=787.88'
INV=790.08'

PROP. SINGLE-FACED CONCRETE BARRIER

PROP. RETAINING WALL NO. 5

NCDOT CAMERA SENSOR CTL CABINET

ELEC METER

POWER BOX

INV=775.35'

CONC HW

INV=778.57'

PP

MECKLENBURG COUNTY
06376 / 454

GODLEY FRED D
10728 / 189

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 60.
2.) FOR –L3SB– PROFILE SEE SHEET 60.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

-L3SB-	
PI Sta 478+17.96	PI Sta 480+71.53
Δ = 0° 35' 21.7" (LT)	Δ = 0° 34' 22.6" (RT)
D = 0° 13' 45.1"	D = 0° 13' 45.1"
L = 257.16'	L = 249.99'
T = 128.58'	T = 125.00'
R = 25,000.00'	R = 25,000.00'
e = NC	e = NC
RO = N/A	RO = N/A
DS = 70 MPH	DS = 70 MPH

01-SEP-2015 20:12
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_014.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

COMPASS BANK N A
27031 / 734

XIKNICKERBOCKER PROPERTIES INC
09448 / 894

THOMASINA J MASSEY
19603 / 495

DERRICK BLANKENEY
17726 / 77

WILHELMINA M WHITE
13429 / 679

JIMMY A NEAL
06030 / 437

NEXCO INC
20569 / 405

54 INVESTMENT LLC
13226 / 333

54 INVESTMENT LLC
13226 / 333

PC Sta. 488+96.01

PRC Sta. 491+54.59

PT Sta. 494+07.73

EXISTING R/W*

EXISTING R/W*

BEGIN PROP. -NW9-
-L3SB- STA. 490+00.38
(55.20' LT) FACE OF WALL

RETAIN CONCRETE DITCH

CONC DITCH

INV=793.32'

FES

RETAIN 30" RCP

WOODS

WOODS

WOODS

WOODS

NCDOT TRAFFIC COUNTER

NCDOT CABINET

MATCH LINE SHEET 14
-L0- STA 485+00.00

MATCH LINE SHEET 16
-L0- STA 499+00.00

N 1° 41' 25.8" W

N 1° 40' 40.9" W

490+00

495+00

-L3SB-

-L0-

-L3NB-

REMOVE DI

2GI

18" RCP-III

INV=795.07'

INV=800.52'

15" RCP

TOP=805.58'

REMOVE 15" RCP

RETAIN 24" RCP

RCP-III

FES

INV=796.93'

PROP. SINGLE-FACED CONCRETE BARRIER

PROP. RETAINING WALL NO. 5

EXISTING R/W*

EXISTING R/W*

NORTH CAROLINA STATE HIGHWAY COMMISSION
03359 / 162

BTT II HOLDINGS LLP
10885 / 317

GODLEY FRED D
10728 / 189

-L3SB-

PI Sta 490+25.30	PI Sta 492+81.16
Δ = 0° 35' 33.5" (RT)	Δ = 0° 34' 48.5" (LT)
D = 0° 13' 45.1"	D = 0° 13' 45.1"
L = 258.58'	L = 253.13'
T = 129.29'	T = 126.57'
R = 25,000.00'	R = 25,000.00'
e = NC	e = NC
RO = N/A	RO = N/A
DS = 70 MPH	DS = 70 MPH

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 61.
2.) FOR -L3SB- PROFILE SEE SHEET 61.

01-SEP-2015 20:13
C:\Users\jmarcia\Desktop\ROWYPLANSHEETS-IMPACTJS\I-5405_ROY_PSH_015.dgn
jmarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

DOUGLAS & ZELDA R/T HENDERSON
12330 / 646

ERVIN D REID
03134 / 009

WOODROW JOHNSON JR
05353 / 569

ERVIN D REID
03560 / 043

JOHN CHIPANG POON
19506 / 119

JUNIOR PAUL JAMES
11792 / 120

REGINALD POLLARD
16632 / 601

AMANDA AYCOCK L
25370 / 907

MILE 1 7

MATCH LINE SHEET 15
-L0- STA 499+00.00

MATCH LINE SHEET 17
-L0- STA 513+00.00

EXISTING R/W

PROP. -NW9-

RETAIN CONCRETE DITCH

CONC DITCH

INV=794.43'
CONC HW

WOODS

REMOVE DI

DI
TOP=794.05'
INV=791.09'
15" RCP IN

COLLAR AND EXTEND

RETAIN 15" RCP

RETAIN 42" RCP

500+00 505+00 510+00

N 1° 40' 40.9" W

-L3SB-

Adj. DI

RETAIN 15" RCP

2GI

INV=799.07'

-L0-

Adj. DI

N 1° 41' 25.8" W

-L3NB-

RETAIN 42" RCP

REMOVE DI & JB

INV=790.37'

JB w/MH

INV=790.29'

24" RCP-III

INV=791.05'

TOP=797.11'

15" RCP

2GI

RETAIN 15" RCP

RETAIN JB

RETAIN DI

TOP=798.74'

INV=794.62'

INV=794.66'

18" RCP

INV=794.84'

INV=794.92'

TOP=797.75'

INV=795.46'

RETAIN 15" CMP

DI

15" CMP

18" RCP

POWER METER

RETAIN 24" CMP

CONC DITCH

INV=802.22'

PROP. SINGLE-FACED CONCRETE BARRIER

PROP. RETAINING WALL NO. 5

CONC HW
INV=800.32'

CONC CREEK TRIBUTARY

WOODS

EXISTING R/W VARIES

24" CMP

MTL LT

INV=797.82'

FES

ALFRED A DAVIS
06084 / 305

BTT II HOLDINGS LLP
10885 / 317

ALFRED A DAVIS
06084 / 305

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 62.
2.) FOR -L3SB- PROFILE SEE SHEET 62.

01-SEP-2015 20:44
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_016.dgn
jmgarcia
AT CAMARGO

NAD 83/2011

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

COLEY M WALKER
03439 / 021

IVY L MAROUIS
17949 / 331

JUAN MANUEL ESQUEDA
24155 / 21

NANCY ARCHER
26387 / 349

JOHN H FARMER
05769 / 331

ALLLEN HUGHES LLC
25679 / 200

RAUL ROQUE
17861 / 103

ANGELA FRENCH
18285 / 86

JOSEPH D COTTINGHAM JR
23322 / 404

JOEL FIGUEROA
17867 / 924

PC Sta. 515+30.34
PRC Sta. 517+66.95
PT Sta. 519+98.10
PC Sta. 522+26.94
PC Sta. 524+62.95

EXISTING R/W

PROP. -NW9-

RECONSTRUCT CONCRETE DITCH

RETAIN CONCRETE DITCH

WOODS

INV=775.77'
FES (DEBRIS)

CONC DITCH

Adj. DI
TOP=769.94'

RETAIN 30" RCP

RETAIN 24" RCP

RETAIN 15" RCP

-L3SB-

N 1° 41' 25.8" W

515+00

520+00

525+00

24" RCP-III

POSSIBLE BLIND CONNECTION

2GI
TOP=774.92'
INV=778.70'

2GI
TOP=772.92'
INV=766.28'

2GI
INV=767.19'
INV=768.00'

Conv. JB To 2GI

GRASS MEDIAN

-L0-

REMOVE DI

REMOVE DI & JB

REMOVE 18" RCP

RETAIN 30" RCP

RETAIN 15" RCP

-L3NB-

PROP. RETAINING WALL NO. 2

PROP. SINGLE-FACED CONCRETE BARRIER

TOP=788.96'
INV=785.08'
DI
RETAIN DI

INV=771.11'
TOP=774.27'
INV=771.37'
DI
RETAIN DI
RETAIN 15" CMP

CONC DITCH
INV=791.49'

EXISTING R/W VARIES

PC Sta. 526+31.24

GREAT DANE LP
19807 / 39

MTL
LT

ALFRED A DAVIS
06084 / 305

USF PROPCO LLC
22537 / 421

MATCH LINE SHEET 16
-L0- STA 513+00.00

MATCH LINE SHEET 18
-L0- STA 527+00.00

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 63.
2.) FOR –L3SB– PROFILE SEE SHEET 63.

-L0-	-L3SB-			-L3NB-
PI Sta 526+48.67	PI Sta 516+48.64	PI Sta 518+82.52	PI Sta 524+86.25	PI Sta 527+84.37
Δ = 0° 50' 59.8" (RT)	Δ = 0° 32' 32.1" (LT)	Δ = 0° 13' 47.2" (RT)	Δ = 1° 11' 18.7" (RT)	Δ = 0° 42' 06.8" (RT)
D = 0° 13' 43.8"	D = 0° 13' 45.1"	D = 0° 13' 45.1"	D = 0° 13' 45.1"	D = 0° 13' 45.1"
L = 371.44'	L = 236.60'	L = 231.15'	L = 518.60'	L = 306.25'
T = 185.72'	T = 118.30'	T = 115.58'	T = 259.31'	T = 153.13'
R = 25,039.00'	R = 25,000.00'	R = 25,000.00'	R = 25,000.00'	R = 25,000.00'
	e = NC	e = NC	e = NC	e = NC
	RO = N/A	RO = N/A	RO = N/A	RO = N/A
	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH

01-SEP-2015 20:46
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_017.dgn
jmgarcia
AT CAMARGO

NAD 83/2011

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	18
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

SHIRLEY B ANGEL
2503I / 27I

JOHN H FARMER
05769 / 331

ALBERT STEVENSON SR
05833 / 743

LAKEVIEW RD

CLARION-REAMES LLC
20459 / 699

PRC Sta. 527+45.54

PRC Sta. 528+34.38

PT Sta. 532+07.33

PT Sta. 533+57.85

PC Sta. 538+52.48

END PROP. –NW9–
–L3SB– STA. 527+45.54
(55.20' LT) FACE OF WALL

END PROP. –NW9–
–L3SB– STA. 532+52.26
(122.49' LT) FACE OF WALL

PROP. DOUBLE-FACED CONCRETE BARRIER

PROP. SINGLE-FACED CONCRETE BARRIER

PROP. RETAINING WALL NO. 6

PROP. –NW9–
–L3SB– STA. 532+05.08
(55.23' LT) FACE OF WALL

PROP. DOUBLE-FACED CONCRETE BARRIER

RETAIN CONCRETE DITCH

RETAIN 36" RCP

RETAIN 30" RCP

RETAIN 30" CMP

RETAIN DI

RETAIN 18" RCP

RETAIN 15" RCP

RETAIN 54" RCP

REMOVE DI

72" CONC DITCH

CONC DITCH BURIED

-L3NBT04-

-L0-

-L3SB-

-L3NB-

530+00

535+00

540+00

N 1°54'19.1"W

N 1°41'38.3"W

MATCH LINE SHEET 17
-L0- STA 527+00.00

MATCH LINE SHEET 19
-L0- STA 541+00.00

EXISTING R/W

EXISTING R/W VARIES

WOODS

TRIBUTARY TO LONG CREEK

C & D MANAGEMENT COMPANY LLC
18397 / 215

77 OVERLOOK LLC
23052 / 784

77 OVERLOOK LLC
23052 / 784

NOTE:
DESIGN EXCEPTION FOR 8' MEDIAN SHOULDER.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 64.
2.) FOR –L3SB– PROFILE SEE SHEET 64.

-L0-			-L3SB-		-L3NB-			
PI Sta 526+48.67	PI Sta 530+20.86	PI Sta 540+111.5	PI Sta 524+86.25	PI Sta 530+51.71	PI Sta 527+84.37	PI Sta 530+91.85	PI Sta 538+91.10	PI Sta 552+11.92
Δ = 0°50'59.8" (RT)	Δ = 0°51'12.3" (LT)	Δ = 0°43'42.5" (LT)	Δ = 1°11'18.7" (RT)	Δ = 1°24'12.0" (LT)	Δ = 0°42'06.8" (RT)	Δ = 0°42'19.2" (LT)	Δ = 0°44'03.5" (LT)	Δ = 8°25'44.5" (RT)
D = 0°13'43.8"	D = 0°13'43.8"	D = 0°13'46.4"	D = 0°13'45.1"	D = 0°13'45.1"	D = 0°13'45.1"	D = 0°13'42.5"	D = 0°13'45.1"	D = 0°21'49.6"
L = 371.44'	L = 372.95'	L = 317.33'	L = 518.60'	L = 612.32'	L = 306.25'	L = 308.72'	L = 320.40'	L = 2,317.05'
T = 186.48'	T = 186.48'	T = 158.67'	T = 259.31'	T = 306.17'	T = 153.13'	T = 154.36'	T = 160.20'	T = 1,160.62'
R = 25,039.00'	R = 25,039.00'	R = 24,959.00'	R = 25,000.00'	R = 25,000.00'	R = 25,000.00'	R = 25,078.00'	R = 25,000.00'	R = 15,750.00'
			e = NC	e = NC	e = NC	e = NC	e = NC	e = NC
			RO = N/A	RO = N/A	RO = N/A	RO = N/A	RO = N/A	RO = N/A
			DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH

01-SEP-2015 20:47
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJSV\I-5405_RDY_PSH_018.dgn
jmarcia
AT CAMARDO

NAD 83/2011

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

CLARION-REAMES LLC
20459 / 699

BROOKLINE RESIDENTIAL LLC
27346 / 84

AUSTON WOODS-CHARLOTTE-PHASE I APARTMENTS LP
13525 / 276

77 OVERLOOK LLC
23052 / 784

77 OVERLOOK LLC
23052 / 784

ADDIE MAE REAMES

SILVER NORTHLAKE LLC
18046 / 85

MATCH LINE SHEET 18
-L0- STA 541+00.00

MATCH LINE SHEET 20
-L0- STA 555+00.00

PRC Sta. 541+69.82

PC Sta. 542+65.41

N 1° 54' 19" W

EXISTING R/W

WOODS

PROP. DOUBLE-FACED CONCRETE BARRIER

PROP. SINGLE-FACED CONCRETE BARRIER

RETAIN 15" RCP

RETAIN 18" RCP

RETAIN 18" CMP

RETAIN DI

REMOVE DI

Adj. DI

EXIST. 15" RCP

NCDOT CAMERA SENSOR CTL CABINET

FES (DESTROYED)

MEDIAN Y DITCH SEE DETAIL 'B'

BLK RET WALL

CONC HW

LONG CREEK

FALLEN PP

ABOVE GROUND SANITARY SEWER

-L0-

PI Sta 540+11.15
Δ = 0° 43' 42.5" (LT)
D = 0° 13' 46.4"
L = 317.33'
T = 158.67'
R = 24,959.00'

PI Sta 555+52.46
Δ = 9° 52' 40.5" (RT)
D = 0° 21' 29.2"
L = 2,758.44'
T = 1,382.64'
R = 16,000.00'

-L3SB-

PI Sta 549+04.38
Δ = 3° 39' 35.3" (RT)
D = 0° 17' 11.3"
L = 1,277.51'
T = 638.97'
R = 20,000.00'
e = NC
RO = N/A
DS = 70 MPH

-L3NB-

PI Sta 552+11.92
Δ = 8° 25' 44.5" (RT)
D = 0° 21' 49.6"
L = 2,317.05'
T = 1,160.62'
R = 15,750.00'
e = NC
RO = N/A
DS = 70 MPH

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 65.
2.) FOR –L3SB– PROFILE SEE SHEET 65.

01-SEP-2015 20:18
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACT JS\I-5405_RDY_PSH_019.dgn
jmarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	20

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

AUSTON WOODS-CHARLOTTE-PHASE II APARTMENTS LP
13525 / 282

PERIMETER WOODS LAND LLC
24190 / 531

PERIMETER WOODS BUSINESS PARK LLC
13521 / 275

MILE 1 8

PCC Sta. 555+42.92

PC Sta. 567+42.09

EXISTING R/W

LONG CREEK

RETAIN CONCRETE DITCH

CONC DITCH

RETAIN DI

RETAIN 15" RCP

RETAIN 24" RCP

PROP. SINGLE-FACED CONCRETE BARRIER

RETAIN 18" RCP B-77

RETAIN 2-10'X8' RCBC

MEDIAN V DITCH SEE DETAIL 'B'

RETAIN 15" CMP

FES

CONC HW

SWITCH

SENSOR

NCDOT CAMERA SENSOR CTL CABINET

POWER BOX

WOODS

SILVER NORTHLAKE LLC
18046 / 85

BEACON PARTNERS #8 LLC

SILVER SIDNEY LLC
25554 / 422

MATCH LINE SHEET 19 -L0- STA 555+00.00

MATCH LINE SHEET 21 -L0- STA 569+00.00

-L0-	-L3SB-		-L3NB-		-L3SBHOT01-
PI Sta 555+52.46	PI Sta 549+04.38	PI Sta 582+68.54	PI Sta 552+11.92	PI Sta 572+53.74	PI Sta 575+09.39
Δ = 9° 52' 40.5" (RT)	Δ = 3° 39' 35.3" (RT)	Δ = 19° 45' 33.0" (RT)	Δ = 8° 25' 44.5" (RT)	Δ = 6° 45' 21.9" (RT)	Δ = 8° 12' 11.8" (RT)
D = 0° 21' 29.2"	D = 0° 17' 11.3"	D = 0° 21' 58.0"	D = 0° 21' 49.6"	D = 0° 22' 55.1"	D = 0° 32' 07.7"
L = 2,758.44'	L = 1,277.51'	L = 5,397.10'	L = 2,317.05'	L = 1,768.74'	L = 1,531.96'
T = 1,382.64'	T = 638.97'	T = 2,725.62'	T = 1,160.62'	T = 885.39'	T = 767.29'
R = 16,000.00'	R = 20,000.00'	R = 15,650.00'	R = 15,750.00'	R = 15,000.00'	R = 10,700.00'
	e = NC	e = NC	e = NC	e = NC	e = 2.00%
	RO = N/A	RO = N/A	RO = N/A	RO = N/A	RO = 300'
	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1. *FOR -L3NB- PROFILE SEE SHEET 66.*
2. *FOR -L3SB- PROFILE SEE SHEET 66.*
3. *FOR -L3SBHOT01- PROFILE SEE SHEET 96.*

01-SEP-2015 20:19
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_020.dgn
jmarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 67.
2.) FOR –L3SB– PROFILE SEE SHEET 67.
3.) FOR –L3NBHOT01– PROFILE SEE SHEET 97.
4.) FOR –L3SBHOT1– PROFILE SEE SHEET 97.

PERIMETER WOODS BUSINESS PARK LLC
13521 / 275

PERIMETER WOODS LAND LLC
24190 / 531

EXISTING R/W PER PB 50 PG 676

EXISTING R/W

POT Sta. 569+28.25

PCC Sta. 581+47.37

PRC Sta. 582+74.06

POT Sta. 570+93.02

TS Sta. 578+42.22

SC Sta. 581+52.45

PCC Sta. 581+57.08

MATCH LINE SHEET 20
-L0- STA 569+00.00

MATCH LINE SHEET 22
-L0- STA 583+00.00

PROP. SINGLE-FACED CONCRETE BARRIER

-L3SB-

-L3SBHOT01-

-L3NB-

-L3NBHOT01-

-L0-

LATERAL V DITCH SEE DETAIL 'A'

MEDIAN V DITCH SEE DETAIL 'B'

Conv. DI To JB

GRASS MEDIAN

N 8° 46' 35.4" E

GRAU 350
TL-3

CAT-1

B-77

RETAIN 24" RCP

RETAIN DI

RETAIN 18" RCP

RETAIN JB & DI

RETAIN CB

RETAIN 15" RCP

REMOVE DI

REMOVE 18" RCP

REMOVE 15" RCP

REMOVE 12" RCP

NEW BOSTON HARRIS CORNERS LLC
26420 / 151

BEACON PARTNERS #8 LLC

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

-L0-

PI Sta 555+52.46	PI Sta 575+38.14	PI Sta 583+14.23
Δ = 9° 52' 40.5" (RT)	Δ = 4° 38' 06.2" (RT)	Δ = 1° 07' 10.3" (RT)
D = 0° 21' 29.2"	D = 0° 22' 48.7"	D = 0° 20' 07.7"
L = 2,758.44'	L = 1,219.12'	L = 333.71'
T = 1,382.64'	T = 609.89'	T = 166.86'
R = 16,000.00'	R = 15,070.00'	R = 17,079.00'

-L3SB-	-L3NB-		-L3SBHOT01-		-L3NBHOT01-	
PI Sta 582+68.54	PI Sta 572+53.74	PI Sta 584+83.40	PI Sta 575+09.39	PI Sta 586+14.07	PIs Sta 580+49.05	PI Sta 585+69.07
Δ = 19° 45' 33.0" (RT)	Δ = 6° 45' 21.9" (RT)	Δ = 2° 20' 02.6" (RT)	Δ = 8° 12' 11.8" (RT)	Δ = 2° 41' 11.9" (LT)	Θs = 1° 28' 08.4"	Δ = 7° 52' 43.0" (RT)
D = 0° 21' 58.0"	D = 0° 22' 55.1"	D = 0° 20' 13.3"	D = 0° 32' 07.7"	D = 0° 23' 42.5"	Ls = 310.23'	D = 0° 56' 49.3"
L = 5,397.10'	L = 1,768.74'	L = 692.53'	L = 1,531.96'	L = 679.91'	LT = 206.83'	L = 831.92'
T = 2,725.62'	T = 885.39'	T = 346.31'	T = 767.29'	T = 340.02'	ST = 103.42'	T = 416.62'
R = 15,650.00'	R = 15,000.00'	R = 17,000.00'	R = 10,700.00'	R = 14,500.00'		R = 6,050.00'
e = NC	e = NC	e = NC	e = 2.00%	e = NC		e = 3.40%
RO = N/A	RO = N/A	RO = N/A	RO = 300'	RO = N/A		RO = 300'
DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH		DS = 70 MPH

01-SEP-2015 20:20
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_021.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	22
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

BELK INC
17764 / 424

TNP SMITH CORNERS, LLC
24518 / 545

FIRST CC (SMITH CORNERS LB) LLC
26094 / 220

MATCH LINE SHEET 21
-L0- STA 583+00.00

MATCH LINE SHEET 23
-L0- STA 597+00.00

WT HARRIS BLVD

PCC Sta. 584+81.08

PRC Sta. 589+53.97

PCC Sta. 588+29.61

PCC Sta. 588+84.37

ST Sta. 592+94.60

CS Sta. 589+84.37

RETAIN 15" CMP

RETAIN 15" RCP

RETAIN DI

RETAIN CB

RETAIN 18" RCP

RETAIN DI & JB

RETAIN 24" RCP

REMOVE 15" RCP

REMOVE DI

PROP. SINGLE-FACED CONCRETE BARRIER

LATERAL V DITCH SEE DETAIL 'A'

-L0-

PI Sta 596+13.31
Δ = 8° 12' 28.6" (RT)
D = 0° 21' 47.1"
L = 2,260.58'
T = 1,132.22'
R = 15,780.00'

-L3SB-

PI Sta 582+68.54
Δ = 19° 45' 33.0" (RT)
D = 0° 21' 58.0"
L = 5,397.10'
T = 2,725.62'
R = 15,650.00'
e = NC
R0 = N/A
DS = 70 MPH

-L3NB-

PI Sta 584+83.40
Δ = 2° 20' 02.6" (RT)
D = 0° 20' 13.3"
L = 692.53'
T = 346.31'
R = 17,000.00'
e = NC
R0 = N/A
DS = 70 MPH

PI Sta 596+97.36
Δ = 6° 19' 37.6" (RT)
D = 0° 21' 53.8"
L = 1,733.74'
T = 867.75'
R = 15,700.00'
e = NC
R0 = N/A
DS = 70 MPH

-L3SBHOT01-

PI Sta 586+14.07
Δ = 2° 41' 11.9" (LT)
D = 0° 23' 42.5"
L = 679.91'
T = 340.02'
R = 14,500.00'
e = NC
R0 = N/A
DS = 70 MPH

PI Sta 597+21.26
Δ = 8° 12' 11.8" (RT)
D = 0° 32' 07.7"
L = 1,531.96'
T = 767.29'
R = 10,700.00'
e = 2.00%
R0 = 300'
DS = 70 MPH

-L3NBHOT01-

PI Sta 585+69.07
Δ = 7° 52' 43.0" (RT)
D = 0° 56' 49.3"
L = 831.92'
T = 416.62'
R = 6,050.00'
e = 3.40%
R0 = 300'
DS = 70 MPH

PIs Sta 590+87.79
Θs = 1° 28' 08.4"
Ls = 310.23'
LT = 206.83'
ST = 103.42'

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 68.
2.) FOR -L3SB- PROFILE SEE SHEET 68.
3.) FOR -L3NBHOT01- PROFILE SEE SHEET 98.
4.) FOR -L3SBHOT1- PROFILE SEE SHEET 98.

01-SEP-2015 20:22
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_022.dgn
jmgarcia
AT CAMARGO

-L0-	-L3SB-	-L3NB-	-L3SBHOT01-
PI Sta 596+13.31 Δ = 8° 12' 28.6" (RT) D = 0° 21' 47.1" L = 2,260.58' T = 1,132.22' R = 15,780.00'	PI Sta 582+68.54 Δ = 19° 45' 33.0" (RT) D = 0° 21' 58.0" L = 5,397.10' T = 2,725.62' R = 15,650.00' e = NC RO = N/A DS = 70 MPH	PI Sta 596+95.34 Δ = 6° 19' 37.6" (RT) D = 0° 21' 53.8" L = 1,733.74' T = 867.75' R = 15,700.00' e = NC RO = N/A DS = 70 MPH	PI Sta 586+14.07 Δ = 2° 41' 11.9" (LT) D = 0° 23' 42.5" L = 679.91' T = 340.02' R = 14,500.00' e = NC RO = N/A DS = 70 MPH

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	23

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

NAD 83/2011

BELK INC
17764 / 424

TRG CHARLOTTE LLC
14774 / 747

D & K GARMON FAMILY LLC
19802 / 329

NORTH LAKE MALL DR

MATCH LINE SHEET 22
-L0- STA 597+00.00

MATCH LINE SHEET 24
-L0- STA 611+00.00

PT Sta. 604+85.93

PT Sta. 607+41.66

PT Sta. 609+40.02

POT Sta. 600+72.00

PT Sta. 605+63.35

EXISTING R/W PER PB 41 PG 766

EXISTING R/W PER PB 32 PG 835

WOODS

RETAIN CONCRETE DITCH

RETAIN 15" CMP
INV=738.08'

RETAIN 15" RCP

RETAIN 24" RCP

RETAIN 18" RCP

RETAIN 2-8'X8' RCBC

RETAIN 30" RCP

RETAIN CONCRETE DITCH

RETAIN DI

EXTEND 24" RCP
INV=748.65'

EXTEND 30" RCP
INV=747.98'

REMOVE 18" RCP

LATERAL V DITCH
SEE DETAIL 'A'

LATERAL V DITCH
SEE DETAIL 'D'

GRASS MEDIAN

-L0-

-L3SB-

-L3NB-

-L3SBHOT01-

-L3NBHOT01-

N 19° 35' 35.2" E

N 21° 30' 49.2" E

N 21° 25' 04.8" E

600+00

605+00

610+00

NCDOT TRAF COUNTER

NCDOT TRAF CABINET

ELEC METER

TOP=756.79'
INV=754.69'

INV=748.54'

Adj. DI

15" RCP-III

INV=752.34'

TOP=746.65'

INV=740.34'

INV=740.95'

INV=734.73'

INV=735.95'

78" CONC DITCH

DIXON BRANCH TRIBUTARY

BYPASS CONNECTION APPROX.

GE COMMERCIAL FINANCE BUSINESS CORPORATION
26018 / 837

FIRST CC (SMITH CORNERS) LLC
16792 / 362

PANOS/SMITH HOTEL GROUP-REAMES ROAD LLC
10710 / 261

TRIPLE T DEVELOPERS
09478 / 874

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1. *FOR –L3NB– PROFILE SEE SHEET 69.*
2. *FOR –L3SB– PROFILE SEE SHEET 69.*
3. *FOR –L3NBHOT01– PROFILE SEE SHEET 99.*
4. *FOR –L3SBHOT1– PROFILE SEE SHEET 99.*

01-SEP-2015 20:23
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_023.dgn
jmarcia
RT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	24

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

NAD 83/2011

0 50 100

D & K GARMON FAMILY LLC
19802 / 329

METROLINA PROPERTIES
DB 5809 PG 858

POT Sta. 623+85.11
TS Sta. 623+85.11

RETAIN CONCRETE DITCH
EXISTING R/W PER PB 41PG 766
CONC DITCH
WOODS
RETAIN 30" CMP
RETAIN DI
INV=752.35'
TOP=755.53'
INV=752.50'
INV=751.98'
30" CMP
INV=752.09'
INV=752.00'
TOP=758.78'
INV=752.13'
24" RCP
RETAIN 24" RCP
RETAIN 18" RCP
18" RCP
INV=758.09'
INV=757.75'
TOP=760.77'
INV=758.50'
TOP=763.53'
INV=755.87'
ELEC METER
NCDOT TRAF CABINET & COUNTER
RETAIN 15" RCP
615+00
620+00
625+00
N 2° 30' 49.2" E
-L3SB-
-L3SBHOT02-
18" RCP-III
Conv. DI To JB
15" RCP-III
Adj. DI
LATERAL V DITCH SEE DETAIL 'A'
-L0-
GRASS MEDIAN
REMOVE 15" CMP
RETAIN DI
INV=748.09'
INV=748.60'
INV=750.67'
TOP=751.41'
15" RCP
N 2° 25' 05.1" E
-L3NBHOT02-
N 2° 25' 04.8" E
-L3NB-
INV=738.07'
INV=739.16'
INV=738.64'
INV=738.33'
TOP=743.37'
INV=742.60'
TOP=746.92'
INV=742.75'
INV=747.40'
INV=748.56'
TOP=751.87'
NCDOT TRAF CABINET
NCDOT TRAF COUNTER
ELEC METER
POWER BOX
RETAIN 30" RCP
EXISTING R/W PER PB 32 PG 835
ST Sta. 622+39.05
TS Sta. 622+79.11

MATCH LINE SHEET 23
-L0- STA 611+00.00

MATCH LINE SHEET 25
-L0- STA 625+00.00

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1. ***FOR -L3NB- PROFILE SEE SHEET 70.***
2. ***FOR -L3SB- PROFILE SEE SHEET 70.***
3. ***FOR -L3NBHOT01- PROFILE SEE SHEET 100.***
4. ***FOR -L3SBHOT1- PROFILE SEE SHEET 100.***

TRIPLE T DEVELOPERS
09478 / 874

-L3SB-	-L3NB-	-L3NBHOT02-
Pls Sta 626+38.20 Θs = 1° 53' 05.3" Ls = 379.62' LT = 253.09' ST = 126.55'	Pls Sta 624+95.78 Θs = 1° 37' 09.2" Ls = 325.00' LT = 216.68' ST = 108.34'	Pls Sta 624+36.10 Θs = 1° 32' 22.3" Ls = 295.57' LT = 197.05' ST = 98.53'

01-SEP-2015 20:24
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_024.dgn
jmgarcia
AT CAMARGO

NAD 83/2011

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 71.
2.) FOR –L3SB– PROFILE SEE SHEET 71.
3.) FOR –L3NBHOT01– PROFILE SEE SHEET 101.
4.) FOR –L3SBHOT1– PROFILE SEE SHEET 101.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

METROLINA PROPERTIES
DB 5809 PG 858

JOE LEE PUCKETT, III
DB 946 PG 90

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	25

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

MATCH LINE SHEET 24 -L0- STA 625+00.00

MATCH LINE SHEET 26 -L0- STA 639+00.00

PC Sta 626+98.81

SC Sta 627+64.73

TS Sta 629+56.98

SC Sta 633+19.93

SC Sta 625+34.62

SC Sta 626+04.11

EXISTING R/W PER TIP R-2248D

WOODS

N 21° 30' 49.2" E

-L0-

-L3SB-

-L3NB-

-L3SBHOT02-

-L3NBHOT02-

RETAIN JB

RETAIN DI

RETAIN 24" RCP

RETAIN 30" RCP

RETAIN 15" RCP

RETAIN 15" CMP

Conv. DI To JB

LATERAL V DITCH SEE DETAIL 'A'

LATERAL V DITCH SEE DETAIL 'C'

LATERAL V DITCH SEE DETAIL 'E'

COLLAR AND EXTEND

REMOVE 24" RCP

PROP. SINGLE-FACED CONCRETE BARRIER

NCDOT TRAFF SENSOR POLE W/CABINET

ELEC METER

NCDOT CAMERA/SENSOR CABINET

DIR ONLY

GRAU 350 TL-3

CAT-1

B-77

DAVIDLAND LLC
11675 / 165

-L0-	-L3SB-		-L3NB-		-L3SBHOT02-		-L3NBHOT02-	
PI Sta 634+43.87	PIs Sta 626+38.20	PI Sta 650+26.55	PIs Sta 624+95.78	PI Sta 646+13.34	PIs Sta 631+98.99	PI Sta 636+53.15	PIs Sta 624+36.10	PI Sta 632+90.60
Δ = 18° 48' 07.8" (LT)	Θs = 1° 53' 05.3"	Δ = 42° 48' 36.3" (LT)	Θs = 1° 37' 09.2"	Δ = 38° 31' 19.1" (LT)	Θs = 3° 19' 38.3"	Δ = 12° 10' 22.2" (LT)	Θs = 1° 32' 22.3"	Δ = 15° 39' 09.8" (LT)
D = 1° 16' 23.7"	Ls = 379.62'	D = 0° 59' 34.8"	Ls = 325.00'	D = 1° 59' 47.2"	Ls = 362.95'	D = 1° 50' 00.5"	Ls = 295.57'	D = 1° 02' 30.3"
L = 1,476.72'	LT = 253.09'	L = 4,311.21'	LT = 216.68'	L = 3,865.93'	LT = 242.01'	L = 663.93'	LT = 197.05'	L = 1,502.55'
T = 745.06'	ST = 126.55'	T = 2,261.82'	ST = 108.34'	T = 2,009.23'	ST = 121.02'	T = 333.22'	ST = 98.53'	T = 755.98'
R = 4,500.00'		R = 5,770.00'		R = 5,750.00'		R = 3,125.00'		R = 5,500.00'
		e = 4.70%		e = 5.80%		e = 6.20%		e = 5.80%
		R0 = 300'		R0 = 300'		R0 = 300'		R0 = 300'
		DS = 70 MPH		DS = 70 MPH		DS = 70 MPH		DS = 70 MPH

01-SEP-2015 20:25
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_025.dgn
jmgarcia
AT CAMARGO

NAD 83/2011

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 72.
2.) FOR –L3SB– PROFILE SEE SHEET 72.
3.) FOR –L3NBHOT01– PROFILE SEE SHEET 102.
4.) FOR –L3SBHOTI– PROFILE SEE SHEET 102.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

MATCH LINE SHEET 25 -L0- STA 639+00.00

MATCH LINE SHEET 27 -L0- STA 653+00.00

CS Sta. 639+83.86

PT Sta. 641+75.53

ST Sta. 643+46.81

TS Sta. 645+37.05

TS Sta. 645+55.56

SC Sta. 648+05.56

SC Sta. 648+42.05

CS Sta. 640+37.17

ST Sta. 643+32.74

TS Sta. 646+63.84

SC Sta. 649+53.84

I-485

-L0-

-L3SB-

-L3NB-

-L3SBHOT02-

-L3NBHOT02-

PROP. SINGLE-FACED CONCRETE BARRIER

PROP. DOUBLE-FACED CONCRETE BARRIER

LATERAL V DITCH SEE DETAIL 'A'

RETAIN 18" RCP

RETAIN 24" RCP

RETAIN 15" RCP

RETAIN 42" RCP

RETAIN DI

RETAIN JB

REMOVE 24" RCP

REMOVE 30" RCP

REMOVE 42" RCP

REMOVE 18" RCP

REMOVE 15" CMP

REMOVE DI

CONC BRIDGE

WOODS

GRASS MEDIAN

48" CONC FLUME

N 2° 41' 10.5" E

-L3SB-	-L3NB-	-L3SBHOT02-				-L3NBHOT02-			
PI Sta 650+26.55	PI Sta 646+13.34	PI Sta 636+53.15	PIs Sta 641+04.88	PIs Sta 647+40.40	PI Sta 653+36.07	PI Sta 632+90.60	PI Sta 641+35.70	PIs Sta 648+57.19	PI Sta 651+73.62
Δ = 42° 48' 36.3" (LT)	Δ = 38° 31' 19.1" (LT)	Δ = 12° 10' 22.2" (LT)	Θs = 3° 19' 38.3"	Θs = 2° 12' 43.4"	Δ = 14° 15' 27.6" (LT)	Δ = 15° 39' 09.8" (LT)	Θs = 1° 32' 22.3"	Θs = 2° 18' 27.9"	Δ = 6° 59' 12.9" (LT)
D = 0° 59' 34.8"	D = 0° 59' 47.2"	D = 1° 50' 00.5"	Ls = 362.95'	Ls = 305.00'	D = 1° 27' 01.9"	D = 1° 02' 30.3"	Ls = 295.57'	Ls = 290.00'	D = 1° 35' 29.6"
L = 4,311.21'	L = 3,865.93'	L = 663.93'	LT = 242.01'	LT = 203.35'	L = 982.93'	L = 1,502.55'	LT = 197.05'	LT = 193.35'	L = 439.00'
T = 2,261.82'	T = 2,009.23'	T = 333.22'	ST = 121.02'	ST = 101.68'	T = 494.02'	T = 755.98'	ST = 98.53'	ST = 96.68'	T = 219.77'
R = 5,770.00'	R = 5,750.00'	R = 3,125.00'			R = 3,950.00'	R = 5,500.00'			R = 3,600.00'
e = 4.70%	e = 5.80%	e = 6.20%			e = 5.20%	e = 5.80%			e = 5.80%
R0 = 300'	R0 = 300'	R0 = 300'			R0 = 300'	R0 = 300'			R0 = 300'
DS = 70 MPH	DS = 70 MPH	DS = 70 MPH			DS = 70 MPH	DS = 70 MPH			DS = 70 MPH

-L0-		
PI Sta 634+43.87	PIs Sta 647+22.23	PI Sta 652+53.24
Δ = 18° 48' 07.8" (LT)	Θs = 1° 47' 25.8"	Δ = 12° 46' 19.1" (LT)
D = 1° 16' 23.7"	Ls = 250.00'	D = 1° 25' 56.6"
L = 1,476.72'	LT = 166.68'	L = 891.65'
T = 745.06'	ST = 83.34'	T = 447.68'
R = 4,500.00'		R = 4,000.00'

01-SEP-2015 20:26
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_026.dgn
jmarcia
AT CAMARGO

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 73.
2.) FOR –L3SB– PROFILE SEE SHEET 73.
3.) FOR –L3NBHOT01– PROFILE SEE SHEET 103.
4.) FOR –L3SBHOT1– PROFILE SEE SHEET 103.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

0 50 100

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I-5405	27
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

MATCH LINE SHEET 26 –L0– STA 653+00.00

MATCH LINE SHEET 28 –L0– STA 667+00.00

ALEXANDERANA RD

DONALD D WISCH 22175 / 545

DONOVAN MCGRADY III 14239 / 588

RE CLT LLC % TROUTMAN SANDERS LLP 16586 / 869

EXISTING R/W PER TIP R-2248D

PROP. SINGLE-FACED CONCRETE BARRIER

LATERAL V DITCH SEE DETAIL 'A'

MEDIAN V DITCH SEE DETAIL 'B'

PROP. RETAINING WALL NO. 7

PROP. RETAINING WALL NO. 8

CS Sta. 656+97.21

SC Sta. 658+24.98

CS Sta. 658+13.87

SC Sta. 661+29.98

CS Sta. 664+38.32

ST Sta. 656+82.85

CS Sta. 663+26.85

CONC BRIDGE

-L3NBHOT02-

-L3SBHOT02-

-L3SB-

-L3NB-

-I485RPD- N 25° 12' 20.1" W

END CONSTRUCTION
END RESURFACE
-I485RPD- STA. 0+00.00
MATCH EXIST PVMT SLOPE & ELEV.

POT Sta. 0+00.00

PC Sta. +71.37

-L0-		
PI Sta 652+53.24 Δ = 12° 46' 19.1" (LT) D = 1° 25' 56.6" L = 891.65' T = 447.68' R = 4,000.00'	PIs Sta 657+49.63 Θs = 0° 26' 44.3" Θs = 0° 50' 08.0" Ls = 116.67' LT = 64.25' ST = 52.42'	PI Sta 665+95.77 Δ = 11° 54' 12.8" (LT) D = 0° 45' 50.2" L = 1,558.17' T = 781.90' R = 7,500.00'

-L3NB-		-L3NB-	-L3SBHOT02-			-L3NBHOT02-	
PI Sta 646+13.34 Δ = 38° 31' 19.1" (LT) D = 0° 59' 47.2" L = 3,865.93' T = 2,009.23' R = 5,750.00' e = 4.70% R0 = 300' DS = 70 MPH	PIs Sta 666+16.26 Θs = 0° 52' 12.5" Θs = 1° 37' 09.3" Ls = 325.00' LT = 178.82' ST = 146.23'	PI Sta 648+20.24 Δ = 42° 11' 23.5" (LT) D = 0° 59' 47.2" L = 4,234.02' T = 2,218.16' R = 5,750.00' e = 5.80% R0 = 300' DS = 70 MPH	PI Sta 653+36.07 Δ = 15° 30' 01.0" (LT) D = 1° 27' 01.9" L = 982.93' T = 494.02' R = 3,950.00' e = 5.20% R0 = 300' DS = 70 MPH	PIs Sta 659+45.84 Θs = 0° 30' 50.2" Θs = 2° 12' 43.5" Ls = 305.00' LT = 184.19' ST = 120.86'	PI Sta 662+84.16 Δ = 1° 02' 21.2" (LT) D = 0° 20' 13.3" L = 308.35' T = 154.18' R = 17,000.00' e = NC R0 = 300' DS = 70 MPH	PIs Sta 666+15.90 Θs = 0° 30' 50.3" Θs = 1° 30' 47.8" Ls = 305.00' LT = 177.57' ST = 127.46'	PI Sta 651+73.62 Δ = 6° 59' 12.9" (LT) D = 1° 35' 29.6" L = 439.00' T = 219.77' R = 3,600.00' e = 5.80% R0 = 300' DS = 70 MPH	PIs Sta 655+26.94 Θs = 1° 27' 17.8" Θs = 2° 18' 28.0" Ls = 290.00' LT = 156.01' ST = 134.10'

01-SEP-2015 20:27
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_027.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

DONALD D WISCH
22175 / 545

GEORGE W ALEXANDER JR
05971 / 337

PATRICIA MENGES
DB 8567 PG 40

ST Sta. 667+43.32
CS Sta. 670+75.94
PT Sta. 673+72.05
ST Sta. 674+55.55

EXISTING R/W PER TIP R-2248D

DIXON BRANCH TRIBUTARY

EXISTING R/W PER TIP R-2248D

RETAIN 30" RCP
RETAIN 15" CMP
RETAIN DI
RETAIN 60" CMP

-L3SB-
-L0-
-L3NB-
-I485RPD-

N 25°03'57.6" W
N 25°06'50.2" W

MEDIAN V DITCH
SEE DETAIL 'B'

PROP. SINGLE-FACED CONCRETE BARRIER
PROP. RETAINING WALL NO. 8
GRAU 350 TL-3

REMOVE DI
REMOVE 18" CMP
REMOVE 15" CMP
24" RCP-III

DIXON BRANCH TRIBUTARY

SC Sta. 667+95.04
PT Sta. 4+87.85
PRC Sta. 4+83.28
PT Sta. 675+23.62

RE CLT LLC
% TROUTMAN SANDERS LLP
16586 / 869

RE CLT LLC
% TROUTMAN SANDERS LLP
16586 / 874

RE CLT LLC
16586 / 833

ALEXANDER PROPERTIES LLC
10740 / 709

EXISTING R/W PER TIP R-2248D

WOODS

MATCH LINE SHEET 27
-L0- STA 667+00.00

MATCH LINE SHEET 29
-L0- STA 681+00.00

PREFORMED SCOUR HOLE
*NOT TO SCALE

PLAN VIEW

Permanent Soil Reinforcement matting (PSRM)
INSTALL LEVEL AND FLUSH WITH NATURAL GROUND
Pipe or Ditch Outlet
Square Preformed Scour Hole (PSH)
(Rip Rap in basin not shown for clarity)
Secure with metal pins as required
B=2.0 Ft
D=1.5 Ft
W=10.5 Ft
FULL FLOW
INFLOW
PSRM
NATURAL GROUND
LINER: CLASS B RIPRAP WITH GEOTEXTILE
MIN. 1' TUCK

STA. 680+34

-L0-	-L3SB-	-L3NB-	-L3SBHOT02-
PI Sta 665+95.77 Δ = 11°54'12.8" (LT) D = 0°45'50.2" L = 1,558.17' T = 781.90' R = 7,500.00'	PI Sta 650+26.55 Δ = 42°46'36.3" (LT) D = 10°59'34.8" L = 4,311.21' T = 2,261.82' R = 521.00' e = 4.10% RO = 300' DS = 70 MPH	PIs Sta 671+02.49 Θs = 1°53'05.3" Ls = 379.62' LT = 253.09' ST = 126.55'	PIs Sta 666+16.26 Θs = 0°52'12.5" Θs = 1°37'09.3" Ls = 325.00' LT = 178.82' ST = 146.23'	PI Sta 671+59.47 Δ = 3°54'04.9" (LT) D = 0°32'07.7" L = 728.58' T = 364.43' R = 10,700.00' e = NC RO = N/A DS = 70 MPH	PIs Sta 666+15.90 Θs = 0°30'50.3" Θs = 1°30'47.8" Ls = 305.00' LT = 177.57' ST = 127.46'
---	---	---	---	---	---

NOTES:
1.) ***FOR –L3NB– PROFILE SEE SHEET 74.***
2.) ***FOR –L3SB– PROFILE SEE SHEET 74.***
3.) ***FOR –L3NBHOT01– PROFILE SEE SHEET 103.***
4.) ***FOR –L3SBHOT1– PROFILE SEE SHEET 103.***

01-SEP-2015 20:29
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_028.dgn
jmarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 75.
2.) FOR –L3SB– PROFILE SEE SHEET 75.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

MATCH LINE SHEET 29 –LO– STA 681+00.00

MATCH LINE SHEET 30 –LO– STA 695+00.00

SUSAN ALEXANDER WHITE
05918 / 733

PC Sta. 685+17.19

PRC Sta. 688+14.80

PT Sta. 690+93.34

TS Sta. 693+07.98

TS Sta. 694+54.18

HAMBRIGHT RD

EXISTING R/W PER TIP R-2248D

RETAIN 15" CMP

RETAIN DI

PROP. SINGLE-FACED CONCRETE BARRIER

RETAIN 15" RCP

RETAIN JB CAT-1

GRAU 350 TL-3

REMOVE DI

REMOVE 24" RCP

REMOVE 18" RCP

REMOVE 15" RCP

N 25° 03' 57.6" W

N 24° 56' 39.5" W

N 25° 06' 50.2" W

N 24° 47' 18.2" W

-L3SB-

-L3NB-

-LO-

685+00

690+00

PROP. RETAINING WALL NO. 9

PROP. DOUBLE-FACED CONCRETE BARRIER

RETAIN 18" RCP

DIXON BRANCH TRIBUTARY

EXISTING R/W PER TIP R-2248D

PRC Sta. 684+06.22

PRC Sta. 686+95.70

PT Sta. 690+98.81

TS Sta. 693+11.58

ALEXANDER PROPERTIES LLC
10740 / 709

ELVA BRADLEY MORTON
21942 / 64

CFI PROPERTIES LLC
15279 / 495

RONALD B GRIFFIN JR
17838 / 296

-LO-	-L3SB-		-L3NB-		
PIs Sta 695+57.99	PI Sta 686+66.00	PI Sta 689+54.07	PI Sta 685+50.96	PI Sta 688+97.26	PIs Sta 695+44.92
Θs = 1° 47' 25.8"	Δ = 0° 31' 00.2" (LT)	Δ = 0° 38' 18.2" (RT)	Δ = 0° 49' 45.4" (LT)	Δ = 1° 09' 17.4" (RT)	Θs = 1° 47' 25.8"
Ls = 375.00'	D = 0° 10' 25.0"	D = 0° 13' 45.1"	D = 0° 17' 11.3"	D = 0° 17' 11.3"	Ls = 350.00'
LT = 250.01'	L = 297.60'	L = 278.55'	L = 289.47'	L = 403.11'	LT = 233.35'
ST = 125.01'	T = 148.80'	T = 139.28'	T = 144.74'	T = 201.56'	ST = 116.68'
	R = 33,000.00'	R = 25,000.00'	R = 20,000.00'	R = 20,000.00'	
	e = NC	e = NC	e = NC	e = NC	
	RO = N/A	RO = N/A	RO = N/A	RO = N/A	
	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	DS = 70 MPH	

D:\SEP-2015_20-30
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_029.dgn
AT CAMARGO
jmgarcia

PROJECT REFERENCE NO.	SHEET NO.
I-5405	30
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

AHMADIYYA MOVEMENT IN ISLAM INC
07150 / 992

BESSIE JANE T JOLLY
16487 / 685

SB LAND LLC
25647 / 133

CFI PROPERTIES LLC
15279 / 495

RONALD B GRIFFIN JR
17838 / 296

SC Sta. 696+82.98

SC Sta. 697+71.99

SC Sta. 696+45.58

EXISTING R/W

PROP. SINGLE-FACED CONCRETE BARRIER

RETAIN 36" RCP

REMOVE 24" RCP

RETAIN 18" RCP

MEDIAN 'V' DITCH SEE DETAIL 'B'

Conv. DI To JB

JB w/MH

REMOVE DI

RETAIN DI

RETAIN 15" CMP

RETAIN 30" RCP

DIXON BRANCH TRIBUTARY

-L0-

-L3SB-

-L3NB-

695+00

700+00

705+00

B-77

MATCH LINE SHEET 29 -L0- STA 695+00.00

MATCH LINE SHEET 31 -L0- STA 709+00.00

-L0-		-L3SB-		-L3NB-	
PIs Sta 695+57.99	PI Sta 708+25.24	PIs Sta 696+66.06	PI Sta 709+94.59	PIs Sta 695+44.92	PI Sta 707+26.21
Θs = 1° 47' 25.8"	Δ = 21° 33' 27.2" (RT)	Θs = 1° 26' 42.7"	Δ = 21° 57' 54.1" (RT)	Θs = 1° 47' 25.8"	Δ = 21° 31' 42.4" (RT)
Ls = 375.01'	D = 0° 57' 17.7"	Ls = 317.81'	D = 0° 54' 34.0"	Ls = 350.00'	D = 1° 01' 23.3"
LT = 250.01'	L = 2,257.50'	LT = 211.88'	L = 2,415.18'	LT = 233.35'	L = 2,104.16'
ST = 125.01'	T = 1,142.26'	ST = 105.94'	T = 1,222.60'	ST = 116.68'	T = 1,064.63'
	R = 6,000.00'		R = 6,300.00'		R = 5,600.00'
			e = 3.40%		e = 3.80%
			RO = 300'		RO = 300'
			DS = 70 MPH		DS = 70 MPH

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1. ***FOR -L3NB- PROFILE SEE SHEET 76.***
2. ***FOR -L3SB- PROFILE SEE SHEET 76.***

01-SEP-2015 20:31
C:\Users\jmccain\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_030.dgn
imccain
AT CAMARO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	31

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

JOYCE MCKINNEY R/T KELLER
19764 / 312

SB LAND LLC
25647 / 133

JOHN W DELLINGER
12529 / 524

JOHN W DELLINGER
12529 / 524

DONNA IVES
0286

MILE 2 1

MATCH LINE SHEET 30
-L0- STA 709+00.00

MATCH LINE SHEET 32
-L0- STA 723+00.00

EXISTING R/W

RETAIN CONCRETE DITCH

RETAIN CONCRETE DITCH

RETAIN 42" RCP

RETAIN 15" RCP

RETAIN 30" RCP

RETAIN 30" RCP

RETAIN 42" RCP

CS Sta. 719+40.48

CS Sta. 721+87.17

CS Sta. 717+65.73

ST Sta. 721+57.23

TS Sta. 721+94.85

CLASS "I" RIP RAP
AT EMBANKMENT
EST. 100 TONS
EST. 22 SY GF
SEE DETAIL J

CLASS "K" RIP RAP
AT EMBANKMENT
EST. 18 TONS
EST. 16 SY GF
SEE DETAIL K

-L3SB-

-L0-

-L3NB-

710+00

715+00

720+00

18"-RCP-III

42"-RCP-III

LATERAL GRASS SWALE
SEE DETAIL 'G'

LATERAL GRASS SWALE
SEE DETAIL 'H'

COLLAR AND EXTEND

REMOVE RIPRAP

ROCK CHECK DAM,
EVERY 25 FT.

CAT-1

GRAD 350
TL-3

N 0° 19' 15.7" E

OTHER END UNKNOWN

42" RCP

DIXON BRANCH TRIBUTARY

CFI PROPERTIES LLC
15279 / 495

CFI PROPERTIES LLC
15279 / 495

E & J OF
HUNTERSVILLE LLC
22500 / 255

WOODS

CONC DITCH

-L0-		-L3SB-		-L3NB-		
PI Sta 708+25.24	PIs Sta 720+65.49	PI Sta 709+94.59	PIs Sta [illegible]	PI Sta 707+26.21	PIs Sta 718+82.41	PIs Sta 724+48.44
Δ = 21° 33' 27.2" (RT)	Θs = 1° 47' 25.8"	Δ = 21° 57' 54.1" (RT)	Θs = [illegible]	Δ = 21° 31' 42.4" (RT)	Θs = 1° 47' 25.8"	Θs = 1° 54' 17.8"
D = 0° 57' 17.7"	Ls = 375.00'	D = 0° 54' 34.0"	Ls = [illegible]	D = 1° 01' 23.3"	Ls = 350.00'	Ls = 380.35'
L = 2,257.50'	LT = 250.01'	L = 2,415.18'	LT = [illegible]	L = 2,104.16'	LT = 233.35'	LT = 253.58'
T = 1,142.26'	ST = 125.01'	T = 1,222.60'	ST = [illegible]	T = 1,064.63'	ST = 116.68'	ST = 126.80'
R = 6,000.00'		R = 6,300.00'		R = 5,600.00'		
		e = 3.40%		e = 3.80%		
		RO = 300'		RO = 300'		
		DS = 70 MPH		DS = 70 MPH		

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 77.
2.) FOR –L3SB– PROFILE SEE SHEET 77.

01-SEP-2015 20:32
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACT_JS\I-5405_RDY_PSH_031.dgn
jmarcia
AT CAMARGO

-L0-	-L3SB-	-L3NB-
PIs Sta 720+65.49 Θs = 1° 47' 25.8" Ls = 375.00' LT = 250.01' ST = 125.01'	PIs Sta 722+93.11 Θs = 1° 26' 42.7" Ls = 317.81' LT = 211.88' ST = 105.94'	PIs Sta 724+48.44 Θs = 1° 54' 17.8" Ls = 380.35' LT = 253.58' ST = 126.80'
PIs Sta 725+65.49 Θs = 1° 47' 25.8" Ls = 375.00' LT = 250.01' ST = 125.01'	PI Sta 727+59.30 Θs = 1° 52' 39.6" Ls = 381.46' LT = 254.32' ST = 127.17'	PI Sta 736+71.80 Δ = 21° 42' 18.9" (LT) D = 1° 00' 06.0" L = 2,166.90' T = 1,096.59' R = 5,720.00' e = 4.20% R0 = 300' DS = 70 MPH
PI Sta 739+05.50 Δ = 22° 53' 44.0" (LT) D = 0° 57' 17.7" L = 2,397.62' T = 1,215.02' R = 6,000.00'	PI Sta 740+56.03 Δ = 22° 43' 31.8" (LT) D = 0° 59' 04.1" L = 2,308.42' T = 1,169.58' R = 5,820.00' e = 5.50% R0 = 300' DS = 70 MPH	

NAD 83/2011

0 50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

DONNA IVESTER CLARKE
02864 / 171

JOHN B YOUNG JR
24627 / 941

NICHOLAS JOHN DEBLANDER
21486 / 831

SRS Sta. 725+04.98

SRS Sta. 723+15.48

SC Sta. 728+86.44

SC Sta. 726+90.48

SC Sta. 725+75.21

EXISTING R/W

RETAIN DI

RETAIN CONCRETE DITCH

REMOVE DI

REMOVE 18" RCP

COLLAR AND EXTEND

LATERAL V DITCH
SEE DETAIL 'A'

LATERAL V DITCH
SEE DETAIL 'C'

REMOVE 15" CMP

18" RCP

Conv. DI To JB

RETAIN 18" CMP

24" RCP

-L3SB-

-L0-

-L3NB-

725+00

730+00

735+00

MATCH LINE SHEET 31
-L0- STA 723+00.00

MATCH LINE SHEET 33
-L0- STA 737+00.00

LINDA S HURD
01967 / 508

E & J OF HUNTERSVILLE LLC
22500 / 255

RAYMOND H EDWARDS
04234 / 001

JOHN B YOUNG
24627 / 946

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 78.
2.) FOR –L3SB– PROFILE SEE SHEET 78.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

01-SEP-2015 20:33
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_032.dgn
jmarcia
AT CAMARGO

-L0-		-L3SB-	-L3NB-	
PI Sta 739+05.50	PIs Sta 752+13.11	PI Sta 740+56.03	PI Sta 736+71.80	PIs Sta 748+92.59
Δ = 22° 53' 44.0" (LT)	Θs = 1° 47' 25.8"	Δ = 22° 43' 31.8" (LT)	Δ = 21° 42' 18.9" (LT)	Θs = 0° 26' 09.8"
D = 0° 57' 17.7"	Ls = 375.00'	D = 0° 59' 04.1"	D = 1° 00' 06.0"	Θs = 1° 54' 21.1"
L = 2,397.62'	LT = 250.01'	L = 2,308.42'	L = 2,166.90'	Ls = 380.53'
T = 1,215.02'	ST = 125.01'	T = 1,169.58'	T = 1,096.59'	LT = 230.09'
R = 6,000.00'		R = 5,820.00'	R = 5,720.00'	ST = 150.49'
		e = 5.50%	e = 4.20%	
		R0 = 300'	R0 = 300'	
		DS = 70 MPH	DS = 70 MPH	

0 50 100

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I-5405	33
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

JOHN B YOUNG JR
24627 / 941

% NORTHFIELD INVESTMENTS
NORTH REGIONAL II LLC
19729 / 118

KALMIA LLC
13406 / 260

MOUNT HOLLY-HUNTERSVILLE RD LL
25623 / 322

JOHN B YOUNG
24627 / 946

PROPERTY RESOURCES LLC
1174 / 518

PROPERTY RESOURCES LLC
1174 / 513

MATCH LINE SHEET 32
-L0- STA 737+00.00

MATCH LINE SHEET 34
-L0- STA 751+00.00

CS Sta 750+88.10

CS Sta 747+42.11

EXISTING R/W

RETAIN 30" RCP

RETAIN CONCRETE DITCH

RETAIN 15" RCP

RETAIN 36" RCP

RETAIN 10'X8' RCBC

Conv. DI To JB

REMOVE CONCRETE DITCH

MEDIAN V DITCH
SEE DETAIL 'B'

LATERAL V DITCH
SEE DETAIL 'C'

LATERAL V DITCH
SEE DETAIL 'A'

COLLAR AND EXTEND

PROP. SINGLE-FACED
CONCRETE BARRIER

TORRENCE CREEK

740+00 745+00 750+00

-L3SB- -L0- -L3NB- -L3NBT06-

CAT-1 CAT-2 CAT-3

TL-3 GRADE 350 B-77

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 79.
2.) FOR –L3SB– PROFILE SEE SHEET 79.

01-SEP-2015 20:34
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_033.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	34
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

CARLISLE @ THE PARK HUNTERSVIL LLC
23892 / 468

KALMIA LLC
13406 / 260

BANK OF AMERICA (BY MERGER)
04754 / 416

MT. HOLLY-HUNTERSVILLE RD

TORRENCE CREEK

8'X10' BOX CULVERT

CS Sta. 751+94.86

ST Sta. 754+63.10

ST Sta. 755+76.32

TS Sta. 762+89.03

TS Sta. 763+96.19

MATCH LINE SHEET 33
-L0- STA 751+00.00

MATCH LINE SHEET 35
-L0- STA 765+00.00

RETAIN 10'X8' RCBC

RETAIN 18" RCP

RETAIN 24" RCP

LATERAL GRASS SWALE
SEE DETAIL 'G'

755+00

760+00

765+00

N 26° 34' 11.5" W

N 26° 28' 09.8" W

-L0-

-L3SB-

-L3NB-

MEDIAN V DITCH
SEE DETAIL 'B'

REMOVE DI

Conv. DI To JB

REMOVE 15" RCP

RETAIN 24" RCP

RETAIN DI

RETAIN 18" CMP

PROP. SINGLE-FACED CONCRETE BARRIER

GRAU 350 TL-3

RETAIN CONCRETE DITCH

EXISTING R/W

MT. HOLLY

MT. HOLLY-HUNTERSVILLE RD

SC Sta. 751+22.64

PT Sta. 754+88.42

TS Sta. 761+55.81

PROPERTY RESOURCES LLC
11174 / 513

THE BOWMAN GROUP
08014 / 813

CAR HUB LN LLC
23885 / 272

CAR HUB LN LLC
23885 / 272

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 80.
2.) FOR –L3SB– PROFILE SEE SHEET 80.

-L0-		-L3SB-			-L3NB-	
PIs Sta 752+13.11	PIs Sta 765+29.04	PI Sta 740+56.03	PIs Sta 753+22.03	PIs Sta 766+30.49	PIs Sta 748+92.59	PI Sta 753+05.53
Θs = 1° 47' 25.8"	Θs = 1° 21' 57.6"	Δ = 22° 43' 31.8" (LT)	Θs = 1° 52' 39.6"	Ls = 351.43'	Θs = 1° 26' 09.8"	Δ = 0° 50' 17.9" (LT)
Ls = 375.00'	Ls = 360.00'	D = 0° 59' 04.1"	Ls = 381.46'	LT = 234.29'	Θs = 1° 54' 21.1"	D = 0° 13' 45.1"
LT = 250.01'	LT = 240.01'	L = 2,308.42'	LT = 254.32'	ST = 117.15'	Ls = 380.53'	L = 365.79'
ST = 125.01'	ST = 120.01'	T = 1,169.58'	ST = 127.17'		LT = 230.09'	T = 182.90'
		R = 5,820.00'			ST = 150.49'	R = 25,000.00'
		e = 5.50%				e = NC
		RO = 300'				RO = N/A
		DS = 70 MPH				DS = 70 MPH

PIs Sta 763+99.35
Θs = 1° 22' 41.4"
Ls = 360.80'
LT = 240.54'
ST = 120.27'

01-SEP-2015 20:35
C:\Users\jmccain\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_034.dgn
jmccain
"AT" CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

MILE 2 2

BANK OF AMERICA (BY MERGER)
04754 / 416

SC Sta. 766+49.03

SC Sta. 767+47.63

SC Sta. 765+96.62

EXISTING R/W

MATCH LINE SHEET 34
-L0- STA 765+00.00

MATCH LINE SHEET 36
-L0- STA 779+00.00

765+00 770+00 775+00

-L0- -L3SB- -L3NB-

RETAIN DI

RETAIN 18" RCP

REMOVE DI

REMOVE 24" RCP

REMOVE 18" RCP

COLLAR AND EXTEND

ROCK CHECK DAM, EVERY 125 FT.

LATERAL GRASS SWALE SEE DETAIL 'G'

LATERAL GRASS SWALE SEE DETAIL 'H'

Conv. DI To JB

REMOVE CONCRETE DITCH

LATERAL BASE DITCH SEE DETAIL 'F'

CLASS "I" RIP RAP AT EMBANKMENT EST. 8 TONS EST. 7.5 SY CF SEE DETAIL J

CLASS "I" RIP RAP AT EMBANKMENT EST. 18 TONS EST. 17 SY CF SEE DETAIL K

CLASS "I" RIP RAP AT EMBANKMENT EST. 38 TONS EST. 34 SY CF SEE DETAIL J

CLASS "I" RIP RAP AT EMBANKMENT EST. 6 TONS EST. 5.5 SY CF SEE DETAIL K

RETAIN 8'X7' RCBC

EXTEND 8'x7' RCBC

RETAIN CONCRETE DITCH

CAT-1

GRAD 350 TL-3

TORRENCE CREEK TRIBUTARY

THE BOWMAN GROUP
08014 / 813

INTEGRITY MANAGEMENT LLC
24230 / 920

KEFFER PROPERTIES LP
09973 / 922

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 81.
2.) FOR –L3SB– PROFILE SEE SHEET 81.

-L0-		-L3SB-		-L3NB-
PIs Sta 765+29.04	PI Sta 777+61.08	PIs Sta 766+30.49	PI Sta 779+21.60	PI Sta 775+90.68
θs = 1° 21' 57.6"	Δ = 16° 45' 28.1" (RT)	θs = 1° 18' 27.0"	Δ = 17° 20' 15.4" (RT)	Δ = 16° 15' 17.3" (RT)
Ls = 360.00'	D = 0° 45' 32.0"	Ls = 351.43'	D = 0° 44' 38.8"	D = 0° 45' 50.2"
LT = 240.01'	L = 2,208.21'	LT = 234.29'	L = 2,330.01'	L = 2,127.75'
ST = 120.01'	T = 1,112.05'	ST = 117.15'	T = 1,173.98'	T = 1,071.07'
	R = 7,550.00'		R = 7,700.00'	R = 7,500.00'
			e = 2.80%	e = 2.10%
			RO = 300'	RO = 300'
			DS = 70 MPH	DS = 70 MPH

01-SEP-2015 20:37
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_035.dgn
jmarcia
AT CAMARGO

-L0-		-L3SB-		-L3NB-	
PI Sta 777+61.08	Pls Sta 789+77.26	PI Sta 779+21.60	PI Sta 791+94.79	PI Sta 775+90.68	Pls Sta 787+67.64
Δ = 16° 45' 28.1" (RT)	Θs = 1° 21' 57.6"	Δ = 17° 20' 15.4" (RT)	Θs = 1° 18' 27.0"	Δ = 16° 15' 17.3" (RT)	Θs = 1° 22' 41.4"
D = 0° 45' 32.0"	Ls = 360.00'	D = 0° 44' 38.8"	Ls = 351.43'	D = 0° 45' 50.2"	Ls = 360.80'
L = 2,208.21'	LT = 240.01'	L = 2,330.01'	LT = 234.29'	L = 2,127.75'	LT = 240.54'
T = 1,112.05'	ST = 120.01'	T = 1,173.98'	ST = 117.15'	T = 1,071.07'	ST = 120.27'
R = 7,550.00'		R = 7,700.00'		R = 7,500.00'	
		e = 2.80%		e = 2.10%	
		RO = 300'		RO = 300'	
		DS = 70 MPH		DS = 70 MPH	

0 50 100

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I-5405	36
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

MATCH LINE SHEET 35
-L0- STA 779+00.00

MATCH LINE SHEET 37
-L0- STA 793+00.00

CS Sta. 788+57.25

ST Sta. 792+17.64

CS Sta. 786+47.36

ST Sta. 790+08.17

BANK OF AMERICA (BY MERGER)
04754 / 416

KEFFER PROPERTIES LP
09973 / 922

SIVIGLIA PROPERTIES LAKE NORMAN LLC
12099 / 492

KEFFER PROPERTIES LP
09973 / 922

EXISTING R/W

RETAIN 30" RCP

RETAIN 15" RCP

RETAIN 24" RCP

RETAIN 18" RCP

RETAIN DI

-L3SB-

-L0-

-L3NB-

780+00

785+00

790+00

LATERAL V DITCH SEE DETAIL 'A'

LATERAL GRASS SWALE SEE DETAIL 'G'

COLLAR AND EXTEND

N 7° 27' 29.7" W

110'

109'

107'

105'

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 82.
2.) FOR –L3SB– PROFILE SEE SHEET 82.

01-SEP-2015 20:38
C:\Users\jmacrae\Desktop\ROWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_036.dgn
jmacrae
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

BANK OF AMERICA (BY MERGER)
04754 / 416

NOVANT HEALTH INC
10239 / 354

KEFFER PROPERTIES LP
09973 / 922

% VERNON L KRAUSE
ASHEWOOD PARTNERS LLC
14353 / 368

MATCH LINE SHEET 36 -L0- STA 793+00.00

MATCH LINE SHEET 38 -L0- STA 807+00.00

ST Sta. 794+29.07

PC Sta. 805+67.44

EXISTING R/W

RETAIN 18" RCP

RETAIN 30" RCP

RETAIN CONCRETE DITCH

RETAIN 18" CMP

RETAIN 54" CMP

RETAIN DI

LATERAL V DITCH SEE DETAIL 'A'

LATERAL V DITCH SEE DETAIL 'C'

Conv. DI To JB

CAT-1

GRAU 350 TL-3

795+00

800+00 -L3SB- N 6° 37' 01.7" W

800+00 -L3NB- N 7° 27' 29.7" W

805+00

TORRENCE CREEK TRIBUTARY

CONC SPILLWAY

CONC RISER

WOODS

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 83.
2.) FOR -L3SB- PROFILE SEE SHEET 83.

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

-L3SB-	-L3NB-
PIs Sta 791+94.79	PI Sta 808+41.46
Θs = 1° 18' 27.0"	Δ = 1° 15' 21.4" (RT)
Ls = 351.43'	D = 0° 13' 45.1"
LT = 234.29'	L = 548.01'
ST = 117.15'	T = 274.02'
	R = 25,000.00'
	e = NC
	RO = N/A
	DS = 70 MPH

01-SEP-2015 20:39
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_037.dgn
AT CAMARO
jmarcia

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 84.
2.) FOR –L3SB– PROFILE SEE SHEET 84.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
I–5405	38
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

MATCH LINE SHEET 37 –L0– STA 807+00.00

MATCH LINE SHEET 39 –L0– STA 821+00.00

NOVANT HEALTH INC
10239 / 354

GILEAD RD

RETAIN 30" RCP
RETAIN 24" RCP
RETAIN CONCRETE DITCH
RETAIN 18" RCP
RETAIN DI
REMOVE 15" RCP
REMOVE DI
COLLAR AND EXTEND
GRAU 350 TL–3
LATERAL V DITCH SEE DETAIL 'A'
LATERAL V DITCH SEE DETAIL 'C'
CAT–1
15" RCP–III
RETAIN 15" RCP
PROP. SINGLE–FACED CONCRETE BARRIER B–77
B–77
EXISTING R/W
EXIST.

N 6° 37' 01.7" W
–L3SB–
–L0–
–L3NB–
N 7° 27' 08.4" W

PRC Sta. 811+15.46
PT Sta. 817+69.97

NOTE:
DESIGN EXCEPTION FOR 15'–11" VERTICAL CLEARANCE OF GILEAD RD OVER I–77.

–L3NB–	
PI Sta 808+41.46	PI Sta 814+42.73
Δ = 1° 15' 21.4" (RT)	Δ = 1° 15' 00.1" (LT)
D = 0° 13' 45.1"	D = 0° 11' 27.5"
L = 548.01'	L = 654.51'
T = 274.02'	T = 327.27'
R = 25,000.00'	R = 30,000.00'
e = NC	e = NC
RO = N/A	RO = N/A
DS = 70 MPH	DS = 70 MPH

% VERNON L KRAUSE
ASHEWOOD PARTNERS LLC
14353 / 368

OXFORD HOMES LLC
11026 / 757

HALLMARK INC OF STATESVILLE
06481 / 304

01-SEP-2015 20:40
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_038.dgn
AT CAMARGO
jmgarcia

PROJECT REFERENCE NO.	SHEET NO.
I-5405	39
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

KB HUNTERSVILLE LLC
22833 / 310

KB HUNTERSVILLE LLC
22833 / 310

RETFORD REAL ESTATE HOLDINGS LLC
23671 / 101

R M ELLIOTT FAMILY LP
23562 / 845
LEEBCOR PROPERTIES LLC
25116 / 266
THE EHLERS-HARDIE TRUST
23713 / 863
HENSON PROPERTIES NC LLC
23576 / 795

ROSEDALE OFFICE LLC

ROSEDALE OFFICE LLC

WMCI CHARLOTTE I LLC
15986 / 598

MATCH LINE SHEET 38
-L0- STA 821+00.00

MATCH LINE SHEET 40
-L0- STA 835+00.00

TS Sta. 826+71.59

TS Sta. 828+10.94

SC Sta. 830+41.59

SC Sta. 831+60.53

TS Sta. 825+11.69

SC Sta. 829+35.32

BEGIN PROP. -NW12-
-L3SB- STA. 829+04.33
(144.67' LT) FACE OF WALL

PROP. -NW12-
-L3SB- STA. 830+82.32
(62.43' LT) FACE OF WALL

N 6° 37' 01.7" W

N 7° 27' 08.4" W

-L0-

-L3SB-

-L3NB-

825+00

830+00

EXISTING R/W

RETAIN DI

RETAIN 15" RCP

RETAIN 24" RCP

RETAIN 30" RCP

RETAIN 18" RCP

RETAIN CONCRETE DITCH

RECONSTRUCT CONCRETE DITCH

RETAIN 24" CMP

REMOVE DI

15" RCP-III

COLLAR AND EXTEND

LATERAL V DITCH
SEE DETAIL 'A'

MEDIAN V DITCH
SEE DETAIL 'B'

GRAU 350 F
TL-3

CAT-1

304'

97'

101'

HUNTERSVILLE HOTEL INC
24288 / 936

SHREE JALARAM PROPERTIES LLC
22688 / 869

HALLE PROPERTIES LLC
24339 / 389

CITY OF CHARLOTTE
24338 / 184

CITY OF CHARLOTTE
13094 / 549

-L0-	-L3SB-		-L3NB-	
PIs Sta 829+18.26	PIs Sta 830+44.01	PI Sta 841+85.68	PIs Sta 827+74.12	PI Sta 839+90.32
Θs = 1° 14' 49.3"	Θs = 1° 19' 04.0"	Δ = 15° 21' 51.3" (LT)	Θs = 1° 10' 02.5"	Δ = 12° 49' 01.3" (LT)
Ls = 370.00'	Ls = 349.59'	D = 0° 45' 14.0"	Ls = 393.63'	D = 0° 35' 35.2"
LT = 246.67'	LT = 233.07'	L = 2,037.99'	LT = 262.43'	L = 2,160.93'
ST = 123.34'	ST = 116.54'	T = 1,025.15'	ST = 131.22'	T = 1,085.00'
		R = 7,600.00'		R = 9,660.00'
		e = 3.50%		e = 2.50%
		RO = 300'		RO = 300'
		DS = 70 MPH		DS = 70 MPH

NOTE:
-BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 85.
2.) FOR -L3SB- PROFILE SEE SHEET 85.

01-SEP-2015 20:41
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_039.dgn
jmarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	40
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

MATCH LINE SHEET 39
-L0- STA 835+00.00

MATCH LINE SHEET 41
-L0- STA 849+00.00

JASON M HARMON
10991 / 375

ROBERT BAJEK
25744 / 307

MECKLENBURG COUNTY
22305 / 259

STONE HOLLOW HOMEOWNERS ASSOC
10249 / 699

SHAWN MICHAEL SHROYER
27198 / 533

NESTOR CABARCAS-ORTEGA
25553 / 644

ALISON K HIBBETT
22169 / 938

JOHN W MARTIN III
20299 / 503

PHILIP PAUL REIA
18457 / 368

WILLIAM TAYLOR
14527 / 343

MICKIL BRI
10814 / 878

MARCUS ALLEN GRAHAM
27227 / 479

SECRETARY OF HOUSING & URBAN DEV.
25696 / 205

KRISTIM DUNN
11787 / 950

STONE HOLLOW HOMEOWNERS ASSOC
09872 / 455

EXISTING R/W

RETAIN 10'X6' RCBC

PROP. -NW12-

RETAIN DI

RETAIN 15" RCP

MEDIAN V DITCH SEE DETAIL 'B'

REMOVE DI

GRAU 350 COLLAR AND EXTEND TL-3

15" RCP-III

CAT-1

REMOVE CONCRETE DITCH

COLLAR AND EXTEND

REMOVE DI

RETAIN 24" RCP

RETAIN 15" RCP

LATERAL V DITCH SEE DETAL 'C'

LATERAL V DITCH SEE DETAL 'A'

RETAIN 18" RCP

Conv. DI To JB

RETAIN 15" RCP

RETAIN DI

-L0-

-L3SB-

-L3NB-

835+00

840+00

845+00

CITY OF CHARLOTTE
13094 / 549

DINESH AMBALA PATEL
09401 / 505

DINESH AMBALA PATEL
09401 / 505

ROBERT MONROE BROWN
04895 / 133

MYRTLE HOKE POWELL
11028 / 820

-L0-	-L3SB-	-L3NB-
PIs Sta 829+18.26	PI Sta 841+85.68	PI Sta 839+90.32
Θs = 1° 14' 49.3"	Δ = 15° 21' 51.3" (LT)	Δ = 12° 49' 01.3" (LT)
Ls = 370.00'	D = 0° 45' 14.0"	D = 0° 35' 35.2"
LT = 246.67'	L = 2,037.99'	L = 2,160.93'
ST = 123.34'	T = 1,025.15'	T = 1,085.00'
	R = 7,600.00'	R = 9,660.00'
	e = 3.50%	e = 2.50%
	RO = 300'	RO = 300'
	DS = 70 MPH	DS = 70 MPH

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 86.
2.) FOR –L3SB– PROFILE SEE SHEET 86.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

01-SEP-2015 20:42
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJSV\I-5405_RDY_PSH_040.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	41
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

ANCHOR RENTALS LLC 21965 / 323
LILIETH A HERBERT 21789 / 646
CHRISTOPHER G. DOWNING 11808 / 526
CATHERINE W EDWARDS 23968 / 955
ROBER R KULP JR 12248 / 385
JACK HURLEY 27089 / 574
NING SUN 17835 / 741
CHAVONYA GAIL JETER 19118 / 36
BENJAMIN HUFFMAN 22047 / 286
ERIC J HANSE 10968 / 971
CRUZ MARCELLO ZARAGOZA 10064 / 515
LYLE KEITH RIPPETOE 12499 / 286
SOMLET SISOUK 21736 / 956
STONE HOLLOW HOMEOWNERS ASSOC 16981 / 1
JUDY KARON KNOX 10098 / 230
DAVID SIMPSON KNOX 04174 / 755
WILLIAM ORR BROWN JR 01791 / 506
ROBERT MONROE BROWN 04895 / 133

CS Sta. 851+39.83
CS Sta. 851+98.52
ST Sta. 855+09.83
ST Sta. 855+46.12
CS Sta. 850+46.26
ST Sta. 854+59.89

PROP. –NW12–
–L3SB– STA. 858+74.63
(142.01' LT) FACE OF WALL

PROP. –NW12–
–L3SB– STA. 856+89.82
(41.98' LT) FACE OF WALL

EXISTING R/W

RETAIN CONCRETE DITCH
RETAIN 36" RCP
RETAIN 30" RCP
RETAIN 18" CMP
REMOVE CONCRETE DITCH
MEDIAN V DITCH SEE DETAIL 'B'
RETAIN 24" RCP
RETAIN DI
REMOVE DI
RETAIN 15" RCP
LATERAL V DITCH SEE DETAIL 'C'
LATERAL V DITCH SEE DETAIL 'A'
15" RCP-III
COLLAR AND EXTEND

-L0-
-L3SB-
-L3NB-
N 24° 37' 01.0" W
N 22° 36' 14.7" W

CAT-1
GRAU 350 TL-3
Adj. DI

MATCH LINE SHEET 40
-L0- STA 849+00.00

MATCH LINE SHEET 42
-L0- STA 863+00.00

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 87.
2.) FOR –L3SB– PROFILE SEE SHEET 87.

-L0-		-L3SB-		-L3NB-	
PIs Sta 829+18.26	PIs Sta 852+63.17	PI Sta 841+85.68	PIs Sta 853+15.06	PI Sta 839+90.32	PIs Sta 851+97.47
Θs = 1° 14' 49.3"	Θs = 1° 14' 49.3"	Δ = 15° 21' 51.3" (LT)	Θs = 1° 19' 04.0"	Δ = 12° 49' 01.3" (LT)	Θs = 1° 10' 02.5"
Ls = 370.00'	Ls = 370.00'	D = 0° 45' 14.0"	Ls = 349.59'	D = 0° 35' 35.2"	Ls = 393.63'
LT = 246.67'	LT = 246.67'	L = 2,037.99'	LT = 233.07'	L = 2,160.93'	LT = 262.43'
ST = 123.34'	ST = 123.34'	T = 1,025.15'	ST = 116.54'	T = 1,085.00'	ST = 131.22'
		R = 7,600.00'		R = 9,660.00'	
		e = 3.50%		e = 2.50%	
		R0 = 300'		R0 = 300'	
		DS = 70 MPH		DS = 70 MPH	

01-SEP-2015 20:43
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_041.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	42
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

MILE 2 4

DAVID SIMPSON KNOX
03068 / 489

SAMUEL BEARD MCAULAY
03145 / 281

DAVID SIMPSON KNOX
04174 / 755

STUMPTOWN RD

EXISTING R/W

END PROP. –NW12–
–L3SB– STA. 863+84.63
(143.08' LT) FACE OF WALL

RETAIN 15" CMP

RETAIN DI

RETAIN 24" RCP

RETAIN 30" RCP

Conv. DI To TB JB

COLLAR AND EXTEND

–L3SB– N 24° 37' 01.0" W

–L3NB– N 22° 36' 14.7" W

–LO–

MATCH LINE SHEET 41
–LO– STA 863+00.00

MATCH LINE SHEET 43
–LO– STA 877+00.00

865+00 870+00 875+00

B–77

PROP. SINGLE-FACED CONCRETE BARRIER B–77

LATERAL V DITCH SEE DETAIL 'A'

LATERAL GRASS SWALE SEE DETAIL 'G'

GRAU 350 TL–3

115'

102'

108'

114'

WILLIAM ORR BROWN JR
01791 / 506

PARKS AT THE LAKE II LLC
14956 / 156

EDWIN R MCCOY III
25976 / 512

TORRENCE CREEK TRIBUTARY

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 88.
2.) FOR –L3SB– PROFILE SEE SHEET 88.

01-SEP-2015 20:45
C:\Users\mgarcia.CH2M\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_042.dgn
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	43
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

SAMUEL BEARD MCAULAY
03145 / 281

MATCH LINE SHEET 42
–L0– STA 877+00.00

MATCH LINE SHEET 44
–L0– STA 891+00.00

EXISTING R/W

RETAIN 18" RCP

RETAIN CONCRETE DITCH

REMOVE DI

COLLAR AND EXTEND

LATERAL GRASS SWALE
SEE DETAIL 'G'

RETAIN 2–7'X6' RCBC

RETAIN DI

RETAIN 30" CMP

18" RCP-III

CULVERT

TORRENCE CREEK TRIBUTARY

–L3SB–

–L3NB–

N 24° 37' 01.0" W

N 22° 36' 14.7" W

880+00

885+00

890+00

CAT–1

GRAU -350
TL–3

EXIST.

AMAJES CORP
26298 / 494

EDWIN R MCCOY III
25976 / 512

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 89.
2.) FOR –L3SB– PROFILE SEE SHEET 89.

01-SEP-2015 20:46
C:\Users\jmgarcia\Desktop\RDWY\PLANSHEETS-IMPACTJS\I-5405_RDY_PSH_043.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	44
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

SAMUEL BEARD MCAULAY
03145 / 281

BOARD OF EDUCATION THE CHARLOTTE-MECKLENBURG
23855 / 800

SAMUEL LEE CURETON JR

JOURNEY CHURCH OF LAKE NORMAN
20958 / 218

MELVIN GRAHAM JR
17340 / 797

EDWIN R MCCOY III
25976 / 512

SAM J VASTIS
06740 / 092

TS Sta. 894+09.93
TS Sta. 892+97.70
TS Sta. 891+72.56
SC Sta. 897+58.37
SC Sta. 896+67.70
SC Sta. 895+93.60

EXISTING R/W

N 24° 37' 01.0" W

N 22° 36' 14.7" W

-L3SB-
-L3NB-
-L0-

895+00
900+00

RETAIN 15" RCP
RETAIN 30" RCP
RETAIN 24" RCP
RETAIN 18" RCP
RETAIN DI
REMOVE DI
COLLAR AND EXTEND
15" RCP-III
DI
CAT-1
GRAU 350 TL-3
LATERAL V DITCH SEE DETAIL 'A'
LATERAL GRASS SWALE SEE DETAIL 'G'

MATCH LINE SHEET 43 -L0- STA 891+00.00

MATCH LINE SHEET 45 -L0- STA 905+00.00

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 90.
2.) FOR –L3SB– PROFILE SEE SHEET 90.

-L0-		-L3SB-		-L3NB-	
PIs Sta 895+44.37	PI Sta 914+06.03	PIs Sta 896+42.23	PI Sta 914+35.27	PIs Sta 894+33.26	PI Sta 914+16.21
Θs = 1°14' 49.3"	Δ = 23°06' 58.7" (RT)	Θs = 1°18' 32.9"	Δ = 24°48' 22.3" (RT)	Θs = 1°10' 11.9"	Δ = 21°54' 03.7" (RT)
Ls = 370.00'	D = 0°40' 26.6"	Ls = 348.45'	D = 0°45' 05.1"	Ls = 391.04'	D = 0°35' 54.2"
LT = 246.67'	L = 3,429.37'	LT = 232.30'	L = 3,301.24'	LT = 260.70'	L = 3,659.99'
ST = 123.34'	T = 1,738.33'	ST = 116.15'	T = 1,676.90'	ST = 130.35'	T = 1,852.61'
	R = 8,500.00'		R = 7,625.00'		R = 9,575.00'
			e = 2.80%		e = 2.00%
			RO = 300'		RO = 300'
			DS = 70 MPH		DS = 70 MPH

01-SEP-2015 20:47
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACT JS\I-5405_RDY_PSH_044.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	45
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

NORTHCROSS BUSINESS CENTER LOT OWNERS ASSOCIATION INC
17154 / 986

STEGALL PROPERTIES OF CHARLOTTE LLC
15071 / 542

MCGEOUGH PROPERTIES LLC
18938 / 691

ALL BRIGHT RENTALS LLC
20126 / 700

EXISTING R/W

CONC DITCH

RETAIN CONCRETE DITCH

RETAIN 15" RCP

RETAIN 30" RCP

RETAIN 24" RCP

REMOVE DI

COLLAR AND EXTEND

DI

GRAU 350
TL-3

CAT-1

LATERAL V DITCH
SEE DETAIL 'A'

HW
24" RCP-III

-L3SB-

-L0-

-L3NB-

910+00

915+00

905+00

MATCH LINE SHEET 44
-L0- STA 905+00.00

MATCH LINE SHEET 46
-L0- STA 919+00.00

90'

105'

104'

10'

24'

EXIST

SAM J VASTIS
06740 / 092

MOORESVILLE LODGING LLC
23917 / 296

MOORESVILLE LODGING LLC
22252 / 947

-L0-	-L3SB-	-L3NB-
PI Sta 914+06.03	PI Sta 914+35.27	PI Sta 914+16.21
Δ = 23° 06' 58.7" (RT)	Δ = 24° 48' 22.3" (RT)	Δ = 21° 54' 03.7" (RT)
D = 0° 40' 26.6"	D = 0° 45' 05.1"	D = 0° 35' 54.2"
L = 3,429.37'	L = 3,301.24'	L = 3,659.99'
T = 1,738.33'	T = 1,676.90'	T = 1,852.61'
R = 8,500.00'	R = 7,625.00'	R = 9,575.00'
	e = 2.80%	e = 2.00%
	RO = 300'	RO = 300'
	DS = 70 MPH	DS = 70 MPH

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 91.
2.) FOR –L3SB– PROFILE SEE SHEET 91.

01-SEP-2015 20:48
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_045.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	46
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

M & N REVOCABLE TRUST/T/A
08899 / 270

OSR REAL ESTATE LLC
22441 / 634

M & N REVOCABLE TRUST T/A
8899 / 270

HUGHES PLUMBING SUPPLY LTD
19737 / 21

MILE 2 5

NORTHCROSS DRIVE

EXISTING R/W

CS Sta. 930+59.61

CS Sta. 930+97.07

-L3SB-

-L0-

-L3NB-

925+00

920+00

930+00

REMOVE CONCRETE DITCH

RETAIN 24" RCP

RETAIN CONCRETE DITCH

CAT-1

GRAU 350
TL-3

LATERAL V DITCH
SEE DETAIL 'A'

LATERAL GRASS SWALE
SEE DETAIL 'G'

COLLAR AND EXTEND

15" RCP-III

REMOVE DI

RETAIN 15" RCP

RETAIN DI

RETAIN 18" RCP

MATCH LINE SHEET 45
-L0- STA 919+00.00

MATCH LINE SHEET 47
-L0- STA 933+00.00

MOORESVILLE LODGING LLC
22252 / 947

JS & TS LLC
08616 / 718

CHARLOTTE-MECKLENBURG HOSPITAL AUTHORITY
08845 / 270

-L0-		-L3SB-		-L3NB-	
PI Sta 914+06.03	PIs Sta 932+20.41	PI Sta 914+35.27	PIs Sta 931+75.77	PI Sta 914+16.21	PIs Sta 933+53.95
Δ = 23° 06' 58.7" (RT)	Θs = 1° 14' 49.3"	Δ = 24° 48' 22.3" (RT)	Θs = 1° 18' 32.9"	Δ = 21° 54' 03.7" (RT)	Θs = 1° 10' 11.9"
D = 0° 40' 26.6"	Ls = 370.00'	D = 0° 45' 05.1"	Ls = 348.45'	D = 0° 35' 54.2"	Ls = 391.04'
L = 3,429.37'	LT = 246.67'	L = 3,301.24'	LT = 232.30'	L = 3,659.99'	LT = 260.70'
T = 1,738.33'	ST = 123.34'	T = 1,676.90'	ST = 116.15'	T = 1,852.61'	ST = 130.35'
R = 8,500.00'		R = 7,625.00'		R = 9,575.00'	
		e = 2.80%		e = 2.00%	
		R0 = 300'		R0 = 300'	
		DS = 70 MPH		DS = 70 MPH	

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 92.
2.) FOR –L3SB– PROFILE SEE SHEET 92.

01-SEP-2015 20:49
C:\Users\jmccaig\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_046.dgn
jmccaig
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	47
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

CIG REAL ESTATE LLC
22441 / 606

OUTBACK STEAKHOUSE OF FLORIDA INC
09191 / 861

EXISTING R/W

ST Sta. 934+08.06

ST Sta. 934+67.07

PC Sta. 943+10.85

TS Sta. 944+73.43

SAM FURR RD

MATCH LINE SHEET 46
-L0- STA 933+00.00

MATCH LINE SHEET 48
-L0- STA 947+00.00

RETAIN DI

RETAIN 15" RCP

RETAIN 18" RCP

REMOVE DI

COLLAR AND EXTEND

DI

CAT-1

RETAIN 24" CMP

RETAIN 7.5X5' RCBC

RETAIN DI

REMOVE CONCRETE DITCH

Conv. DI To JB

RETAIN 15" CMP

PROP. SINGLE-FACED CONCRETE BARRIER

LATERAL GRASS SWALE SEE DETAIL 'G'

RETAIN CONCRETE DITCH

GRAU 350
TL-3

18" RCP-III

CONC DITCH

-L0-

-L3SB-

-L3NB-

N 2° 48' 27.2" E

N 1° 38' 12.8" E

935+00

940+00

945+00

CALDWELL STATION CREEK TRIBUTARY

CHARLOTTE-MECKLENBURG HOSPITAL AUTHORITY
08845 / 270

O'CHARLEY'S INC
09481 / 704

37 HOTEL LAKE NORMAN LLC
22267 / 706

LSB PROPERTIES INC
25070 / 739

NORTHCROSS LAND & DEVELOPMENT LIMITED PARTNERSHIP
08433 / 787

-L0-		-L3SB-		-L3NB-
Pls Sta 932+20.41	Pls Sta 947+30.10	Pls Sta 931+75.77	PI Sta 969+88.36	Pls Sta 933+53.95
Θs = 1° 14' 49.3"	Θs = 1° 09' 39.6"	Θs = 1° 18' 32.9"	Δ = 26° 12' 46.8" (LT)	Θs = 1° 10' 11.9"
Ls = 370.00'	Ls = 385.00'	Ls = 348.45'	D = 0° 29' 53.6"	Ls = 391.04'
LT = 246.67'	LT = 256.67'	LT = 232.30'	L = 5,261.28'	LT = 260.70'
ST = 123.34'	ST = 128.34'	ST = 116.15'	T = 2,677.51'	ST = 130.35'
			R = 11,500.00'	
			e = NC	
			RO = N/A	
			DS = 70 MPH	

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 93.
2.) FOR –L3SB– PROFILE SEE SHEET 93.

NOTE:
DESIGN EXCEPTION FOR 8' MEDIAN SHOULDER.

01-SEP-2015 20:50
C:\Users\mgarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_047.dgn
mgarcia
AT CAMARGO

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 94.
2.) FOR –L3SB– PROFILE SEE SHEET 94.

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

PROJECT REFERENCE NO.	SHEET NO.
I-5405	48
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

NORTHCROSS COMMONS LP
07410 / 950

G PARTNERSHIP LP
25471 / 867

BEGIN PROP. –NW14–
–L3SB– STA. 954+63.85
(236.57' LT) FACE OF WALL

MATCH LINE SHEET 47
–L0– STA 947+00.00

TS Sta. 946+91.15

SC Sta. 948+58.43

950+00

955+00

960+00

–L3SB–

–L0–

–L3NB–

RETAIN DI

RETAIN 18" RCP

RETAIN 15" RCP

RETAIN 15" CMP

RETAIN 36" RCP

RETAIN 30" CMP

RETAIN 24" RCP

RETAIN 2–10'X8' RCBC

Conv. DI To JB

GRAU 350
TL–3

GRAU 350
TL–3
COLLAR AND EXTEND

CAT–1

ROCK CHECK DAM, EVERY 83 FT.

ROCK CHECK DAM, EVERY 40 FT.

ROCK CHECK DAM, EVERY 72 FT.

EXTEND 2–10'x8' RCBC

LATERAL GRASS SWALE SEE DETAIL 'G'

LATERAL BASE DITCH SEE DETAIL L

CLASS "I" RIP RAP AT EMBANKMENT EST. 24.5 TONS EST. 22 SY GF SEE DETAIL K

CLASS "I" RIP RAP AT EMBANKMENT EST. 43 TONS EST. 39 SY GF SEE DETAIL J

CLASS "I" RIP RAP AT EMBANKMENT EST. 54 TONS EST. 49 SY GF SEE DETAIL J

CLASS "I" RIP RAP EST. 22 TONS

CLASS "I" RIP RAP EST. 28 TONS

CLASS "I" RIP RAP AT EMBANKMENT EST. 24.5 TONS EST. 22 SY GF SEE DETAIL K

10'X8' DOUBLE BARREL CULVERT

CALDWELL STATION CREEK

EXISTING R/W

NCDOT DUCT

NORTHCROSS LAND & DEVELOPMENT
08969 / 542

HUNTERSVILLE HOSPITALITY LLC
09898 / 793

HUNTERSVILLE SUITES LLC
09361 / 004

WILLIAM BROCK WAINSCOTT
14576 / 236

MATCH LINE SHEET 49
–L0– 961+00.00

–L0–	–L3SB–	–L3NB–
PIs Sta 947+30.10 Θs = 1°09' 39.6" Ls = 385.00' LT = 256.67' ST = 128.34'	PIs Sta 931+75.77 Θs = 1°18' 32.9" Ls = 348.45' LT = 232.30' ST = 116.15'	PIs Sta 949+24.12 Θs = 1°18' 30.9" Ls = 349.44' LT = 232.97' ST = 116.49'
PI Sta 965+93.58 Δ = 20°42' 10.0" (LT) D = 0°36' 11.2" L = 3,432.65' T = 1,735.25' R = 9,500.00'	PI Sta 969+88.36 Δ = 26°12' 46.8" (LT) D = 0°29' 53.6" L = 5,261.28' T = 2,677.51' R = 11,500.00' e = NC RO = N/A DS = 70 MPH	PI Sta 963+39.22 Δ = 20°02' 04.2" (LT) D = 0°44' 56.3" L = 2,674.96' T = 1,351.98' R = 7,650.00' e = 3.50% RO = 300' DS = 70 MPH

DETAIL F
TYPICAL LATERAL BASE DITCH
Natural Ground
Fill Slope
Min. D= 1.50 Ft.
Max. d= 1.25 Ft.
B= 1.50 Ft.
b= 1.00 Ft.
Typical Lateral Base Ditch
FROM STA. 951+75 TO STA. 955+95 –L3NB– (LT)

02-SEP-2015 15:59
C:\Users\jmgarcia\Desktop\RDWYPLANSHEETS-IMPACTJSV1-5405_RDY_PSH_048.dgn
jmgarcia
AT CAMARGO

PROJECT REFERENCE NO.	SHEET NO.
I-5405	49
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

0 50 100

NAD 83/2011

G PARTNERSHIP LP
25471 / 867

CITY OF CHARLOTTE
18118 / 982

NC MED PROPERTY LL 5 LLC
25983 / 442

PROP. –NW14–
–L3SB– STA. 965+48.44
(89.46' LT) FACE OF WALL

PROP. –NW14–
–L3SB– STA. 962+95.75
(45.62' LT) FACE OF WALL

END PROP. –NW14–
–L3SB– STA. 968+05.46
(93.21' LT) FACE OF WALL

EXISTING R/W

CONC DITCH

RETAIN DI

RETAIN 15" RCP

RETAIN 18" RCP

RETAIN 24" RCP

Conv. DI To JB

15" RCP-III

18" RCP

24" RCP

DI

965+00

970+00

975+00

-L3SB-

-L0-

-L3NB-

CAT-1

GRAU 350
TL-3

LATERAL GRASS SWALE
SEE DETAIL 'G'

LATERAL GRASS SWALE
SEE DETAIL 'H'

END PROJECT
-L0- STA 975+00.00

MATCH LINE SHEET 48
-L0- STA 961+00.00

MATCH LINE SHEET XX
-L0- STA 975+00.00

EXISTING R/W

HD DEVELOPMENT OF MARYLAND INC
11400 / 708

NOTE:
–BEST FIT HORIZONTAL GEOMETRY SHOWN. EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
–SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

NOTES:
1.) FOR –L3NB– PROFILE SEE SHEET 95.
2.) FOR –L3SB– PROFILE SEE SHEET 95.

-L0-	-L3SB-	-L3NB-
PI Sta 965+93.68	PI Sta 969+88.36	PI Sta 963+91.87
Δ = 20° 42' 10.0" (LT)	Δ = 26° 12' 46.8" (LT)	Δ = 20° 02' 04.2" (LT)
D = 0° 36' 11.2"	D = 0° 29' 53.6"	D = 0° 44' 56.3"
L = 3,432.65'	L = 5,261.28'	L = 2,674.96'
T = 1,735.25'	T = 2,677.51'	T = 1,351.28'
R = 9,500.00'	R = 11,500.00'	R = 7,650.00'
	e = NC	e = 3.50%
	RO = N/A	RO = 300'
	DS = 70 MPH	DS = 70 MPH

01-SEP-2015 20:53
C:\Users\jmarcia\Desktop\RDWYPLANSHEETS-IMPACTJS\I-5405_RDY_PSH_049.dgn
jmarcia
AT CAMARGO

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	50

ROADWAY DESIGN ENGINEER

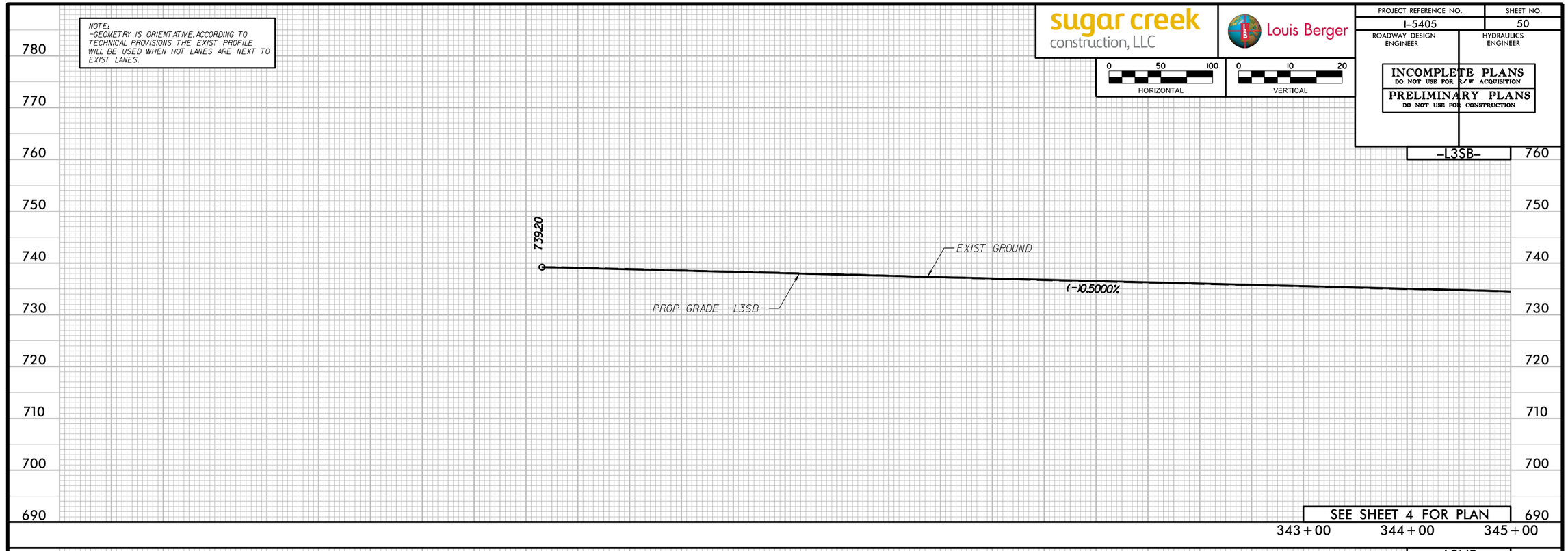
HYDRAULICS ENGINEER

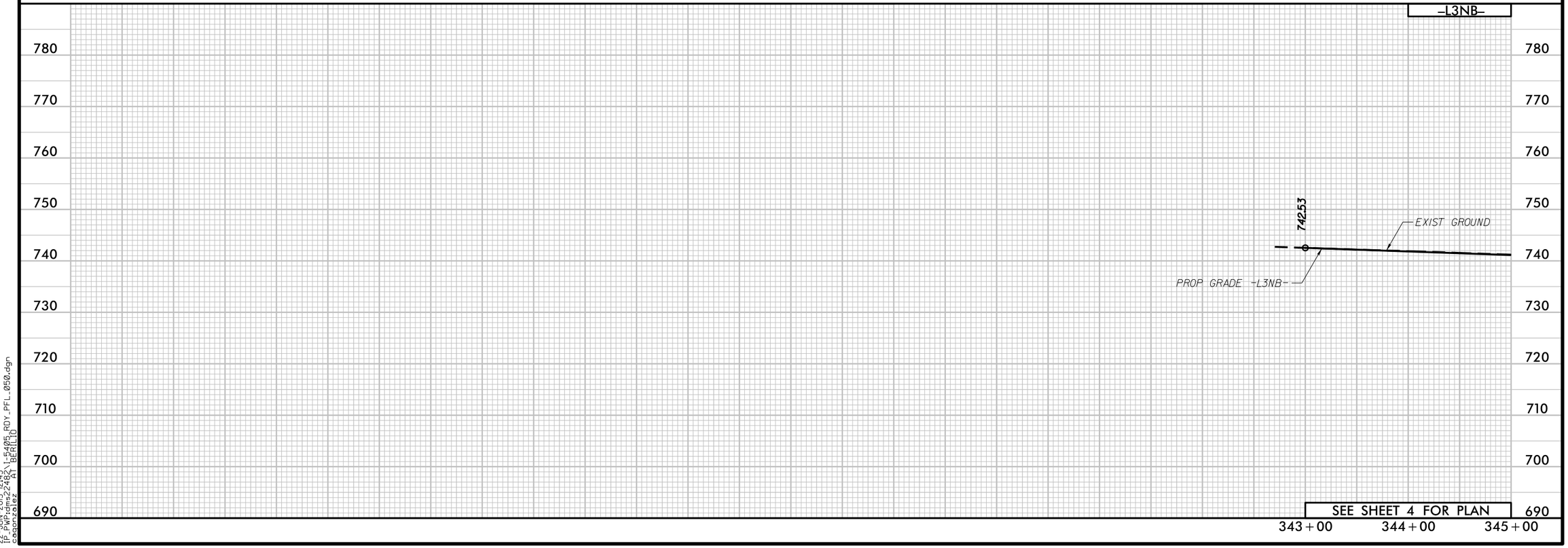
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:43
I:\E_PWP_dms\2482\I-5405_RDY_PFL_050.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

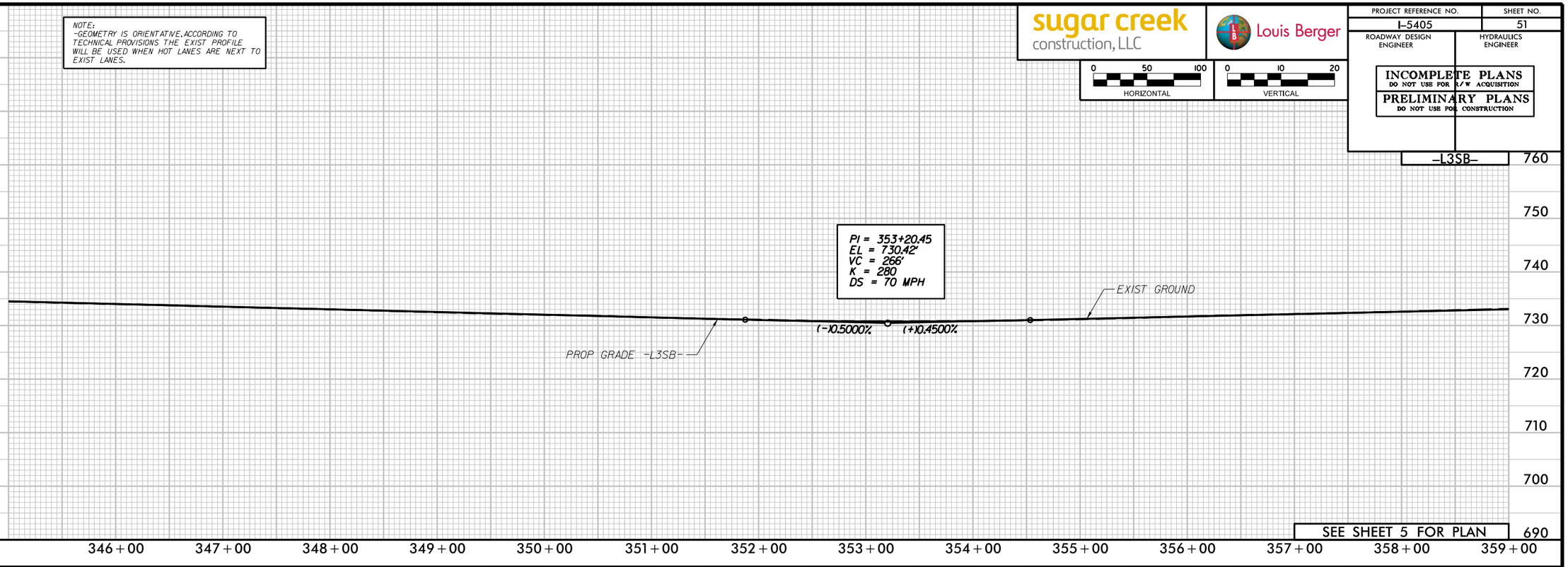
PROJECT REFERENCE NO.	SHEET NO.
I-5405	51
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

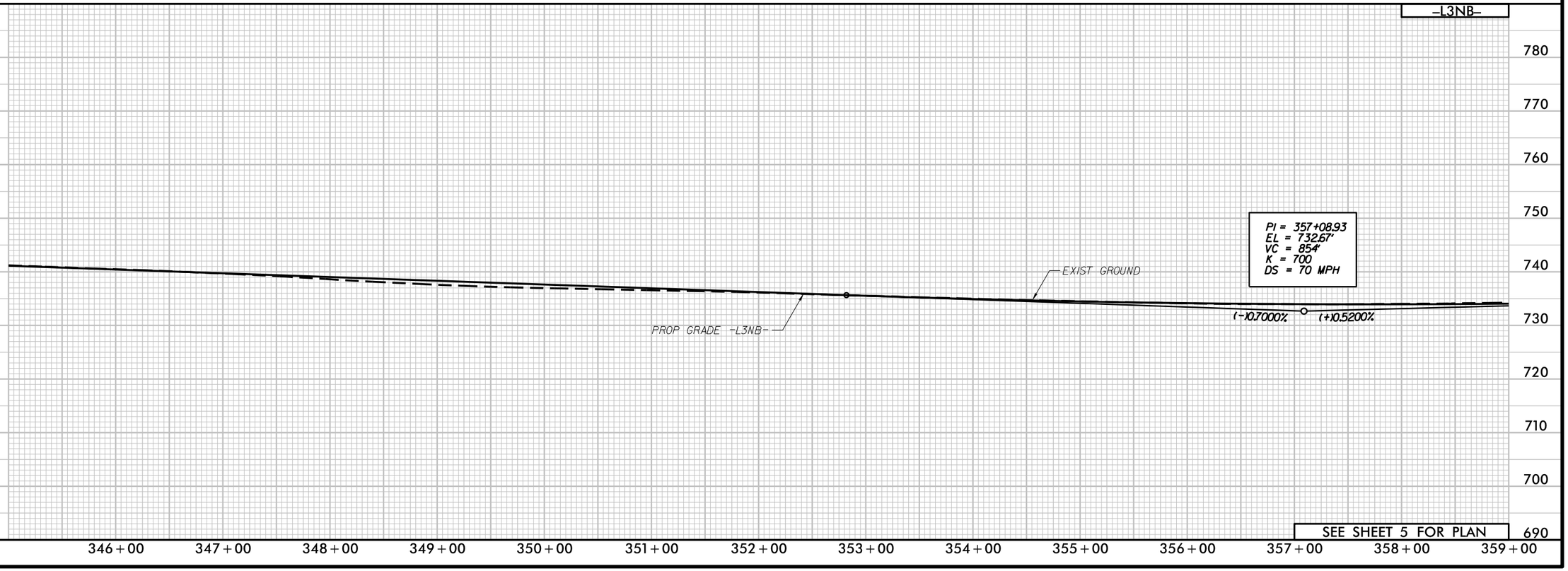
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:43
I:\I-5405_RDY_PFL_051.dgn
IF_PWP:dms2482\I-5405_RDY_PFL_051.dgn
cagonzalez
AT BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	52
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 360+24.20
EL = 733.59'
VC = 82'
K = 200
DS = 70 MPH

PI = 363+74.97
EL = 733.73'
VC = 77'
K = 175
DS = 70 MPH

(+)0.4500%

(+)0.0400%

(+)0.0400%

(+)0.4800%

PROP GRADE -L3SB-

EXIST GROUND

-L3SB-

SEE SHEET 6 FOR PLAN

780 770 760 750 740 730 720 710 700 690

360+00 361+00 362+00 363+00 364+00 365+00 366+00 367+00 368+00 369+00 370+00 371+00 372+00 373+00

-L3NB-

(+)0.5200%

PROP GRADE -L3NB-

EXIST GROUND

SEE SHEET 6 FOR PLAN

780 770 760 750 740 730 720 710 700 690

360+00 361+00 362+00 363+00 364+00 365+00 366+00 367+00 368+00 369+00 370+00 371+00 372+00 373+00

22-JUN-2015 12:43
I:\I_PWP_dms_2482\I-5405_RDY_PFL_052.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

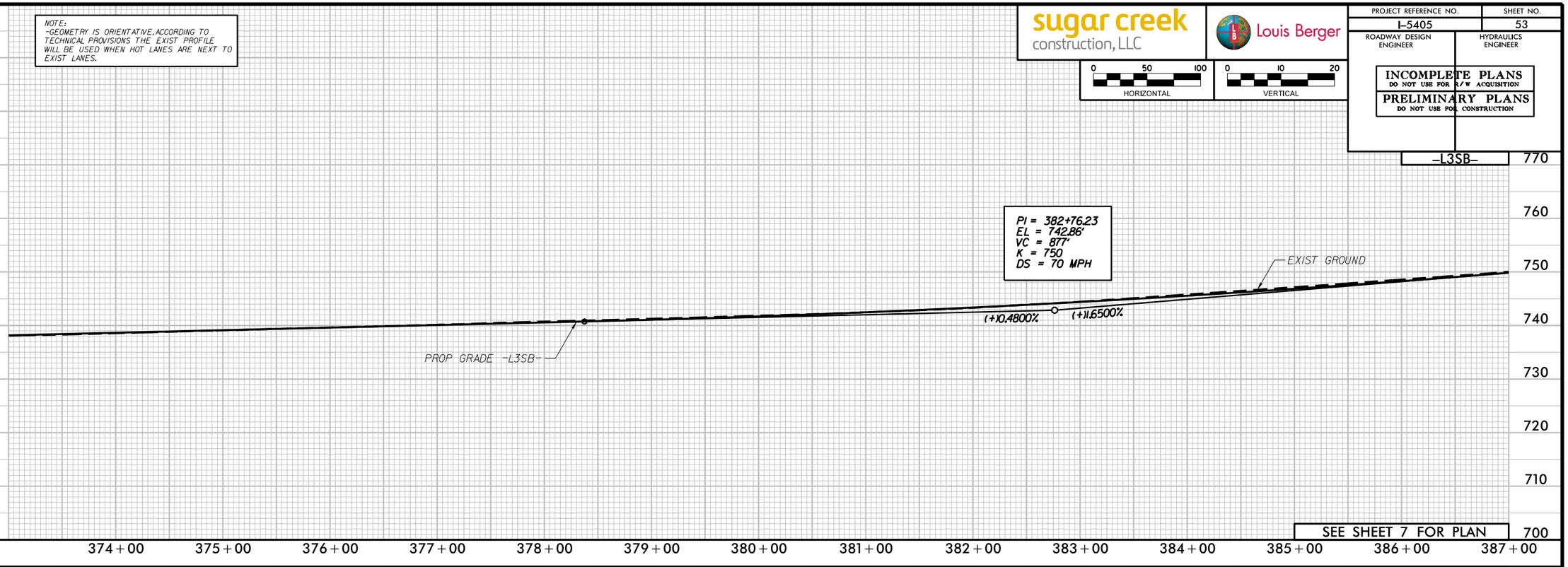
0 50 100 HORIZONTAL

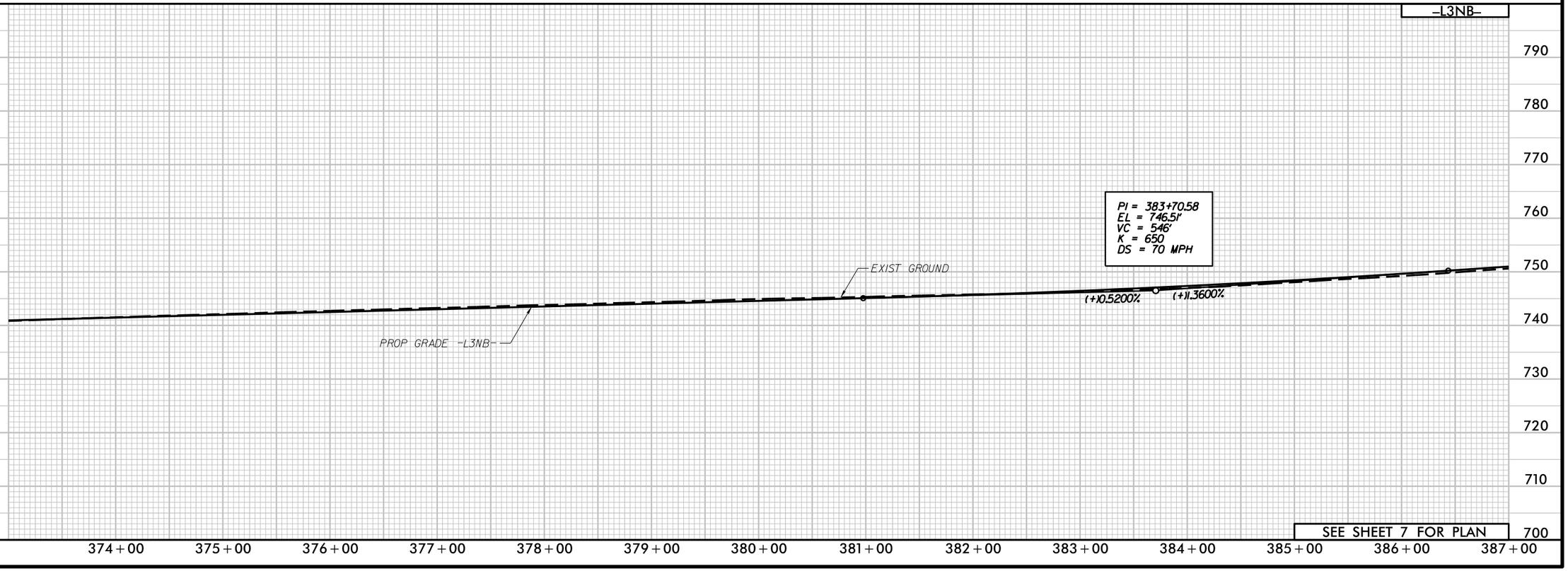
0 10 20 VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	53
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:43
I:\I-5405_RDY_PFL_053.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	54
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

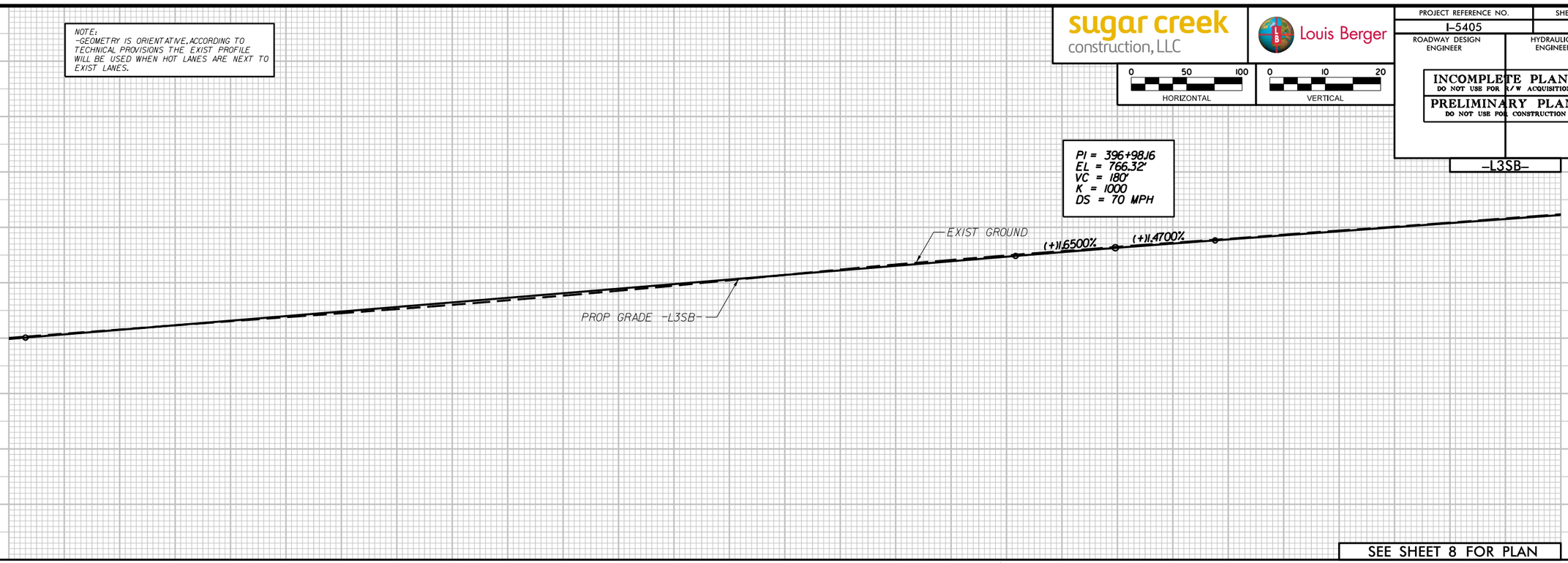
HORIZONTAL 0 50 100

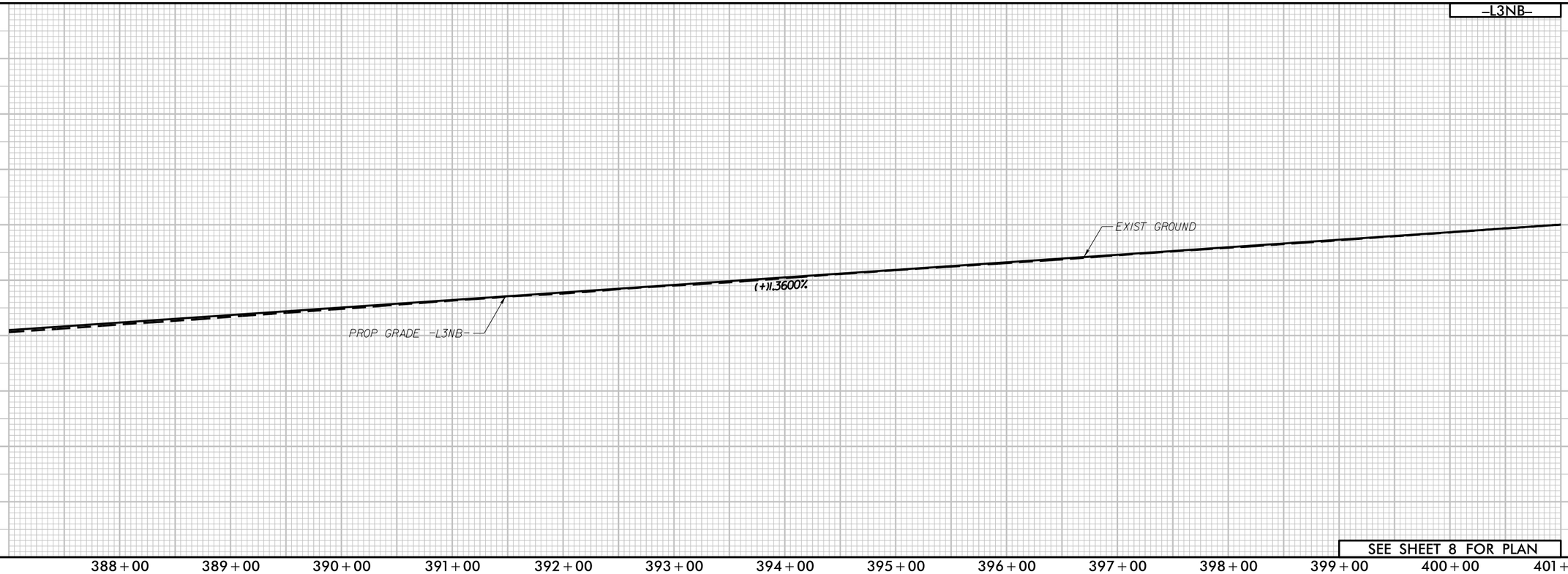
VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 396+98.16
EL = 766.32'
VC = 180'
K = 1000
DS = 70 MPH





22-JUN-2015 12:43
I:\I-5405_RDY_PFL_054.dgn
cagonzalez
AT BERI10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	55
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 406+56.75
EL = 780.41'
DS = 70 MPH

(+)1.4700%

(+)1.4300%

EXIST GROUND

PROP GRADE -L3SB-

-L3SB-

SEE SHEET 9 FOR PLAN

820 810 800 790 780 770 760 750 740 730

402+00 403+00 404+00 405+00 406+00 407+00 408+00 409+00 410+00 411+00 412+00 413+00 414+00 415+00

-L3NB-

(+)1.3600%

EXIST GROUND

PROP GRADE -L3NB-

SEE SHEET 9 FOR PLAN

820 810 800 790 780 770 760 750 740 730

402+00 403+00 404+00 405+00 406+00 407+00 408+00 409+00 410+00 411+00 412+00 413+00 414+00 415+00

22-JUN-2015 12:43
I:\PWP\dms2248\I-5405_RDY_PFL_055.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

0 50 100 HORIZONTAL

0 10 20 VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	56
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

EXIST GROUND

(+)11.4300%

(-)10.8500%

PROP GRADE –L3SB–

PI = 427+72.39
EL = 810.66'
VC = 1,550'
K = 680
DS = 70 MPH

SEE SHEET 10 FOR PLAN

840 830 820 810 800 790 780 770 760 750

416+00 417+00 418+00 419+00 420+00 421+00 422+00 423+00 424+00 425+00 426+00 427+00 428+00 429+00

–L3NB–

EXIST GROUND

(+)11.3600%

PROP GRADE –L3NB–

SEE SHEET 10 FOR PLAN

840 830 820 810 800 790 780 770 760 750

416+00 417+00 418+00 419+00 420+00 421+00 422+00 423+00 424+00 425+00 426+00 427+00 428+00 429+00

22-JUN-2015 12:43
I:\E_PWP\dms2248\I-5405_RDY_PFL_056.dgn
cagonzalez
AT BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE.ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	57

ROADWAY DESIGN ENGINEER

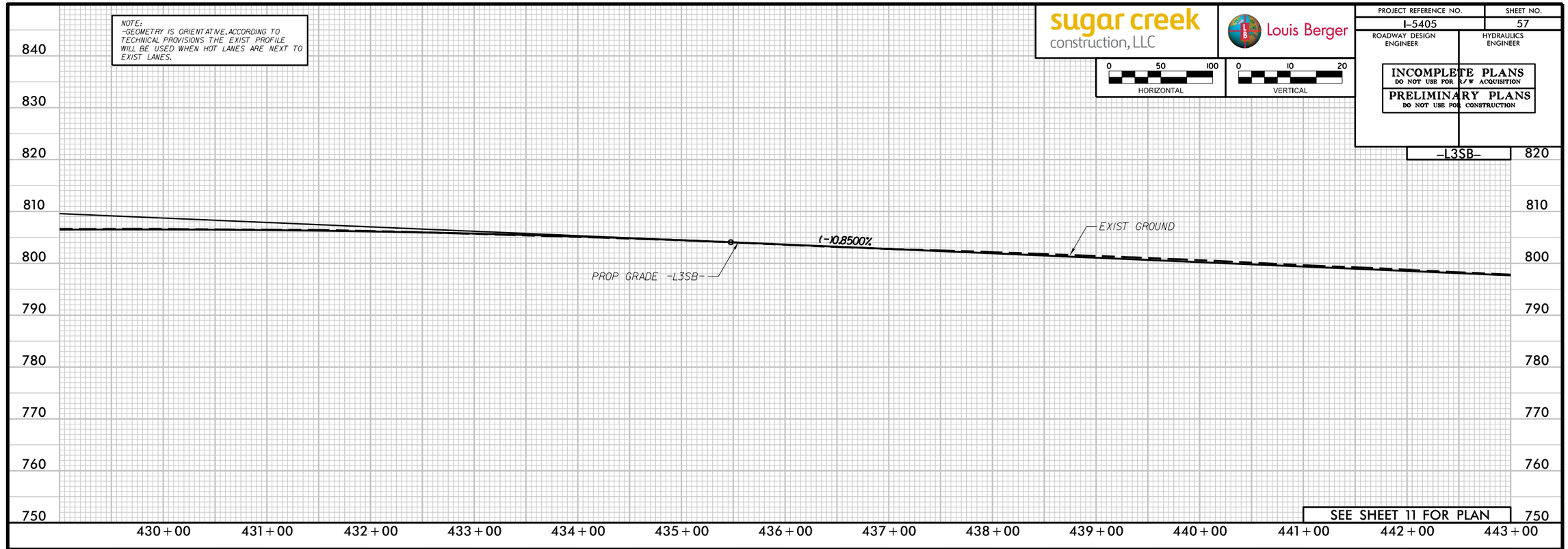
HYDRAULICS ENGINEER

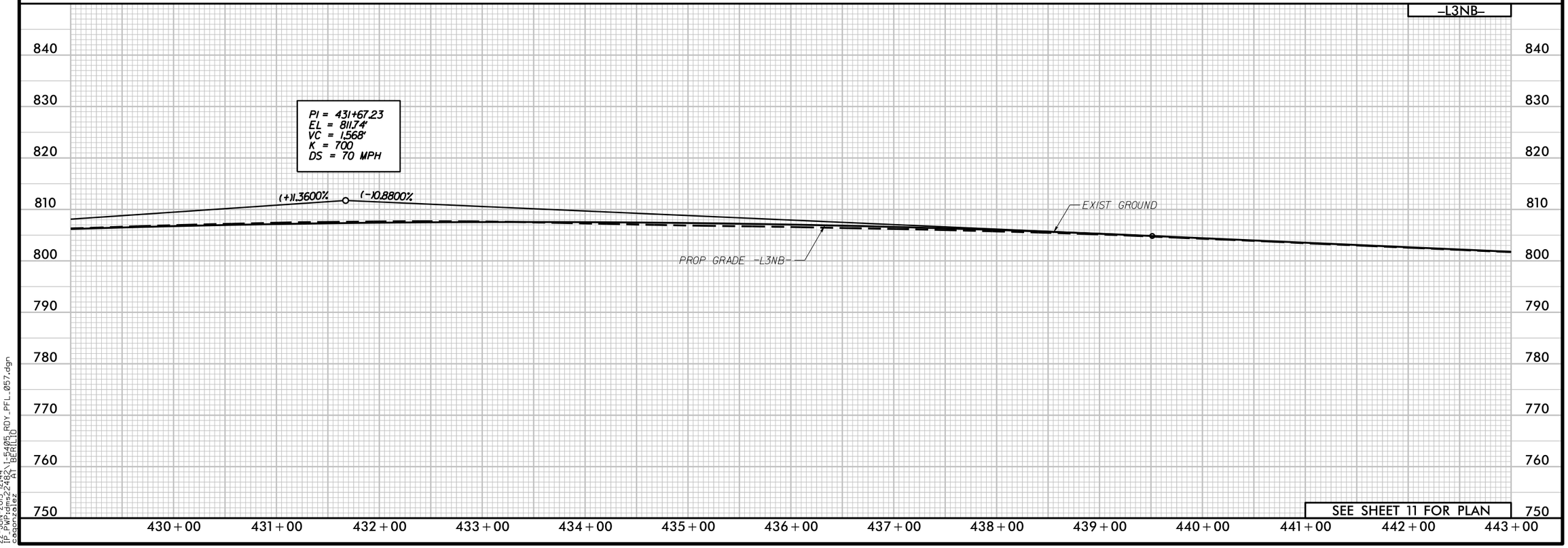
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\I-5405_2482\I-5405_RDY_PFL_057.dgn
cagonzalez
BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE.ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	58

ROADWAY DESIGN ENGINEER

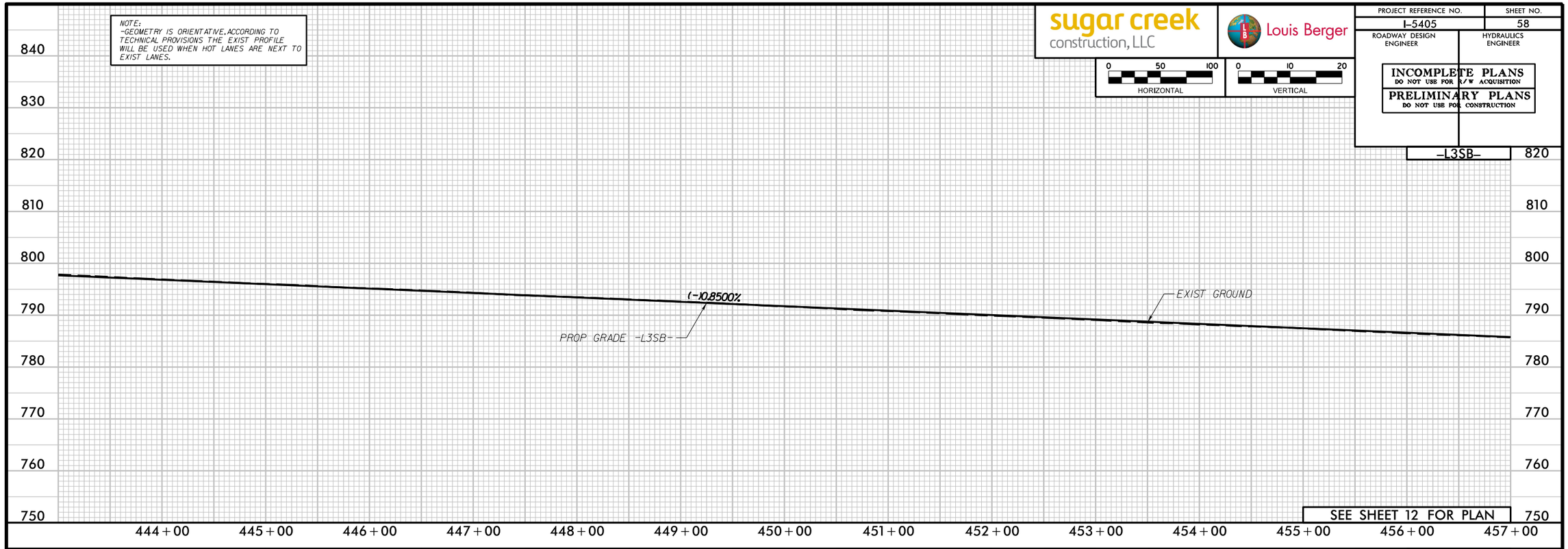
HYDRAULICS ENGINEER

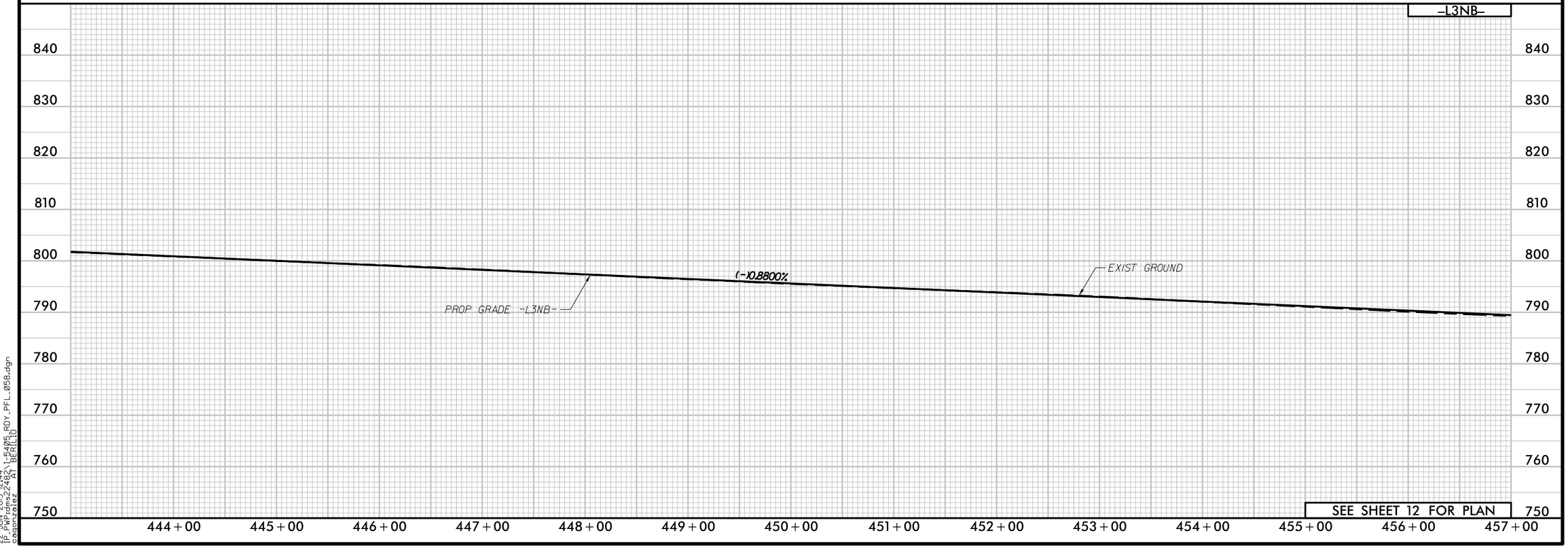
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\I-5405_2482\I-5405_RDY_PFL_058.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	59
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

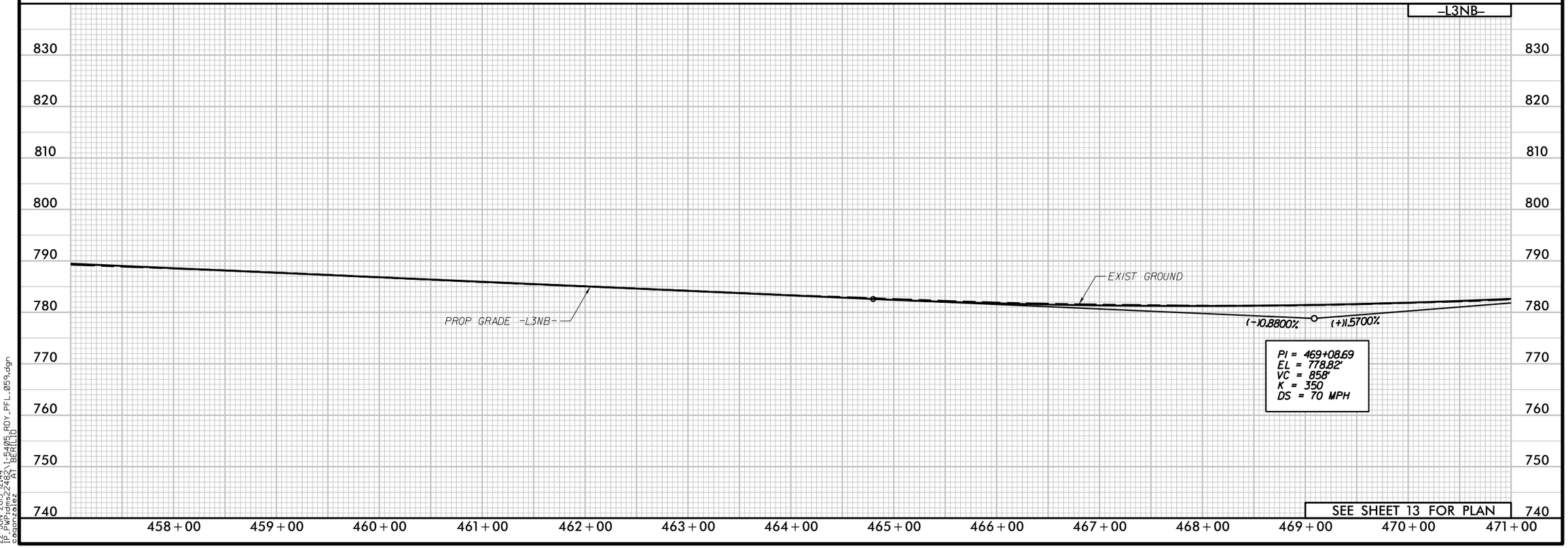
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms2482\I-5405_RDY_PFL_059.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

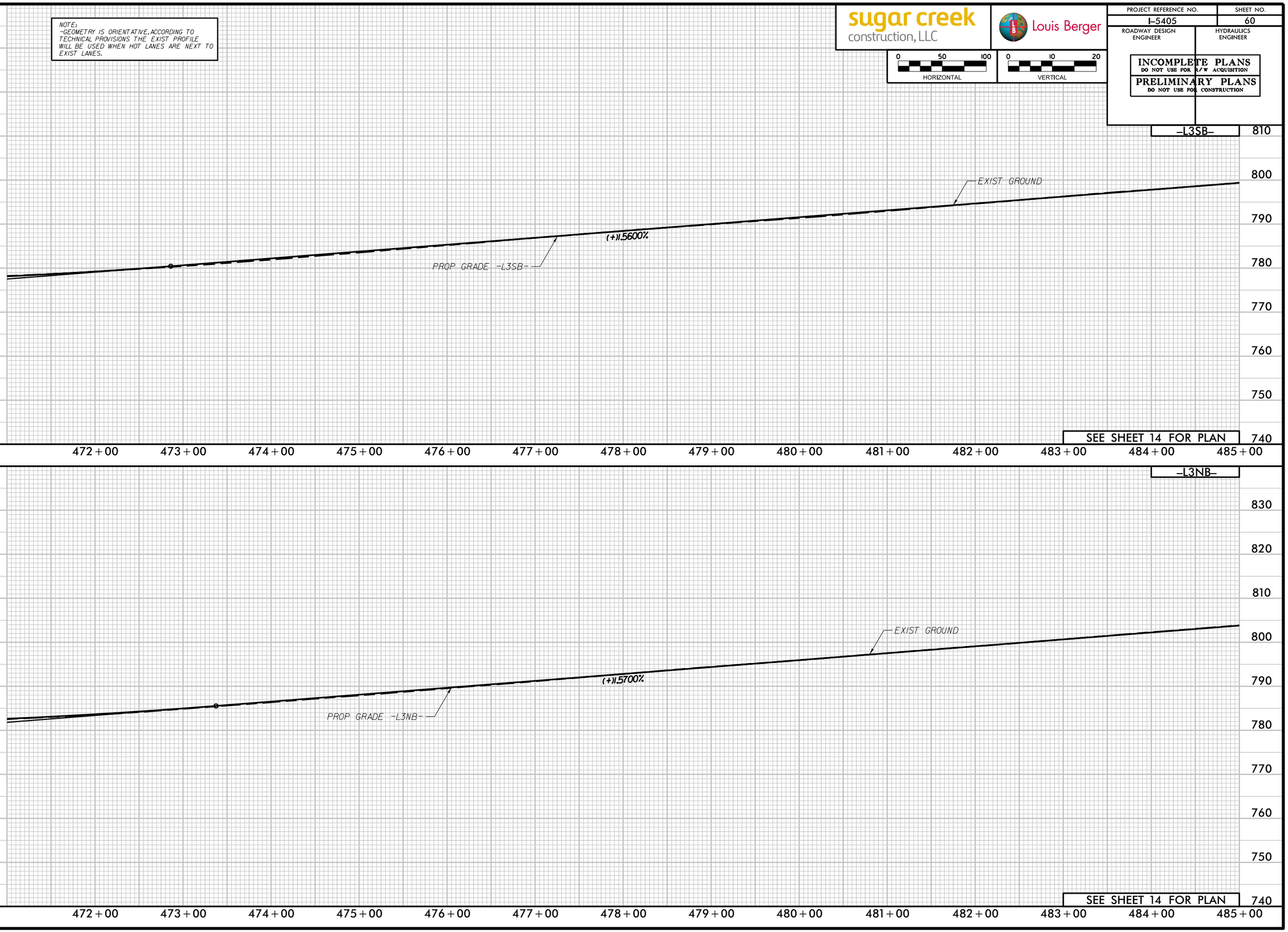
PROJECT REFERENCE NO.	SHEET NO.
I-5405	60
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



22-JUN-2015 12:44
I:\E_PWP\dms2482\I-5405_RDY_PFL_060.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

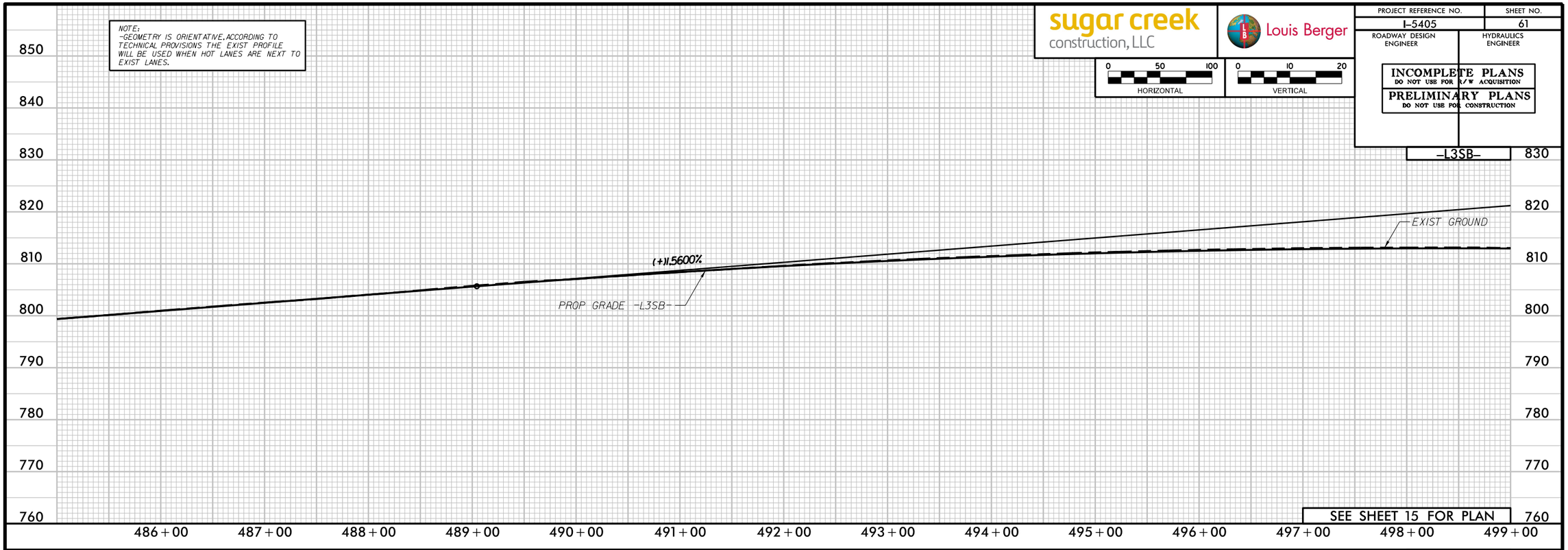
PROJECT REFERENCE NO.	SHEET NO.
I-5405	61
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

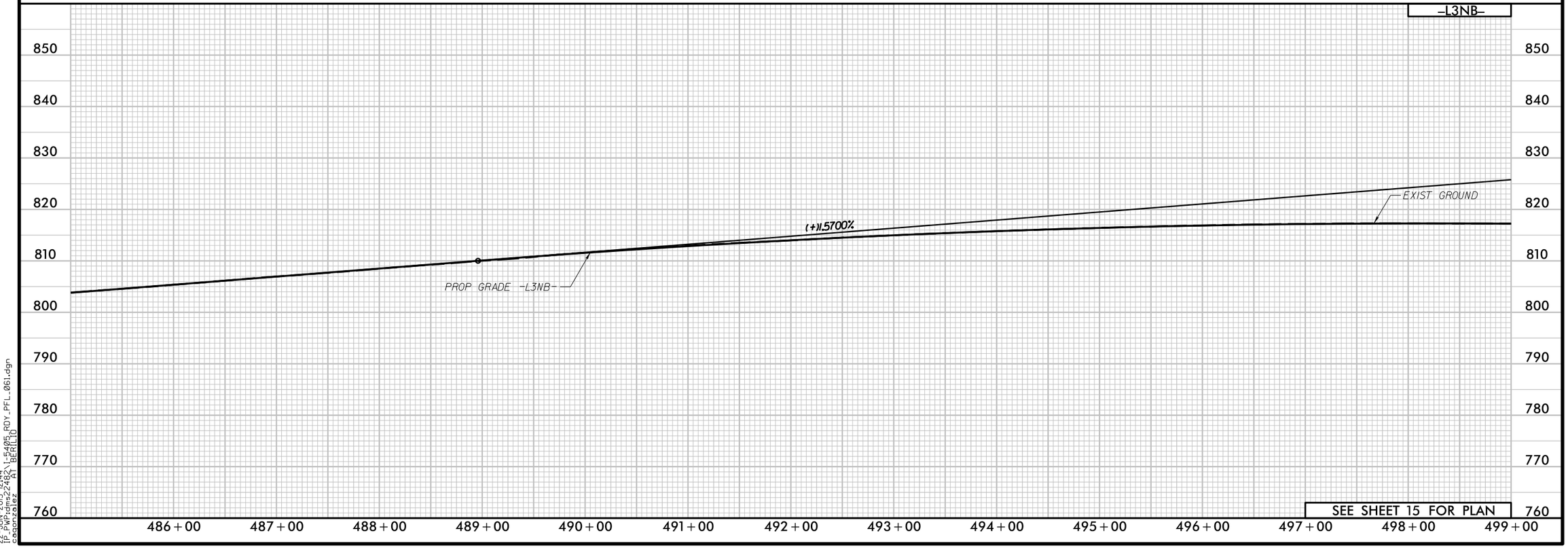
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms2482\I-5405_RDY_PFL_061.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

PI = 500+20.42
EL = 823.09'
VC = 2,232'
K = 600
DS = 70 MPH

(+)11.5600%

(-)12.1600%

PROP GRADE -L3SB-

EXIST GROUND

SEE SHEET 16 FOR PLAN

-L3SB-

PI = 499+99.21
EL = 827.34'
VC = 2,207'
K = 590
DS = 70 MPH

(+)11.5700%

(-)12.1700%

PROP GRADE -L3NB-

EXIST GROUND

SEE SHEET 16 FOR PLAN

-L3NB-

sugar creek construction, LLC

Louis Berger

0 50 100 HORIZONTAL

0 10 20 VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	62

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

850 840 830 820 810 800 790 780 770 760

500+00 501+00 502+00 503+00 504+00 505+00 506+00 507+00 508+00 509+00 510+00 511+00 512+00 513+00

22-JUN-2015 12:44
I:\E_PWP\dms2482\I-5405_RDY_PFL_062.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	63
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

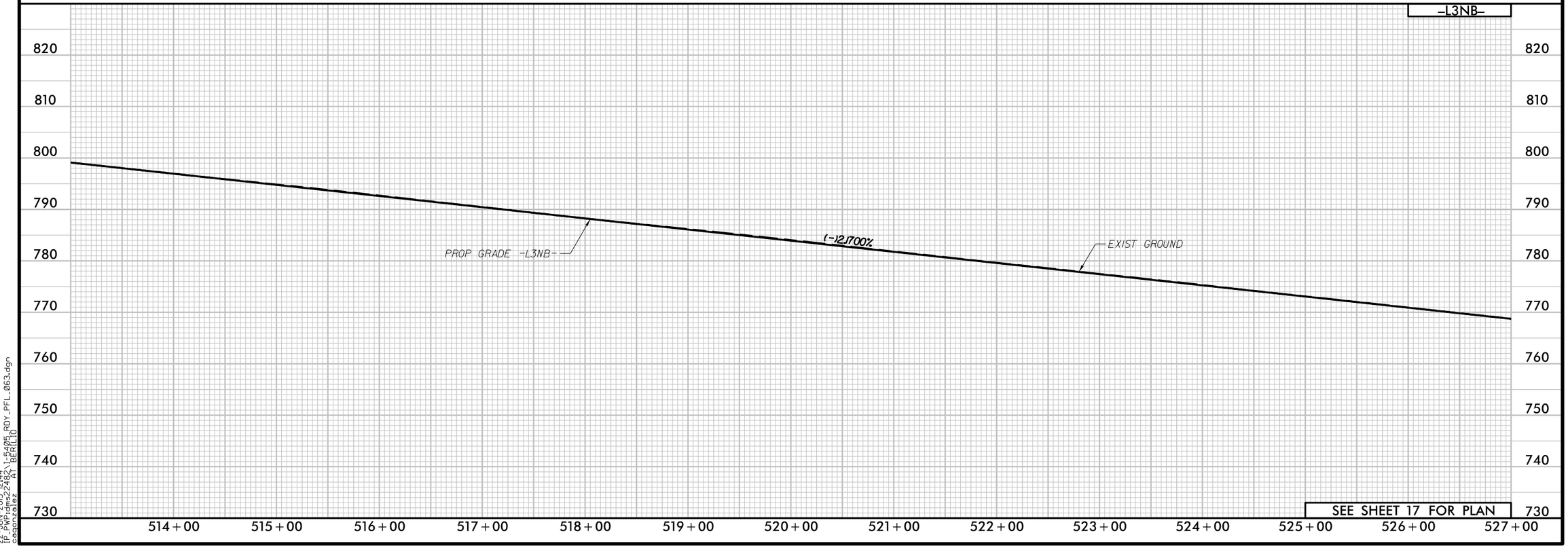
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_063.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	64
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

PI = 527+56.37
EL = 763.99'
VC = 997'
K = 570
DS = 70 MPH

(-)12.1600%

(-)10.4100%

PROP GRADE –L3SB–

EXIST GROUND

PI = 539+88.61
EL = 758.94'
VC = 380'
K = 2000
DS = 70 MPH

(-)10.4100%

(-)10.6000%

SEE SHEET 18 FOR PLAN

800 790 780 770 760 750 740 730 720 710

528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00 540+00 541+00

–L3NB–

(-)12.1700%

(-)10.4900%

PI = 530+67.52
EL = 760.76'
VC = 638'
K = 380
DS = 70 MPH

PROP GRADE –L3NB–

EXIST GROUND

SEE SHEET 18 FOR PLAN

800 790 780 770 760 750 740 730 720 710

528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00 540+00 541+00

22-JUN-2015 12:44
I:\I-5405_2482\I-5405_RDY_PFL_064.dgn
cagonzalez
PWP:dms2482
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

0 50 100 HORIZONTAL

0 10 20 VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	65
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

790 780 770 760 750 740 730 720 710 700

542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00 551+00 552+00 553+00 554+00 555+00

PROP GRADE –L3SB–

(-)0.6000%

EXIST GROUND

SEE SHEET 19 FOR PLAN

–L3NB–

790 780 770 760 750 740 730 720 710 700

542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00 551+00 552+00 553+00 554+00 555+00

PROP GRADE –L3NB–

(-)0.4900%

EXIST GROUND

SEE SHEET 19 FOR PLAN

22-JUN-2015 12:44
I:_PWP\dms-2482\I-5405_RDY_PFL_065.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	66
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

PI = 559+13.39
EL = 747.39'
VC = 669'
K = 300
DS = 70 MPH

(-)10.6000%

(+)11.6300%

PROP GRADE –L3SB–

EXIST GROUND

SEE SHEET 20 FOR PLAN

800 790 780 770 760 750 740 730 720 710

556+00 557+00 558+00 559+00 560+00 561+00 562+00 563+00 564+00 565+00 566+00 567+00 568+00 569+00

–L3NB–

PI = 556+56.80
EL = 748.07'
VC = 832'
K = 400
DS = 70 MPH

(-)10.4900%

(+)11.5900%

PROP GRADE –L3NB–

EXIST GROUND

SEE SHEET 20 FOR PLAN

800 790 780 770 760 750 740 730 720 710

556+00 557+00 558+00 559+00 560+00 561+00 562+00 563+00 564+00 565+00 566+00 567+00 568+00 569+00

22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_066.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE. ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	67
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 578+47.98
EL = 778.92'
VC = 1,700'
K = 730
DS = 70 MPH

(+)1.6300%

(-)0.6989%

EXIST GROUND

PROP GRADE -L3SB-

-L3SB-

SEE SHEET 21 FOR PLAN

810 800 790 780 770 760 750 740 730 720

570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00 578+00 579+00 580+00 581+00 582+00 583+00

-L3NB-

PI = 576+75.29
EL = 780.16'
VC = 1,315'
K = 550
DS = 70 MPH

(+)1.5900%

(-)0.8000%

EXIST GROUND

PROP GRADE -L3NB-

SEE SHEET 21 FOR PLAN

810 800 790 780 770 760 750 740 730 720

570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00 578+00 579+00 580+00 581+00 582+00 583+00

22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_067.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

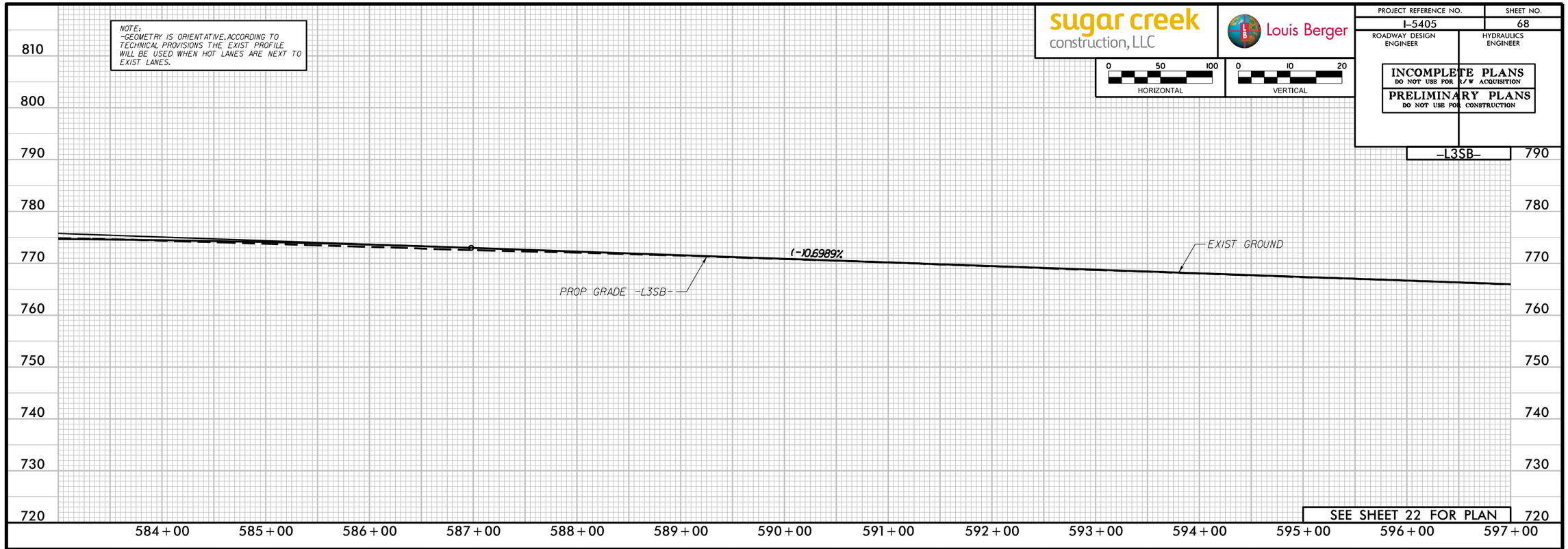
PROJECT REFERENCE NO.	SHEET NO.
I-5405	68
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

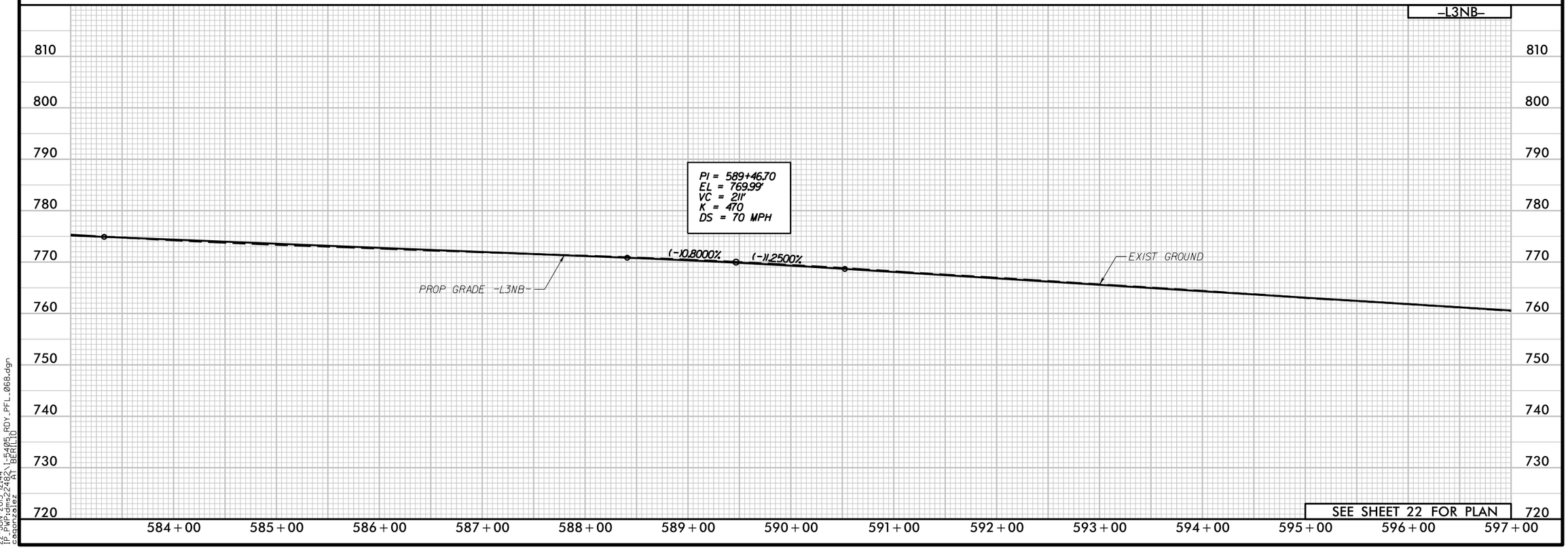
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dmz2482\I-5405_RDY_PFL_068.dgn
cagonzalez
BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

0 50 100 HORIZONTAL

0 10 20 VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	69
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

790 780 770 760 750 740 730 720 710 700

PROP GRADE –L3SB–

EXIST GROUND

(-)0.6989%

(+)0.9027%

PI = 610+30.31
EL = 756.68'
VC = 721'
K = 450
DS = 70 MPH

SEE SHEET 23 FOR PLAN

598+00 599+00 600+00 601+00 602+00 603+00 604+00 605+00 606+00 607+00 608+00 609+00 610+00 611+00

–L3NB–

790 780 770 760 750 740 730 720 710 700

PROP GRADE –L3NB–

EXIST GROUND

(-)1.2500%

(+)1.1400%

PI = 609+42.34
EL = 745.05'
VC = 837'
K = 350
DS = 70 MPH

SEE SHEET 23 FOR PLAN

598+00 599+00 600+00 601+00 602+00 603+00 604+00 605+00 606+00 607+00 608+00 609+00 610+00 611+00

22-JUN-2015 12:44
I:\5405\2482\I-5405_RDY_PFL_0069.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE. ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

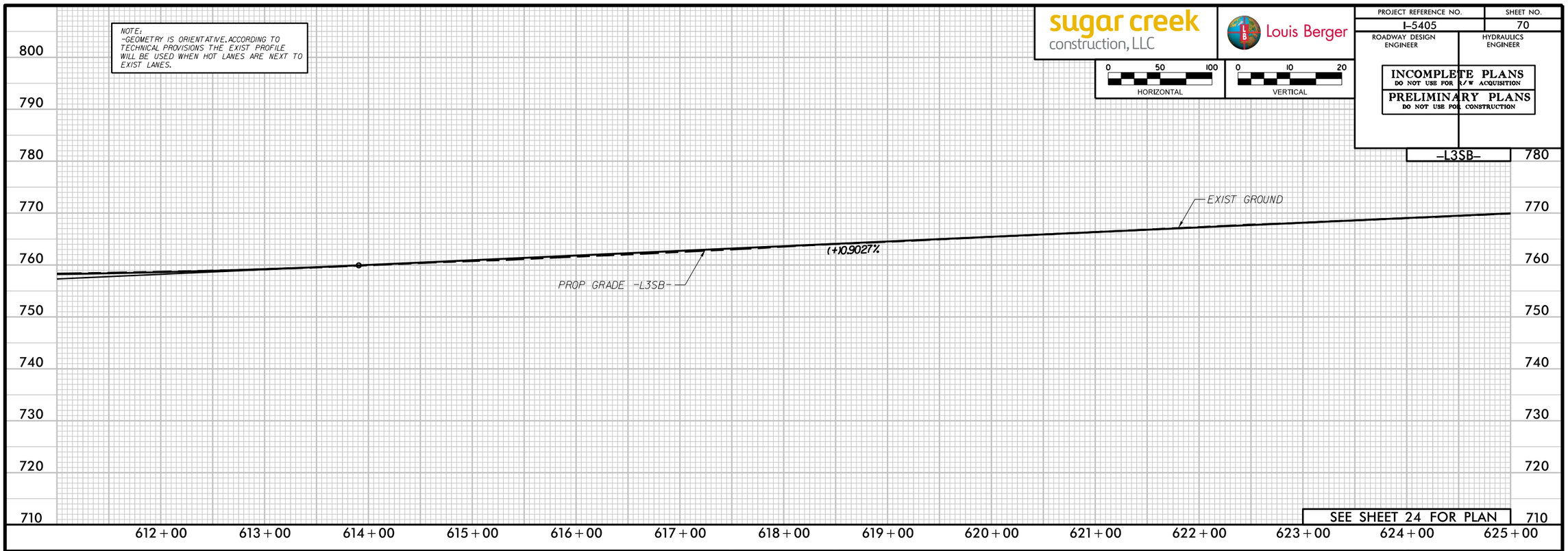
HORIZONTAL 0 50 100

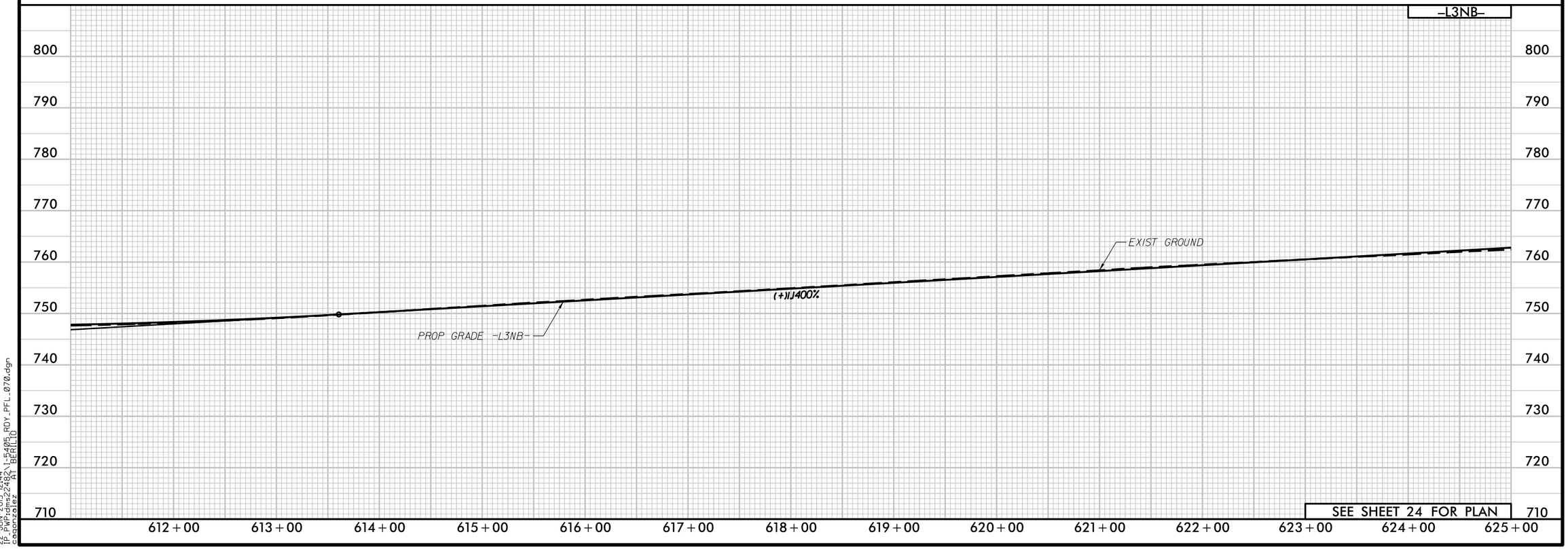
VERTICAL 0 10 20

PROJECT REFERENCE NO.	SHEET NO.
I-5405	70
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms2482\I-5405_RDY_PFL_070.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

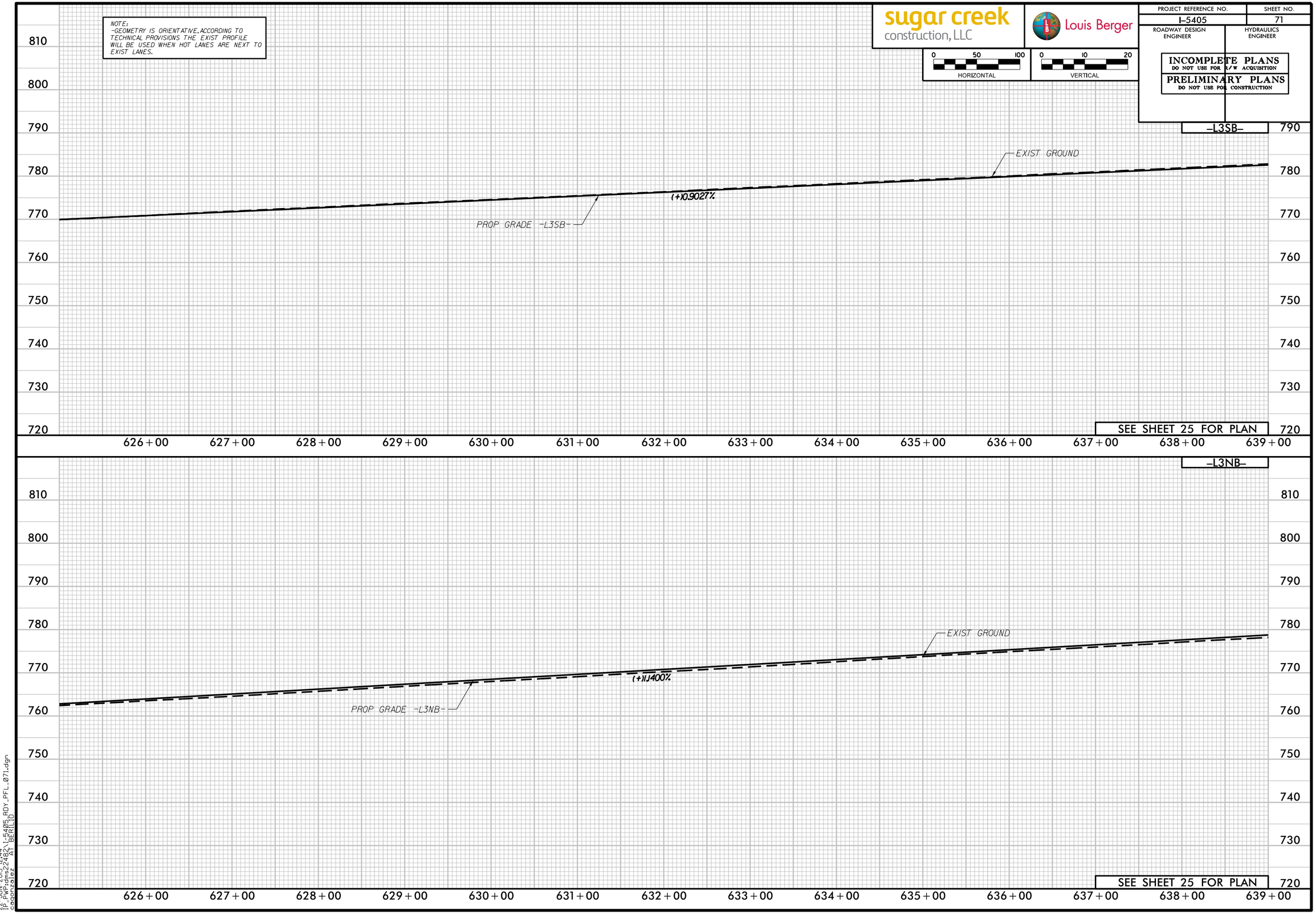
0 50 100
HORIZONTAL

0 10 20
VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	71
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_071.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

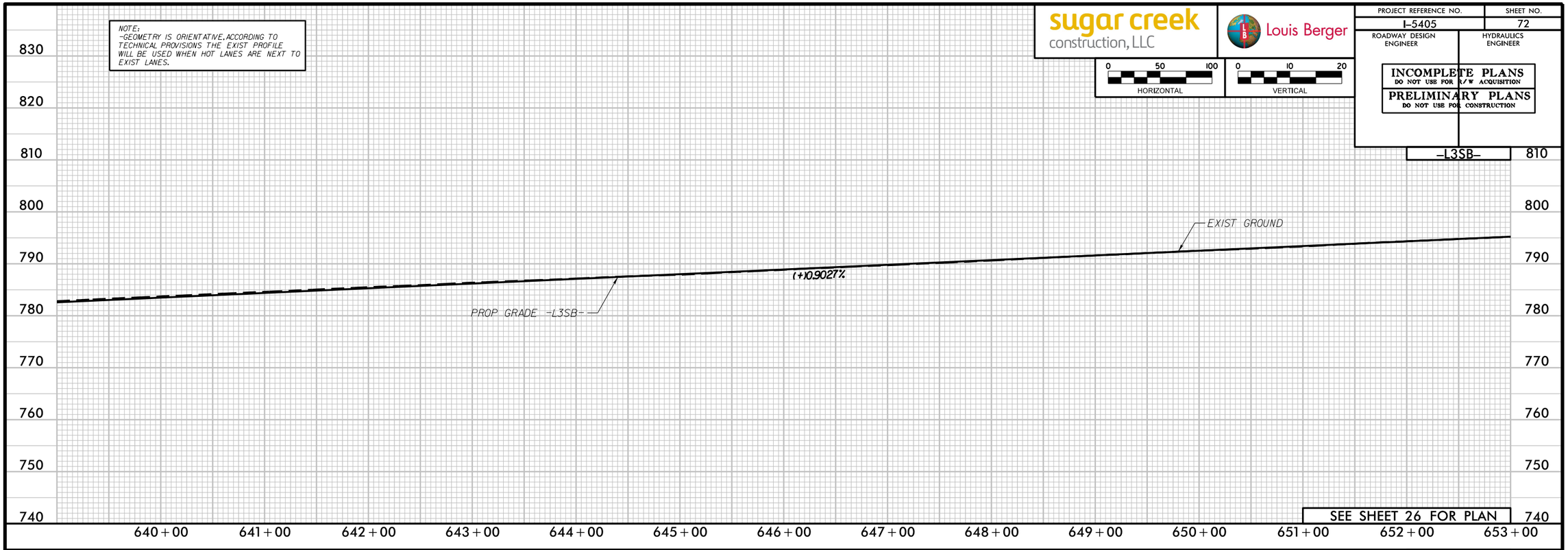
PROJECT REFERENCE NO.	SHEET NO.
I-5405	72
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_072.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	73
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

EXIST GROUND

(+)0.9027%

PROP GRADE –L3SB–

SEE SHEET 27 FOR PLAN

840 830 820 810 800 790 780 770 760 750

654+00 655+00 656+00 657+00 658+00 659+00 660+00 661+00 662+00 663+00 664+00 665+00 666+00 667+00

–L3NB–

PI = 666+36.53
EL = 809.96'
VC = 2,445'
K = 1500
DS = 70 MPH

(+)1.1400%

(-)0.4900%

EXIST GROUND

PROP GRADE –L3NB–

SEE SHEET 27 FOR PLAN

840 830 820 810 800 790 780 770 760 750

654+00 655+00 656+00 657+00 658+00 659+00 660+00 661+00 662+00 663+00 664+00 665+00 666+00 667+00

22-JUN-2015 12:44
I:\E_PWP\dms_2482\I-5405_RDY_PFL_073.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

PI = 673+63.13
EL = 813.85'
VC = 1,370'
K = 800
DS = 70 MPH

(+)0.9027%
(-)0.8102%

PROP GRADE -L3SB-

EXIST GROUND

sugar creek construction, LLC

Louis Berger

0 50 100
HORIZONTAL

0 10 20
VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	74
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L3SB-

840 830 820 810 800 790 780 770 760 750

668+00 669+00 670+00 671+00 672+00 673+00 674+00 675+00 676+00 677+00 678+00 679+00 680+00 681+00

SEE SHEET 28 FOR PLAN

-L3NB-

PROP GRADE -L3NB-

(-)0.4900%

EXIST GROUND

SEE SHEET 28 FOR PLAN

22-JUN-2015 12:44
I:\E_PWP\dms_2482\I-5405_RDY_PFL_074.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

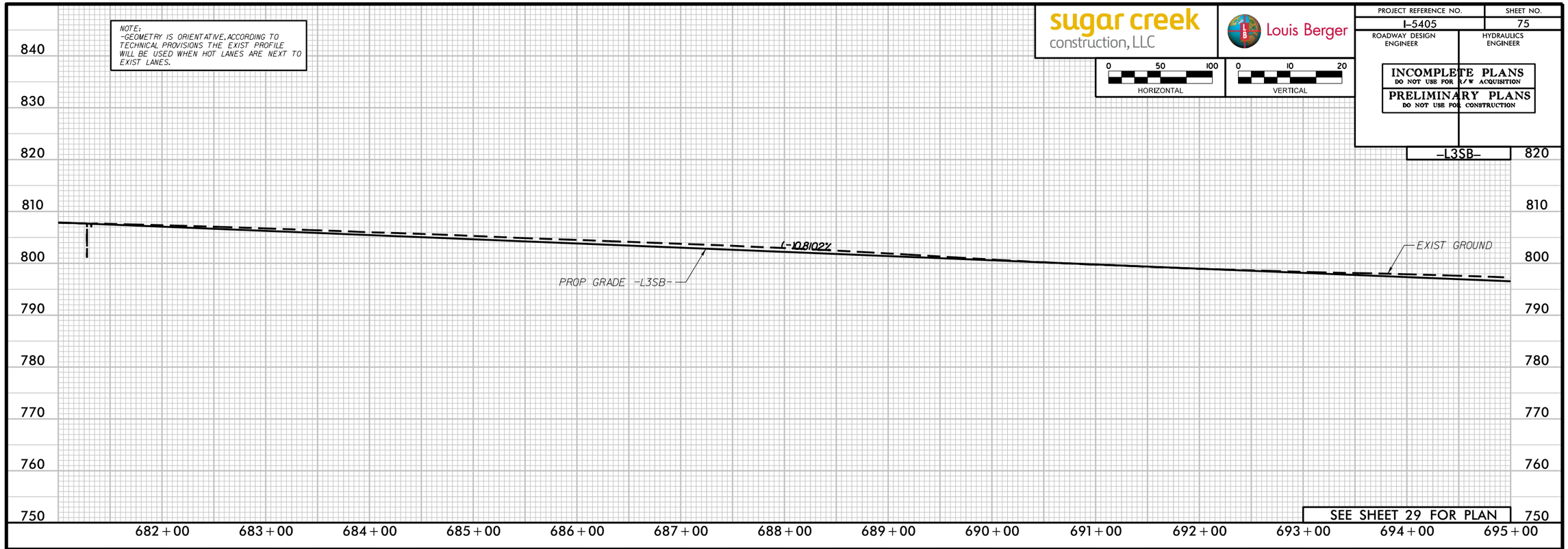
PROJECT REFERENCE NO.	SHEET NO.
I-5405	75
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

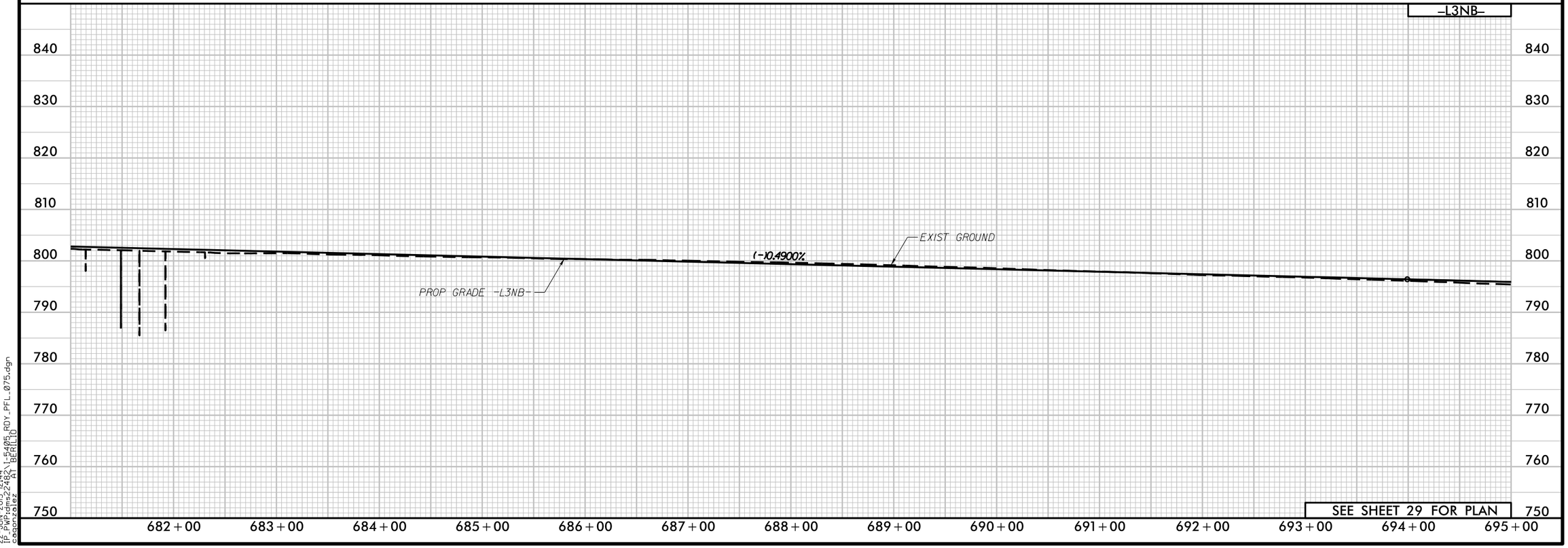
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms_2482\I-5405_RDY_PFL_075.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE. ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

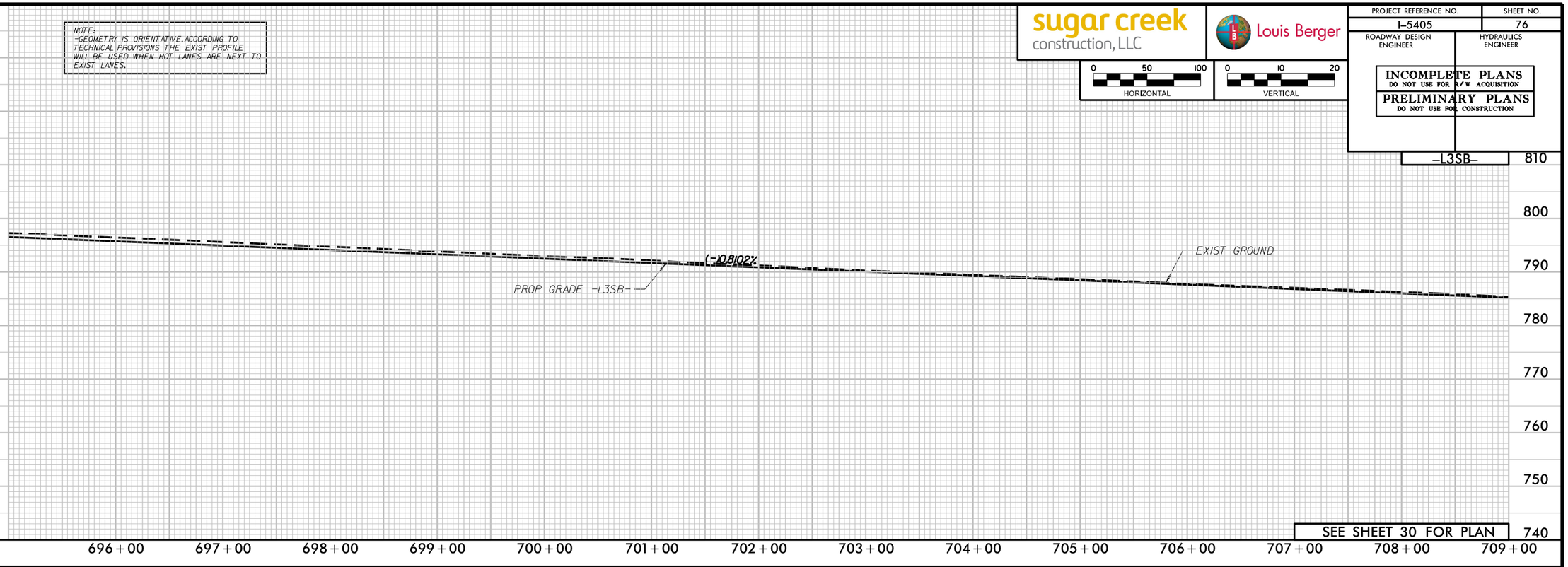
PROJECT REFERENCE NO.	SHEET NO.
I-5405	76
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



22-JUN-2015 12:44
I:\I_PWP\dms_2482\I-5405_RDY_PFL_076.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

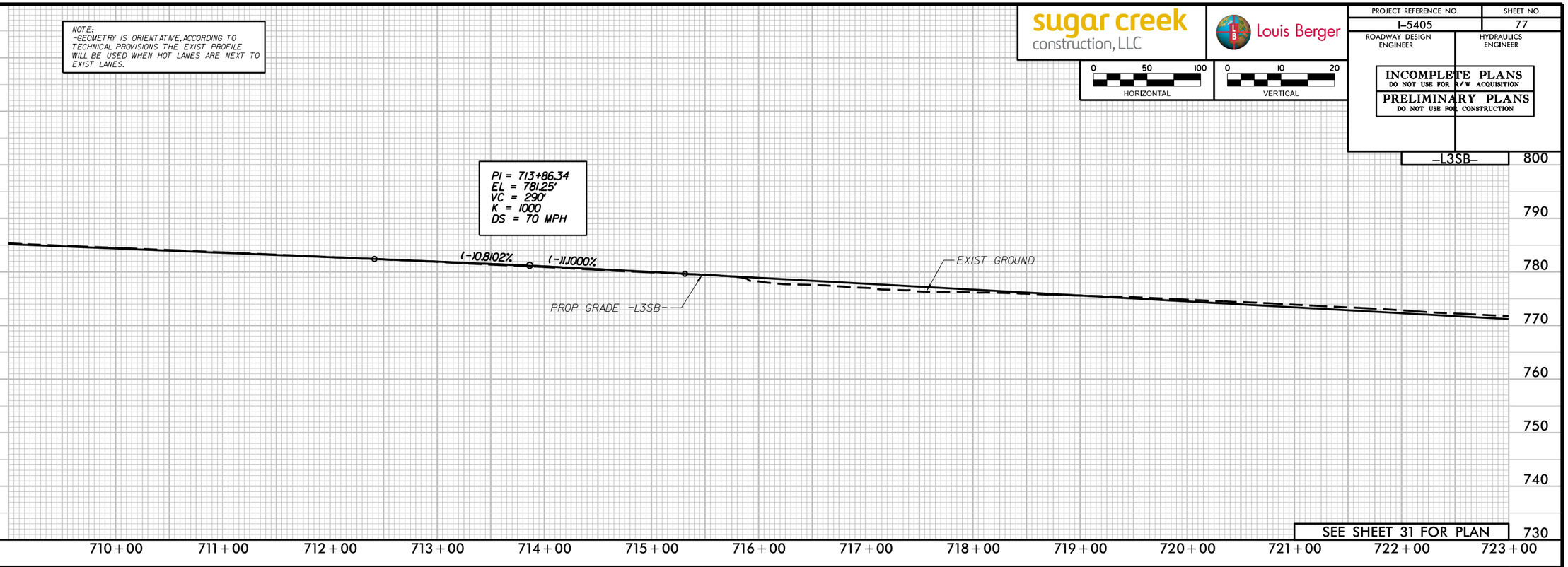
sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	77
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HORIZONTAL 0 50 100
VERTICAL 0 10 20



22-JUN-2015 12:44
I:\E_PWP\dms2482\I-5405_RDY_PFL_077.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	78
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 729+48.50
EL = 764.07'
VC = 214'
K = 1950
DS = 70 MPH

(-)1.1000%

(-)1.2100%

PROP GRADE -L3SB-

EXIST GROUND

-L3SB-

SEE SHEET 32 FOR PLAN

800 790 780 770 760 750 740 730 720 710

724+00 725+00 726+00 727+00 728+00 729+00 730+00 731+00 732+00 733+00 734+00 735+00 736+00 737+00

-L3NB-

(-)1.1700%

PROP GRADE -L3NB-

EXIST GROUND

SEE SHEET 32 FOR PLAN

800 790 780 770 760 750 740 730 720 710

724+00 725+00 726+00 727+00 728+00 729+00 730+00 731+00 732+00 733+00 734+00 735+00 736+00 737+00

22-JUN-2015 12:44
I:\I-5405_2482\I-5405_RDY_PFL_078.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

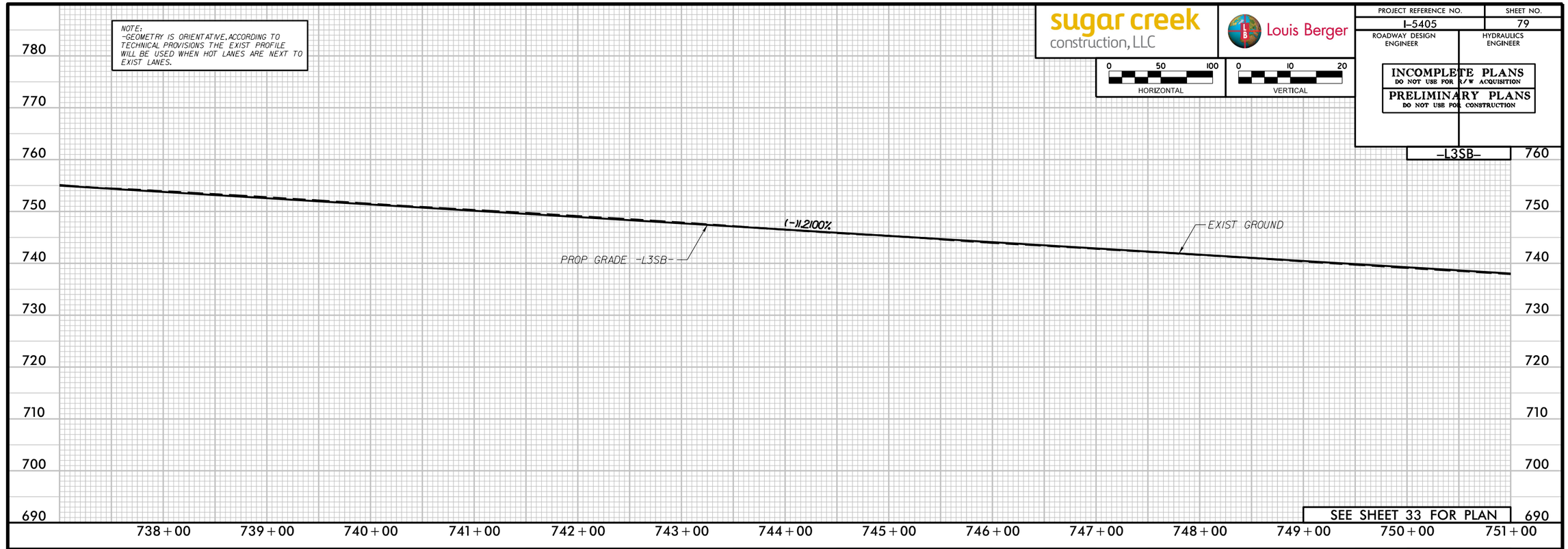
PROJECT REFERENCE NO.	SHEET NO.
I-5405	79
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

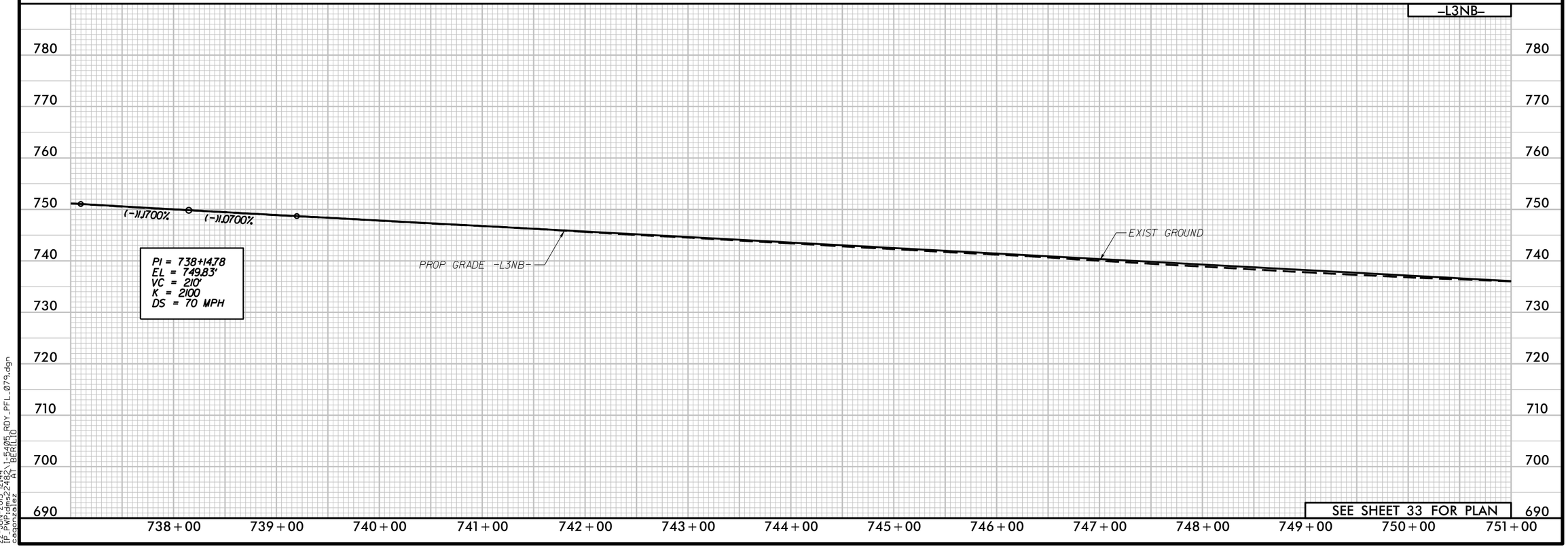
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms2482\I-5405_RDY_PFL_079.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	80

ROADWAY DESIGN ENGINEER

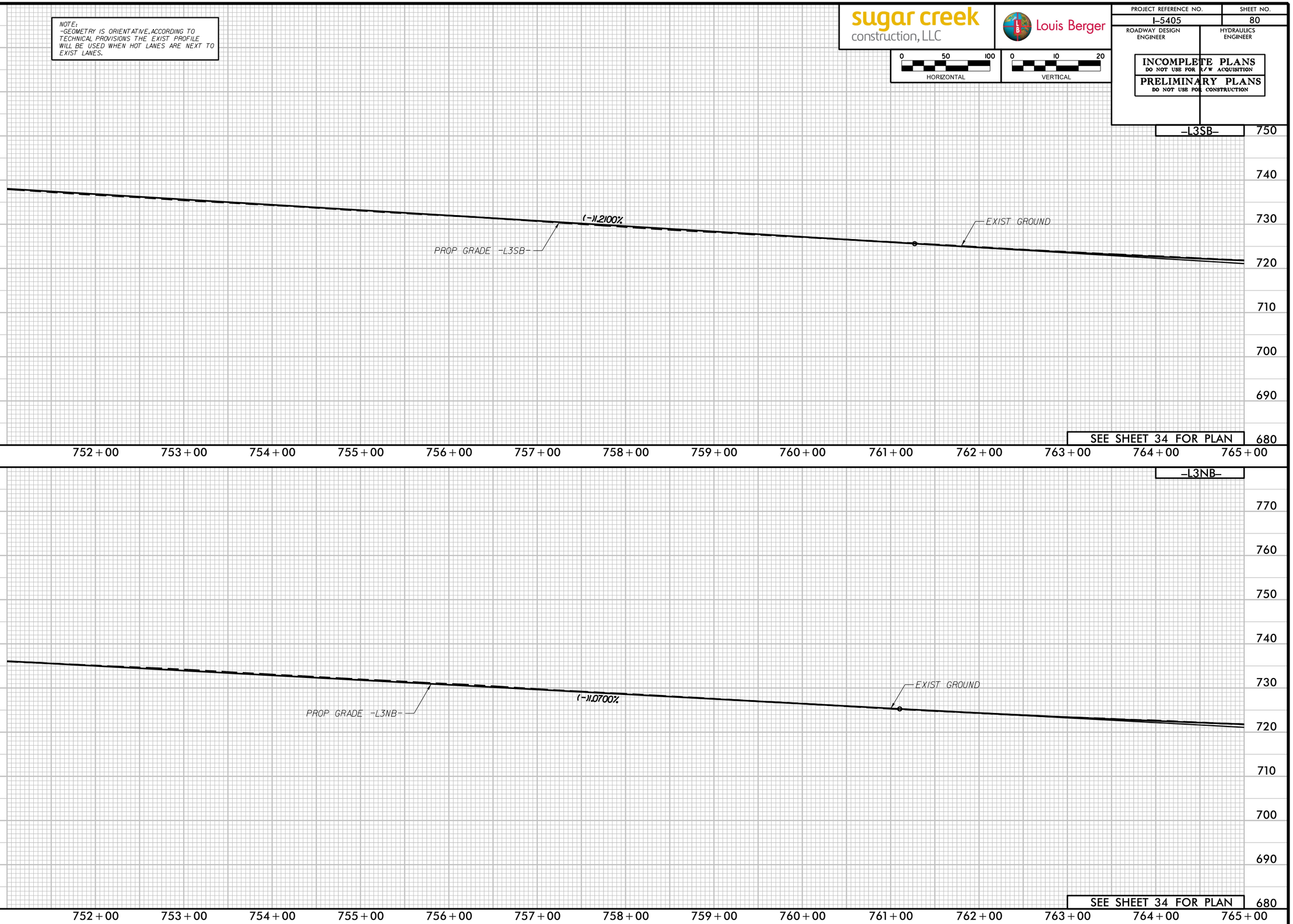
HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



22-JUN-2015 12:44
I:\I-5405_2482\I-5405_RDY_PFL_080.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

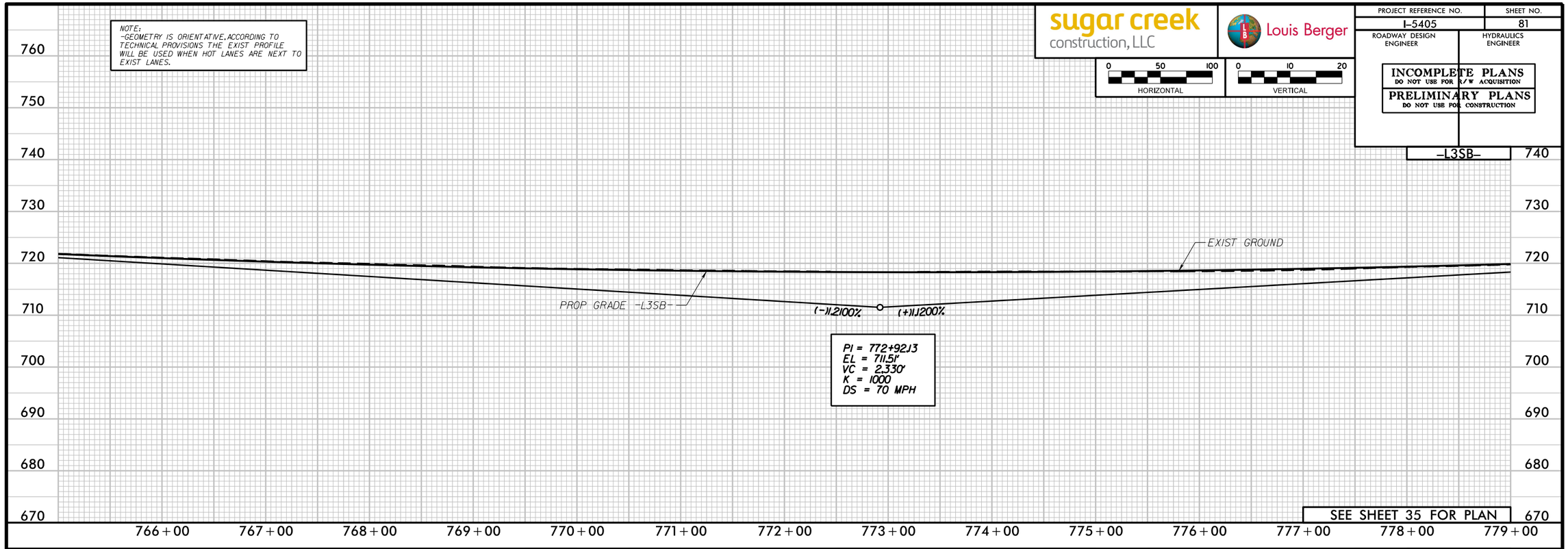
PROJECT REFERENCE NO.	SHEET NO.
I-5405	81
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

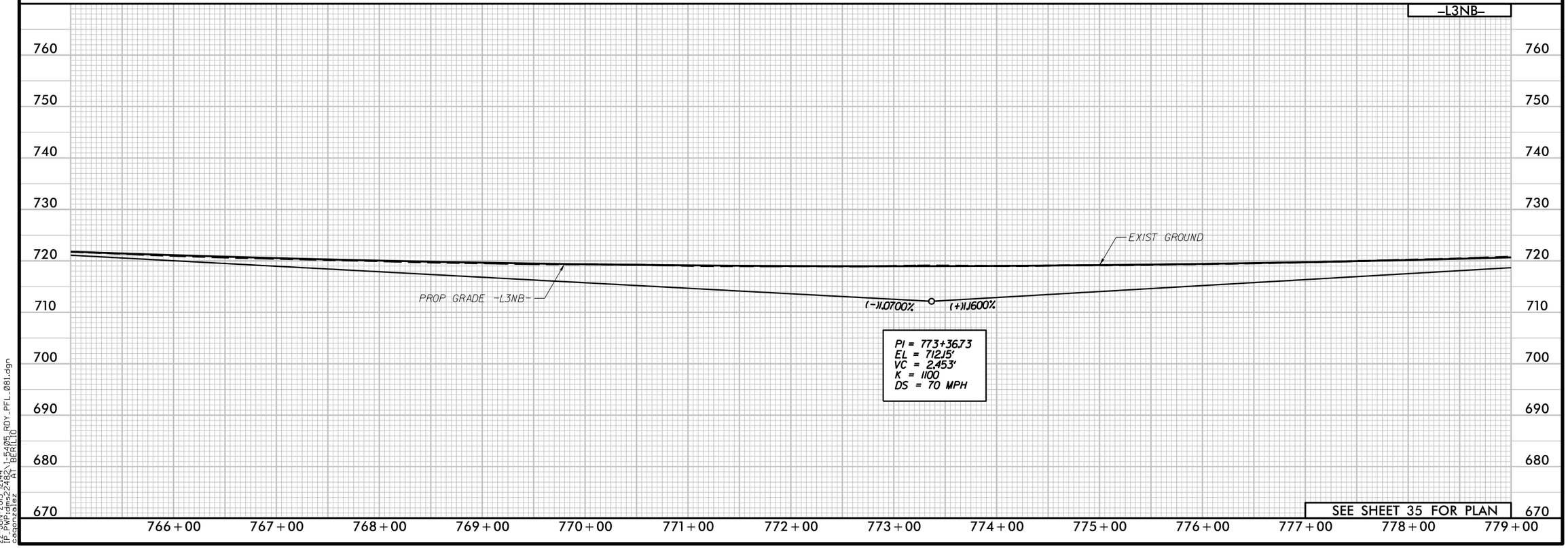
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_081.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

0 50 100 HORIZONTAL

0 10 20 VERTICAL

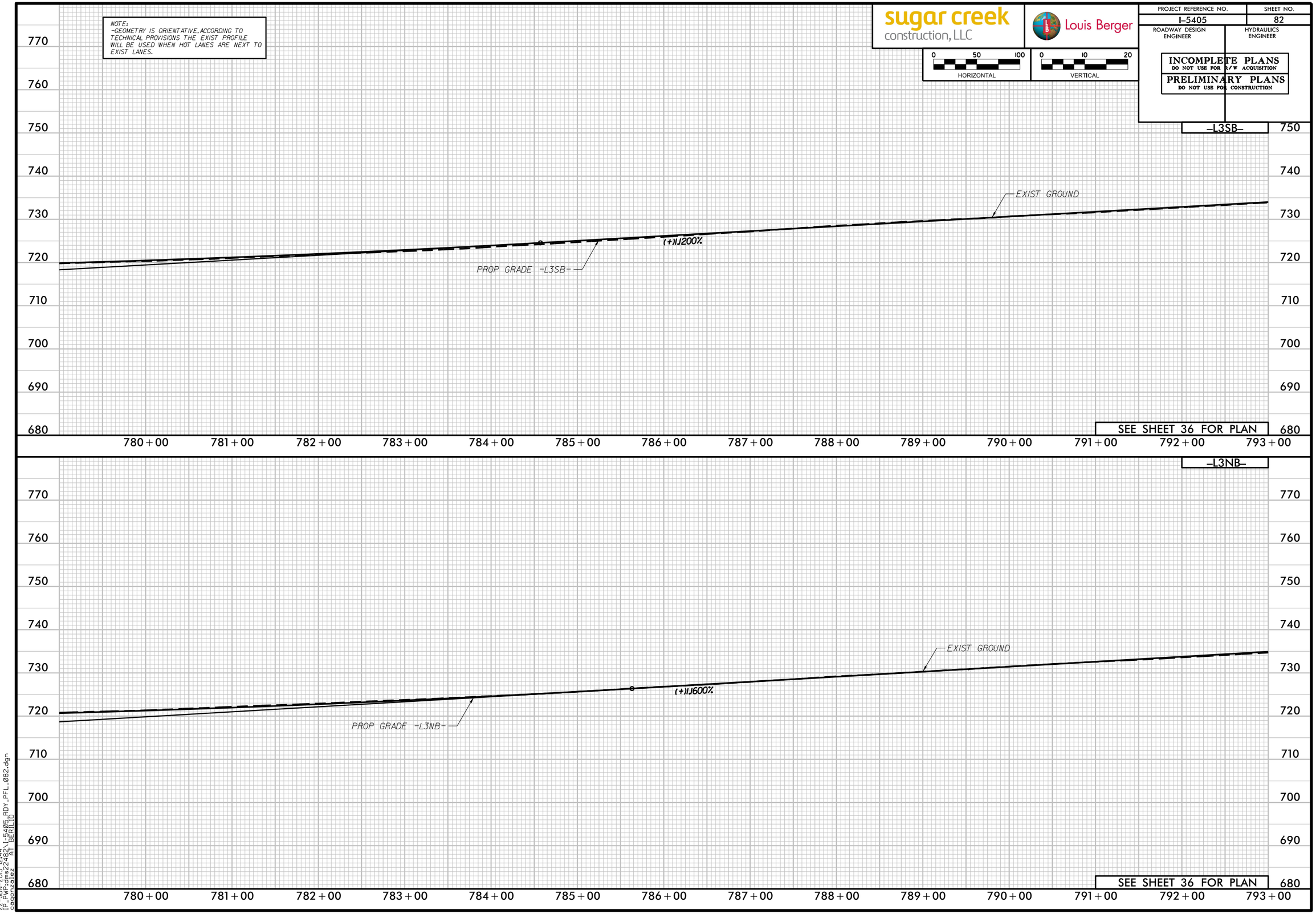
PROJECT REFERENCE NO.	SHEET NO.
I-5405	82

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_082.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	83

ROADWAY DESIGN ENGINEER

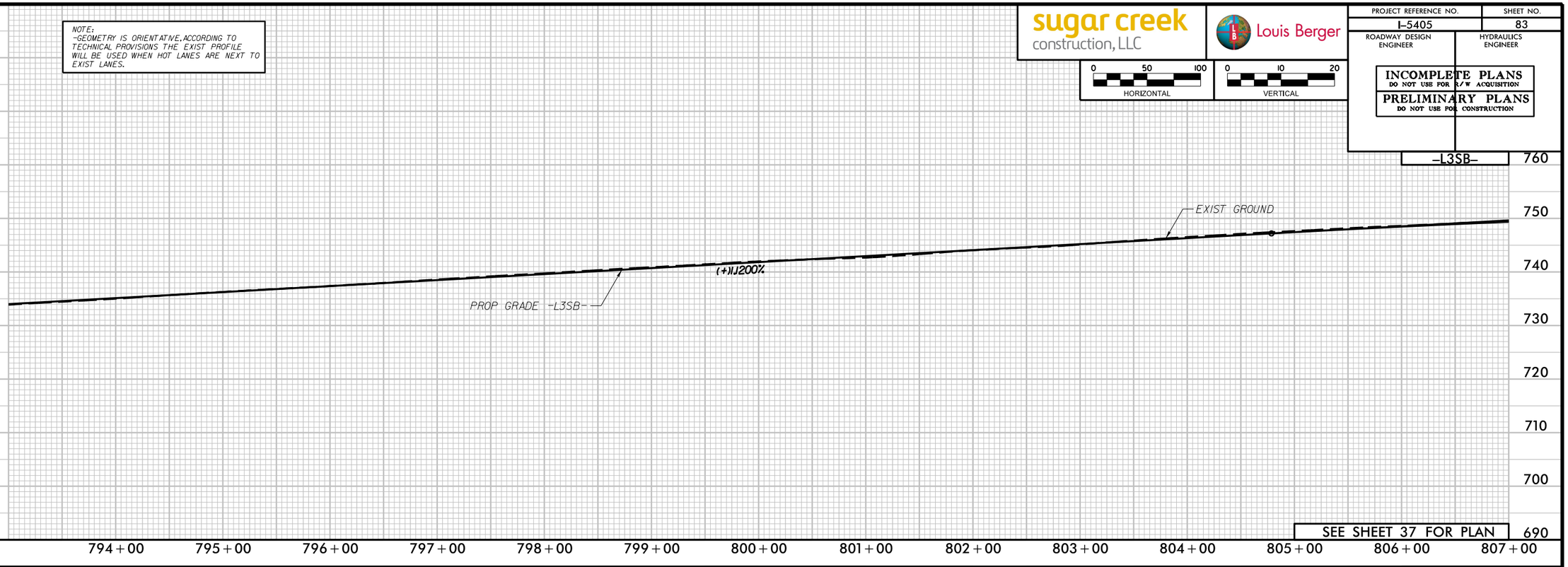
HYDRAULICS ENGINEER

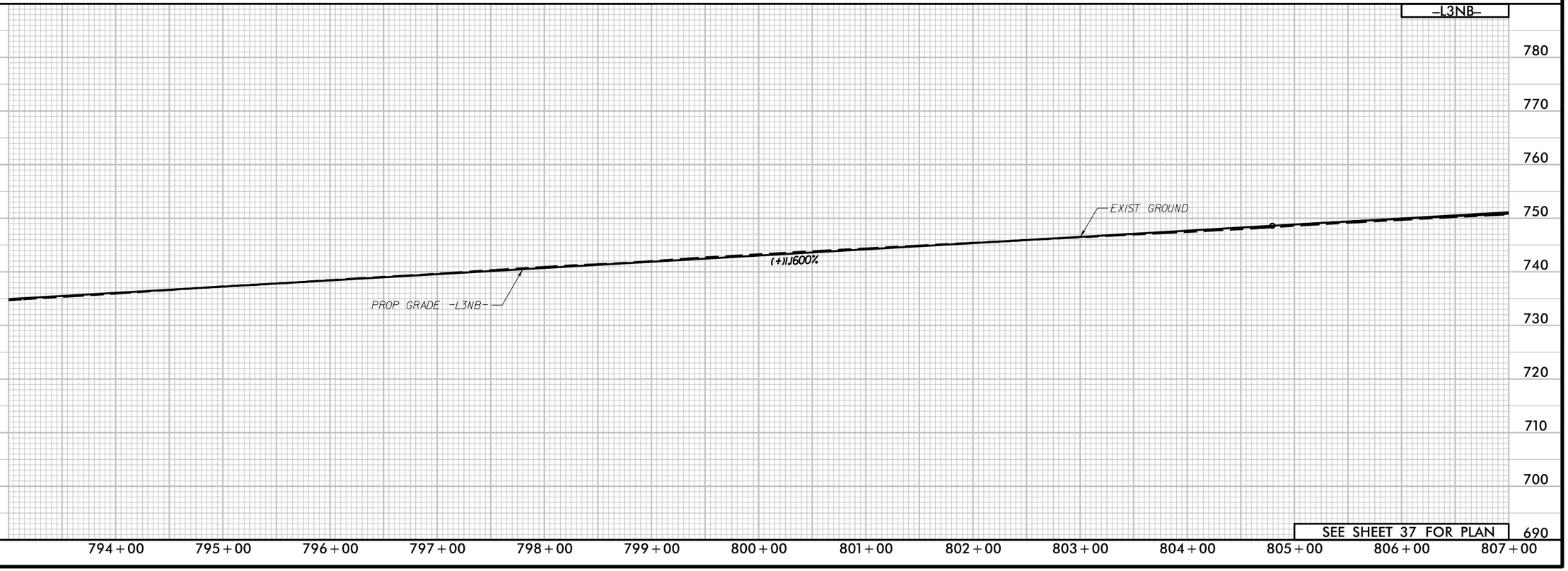
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms_2482\I-5405_RDY_PFL_083.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	84

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 812+18.56
EL = 755.49'
VC = 1,480'
K = 800
DS = 70 MPH

(+)11.1200%

(-)10.7300%

EXIST GROUND

PROP GRADE -L3SB-

-L3SB-

SEE SHEET 38 FOR PLAN

790 780 770 760 750 740 730 720 710 700

808+00 809+00 810+00 811+00 812+00 813+00 814+00 815+00 816+00 817+00 818+00 819+00 820+00 821+00

-L3NB-

PI = 812+41.75
EL = 757.44'
VC = 1,525'
K = 770
DS = 70 MPH

(+)11.1600%

(-)10.8200%

EXIST GROUND

PROP GRADE -L3NB-

SEE SHEET 38 FOR PLAN

790 780 770 760 750 740 730 720 710 700

808+00 809+00 810+00 811+00 812+00 813+00 814+00 815+00 816+00 817+00 818+00 819+00 820+00 821+00

22-JUN-2015 12:44
I:\I_5405_RDY_PFL_084.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	85

ROADWAY DESIGN ENGINEER

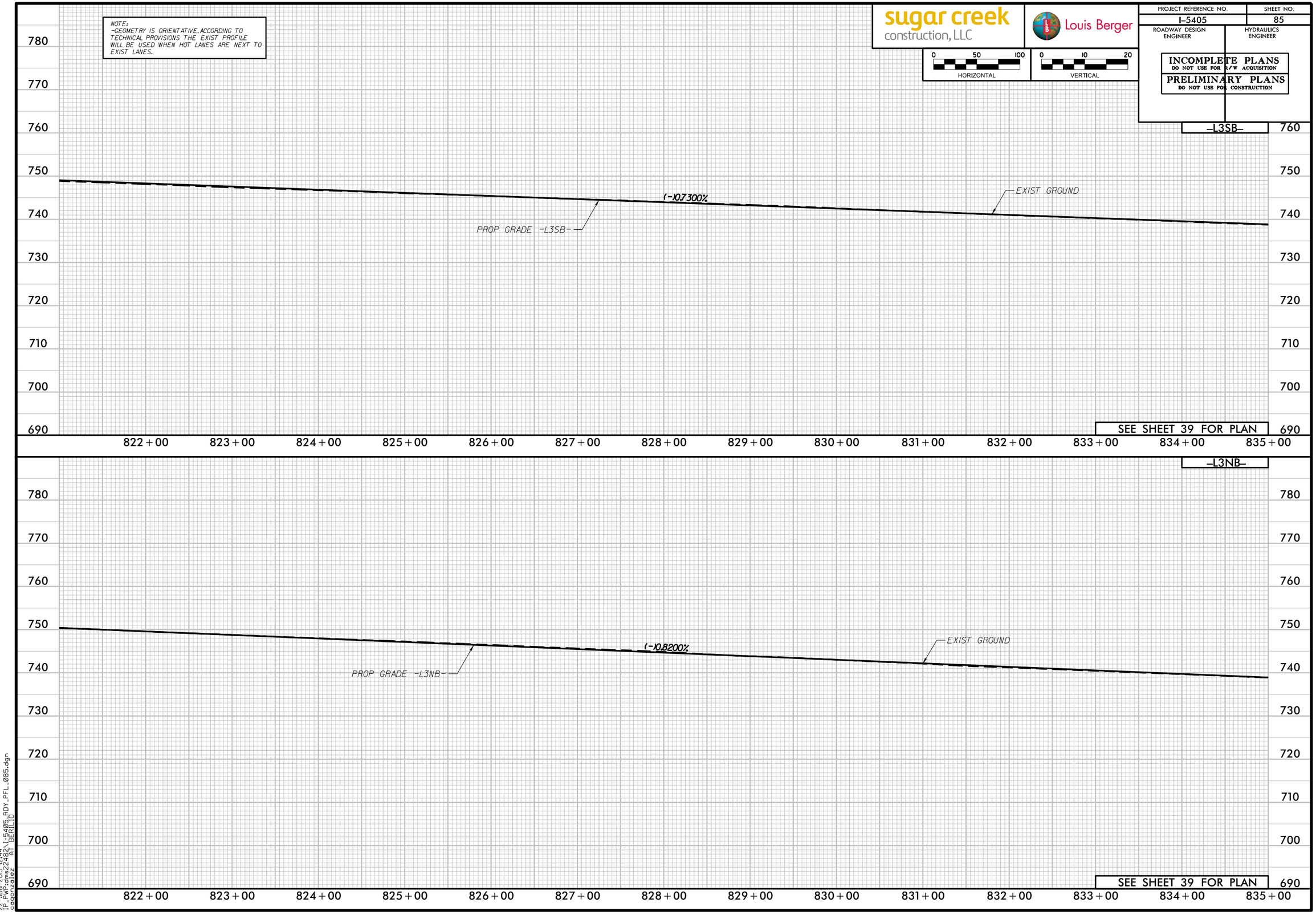
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HORIZONTAL 0 50 100

VERTICAL 0 10 20



22-JUN-2015 12:44
I:\I-5405_2482\I-5405_RDY_PFL_085.dgn
cagonzalez
ANSI B (11.00 x 17.00 Inches)

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	86
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

PI = 839+66.94
EL = 735.43'
VC = 769'
K = 450
DS = 70 MPH

(-)0.7300%

(+)0.9800%

EXIST. GROUND

PROP GRADE –L3SB–

780 770 760 750 740 730 720 710 700 690

836+00 837+00 838+00 839+00 840+00 841+00 842+00 843+00 844+00 845+00 846+00 847+00 848+00 849+00

SEE SHEET 40 FOR PLAN

–L3NB–

PI = 839+44.69
EL = 735.28'
VC = 808'
K = 470
DS = 70 MPH

(-)0.8200%

(+)0.9000%

EXIST. GROUND

PROP GRADE –L3NB–

780 770 760 750 740 730 720 710 700 690

836+00 837+00 838+00 839+00 840+00 841+00 842+00 843+00 844+00 845+00 846+00 847+00 848+00 849+00

SEE SHEET 40 FOR PLAN

22-JUN-2015 12:44
I:\I-5405_2482\I-5405_RDY_PFL_086.dgn
cagonzalez
BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	87
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

EXIST GROUND

(+)0.9800%

PROP GRADE –L3SB–

790 780 770 760 750 740 730 720 710 700

850+00 851+00 852+00 853+00 854+00 855+00 856+00 857+00 858+00 859+00 860+00 861+00 862+00 863+00

SEE SHEET 41 FOR PLAN

–L3NB–

EXIST GROUND

(+)0.9000%

PROP GRADE –L3NB–

790 780 770 760 750 740 730 720 710 700

850+00 851+00 852+00 853+00 854+00 855+00 856+00 857+00 858+00 859+00 860+00 861+00 862+00 863+00

SEE SHEET 41 FOR PLAN

22-JUN-2015 12:44
I:_PWP\dms_2482\I-5405_RDY_PFL_087.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

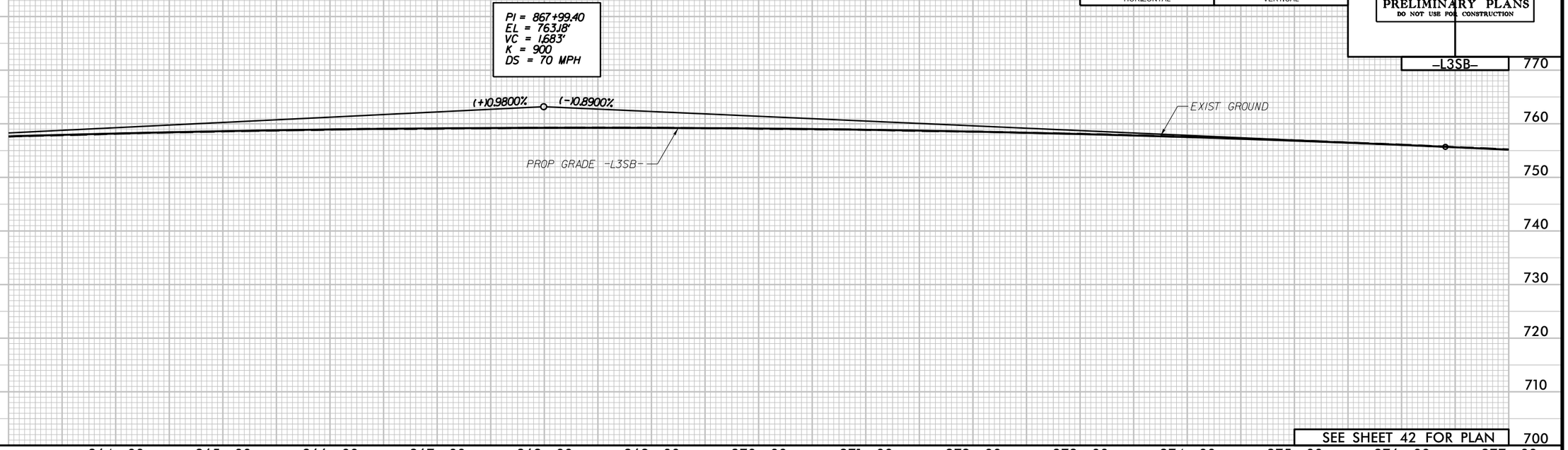
PROJECT REFERENCE NO.	SHEET NO.
I-5405	88
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

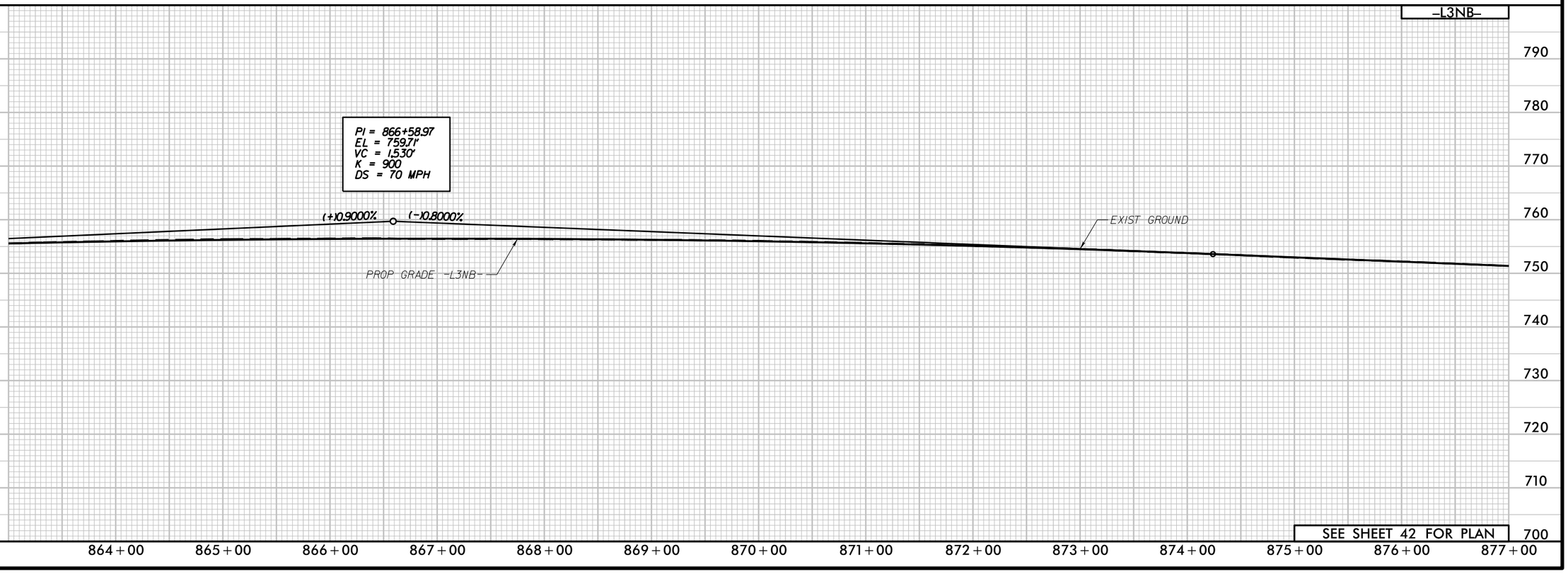
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms_2482\I-5405_RDY_PFL_088.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

HORIZONTAL 0 50 100

VERTICAL 0 10 20

PROJECT REFERENCE NO.	SHEET NO.
I-5405	89

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

EXIST GROUND

PROP GRADE -L3SB-

(-)10.8900%

(+)11.2300%

PI = 886+06.85
EL = 747.10'
VC = 1,484'
K = 700
DS = 70 MPH

SEE SHEET 43 FOR PLAN

790 780 770 760 750 740 730 720 710 700

878+00 879+00 880+00 881+00 882+00 883+00 884+00 885+00 886+00 887+00 888+00 889+00 890+00 891+00

–L3NB–

EXIST GROUND

PROP GRADE -L3NB-

(-)10.8000%

(+)11.2500%

PI = 885+84.73
EL = 744.30'
VC = 1,435'
K = 700
DS = 70 MPH

SEE SHEET 43 FOR PLAN

790 780 770 760 750 740 730 720 710 700

878+00 879+00 880+00 881+00 882+00 883+00 884+00 885+00 886+00 887+00 888+00 889+00 890+00 891+00

22-JUN-2015 12:44
I:\E_PWP_dms\2482\I-5405_RDY_PFL_0889.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	90

ROADWAY DESIGN ENGINEER

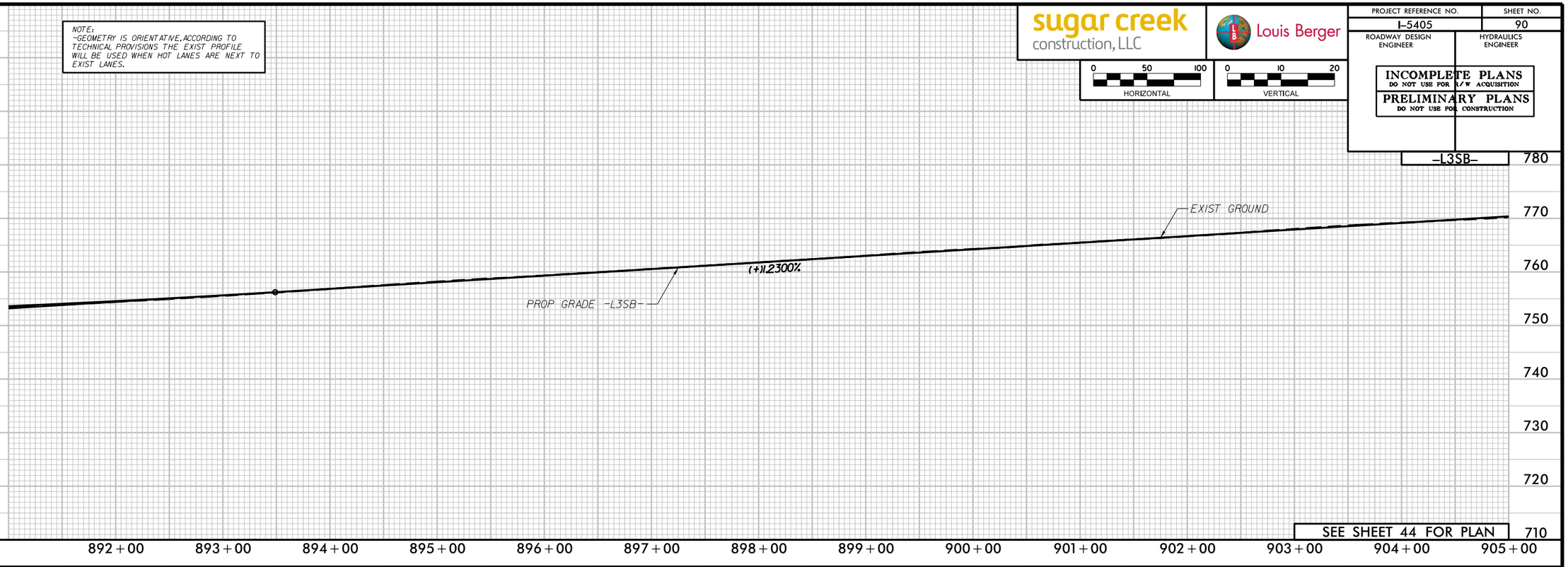
HYDRAULICS ENGINEER

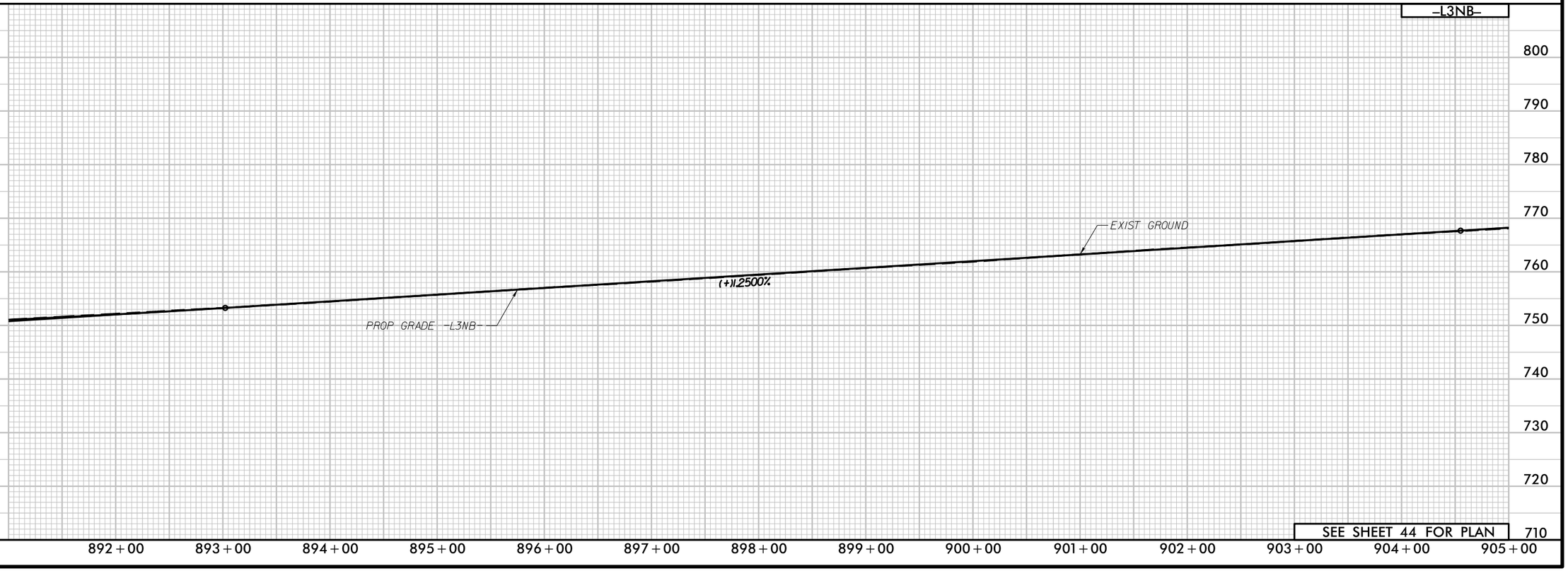
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms2482\I-5405_RDY_PFL_090.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

0 50 100 HORIZONTAL

0 10 20 VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	91
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

EXIST GROUND

(+)11.2300%

(–)12.2800%

PROP GRADE –L3SB–

PI = 917+08.44
EL = 785.25'
VC = 1,966'
K = 560
DS = 70 MPH

SEE SHEET 45 FOR PLAN

810 800 790 780 770 760 750 740 730 720

906+00 907+00 908+00 909+00 910+00 911+00 912+00 913+00 914+00 915+00 916+00 917+00 918+00 919+00

–L3NB–

PI = 914+58.09
EL = 780.22'
VC = 2,006'
K = 680
DS = 70 MPH

(+)1.2500%

(–)1.7000%

EXIST GROUND

PROP GRADE –L3NB–

SEE SHEET 45 FOR PLAN

810 800 790 780 770 760 750 740 730 720

906+00 907+00 908+00 909+00 910+00 911+00 912+00 913+00 914+00 915+00 916+00 917+00 918+00 919+00

22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_091.dgn
cagonzalez
BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

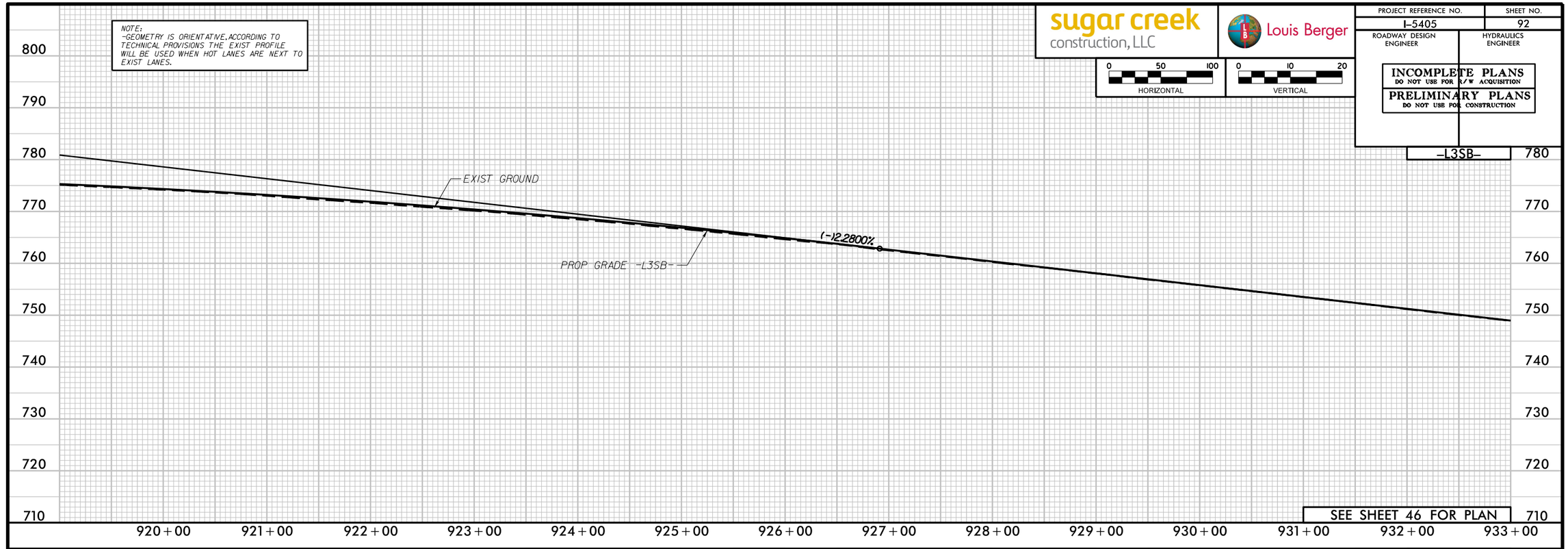
PROJECT REFERENCE NO.	SHEET NO.
I-5405	92
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

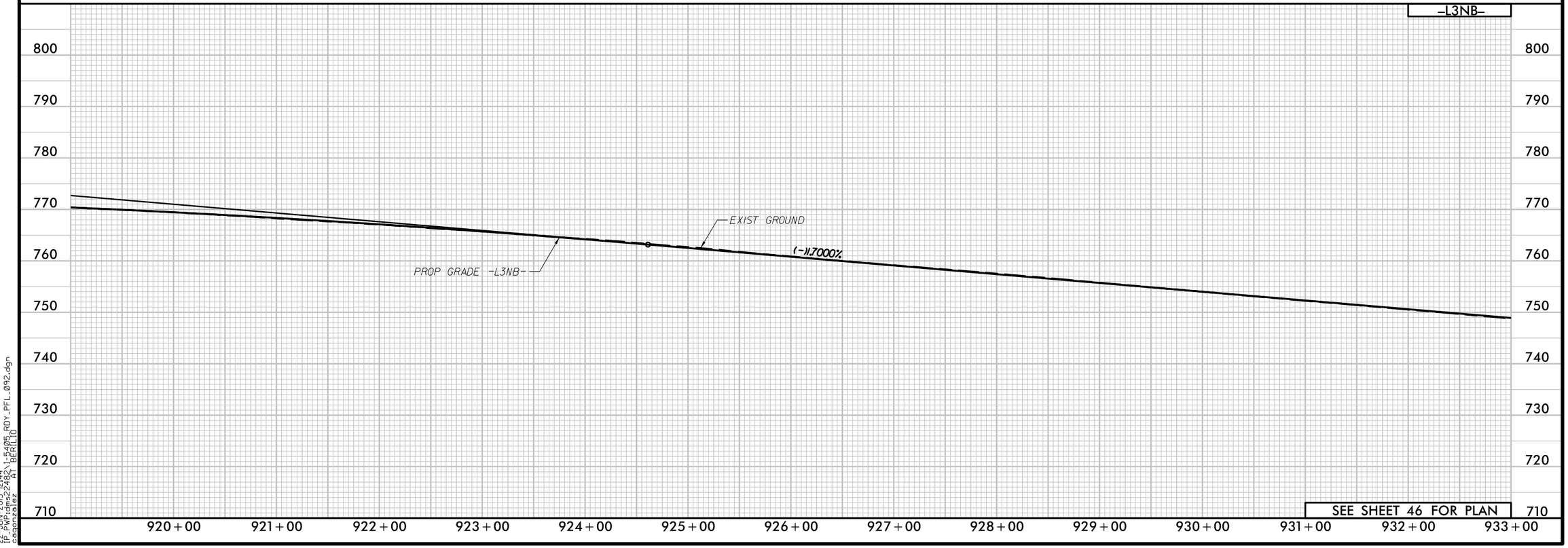
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_092.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE.ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

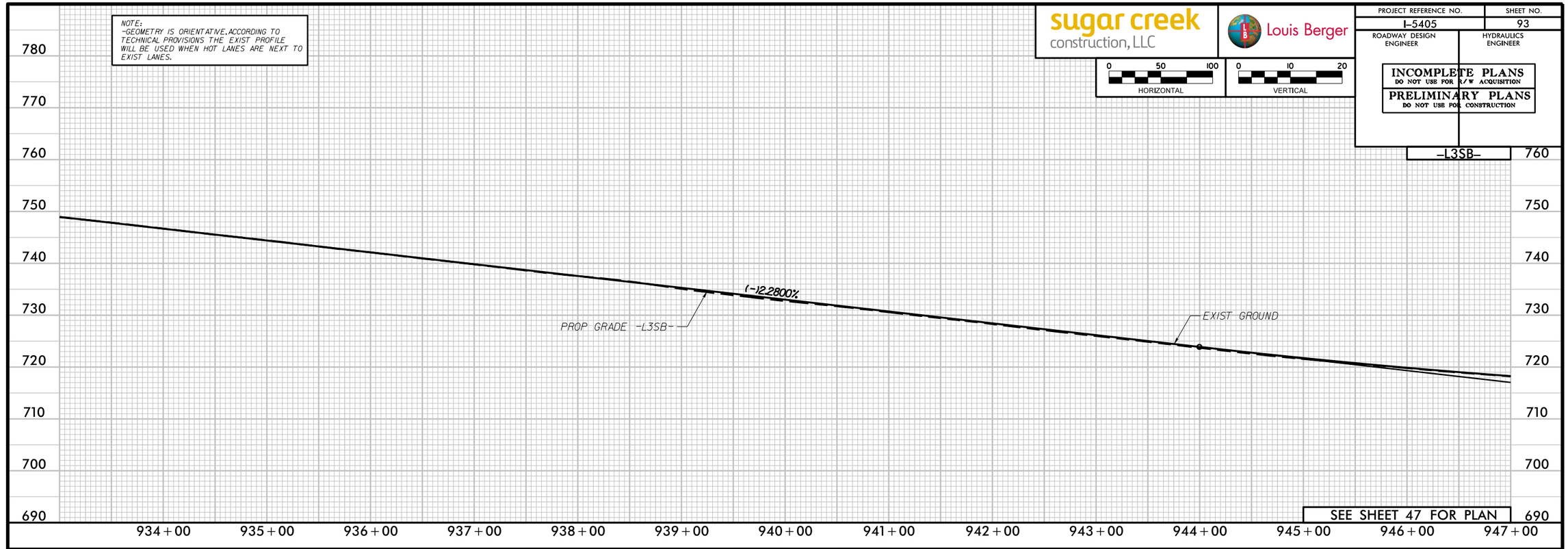
PROJECT REFERENCE NO.	SHEET NO.
I-5405	93
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

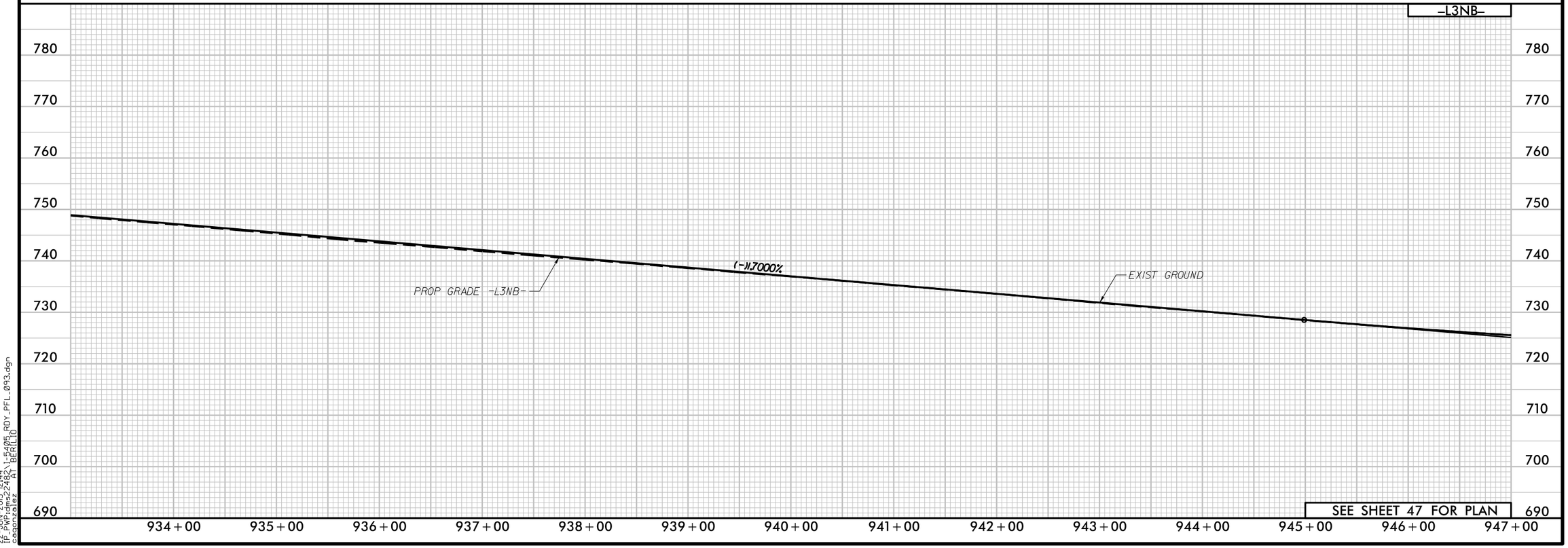
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\E_PWP\dms_2482\I-5405_RDY_PFL_093.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

0 50 100 HORIZONTAL

0 10 20 VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	94

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SB–

EXIST GROUND

PROP GRADE –L3SB–

(-)12.2800% (+)12.6000%

PI = 953+02.46
EL = 703.30'
VC = 1.806'
K = 370
DS = 70 MPH

SEE SHEET 48 FOR PLAN

770 760 750 740 730 720 710 700 690 680

948+00 949+00 950+00 951+00 952+00 953+00 954+00 955+00 956+00 957+00 958+00 959+00 960+00 961+00

–L3NB–

EXIST GROUND

PROP GRADE –L3NB–

(-)11.7000% (+)12.5300%

PI = 954+71.76
EL = 711.99'
VC = 1.946'
K = 460
DS = 70 MPH

SEE SHEET 48 FOR PLAN

770 760 750 740 730 720 710 700 690 680

948+00 949+00 950+00 951+00 952+00 953+00 954+00 955+00 956+00 957+00 958+00 959+00 960+00 961+00

22-JUN-2015 12:44
I:\E_PWP\dms22482\I-5405_RDY_PFL_094.dgn
cagonzalez
ANSI B (11.00 x 17.00 Landscape)

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	95

ROADWAY DESIGN ENGINEER

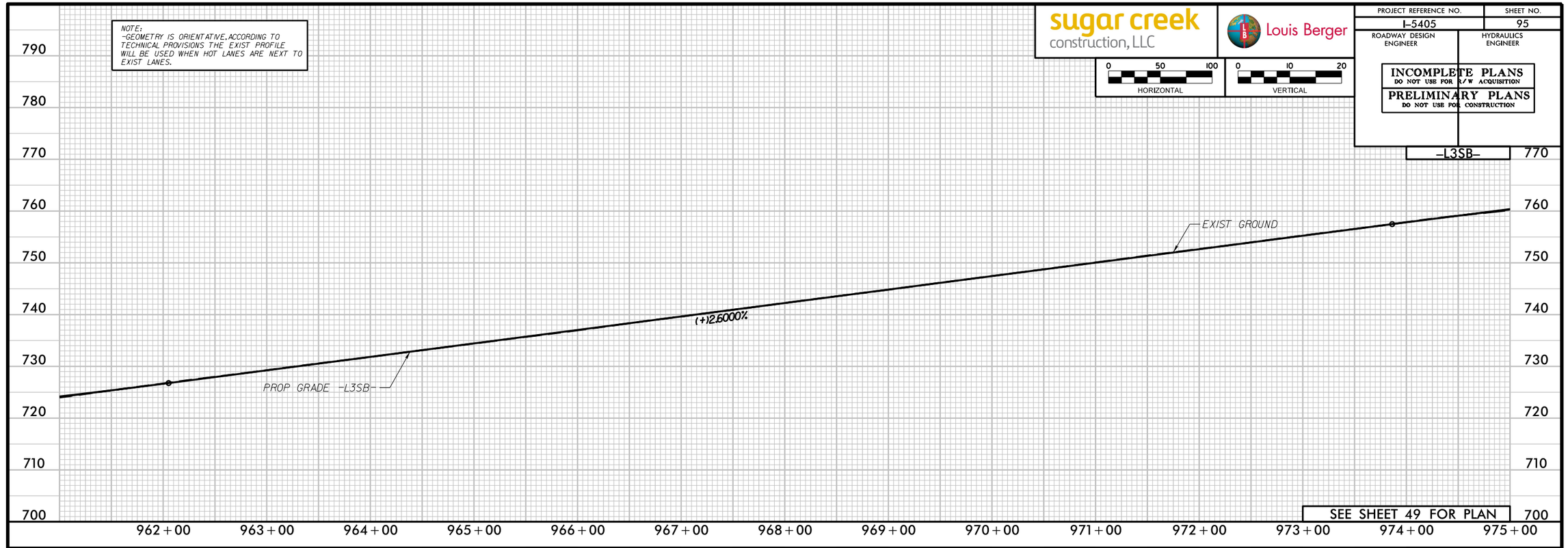
HYDRAULICS ENGINEER

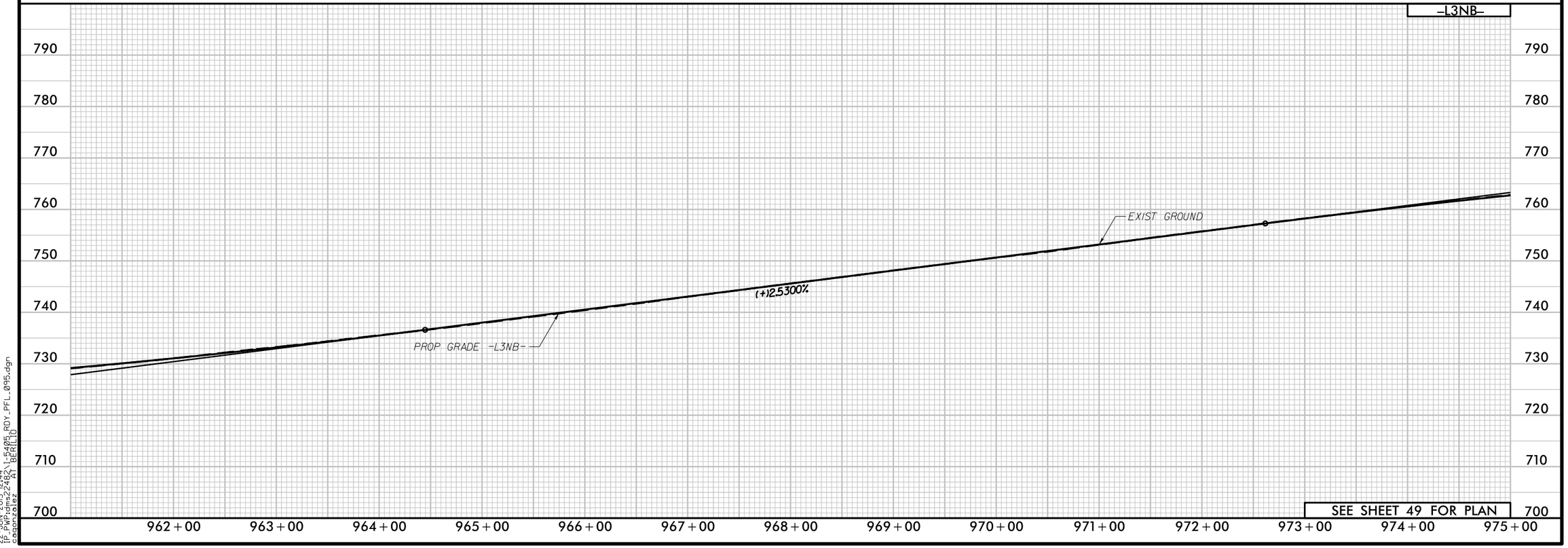
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





22-JUN-2015 12:44
I:\I-5405_2482\I-5405_RDY_PFL_095.dgn
cagonzalez
ANSI BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	96

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L3SBHOT01-

EXIST GROUND

PROP GRADE -L3SBHOT01-

SEE SHEET 20 FOR PLAN

568+00 569+00

810 800 790 780 770 760 750 740 730 720

810 800 790 780 770 760 750 740 730 720

22-JUN-2015 12:45
I:\I_PWP_dms_2482\I-5405_RDY_PFL_096.dgn
cagonzalez
A1 BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

HORIZONTAL 0 50 100

VERTICAL 0 10 20

PROJECT REFERENCE NO.	SHEET NO.
I-5405	97
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SBHOT01–

PROP GRADE –L3SBHOT01–

(+)0.3000%

EXIST GROUND

SEE SHEET 21 FOR PLAN

–L3NBHOT01–

769.88

PROP GRADE –L3NBHOT01–

EXIST GROUND

SEE SHEET 21 FOR PLAN

810 800 790 780 770 760 750 740 730 720

569+00 570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00 578+00 579+00 580+00 581+00 582+00 583+00

22-JUN-2015 12:45
I:\E_PWP\dms_2482\I-5405_RDY_PFL_097.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	98
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 583+10.22
EL = 775.09'
VC = 500'
K = 500
DS = 70 MPH

(+)0.3000%
(-)0.7000%

PROP GRADE -L3SBHOT01-

EXIST GROUND

-L3SBHOT01-

SEE SHEET 22 FOR PLAN

810 800 790 780 770 760 750 740 730 720

584+00 585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00 593+00 594+00 595+00 596+00 597+00

-L3NBHOT01-

PI = 584+74.44
EL = 774.16'
VC = 1,008'
K = 1200
DS = 70 MPH

(-)0.3000%
(-)1.1400%

PROP GRADE -L3NBHOT01-

EXIST GROUND

SEE SHEET 22 FOR PLAN

22-JUN-2015 12:45
I:\E_PW\dms2482\I-5405_RDY_PFL_098.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	99

ROADWAY DESIGN ENGINEER

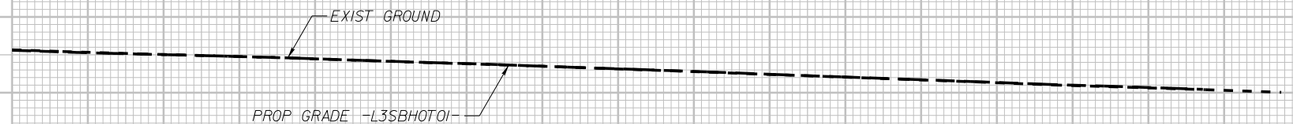
HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

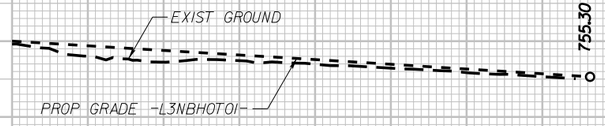


-L3SBHOT01-

SEE SHEET 23 FOR PLAN

598+00 599+00 600+00

-L3NBHOT01-



SEE SHEET 23 FOR PLAN

598+00 599+00 600+00

22-JUN-2015 12:45
I:\Projects\2482\I-5405_RDY_PFL_099.dgn
cagonzalez
ANSI B (11.00 x 17.00 Inches)

NOTE:
-GEOMETRY IS ORIENTATIVE,ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

0 50 100
HORIZONTAL

0 10 20
VERTICAL

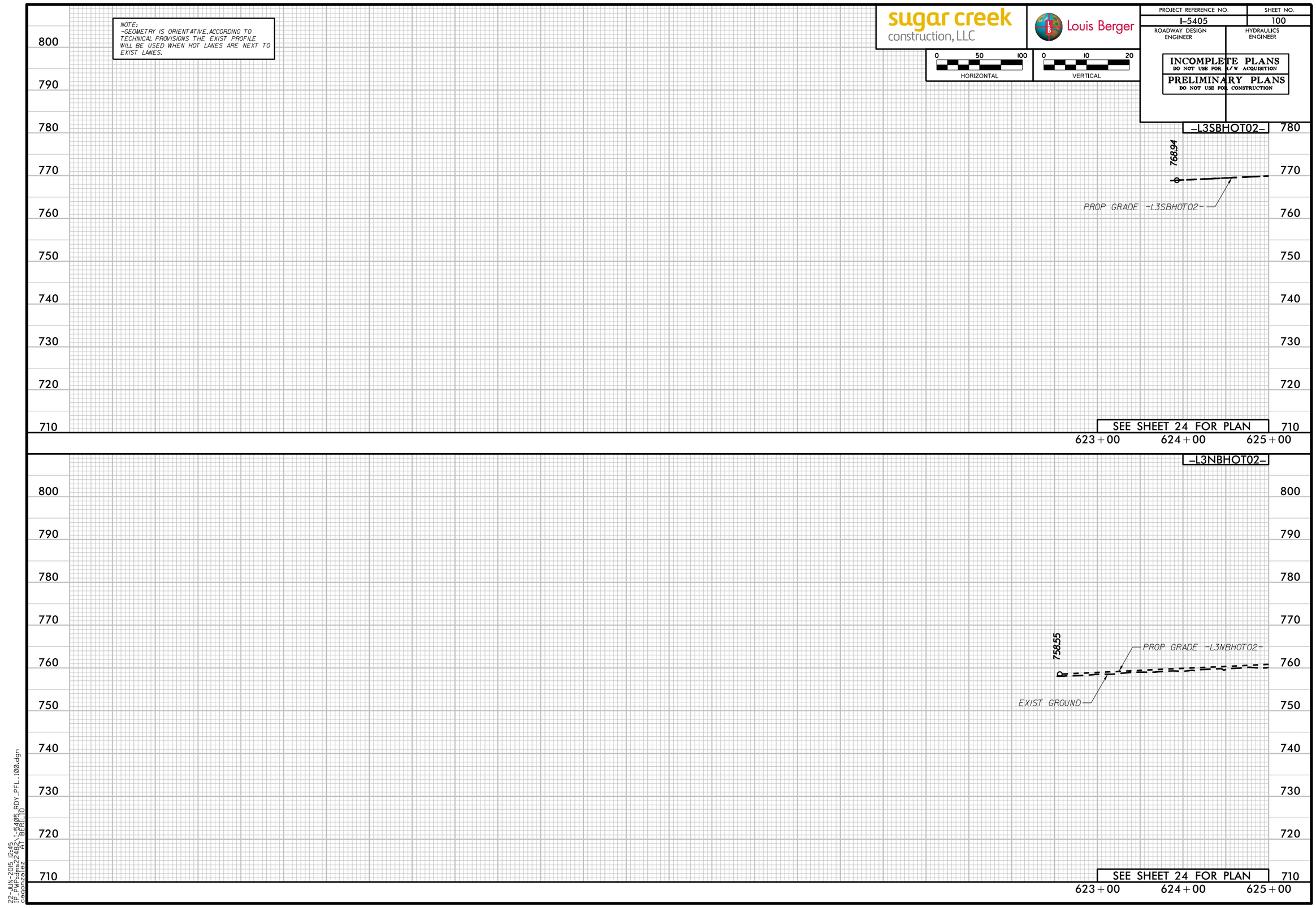
PROJECT REFERENCE NO.	SHEET NO.
I-5405	100

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



22-JUN-2015 12:45
I:\E_PWP\dmz2482\I-5405_RDY_PFL_100.dgn
cagonzalez
A1 BERL10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
I-5405	101
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SBHOT02–

PI = 632+92.05
EL = 777.06'
VC = 321'
K = 247
DS = 70 MPH

(+)0.3000%

(–)1.0000%

EXIST GROUND

PROP GRADE –L3SBHOT02–

(–)1.0000%

(+)1.2200%

PI = 638+50.75
EL = 771.47'
VC = 402'
K = 181
DS = 70 MPH

SEE SHEET 25 FOR PLAN

810 800 790 780 770 760 750 740 730 720

625+00 626+00 627+00 628+00 629+00 630+00 631+00 632+00 633+00 634+00 635+00 636+00 637+00 638+00 639+00

–L3NBHOT02–

EXIST GROUND

(+)0.9000%

PROP GRADE –L3NBHOT02–

SEE SHEET 25 FOR PLAN

22-JUN-2015 12:45
I:\E_PWP\dms2482\I-5405_RDY_PFL_101.dgn
cagonzalez
AT BERLIN

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

0 50 100 HORIZONTAL

0 10 20 VERTICAL

PROJECT REFERENCE NO.	SHEET NO.
I-5405	102

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

–L3SBHOT02–

820 810 800 790 780 770 760 750 740 730

EXIST GROUND

(+)1.2200%

PROP GRADE –L3SBHOT02–

SEE SHEET 26 FOR PLAN

639+00 640+00 641+00 642+00 643+00 644+00 645+00 646+00 647+00 648+00 649+00 650+00 651+00 652+00 653+00

–L3NBHOT02–

820 810 800 790 780 770 760 750 740 730

PI = 644+24.16
EL = 778.08'
VC = 210'
K = 300
DS = 70 MPH

EXIST GROUND

(+)0.9000%

(+)1.6000%

PROP GRADE –L3NBHOT02–

SEE SHEET 26 FOR PLAN

639+00 640+00 641+00 642+00 643+00 644+00 645+00 646+00 647+00 648+00 649+00 650+00 651+00 652+00 653+00

22-JUN-2015 12:45
I:\I-5405_RDY_PFL_102.dgn
cagonzalez
AT BERI10

NOTE:
-GEOMETRY IS ORIENTATIVE, ACCORDING TO TECHNICAL PROVISIONS THE EXIST PROFILE WILL BE USED WHEN HOT LANES ARE NEXT TO EXIST LANES.

sugar creek construction, LLC

Louis Berger

HORIZONTAL 0 50 100

VERTICAL 0 10 20

PROJECT REFERENCE NO.	SHEET NO.
I-5405	103

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PI = 653+07.64
EL = 789.25'
VC = 232'
K = 181
DS = 70 MPH

PI = 657+36.48
EL = 799.97'
VC = 370'
K = 247
DS = 70 MPH

EXIST GROUND

(+)2.5000%

(+)2.5000%

(+)1.0000%

PROP GRADE -L3SBHOT02-

-L3SBHOT02-

SEE SHEET 27 FOR PLAN

840 830 820 810 800 790 780 770 760 750

653+00 654+00 655+00

-L3NBHOT02-

PROP GRADE -L3NBHOT02-

796.26

EXIST GROUND

SEE SHEET 27 FOR PLAN

840 830 820 810 800 790 780 770 760 750

653+00 654+00 655+00

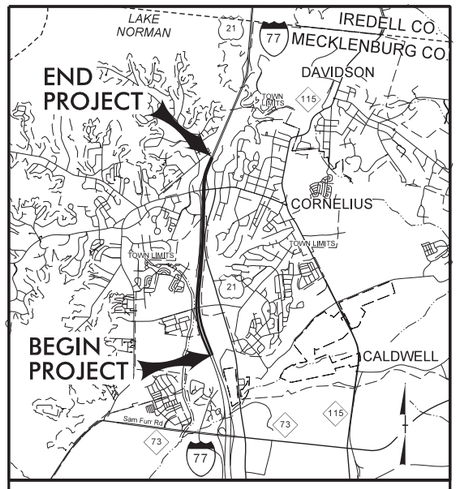
22-JUN-2015 12:45
I:\E_PWP_dms\2482\I-5405_RDY_PFL_103.dgn
cagonzalez
AT BERLIN

TIP PROJECT: I-5405

CONTRACT: C203406

8/14/2015 4:06:39 PM
C203406_RDY_001_TSH_C
I77_Fullsize_RDY_OLD

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5405	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45454.3.P3S1		P.E.

LOCATION: *I-77 FROM NORTH OF NC 73 (SAM FURR RD.) TO NORTH OF SR 5544 (CATAWBA AVE.)*

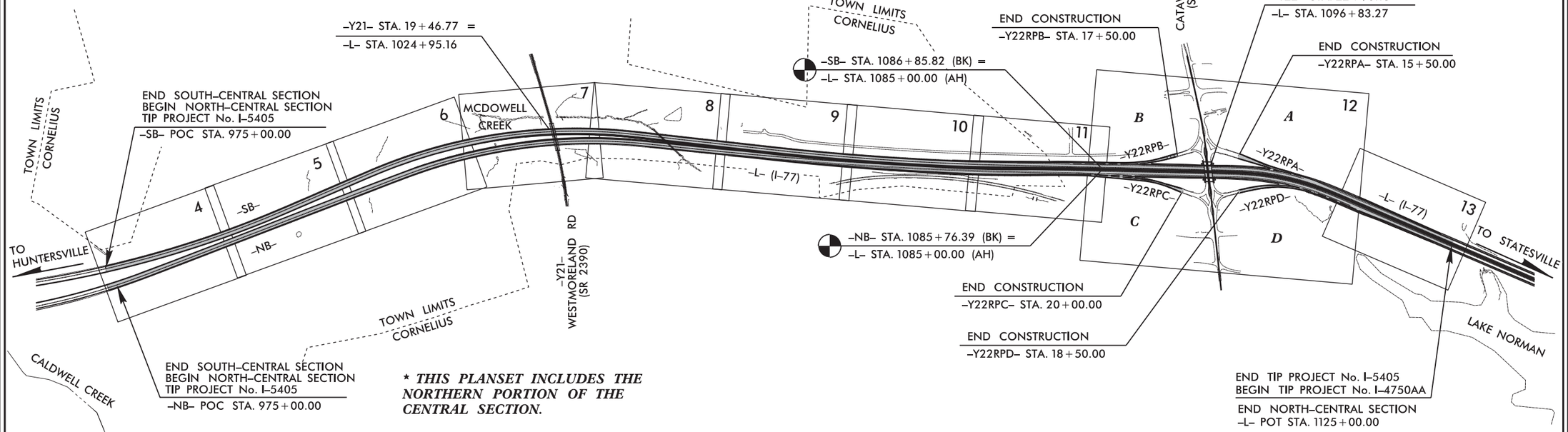
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, SIGNING, ITS, GUARDRAIL, PAVEMENT MARKINGS, TOLLING STRUCTURES /EQUIPMENT, WALLS AND STRUCTURES*

sugar creek construction, LLC

INTERMEDIATE ROADWAY PLANS
SUBMITTAL NO. D0011
AUGUST 11, 2015

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83 /NA 2011



** THIS PLANSET INCLUDES THE NORTHERN PORTION OF THE CENTRAL SECTION.*

DESIGN EXCEPTIONS REQUIRED

VERTICAL CLEARANCE: –Y21– (WESTMORELAND ROAD)
VERTICAL CLEARANCE: –Y22– (CATAWBA AVENUE)

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES

NCDOT CONTACT: VIRGINIA MABRY MANAGER PRIORITY PROJECTS UNIT

GRAPHIC SCALES

PLANS: 50 25 0 50 100
PROFILE (HORIZONTAL): 50 25 0 50 100
PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2012 = 185,400
ADT 2035 = 231,400
DHV = 10 %
D = 60 %
T = 8 % *
V = 70 MPH
* (TTST 4% + DUAL 4%)
FUNC. CLASS = INTERSTATE
"STATEWIDE TIER"

PROJECT LENGTH

*LENGTH ROADWAY TIP PROJECT I-5405 * (NORTH – CENTRAL SECTION)* = *2.854 MI*

*LENGTH STRUCTURES TIP PROJECT I-5405 * (NORTH – CENTRAL SECTION)* = *0.000 MI*

TOTAL LENGTH OF TIP PROJECT I-5405 = *2.854 MI*

** NOTE: PROJECT LENGTH BASED ON NORTHBOUND LANES*

Prepared for NCDOT In the Office of:
LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605
License No.: F-0840

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: TBD

DEAN HATFIELD, P.E.
PROJECT ENGINEER

R. D. ODELL, P. E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
C203406	1B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

8/14/2015 4:06:45 PM
c203406_RDY_001B.dgn
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

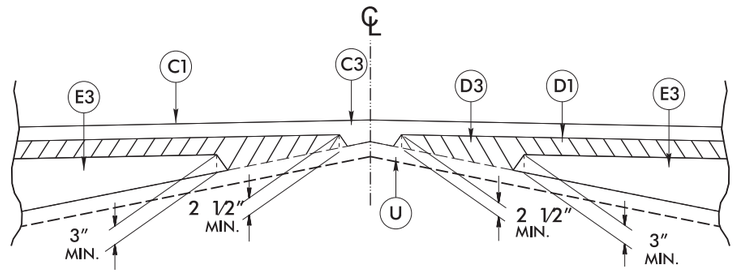
Louis Berger

NOTE: NOT TO SCALE

PAVEMENT SCHEDULE

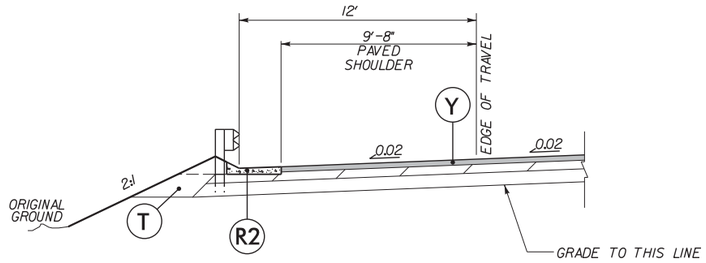
ITEM	DESCRIPTION
C1	Prop. Approx. 1.5" Depth Asphalt Concrete Surface Course, Type S9.5D, at an Average Rate of 112 lbs. Per sq. yard Per 1" Depth
C2	TBD
C3	Prop. Var. Depth Asphalt Concrete Surface Course, Type S9.5D, at an Average Rate of 112 lbs. Per sq. yard Per 1" Depth
D1	TBD
D2	TBD
D3	Prop. Var. Depth Asphalt Concrete Intermediate Course, Type I19.0D, at an Average Rate of 114 lbs. Per sq. yard Per 1" Depth, to be placed in layers not less than 2.5" in Depth or greater than 4" in Depth.
E1	TBD
E2	TBD
E3	Prop. Var. Depth Asphalt Concrete Base Course, Type B25.0C, at an Average Rate of 114 lbs. Per sq. yard Per 1" Depth, to be placed in layers not less than 3" in Depth or greater than 5.5" in Depth.
K	Base to be treated with Lime (Method–Slurry) to a Depth of 8", at a Rate of 20 lbs. Per sq. yard as directed by the Engineer. OR Base to be treated with cement to a depth of 7", at a Rate of 55 lbs. Per sq. yard as directed by the Engineer.
R1	Prop. 2'–6" Concrete Curb and Gutter
R2	Prop. Shoulder Berm Gutter
R3	Prop. Expressway Gutter
R4	Prop. Single Faced Concrete Barrier
R5	Prop. Double Faced Concrete Barrier
S	Prop. 4" Concrete Sidewalk
T	Earth Material
U	Existing Pavement (Asphalt)
W	Var. Depth Asphalt Pavement
Y	Milled Rumble Strips

Note: All pavement edge slopes are 1:1 unless noted otherwise.



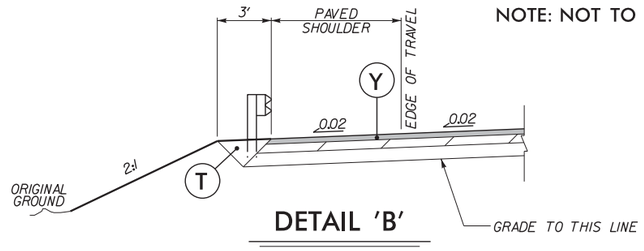
Detail Showing Method of Wedging

✱NOTE: FOR PAVEMENT TYPES AND DEPTHS SEE RELEVANT TYPICAL SECTION



DETAIL 'A'

USE IN CONJUNCTION WITH TYPICAL NO. 2 & 4 AS FOLLOWS:
–NB– STA 1037+12.01 TO –NB– STA 1042+60.89 LT.
–SB– STA 1031+20.00 TO –SB– STA 1044+15.00 RT.

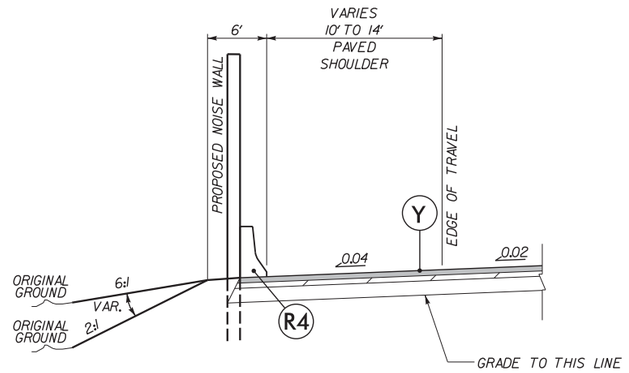


DETAIL 'B'

USE IN CONJUNCTION WITH TYPICAL NO. 1, 2, 3 & 4 AS FOLLOWS:
–NB– STA 1022+50.00 TO –NB– STA 1027+50.00 LT.
–SB– STA 1031+20.00 TO –SB– STA 1028+50.00 RT.

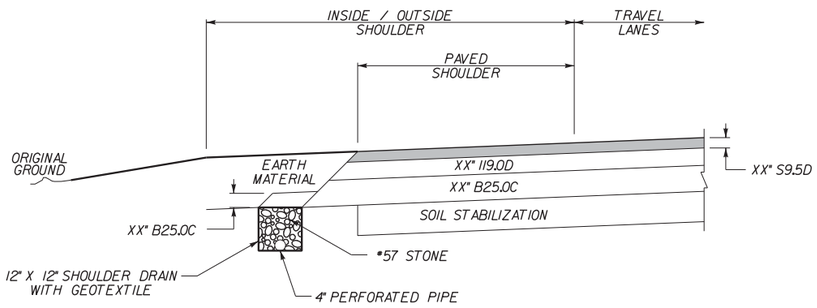
DETAIL 'C'

USE IN CONJUNCTION WITH TYPICAL NO. 4 & 8 AS FOLLOWS:
–NB– STA 1063+00.00 TO –NB– STA 1079+80.00 RT.
–L– STA 1113+50.00 TO –L– STA 1123+00.00 LT.



DETAIL 'D'

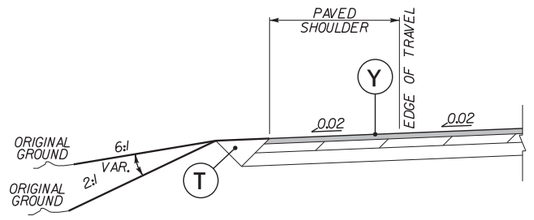
USE IN CONJUNCTION WITH TYPICAL NO. 3, 4 & 8 AS FOLLOWS:
–SB– STA 1010+05.00 TO –SB– STA 1025+80.00 LT.
–L– STA 1109+45.00 TO –L– STA 1125+00.00 RT.
–L– STA 1123+47.00 TO –L– STA 1125+00.00 LT.



SHOULDER DRAIN DETAIL

(TO BE REVISED WITH PAVEMENT DESIGN)

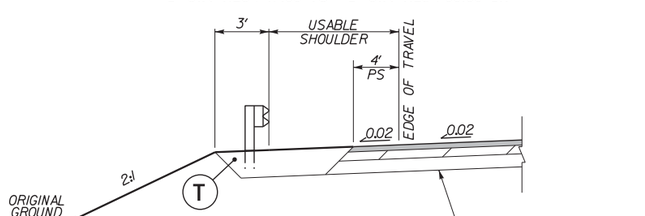
USE IN CONJUNCTION WITH TYPICAL NO. 1, 2, 3, 4, 5, 6, 7 & 8
SEE SHOULDER DRAIN SUMMARY ON SHEET 3__



MEDIAN SHOULDER DETAIL

(USED ONLY ON THE MEDIAN PAVED SHOULDER ADJACENT TO THE HOT LANES)

USE IN CONJUNCTION WITH TYPICAL NO. 1 & 2



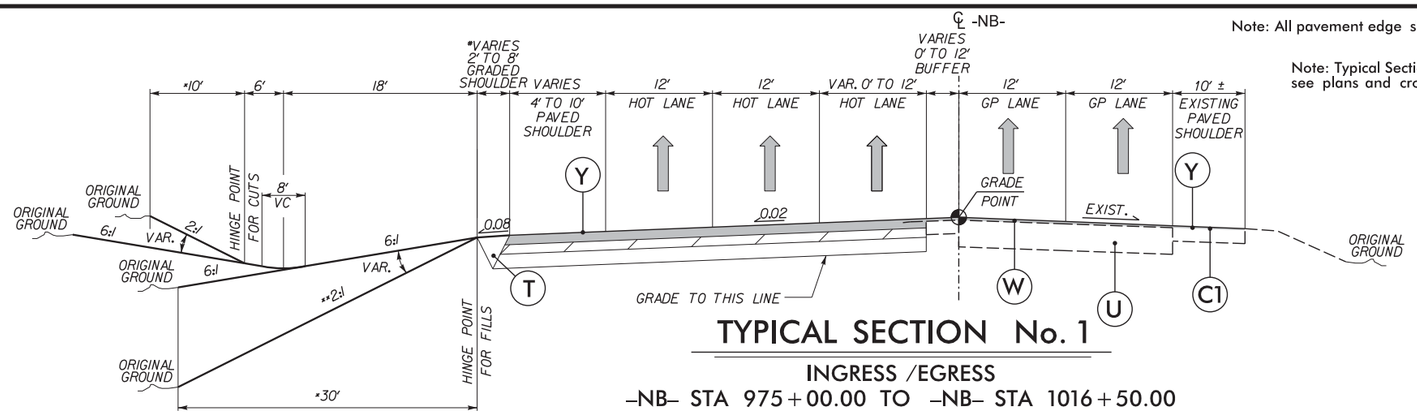
DETAIL 'E'

USE IN CONJUNCTION WITH TYPICAL NO. 1 & 3 AS FOLLOWS:
–NB– STA 981+80.00 TO –NB– STA 1001+55.00 LT.
–SB– STA 982+40.00 TO –SB– STA 1001+90.00 RT.

8/14/2015 4:06:50 PM
c203406_RDY_002_TYP_CENTRAL.dgn
177_Fullsize_RDY_OLD

Note: All pavement edge slopes are 1:1 unless noted otherwise.

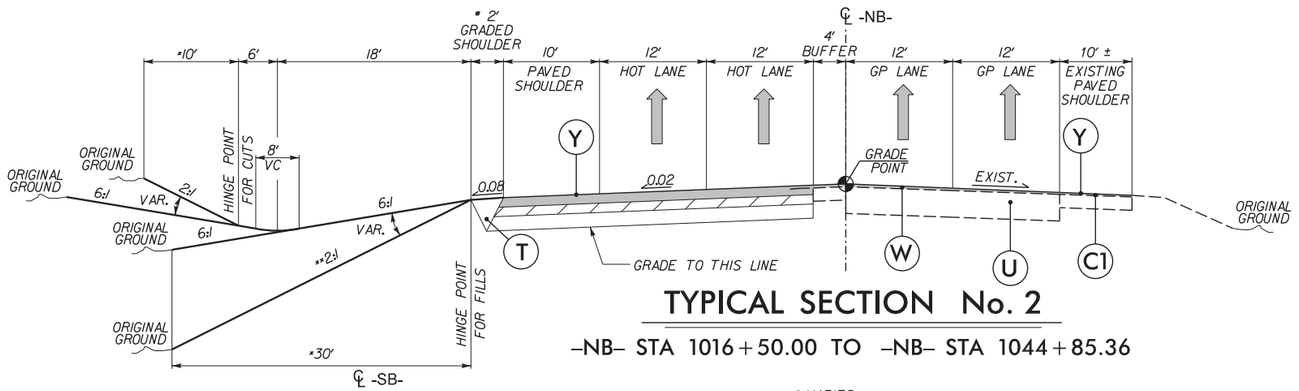
Note: Typical Sections are for tangent sections only; see plans and cross–sections for superelevation.



TYPICAL SECTION No. 1

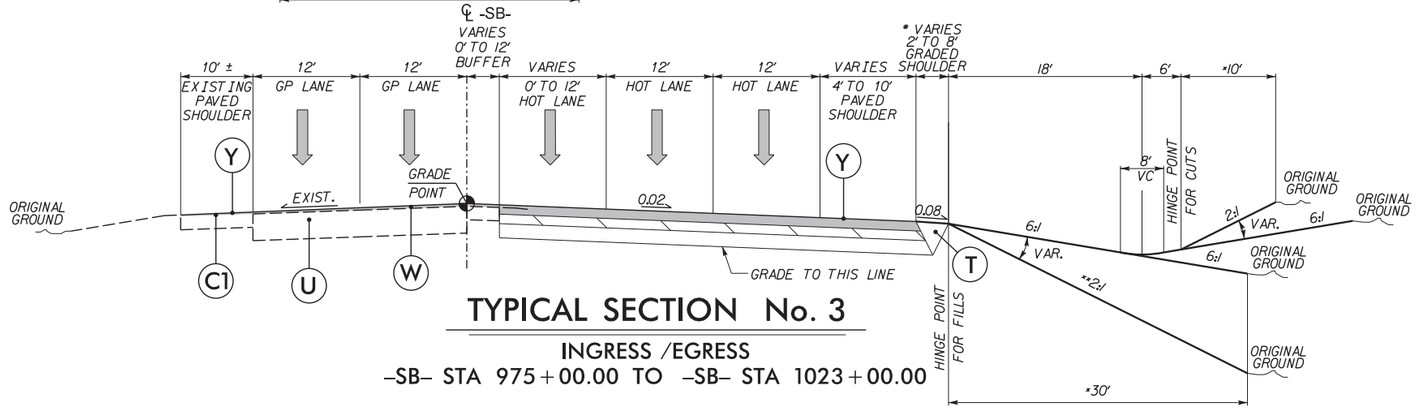
INGRESS /EGRESS

–NB– STA 975+00.00 TO –NB– STA 1016+50.00



TYPICAL SECTION No. 2

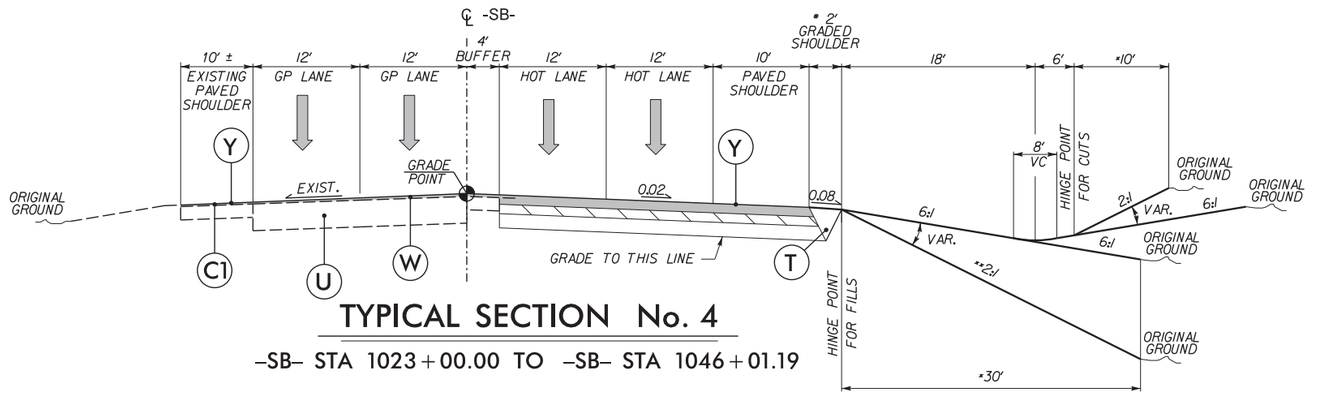
–NB– STA 1016+50.00 TO –NB– STA 1044+85.36



TYPICAL SECTION No. 3

INGRESS /EGRESS

–SB– STA 975+00.00 TO –SB– STA 1023+00.00



TYPICAL SECTION No. 4

–SB– STA 1023+00.00 TO –SB– STA 1046+01.19

PROJECT REFERENCE NO.	SHEET NO.
C203406	2-A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

NOTE: NOT TO SCALE

PAVEMENT SCHEDULE	
C1	1.5" S9.5D
C2	TBD
C3	Var. S9.5D
D1	TBD
D2	TBD
D3	Var. I19.0D
E1	TBD
E2	TBD
E3	Var. B25.0C
K	Subgrade Stabilization
R1	2'–6" Curb & Gutter
R2	SBG
R3	Expressway Gutter
R4	Single Faced Conc. Barrier
R5	Double Faced Conc. Barrier
S	4" Sidewalk
T	Earth Material
U	Existing Pavement
W	Wedging
Y	Milled Rumble Strips

* WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

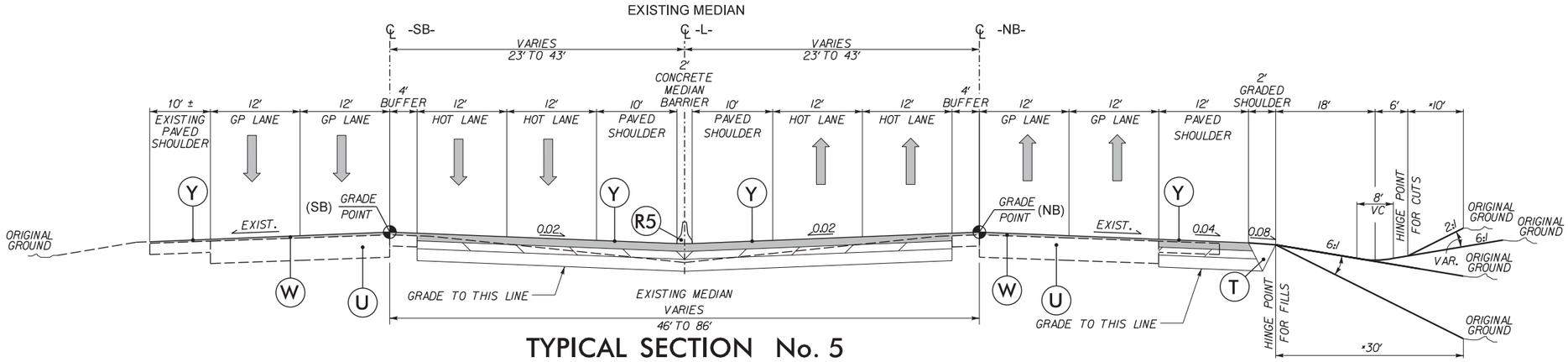
** VAR. TO 4:1 MAX INSIDE INTERCHANGES

* SHOULDER WIDTH TO BE INCREASED 3' WHERE GUARDRAIL IS USED.

8/14/2015 4:06:55 PM
c203406_RDY_002A_TYP.dgn
177_Fullsize_RDY_OLD

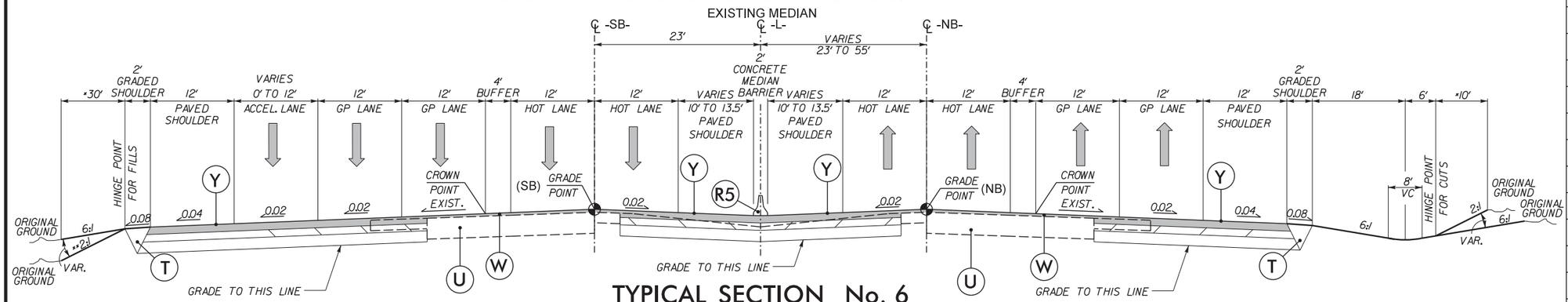
Note: All pavement edge slopes are 1:1 unless noted otherwise.

Note: Typical Sections are for tangent sections only; see plans and cross–sections for superelevation.



TYPICAL SECTION No. 5

–NB– STA 1044+85.36 TO –NB– STA 1067+54.17
–SB– STA 1046+01.19 TO –SB– STA 1068+65.69

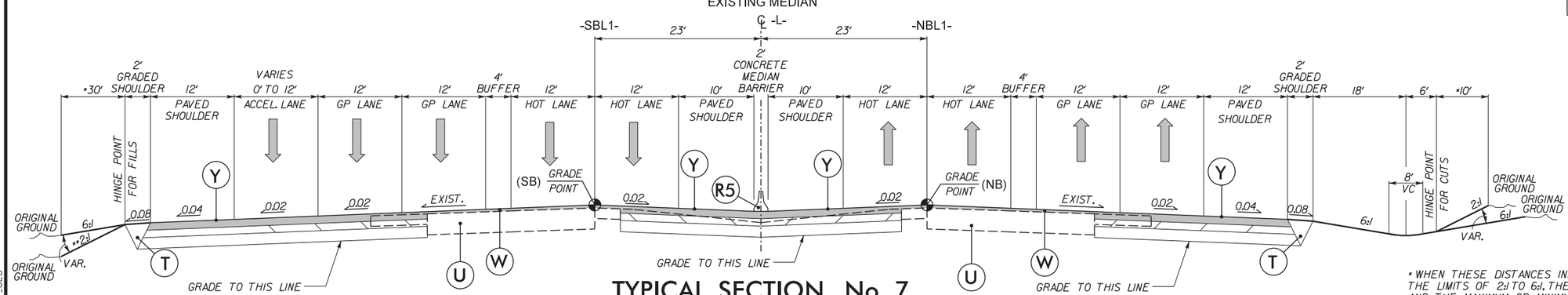


TYPICAL SECTION No. 6

-SBL- CROWN POINT TRANSITION
-SB- STA 1071+80.00 TO -SB- STA 1083+00.00
= -L- STA 1069+93.85 TO -L- STA 1081+14.18

–NB– STA 1067+54.17 TO –NB– STA 1085+76.39
–SB– STA 1068+65.69 TO –SB– STA 1086+85.82

-NBL- CROWN POINT TRANSITION
-NB- STA 1067+54.68 TO -NB- STA 1078+74.68
= -L- STA 1066+79.58 TO -L- STA 1078+03.68



TYPICAL SECTION No. 7

–L– STA 1085+00.00 TO –L– STA 1104+10.00

* WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

** VAR. TO 4:1 MAX INSIDE INTERCHANGES

• SHOULDER WIDTH TO BE INCREASED 3' WHERE GUARDRAIL IS USED.

PROJECT REFERENCE NO.	SHEET NO.
C203406	2-B

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

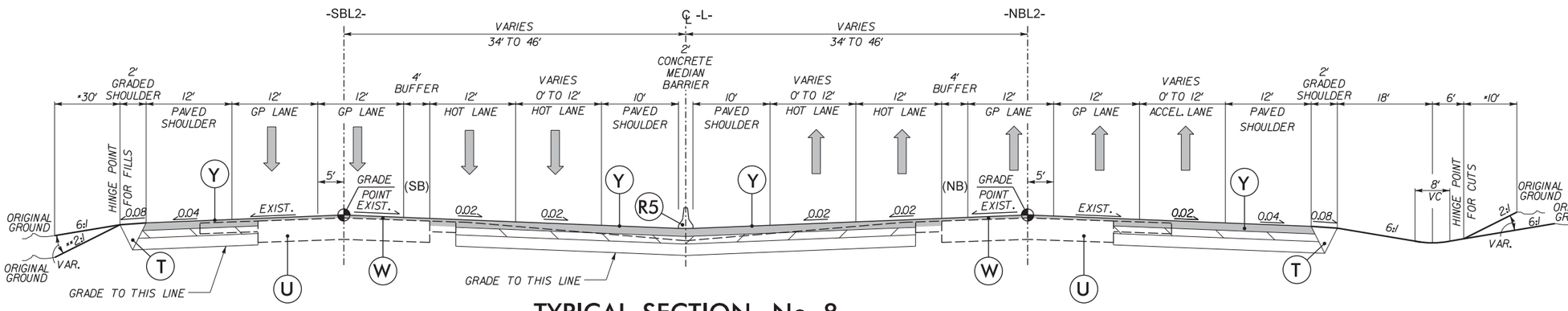
NOTE: NOT TO SCALE

PAVEMENT SCHEDULE	
C1	1.5" S9.5D
C2	TBD
C3	Var. S9.5D
D1	TBD
D2	TBD
D3	Var. I19.0D
E1	TBD
E2	TBD
E3	Var. B25.0C
K	Subgrade Stabilization
R1	2'–6" Curb & Gutter
R2	SBG
R3	Expressway Gutter
R4	Single Faced Conc. Barrier
R5	Double Faced Conc. Barrier
S	4" Sidewalk
T	Earth Material
U	Existing Pavement
W	Wedging
Y	Milled Rumble Strips

8/14/2015 4:06:59 PM
c203406_RDY_002B_TYP.dgn
177_Fullsize_RDY_OLD

Note: All pavement edge slopes are 1:1 unless noted otherwise.

Note: Typical Sections are for tangent sections only; see plans and cross–sections for superelevation.



TYPICAL SECTION No. 8

–L– STA 1104+10.00 TO –L– STA 1125+00.00

PROJECT REFERENCE NO.	SHEET NO.
C203406	2-C
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

NOTE: NOT TO SCALE

PAVEMENT SCHEDULE	
C1	1.5" S9.5D
C2	TBD
C3	Var. S9.5D
D1	TBD
D2	TBD
D3	Var. I19.0D
E1	TBD
E2	TBD
E3	Var. B25.0C
K	Subgrade Stabilization
R1	2'–6" Curb & Gutter
R2	SBG
R3	Expressway Gutter
R4	Single Faced Conc. Barrier
R5	Double Faced Conc. Barrier
S	4" Sidewalk
T	Earth Material
U	Existing Pavement
W	Wedging
Y	Milled Rumble Strips

* WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

** VAR. TO 4:1 MAX INSIDE INTERCHANGES

* SHOULDER WIDTH TO BE INCREASED 3' WHERE GUARDRAIL IS USED.

8/14/2015 4:07:04 PM
$FILE1$
I-77_Fullsize_RDY.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

MILE 2 6

RICHARD COATES 24219 / 175
KENTON E CLONNINGER 10353 / 464
MICHELLE L PENDERGRASS 17591 / 613
COREY RUSSELL 21987 / 143
JORDAN A LASURE 12722 / 318
COOKE FARMS INC 07173 / 487
FIFTH THIRD BANK 25792 / 715

MATCH LINE SEE SHEET XX -SB- STA. 975+00.00

MATCH LINE SEE SHEET 5 -SB- STA. 989+00.00

MATCH LINE SEE SHEET 5 -NB- STA. 974+00.00

BEGIN PROJECT -SB- Sta. 975+00.00

BEGIN PROJECT -NB- Sta. 975+00.00

-L- PT Sta. 983+83.90

-NB- CS Sta. 977+68.08

-NB- ST Sta. 980+08.08

10' EXIST. PS

4' PS

EXIST. 02 24' 36'

EXIST. 03 01 24' 36'

975+00 980+00 985+00

-SB- -NB- -L-

PROP. GUARDRAIL

REMOVE CONC. DITCH & EX. DI CONSTRUCT 3GI

CAT-1 TOP=757.21' INV=753.51' (040)

INV=754.11'

INV=751.97'

INV=759.24'

RETAIN 24" RCP

RETAIN 18" RCP

42" IND CASING - WILLIAMS / TRANSCO

36" IN 42" CASING - WILLIAMS / TRANSCO

GTS

FES

GRAU-350 TL-3

GAS VENT

N 21° 02' 21.4" W

80.00' (TYP.)

+48.08

48" WD

72" WD

12" WD

10' SOIL

MTL GATE

MTL

EXISTING R/W

WOODS

CURB

22' BST

CURVE DATA FOR -NB-	
PI Sta 964+14.89	PIs Sta 978+48.08
△ = 20° 21' 18.1" (LT)	Θs = 0° 53' 34.5"
D = 0° 44' 38.8"	Ls = 240.00'
L = 2,735.52'	LT = 160.00'
T = 1,382.33'	ST = 80.00'
R = 7,700.00'	
e = 0.03	
RO = 300.00'	
DS = 70 MPH	

CURVE DATA FOR -L-
PI Sta 965+02.30
△ = 22° 42' 03.4" (LT)
D = 0° 35' 42.8"
L = 3,813.89'
T = 1,932.29'
R = 9,626.03'

CURVE DATA FOR -SB-
PI Sta 970+14.31
△ = 24° 35' 36.8" (LT)
D = 0° 30' 01.4"
L = 4,914.78'
T = 2,495.83'
R = 11,450.00'
e = NC
RO = N/A
DS = 70 MPH

NOTES:
1.) FOR –NB– PROFILE SEE SHEET 41.
2.) FOR –SB– PROFILE SEE SHEET 41.

8/14/2015 4:07:58 PM
$FILE$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	5
R/W SHEET NO.	

0′ 50′ 100′

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

COOKE FARMS INC
07173 / 487

FIFTH THIRD BANK
25792 / 715

-SB- CS Sta. 994+33.26

-SB- ST Sta. 997+33.26

-NB- STA. 988+00.00

MATCH LINE SEE SHEET 4
-SB- STA. 989+00.00

MATCH LINE SEE SHEET 6
-NB- STA. 1002+00.00

-SB- STA. 1003+00.00

EXISTING R/W

WOODS

RUINS

48" WW

RETAIN
CONC DITCH

INV=764.14'

INV=737.29'

INV=734.71'
FES

150.00'
(TYP.)

+33.26

GRAU-350
TL-3

10' EXIST. PS

4' PS

990+00

995+00

1000+00

-SB-

N 23° 21' 12.5" W

38' BST
I-77 SBL

FILL w/FLOWABLE FILL

REMOVE DI

REMOVE DI & CONC. DITCH
CONSTRUCT TB JB w/Slab Lid

INV=765.65'
TOP=768.42'

INV=762.41' \ DI
TOP=764.51'

1 2GI 1 FS

15"

PROP. GUARDRAIL

REMOVE
CONC. DITCH

REMOVE DI
CONST. 4OTCB

TOP=746.68'
INV=744.06'

960' TRANSITION

CAT-1

-L-

-NB-

N 21° 02' 21.4" W

38.3' BST
I-77 NBL

15" RCP

RETAIN

CONC. DITCH

INV=759.50'

+50.00

HW
INV=744.12'

POND

CURVE DATA FOR -SB-

PI Sta 970+14.31	PIs Sta 995+33.26
Δ = 24° 35' 36.8" (LT)	Θs = 0° 45' 02.2"
D = 0° 30' 01.4"	Ls = 300.00'
L = 4,914.78'	LT = 200.00'
T = 2,495.83'	ST = 100.00'
R = 11,450.00'	
e = NC	
RO = N/A	
DS = 70 MPH	

NOTES:
1.) FOR -NB- PROFILE SEE SHEET 42.
2.) FOR -SB- PROFILE SEE SHEET 42.

8/14/2015 4:08:03 PM
$FILES$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

COOKE FARMS INC
07173 / 487

WOODS

EXISTING R/W

48" WW

-SB- TS Sta. 1004+07.34

-SB- SC Sta. 1007+57.34

BEGIN PROP. -NW15-
-SB- STA. 1010+05.00
(36' LT) FACE OF WALL

PROP. NOISE WALL -NW15-
1,575 LF

PROP. SINGLE-FACED
CONCRETE BARRIER

INV=725.67'

INV=723.19'

INV=727.25'

87.50' (TYP.)

82.34

MTL

30' RCP

RETAIN

10' EXIST. PS

1005+00 -SB-

1010+00

12' BUFFER

1015+00

24'

.02

.03

.04

EXIST.

4' PS

960' TRANSITION

HW
INV=733.61'

COLLAR AND EXTEND

SPECIAL GRADING
-L- 1001+00 TO -L- 1002+00
SEE X-SECTIONS

RETAIN

TOP=737.36'
INV=734.24'

RETAIN DI

1005+00

REMOVE 16'
CONCRETE DITCH

INV=736.49'
FES

BEGIN SP GRADING -50
1010+00 SEE X-SECTIONS

-L-

640'
TRANS.

1015+00

-SB- STA. 1017+00.00

MATCH LINE SEE SHEET 5
-SB- STA. 1003+00.00

-NB-

1005+00

N 21° 02' 21.4" W

12' BUFFER

1010+00

1015+00

.01

.00

.10

.30

-NB- SC Sta. 1010+10.76

-L- PC Sta. 1008+31.41

-NB- TS Sta. 1007+10.76

FES
INV=737.96'

+35.76

75.00'
(TYP.)

+10.00

500' BUFFER

640' TRANSITION

960' TRANSITION

INV=729.61' HW

RETAIN

CONC

-NB- STA. 1002+00.00

MATCH LINE SEE SHEET 7
-NB- STA. 1016+00.00

FIFTH THIRD BANK
25792 / 715

CURVE DATA FOR -NB-		CURVE DATA FOR -L-	CURVE DATA FOR -SB-	
PIs Sta 1009+10.77	PI Sta 1022+29.14	PI Sta 1021+63.03	PIs Sta 1006+40.68	PI Sta 1020+90.05
Θs = 1° 29' 40.8"	Δ = 23° 55' 37.8" (RT)	Δ = 27° 26' 58.3" (RT)	Θs = 1° 45' 21.6"	Δ = 26° 16' 31.1" (RT)
Ls = 300.00'	D = 0° 59' 47.2"	D = 1° 03' 03.1"	Ls = 350.00'	D = 1° 00' 12.3"
LT = 200.01'	L = 2,401.24'	L = 2,612.10'	LT = 233.34'	L = 2,618.55'
ST = 100.01'	T = 1,218.38'	T = 1,331.62'	ST = 116.68'	T = 1,332.71'
	R = 5,750.00'	R = 5,452.27'		R = 5,710.00'
	e = 0.04			e = 0.04
	R0 = 300.00'			R0 = 300.00'
	DS = 70 MPH			DS = 70 MPH

NOTES:
1.) FOR -NB- PROFILE SEE SHEET 43.
2.) FOR -SB- PROFILE SEE SHEET 43.

8/14/2015 4:08:07 PM
$FILES$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	7
R/W SHEET NO.	

0' 50' 100'

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

8/14/2015 4:08:11 PM
$FILE$
177-Fullsize-RDY-OLD

NAD 83/2011

NOTE: DESIGN EXCEPTION FOR 15'-11" VERTICAL CLEARANCE OF WESTMORELAND AVENUE (BRIDGE NO. 590362) OVER I-77.

TOWN OF CORNELIUS NC
20777 / 165

PM PARTNERS LP
19052 / 858

-Y21- N 73° 40' 59.6" E

-Y21- PC Sta. 16+56.88

-SB- STA. 1017+00.00

-SB- STA. 1031+00.00

-SB- POC Sta. 1026+63.43 =
-Y21- POC Sta. 18+85.44

-NB- POC Sta. 1025+87.05 =
-Y21- POC Sta. 18+85.44

END PROP. -NW15-
-SB- STA. 1025+80.00
(36' LT) FACE OF WALL

PROP. NOISE WALL -NW15-
1,575 LF

PROP. SINGLE-FACED
CONCRETE BARRIER

CL. B RIPRAP
EST. 2 TONS
EST. 7 SY GEO.

640' TRANSITION

REMOVE DI & CONC.
DITCH CONSTRUCT 40TCB
REMOVE DI CONSTRUCT
TB JB wSlab Lid

REMOVE HW

CLASS I RIP RAP
EST. 11 TONS
EST. 128 SY GEO.
COLLAR AND EXTEND
36" RCP W/HW

BEGIN SPECIAL
GRADING +50
SEE X-SECTIONS

END SP.
GRADING +50
SEE X-SECTIONS

END SPECIAL GRADING +50
SEE X-SECTIONS

REMOVE DI CONSTRUCT
TB JB wSlab Lid

REMOVE DI & CONC. DITCH
CONSTRUCT TB JB wSlab Lid

REMOVE CONC DITCH

GRAU-350
TL-3

CAT-1

4' BUFFER

10' EXIST. PS

10' PS

12' PS

I-77 SBL
38.6' BST

I-77 NBL
38.7' BST

WESTMORELAND ROAD (SR 2390)

MATCH LINE SEE SHEET 6
-NB- STA. 1016+00.00

MATCH LINE SEE SHEET 8
-NB- STA. 1030+00.00

CURVE DATA FOR -NB-
PI Sta 1022+29.14
Δ = 23° 55' 37.8" (RT)
D = 0° 59' 47.2"
L = 2,401.24'
T = 1,218.38'
R = 5,750.00'
e = 0.04
RO = 300.00'
DS = 70 MPH

CURVE DATA FOR -L-
PI Sta 1021+63.03
Δ = 27° 26' 58.3" (RT)
D = 1° 03' 03.1"
L = 2,612.10'
T = 1,331.62'
R = 5,452.27'

CURVE DATA FOR -SB-
PI Sta 1020+90.05
Δ = 26° 16' 31.1" (RT)
D = 1° 00' 12.3"
L = 2,618.55'
T = 1,332.71'
R = 5,710.00'
e = 0.04
RO = 300.00'
DS = 70 MPH

NOTES:
1.) FOR -NB- PROFILE SEE SHEET 44.
2.) FOR -SB- PROFILE SEE SHEET 44.

PROJECT REFERENCE NO.	SHEET NO.
C203406	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

MILE 2 7

CAR SON LNB SHOP LLC
11595 / 351

WOODS
POND
OTHER END UNKNOWN
18" RCP
INV=718.18'
TOP=725.99'
INV=716.64'
MCDOWELL CREEK
EXISTING R/W
-SB- ST Sta. 1037+25.89
21" RCP
INV=717.35'
CONC DITCH
RETAIN
-SB- CS Sta. 1033+75.89
INV=722.30'
24" RCP
RETAIN
-L- PC Sta. 1042+23.11
RETAIN CONC DITCH
BST
ISBLKBUS
BOLLARDS
BLK WALL
CURB
12" MTL
RIP-RAP
18" RCP
15" RCP
48" WW
9'-8" BOX CULVERT
FES INV=736.72
15" RCP
RETAIN

BEGIN SBG +20.00
87.50' (TYP.)
+63.39
10' EXIST. PS
4' BUFFER
9'-8" PS
12' PS
10' EXIST. PS
1035+00
1030+00
REMOVE DI
CONSTRUCT 2GI
15" 2GI
TOP=727.58'
INV=723.80'
INV=724.25
REMOVE CONC DITCH
-SB-
N 6° 26' 01.8" E
1040+00
RETAIN: 15" CMP
REMOVE EX. DI
CONSTRUCT 2GI
TOP=729.80'
INV=727.56'
REMOVE EX. DI
CONSTRUCT 2GI
REMOVE CONC. DITCH
TOP=740.94'
INV=738.09'
END SBG +15.00
END SBG +60.89
-NB- N 5° 52' 38.1" E
4' BUFFER
10' EXIST. PS
1-77 NBL
38.0' BST
MTL
+62.01
75.00' (TYP.)
FES INV=733.16
-L- PT Sta. 1034+43.51
-NB- CS Sta. 1034+12.01
BEGIN SBG +12.01
-NB- ST Sta. 1037+12.01
-NB- PC Sta. 1042+60.89
BEGIN CONC. MEDIAN BARRIER (TYPE S-3) +50.00

MATCH LINE SEE SHEET 7
-NB- STA. 1030+00.00
-SB- STA. 1031+00.00

MATCH LINE SEE SHEET 9
-SB- STA. 1045+00.00
-NB- STA. 1044+00.00

HALL FAMILY PROPERTIES-LAKE NORMAN LLC
23659 / 396
MNLN LLC
13316 / 46
MNLN LLC
13316 / 46
5" HDPE
18" HDPE
CB
BLK WALL
CURB
GR
TOP=729.86'
INV=719.05'
INV=719.34'
TOP=726.88'
LKN MINIATURE GOLF, LLC
25288 / 198
OTHER END UNKNOWN

CURVE DATA FOR -NB-		CURVE DATA FOR -L-	CURVE DATA FOR -SB-	
PI Sta 1022+29.14	PIs Sta 1035+12.02	PI Sta 1021+63.03	PI Sta 1020+90.05	PIs Sta 1034+92.57
Δ = 23° 55' 37.8" (RT)	Θs = 1° 29' 40.8"	Δ = 27° 26' 58.3" (RT)	Δ = 26° 16' 31.1" (RT)	Θs = 1° 45' 21.6"
D = 0° 59' 47.2"	Ls = 300.00'	D = 1° 03' 03.1"	D = 1° 00' 12.3"	Ls = 350.00'
L = 2,401.24'	LT = 200.01'	L = 2,612.10'	L = 2,618.55'	LT = 233.34'
T = 1,218.38'	ST = 100.01'	T = 1,331.62'	T = 1,332.71'	ST = 116.68'
R = 5,750.00'		R = 5,452.27'	R = 5,710.00'	
e = 0.04			e = 0.04	
RO = 300.00'			RO = 300.00'	
DS = 70 MPH			DS = 70 MPH	
PI Sta 1043+72.40				
Δ = 0° 52' 52.4" (LT)				
D = 0° 23' 42.5"				
L = 223.01'				
T = 111.51'				
R = 14,500.00'				
e = NC				
RO = N/A				
DS = 70 MPH				

NOTES:
1. ***FOR -NB- PROFILE SEE SHEET 45.***
2. ***FOR -SB- PROFILE SEE SHEET 45.***

8/14/2015 4:08:15 PM
$FILE$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

CAR SON LNB SHOP LLC
11595 / 351

STEVEN ALLEN ROBINETTE
04210 / 755

C A R P III LLC
22183 / 205

FLOYD L BLACKWELL
05399 / 556

MATCH LINE SEE SHEET 8 -NB- STA. 1044+00.00

-SB- STA. 1045+00.00

MATCH LINE SEE SHEET 10 -SB- STA. 1059+00.00

-NB- STA. 1058+00.00

ISBLKBUS, BLK WALL, GATE, WOODS, BST, CURB, EXISTING R/W, CHARTOWN DRIVE 24' BST, CONC, 15" RCP, CB, 24" SILT FENCE, RETAIN, CONC DITCH, FES INV=743.88', 42" RCP, -SB- PC Sta. 1049+64.54, DI INV=758.39', 48" WW, TOP=761.89' INV=758.00', 18" RCP, REMOVE DI COLLAR & EXTEND 24" RCP, 10' EXIST. PS, 4' BUFFER, -SB- N 6° 26' 01.8" E, 1045+00, 1050+00, 1055+00, REMOVE DI COLLAR & DI & EXTEND 42" RCP, REMOVE 36" RCP, -L-, SPECIAL 2GIA, 2GI, INV=746.79' TOP=751.96' INV=746.46', 36", INV=757.19' TOP=761.81' INV=756.61', INV=756.94', INV=757.89', 30", -NB-, 4' BUFFER, 12' PS, FILL W/FLOWABLE FILL, REMOVE DI, TOP=764.84' DI INV=761.71', PROP. DOUBLE FACED CONC. BARRIER, ±13.90, 30.00' (TYP.), F, CONC DITCH RETAIN, -NB- PRC Sta. 1044+83.90, -NB- PRC Sta. 1048+47.77, 72" CHL & BW, 48" WW, GATE, GR, ISMTLBUS, SIGN, S, BLK WALL, CONC, WILLIAM S TALLEY 05148 / 329, CYNTHIA J YOUNG 07911 / 165, 12" CMP, EXISTING R/W

CURVE DATA FOR -NB-

PI Sta 1043+72.40	PI Sta 1046+65.85	PI Sta 1058+01.54
Δ = 0° 52' 52.4" (LT)	Δ = 1° 26' 16.1" (RT)	Δ = 3° 37' 56.9" (LT)
D = 0° 23' 42.5"	D = 0° 23' 42.5"	D = 0° 11' 25.8"
L = 223.01'	L = 363.87'	L = 1,906.90'
T = 111.51'	T = 181.94'	T = 953.77'
R = 14,500.00'	R = 14,500.00'	R = 30,078.00'
e = NC	e = 0.02	e = RC
RO = N/A	RO = N/A	RO = N/A
DS = 70 MPH	DS = 70 MPH	DS = 70 MPH

CURVE DATA FOR -SB-

PI Sta 1063+12.77
Δ = 5° 08' 47.0" (LT)
D = 0° 11' 27.5"
L = 2,694.65'
T = 1,348.23'
R = 30,000.00'
e = NC
RO = N/A
DS = 70 MPH

NOTES:

1.) FOR -NB- PROFILE SEE SHEET 46.

2.) FOR -SB- PROFILE SEE SHEET 46.

8/14/2015 4:08:19 PM
$FILE$
177_Fullsize_ROY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

0' 50' 100'

NAD 83/2011

JOHN H BLAKELY
25882 / 372

JOHN H BLAKELY
25882 / 377

ANNIE L BLAKELY

WOODS

RUINS

ISFD

EXISTING R/W

CHARTOWN DRIVE
2F BST

OTHER END UNKNOWN

48" WW

MATCH LINE SEE SHEET 9
-NB- STA. 1058+00.00

-SB- STA. 1059+00.00

MATCH LINE SEE SHEET 11
-SB- STA. 1073+00.00

-NB- STA. 1072+00.00

1120' CROWN POINT TRANSITION

+80.00

+55.17

REMOVE DI & CONC. DITCH
CONSTRUCT 2GI TO ALIGN
WITH NEW DITCHLINE

INV=781.51'
TOP=784.28'

RETAIN

70:1 TAPER

PROP. DOUBLE FACED
CONC. BARRIER

10' EXIST. PS

4' BUFFER

12' PS

REMOVE DI & 25'
EX. 24" RCP
COLLAR &
EXTEND, 18" RCP

I-77 SBL
38.2' BST

1060+00

1065+00

1070+00

-SB-

-NB-

MTL

REMOVE 30" RCP

REMOVE DI & 22' OF EX. 18" RCP COLLAR & EXTEND 24" RCP

REMOVE 24" RCP

INV=769.43'

INV=769.28'

INV=769.21'
TOP=773.64'
INV=768.88'

INV=770.89'

TOP=773.94'
INV=770.31'

30" RCP

18" RCP

2GI

2GIA

SPECIAL 2GI

INV=780.58'

INV=780.58'
INV=780.58'

I-77 NBL
37.7' BST

REMOVE DI
COLLAR & EXT. 15"

INV=782.62'
TOP=785.77'

REMOVE DI & CONC. DITCH
COLLAR AND EXTEND 18"

INV=772.42'
TOP=775.86'

10' PS

15"

RESET CONTROL ACCESS FENCE (WOVEN WIRE)

GRAU-350 (TL-3)

8:1

GRAU-350
TL-2

-NB-
+34.00

W.W. FENCE
-NB- +72.00 (66' RT)

W.W. FENCE
-NB- +45.00 (73' RT)

W.W. FENCE
-NB- +52.00 (73' RT)

BEGIN EXPRESSWAY
GUTTER (-NB- +00.00)

PROP. GUARDRAIL

W.W. FENCE
-NB- +75.00 (47' RT)

W.W. FENCE
-NB- +70.00 (51' RT)

-NB- PCC Sta. 1067+54.68

W.W. FENCE
-NB- +48.00 (73' RT)

1120' CROWN POINT TRANSITION

STATESVILLE ROAD
3F BST

18" RCP

15" RCP

15" HDPE

CONC

CURB

GUTTER

RIP RAP

GATE

CB

DI

GR

U/C

BST

48" WD

EXISTING R/W

ISBKBUS

2SBKBUS

ENDURANCE HOLDINGS LLC
22801 / 354

CDH VENTURES LLC
17720 / 241

OAS II INC
25996 / 517

CURVE DATA FOR -NB-	
PI Sta 1058+01.54	PI Sta 1072+56.77
Δ = 3° 37' 56.9" (LT)	Δ = 3° 57' 59.0" (LT)
D = 0° 11' 25.8"	D = 0° 23' 42.5"
L = 1,906.90'	L = 1,003.79'
T = 953.77'	T = 502.09'
R = 30,078.00'	R = 14,500.00'
e = RC	e = RC
RO = N/A	RO = N/A
DS = 70 MPH	DS = 70 MPH

CURVE DATA FOR -SB-
PI Sta 1063+12.77
Δ = 5° 08' 47.0" (LT)
D = 0° 11' 27.5"
L = 2,694.65'
T = 1,348.23'
R = 30,000.00'
e = NC
RO = N/A
DS = 70 MPH

NOTES:
1.) FOR -NB- PROFILE SEE SHEET 47.
2.) FOR -SB- PROFILE SEE SHEET 47.

8/14/2015 4:08:24 PM
$FILE$
177-Fullsize-RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	11
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

NAD 83/2011

ANNIE L BLAKELY

JAMES RAY BLAKELY
01312 / 242

JOHNNY HOLT BLAKELY
05086 / 524

GEEHOON INVESTMENT LLC
18363 / 542

LNH REAL ESTATE LLC
22678 / 350

TT OF CORNELIUS INC
18078 / 845

WOODS

-SB- PT Sta. 1076+59.18

-L- PT Sta. 1075+70.73

1120' CROWN POINT TRANSITION

300' TAPER

580' ACCELERATION LANE

-SB- POT Sta. 1086+85.82 (BK) =
-L- POT Sta. 1085+00.00 (23.00' LT.) (AH)

CHARTOWN DRIVE
2Y BST

END TYPE S-3
BEGIN TYPE S-2
+25.00

-SB- STA. 1073+00.00

MATCH LINE SEE SHEET 10
-NB- STA. 1072+00.00

MATCH LINE SEE SHEET 12
-L- STA. 1085+00.00

-NB- PRC Sta. 1077+58.46

PROP. DOUBLE FACED CONC. BARRIER

PROP. GUARDRAIL

RESET CONTROL ACCESS FENCE (WOVEN WIRE)

W.W. FENCE
-NB- +50.00
88' RT

GRAU-350
TL-2

STATESVILLE ROAD
3Y BST

1120' CROWN POINT TRANSITION

REMOVE EX. DI
CONST. SP. 2GI

-NB- PT Sta. 1083+79.12

10' PS CAT-1

CL B RIP RAP
EST. 2 TONS
EST. 7 SY GEO

15" CSP
w/2 ELBOWS

END EXP. GUTTER
-NB- +80.00

SEE DETAIL A

SEE DETAIL B

-L- POT Sta. 1084+25.76 (63.00' RT.) =
-Y22RPC- POT Sta. 10+00.00
DIVERGENCE ANGLE = 4° 0' 0"

-NB- POT Sta. 1085+76.39 (BK) =
-L- POT Sta. 1085+00.00 (23.00' RT.) (AH)

RONALD P SHUE
11017 / 944

RONALD P SHUE
23046 / 442

AUTOSPAS OF THE CAROLINAS LLC
23531 / 776

CURVE DATA FOR -NB-	
PI Sta 1072+56.77	PI Sta 1080+68.84
△ = 3° 57' 59.0" (LT)	△ = 2° 27' 08.9" (RT)
D = 0° 23' 42.5"	D = 0° 23' 42.5"
L = 1,003.79'	L = 620.65'
T = 502.09'	T = 310.37'
R = 14,500.00'	R = 14,500.00'
e = RC	e = 0.02
RO = N/A	RO = N/A
DS = 70 MPH	DS = 70 MPH

CURVE DATA FOR -SB-	
PI Sta 1063+12.77	
△ = 5° 08' 47.0" (LT)	
D = 0° 11' 27.5"	
L = 2,694.65'	
T = 1,348.23'	
R = 30,000.00'	
e = NC	
RO = N/A	
DS = 70 MPH	

DETAIL A
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, Natural Ground, B
Min. D= 1.25 Ft.
B= 2.0 Ft.
SEE CROSS SECTIONS

FROM -L- STA. 1079+05 TO STA. 1081+50 RT

DETAIL B
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1 or Flatter, Fill Slope, B
Min. D= 1.25 Ft.
B= 2.0 Ft.

FROM -L- STA. 1081+50 TO STA. 1086+50 RT
(-NB- STA. 1082+25.43 TO STA. 1085+76.39)

NOTES:
1.) FOR -NB- PROFILE SEE SHEET 48.
2.) FOR -SB- PROFILE SEE SHEET 48.

REVISIONS

8/14/2015 4:08:28 PM
$FILE$
177_Fullsize_ROY_01.D

PROJECT REFERENCE NO.	SHEET NO.
C203406	12
RW SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 100' 200'

NAD 83/2011

REVISIONS

8/14/2015 4:08:32 PM
$FILE$
177_Halfsize_RDY

MATCH LINE SEE SHEET 11
-L- STA. 1085+00.00

MATCH LINE SEE SHEET 13
-L- STA. 1113+00.00

A **B** **C** **D**

-L- POT Sta.1086+02.35 (63.00' LT) =
-Y22RPB- TS Sta. 10+00.00

-Y22RPB- POT Sta. 20+70.47 =
-Y22- POC Sta. 20+32.98

END CONSTRUCTION
END RESURFACE
-Y22RPB- Sta. 17+50.00
MATCH EXIST. PVMT
SLOPE & ELEV.

-Y22RPB- CS Sta. 15+94.22

-Y22RPB- SC Sta. 12+00.00

-Y22- PT Sta. 21+17.48

-Y22RPB- ST Sta. 17+94.71

-Y22- PC Sta. 15+60.25

-Y22RPA- POT Sta. 19+23.54 =
-Y22- POC Sta. 20+23.89

END CONSTRUCTION
END RESURFACE
-Y22RPA- POT Sta. 15+50.00
MATCH EXIST. PVMT
SLOPE & ELEV.

-L- POC Sta.1105+24.16 (63.00' LT) =
-Y22RPA- POT Sta. 10+00.00
DIVERGENCE ANGLE = 5° 39' 28"

-Y22RPA-

-Y22RPC- POT Sta. 20+00.00
MATCH EXIST. PVMT.
SLOPE & ELEV.

-Y22RPC- SC Sta. 16+45.07

-Y22RPC- TS Sta. 14+45.07

-Y22RPC- CS Sta. 17+00.88

-Y22RPC- ST Sta. 19+00.66

-Y22- PT Sta. 26+19.19

-Y22RPC- POT Sta. 23+35.00 =
-Y22- POT Sta. 26+20.97

-L- POT Sta. 1096+83.27 =
-Y22- POT Sta. 22+96.18
-Y22- PC Sta. 25+62.83

-L- TS Sta. 1097+89.90

-L- SC Sta. 1101+89.90

-Y22RPD- POT Sta. 21+56.46 =
-Y22- POT Sta. 25+73.23

-Y22RPD- CS Sta. 16+65.88

-Y22RPD- ST Sta. 18+65.86

END CONSTRUCTION
END RESURFACE
-Y22RPD- Sta. 18+50.00
MATCH EXIST. PVMT
SLOPE & ELEV.

-L- CS Sta. 1108+87.64

-L- ST Sta. 1112+87.64

-L- CS Sta. 1108+87.64 (63.00' RT) =
-Y22RPD- PC Sta. 10+00.00

BEGIN PROP. -NW17-
-L- STA. 1109+65.00
(87' RT) FACE OF WALL

END TYPE S-3
BEGIN TYPE S-2
+25.00

PROP. NOISE WALL -NW17-
2,291 LF

CURVE DATA FOR -Y22-	
PI Sta 18+39.15	PI Sta 26+27.01
Δ = 6° 23' 07.3" (RT)	Δ = 17° 08' 49.5" (RT)
D = 1° 08' 45.5"	D = 1° 06' 52.5"
L = 557.23'	L = 1,028.36'
T = 278.90'	T = 641.8'
R = 5,000.01'	R = 5,150.00'

CURVE DATA FOR -Y22RPB-		
PIs Sta 11+33.36	PI Sta 13+97.75	PIs Sta 16+60.89
θs = 2° 51' 53.2"	Δ = 11° 11' 36.4" (LT)	θs = 2° 51' 50.7"
Ls = 200.00'	D = 2° 51' 53.2"	Ls = 199.95'
LT = 133.35'	L = 394.23'	LT = 133.32'
ST = 66.68'	T = 197.75'	ST = 66.67'
	R = 2,000.00'	
	e = 0.05	
	R0 = 200.00'	
	DS = 50 MPH	

CURVE DATA FOR -Y22RPC-		
PIs Sta 15+78.48	PI Sta 16+72.88	PIs Sta 17+67.40
θs = 5° 43' 46.5"	Δ = 5° 11' 09.4" (RT)	θs = 5° 43' 44.4"
Ls = 200.00'	D = 5° 43' 46.5"	Ls = 199.98'
LT = 133.40'	L = 55.61'	LT = 133.39'
ST = 66.73'	T = 27.81'	ST = 66.72'
	R = 1,000.00'	
	e = 0.07	
	R0 = 200.00'	
	DS = 50 MPH	

CURVE DATA FOR -Y22RPD-	
PI Sta 13+40.00	PI Sta 17+32.58
Δ = 28° 32' 47.1" (LT)	θs = 4° (1° 11.2"
D = 4° 17' 13.2"	Ls = 199.98'
L = 665.88'	LT = 133.36'
T = 340.07'	ST = 66.70'
R = 1,336.50'	
e = 0.05	
R0 = 200.00'	
DS = 50 MPH	

CURVE DATA FOR -L-		
PIs Sta 1100+56.64	PI Sta 1105+40.50	PIs Sta 1110+21.02
θs = 4° 00' 00.0"	Δ = 13° 57' 16.6" (RT)	θs = 3° 59' 58.6"
Ls = 400.00'	D = 2° 00' 00.0"	Ls = 400.00'
LT = 266.73'	L = 697.13'	LT = 266.71'
ST = 133.40'	T = 350.60'	ST = 133.38'
	R = 2,864.79'	
	e = 0.06	
	R0 = 400.00'	
	DS = 70 MPH	

DETAIL A
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Min. D = 1.25 Ft.
b = 2.0 Ft.
FROM -L- STA. 1081+50 TO STA. 1086+50 RT
-NB- STA. 1082+25.43 TO STA. 1085+76.39)

DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)
Min. D = 1.25 Ft.
b = 2.0 Ft.
FROM -L- STA. 1086+50 TO STA. 1089+50 RT

DETAIL C
LATERAL "V" DITCH
(Not to Scale)
Min. D = 1.5 Ft.
FROM -L- STA. 1107+00 TO STA. 1111+23 LT

DETAIL D
LATERAL "V" DITCH
(Not to Scale)
Min. D = 1.5 Ft.
Max. D = 1.25 Ft.
b = 2.0 Ft.
Type of Liner = RSRM
FROM -L- STA. 1111+23 TO STA. 1113+50 LT

NOTE: DESIGN EXCEPTION FOR 15'-7" VERTICAL CLEARANCE OF CATAWBA AVENUE (BRIDGE NO. 590019) OVER I-77.

NOTES:
1.) FOR -L- PROFILE SEE SHEET 49 & 50.
2.) FOR -Y22- RAMP PROFILES SEE SHEETS 84 & 85.

PROJECT REFERENCE NO.	SHEET NO.
C203406	13
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

SHOPS ON THE GREEN LLC
08060 / 928

E2 PROPERTIES LLC
26779 / 821

END TIP PROJECT I-5405
END CENTRAL SECTION
-L- Sta. 1125+00.00

BEGIN EXP. GUTTER -L- +50.00

BEGIN PROP. -NW16- -L- STA. 1123+47.00 (67' LT) FACE OF WALL

PROP. NOISE WALL -NW16- 2,376 LF

END EXP. GUTTER -L- +47.00

EST. 2 TONS CL B RIP RAP
EST. 7 SY GEO.

SEE DETAIL A
PSRM STA. 1111+23 TO 1113+50 SB LT

840' TRANSITION

REMOVE DI

REMOVE EX. DI COLLAR & EXTEND 18" CONSTRUCT 2GI

4' BUFFER

FILL w/FLOWABLE FILL

PLUG PIPE

1115+00

1120+00

N. 23° 14' 29.9" E

-L-

REMOVE DI CONSTRUCT SPECIAL 2GI

580' ACCELERATION LANE

300' TAPER

TIE TO EXISTING

SEE DETAIL B

PROP. DOUBLE FACED CONC. BARRIER

PROP. NOISE WALL -NW17- 2,291 LF

PROP. SINGLE-FACE CONCRETE BARRIER

EST. 3 TONS CL B RIP RAP
EST. 10 SY GEO.

PROP. -NW17- -L- STA. 1114+67.75 (87' LT) FACE OF WALL

PROP. -NW17- -L- STA. 1116+67.22 (76' LT) FACE OF WALL

MATCH LINE SEE SHEET 12
-L- STA. 1113+00.00

MATCH LINE SEE SHEET 14
-L- STA. 1125+00.00

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1':Ft., Fill Slope, d

Min. D= 1.5 Ft.
Max. d= 1.25 Ft.
b= 2.0 Ft.

Type of Liner= PSRM

FROM -L- STA. 1111+23 TO STA. 1113+50 LT

DETAIL B
STANDARD 'V' DITCH
(Not to Scale)

Roadway Shldr. Behind NW, 2:1, D, 2:1, Natural Ground

Min. D= 1.50 Ft.

FROM -L- STA. 1115+00 TO STA. 1125+30 RT

NOTES:

1.) FOR -L- PROFILE SEE SHEET 51.

8/14/2015 4:08:38 PM
$FILE$
177-Fullsize-RDY-OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	41

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

0 50 100 HORIZONTAL

0 10 20 VERTICAL

-SB-

PI = 984+29.00
EL = 783.81'
VC = 2,000'
K = 498
DS = 80+ MPH

BEGIN GRADE
-SB- STA.975+00.00
ELEV.759.72'

(+)2.5874%

PROP GRADE -SB-

EXIST GROUND

(+)2.5874%

(-)1.4286%

(-)1.4286%

SEE SHEET 4 FOR PLAN

810 800 790 780 770 760 750 740 730 720

975 976 977 978 979 980 981 982 983 984 985 986 987 988 989

-NB-

PI = 982+52.00
EL = 783.12'
VC = 2,000'
K = 499
DS = 80+ MPH

BEGIN GRADE
-NB- STA.975+00.00
ELEV.763.40'

(+)2.5400%

PROP GRADE -NB-

EXIST GROUND

(+)2.5400%

(-)1.4650%

(-)1.4650%

SEE SHEET 4 FOR PLAN

810 800 790 780 770 760 750 740 730 720

974 975 976 977 978 979 980 981 982 983 984 985 986 987 988

8/14/2015 4:08:42 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	42

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

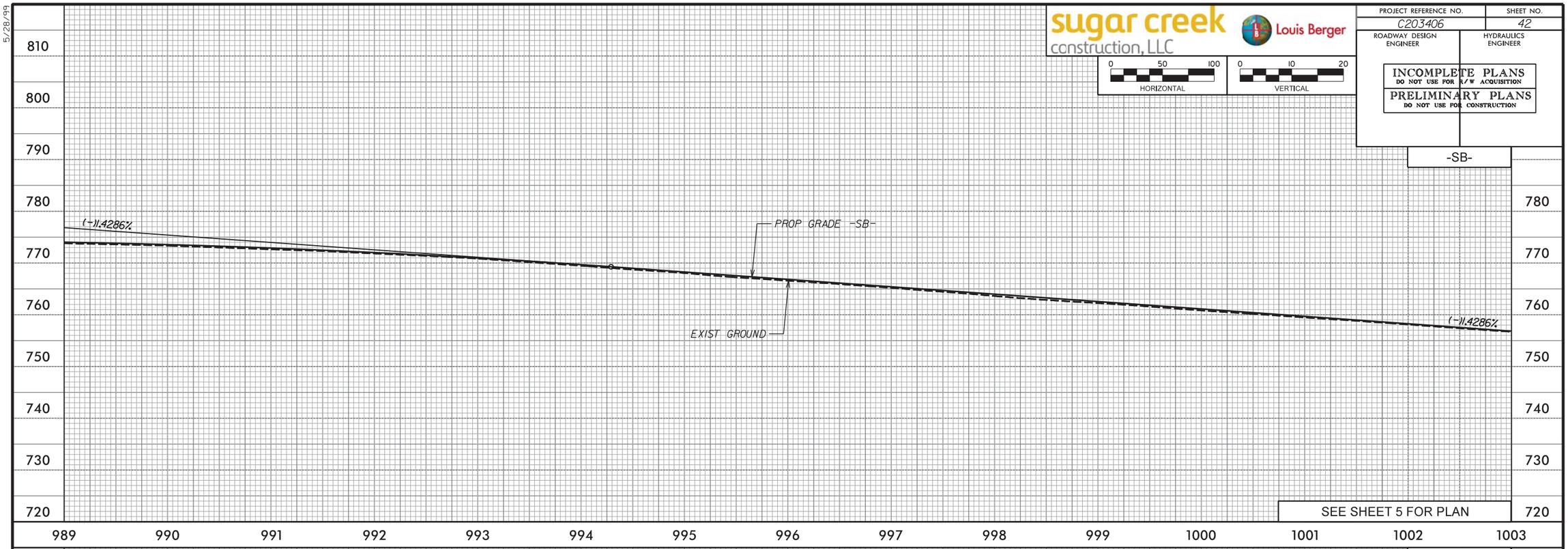
HORIZONTAL 0 50 100

VERTICAL 0 10 20

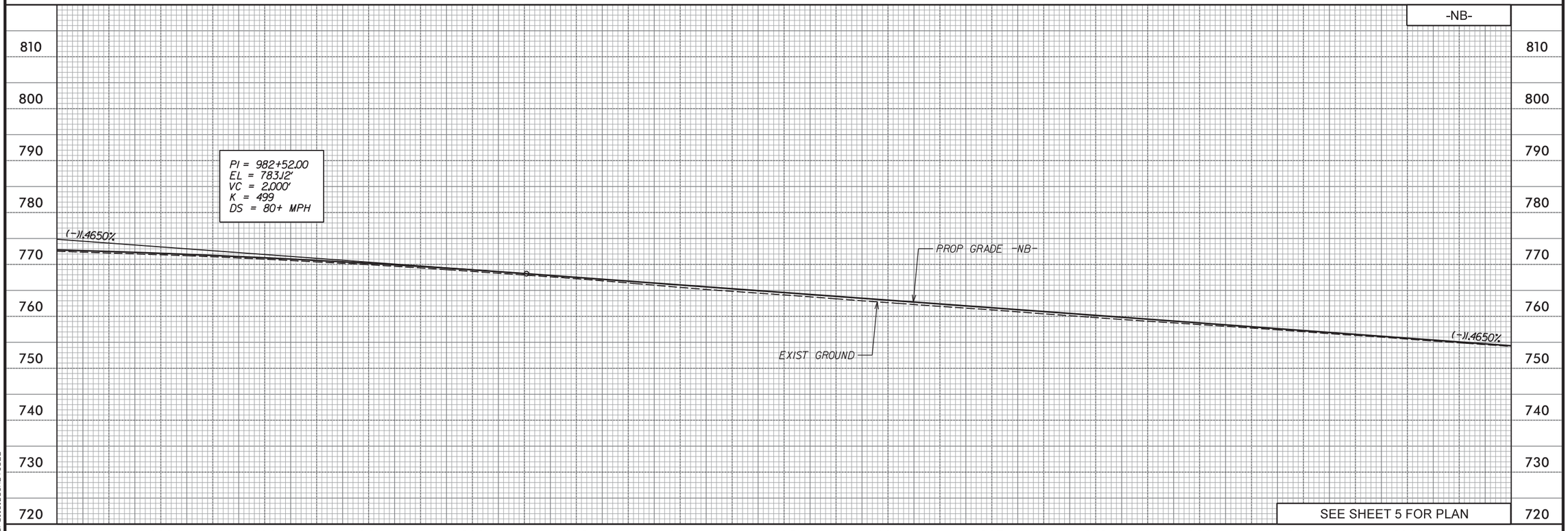
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SB-



-NB-



8/14/2015 4:08:45 PM
$FILE$
177-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	43

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

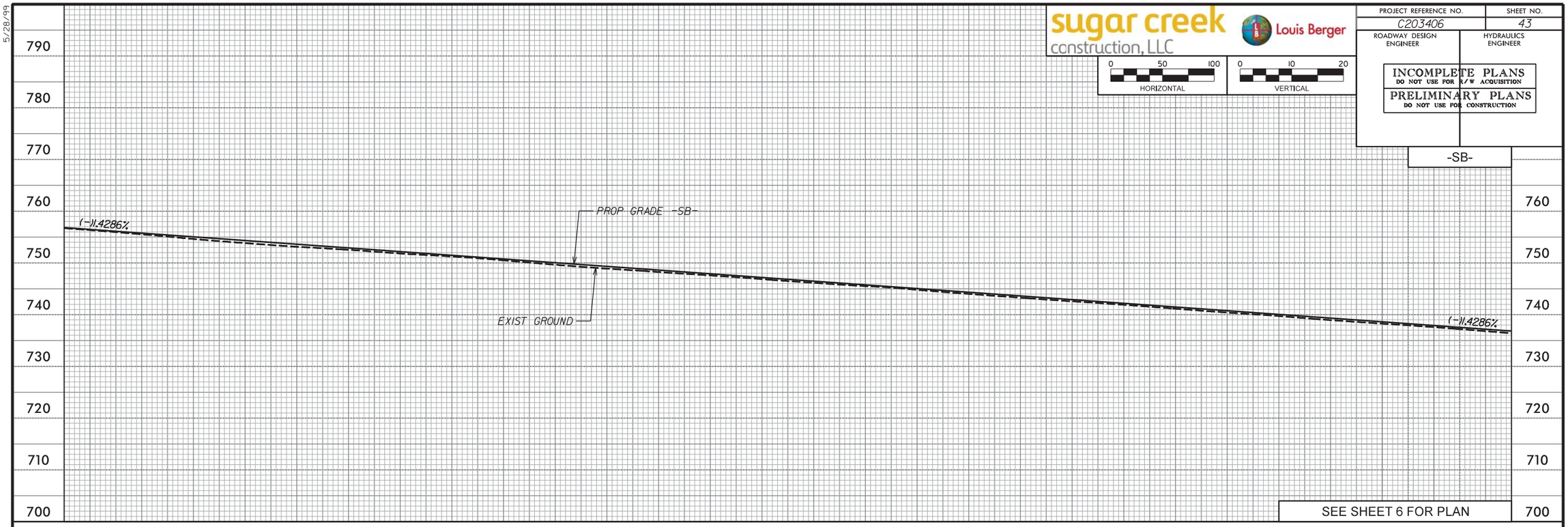
HORIZONTAL 0 50 100

VERTICAL 0 10 20

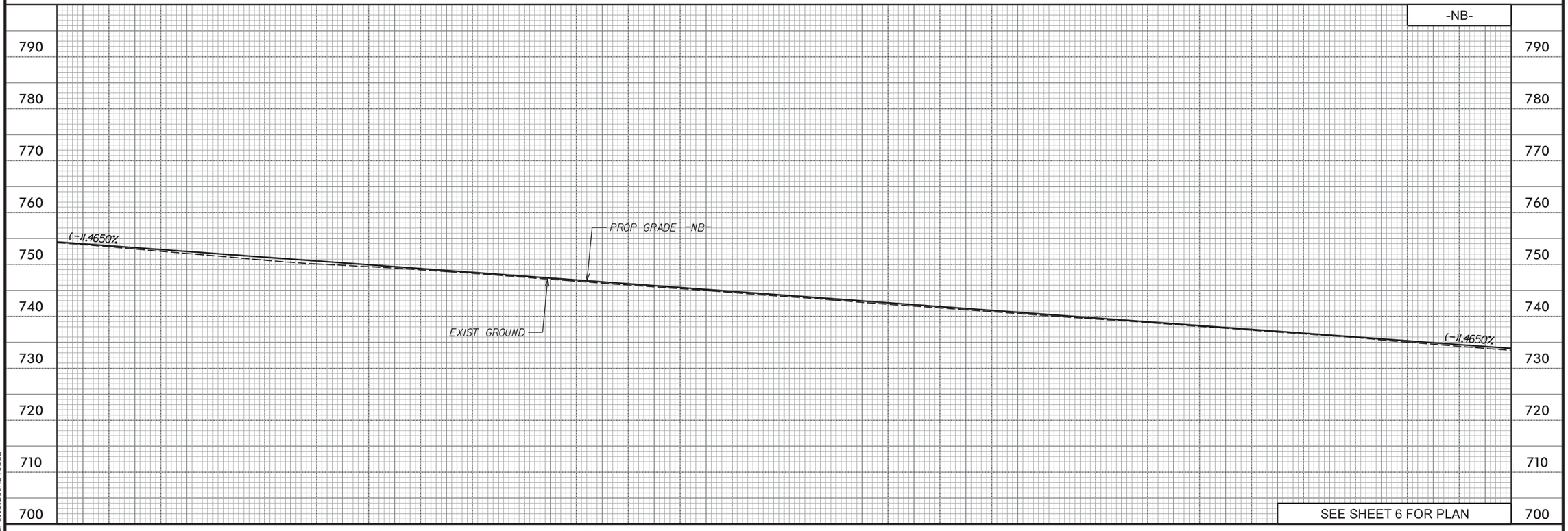
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SB-



-NB-



8/14/2015 4:08:48 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	44

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SB-

BM LS-55 "DEAN"
-SB- 1022+62.86
211.8J9' LT.
ELEV.777.482

PROP GRADE -SB-

EXIST GROUND

(-)1.4286%

℄

-Y21-
WESTMORELAND ROAD
(SR 2390)
-SB- POC STA.1026+63.43 =
-Y21- POC STA.18+85.44

PI = 1028+23.00
EL = 721.04'
VC = 1.600'
K = 538
DS = 80+ MPH

(-)1.4286%

(+)1.5470%

SEE SHEET 7 FOR PLAN

790 780 770 760 750 740 730 720 710 700

1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031

-NB-

PROP GRADE -NB-

EXIST GROUND

(-)1.4650%

℄

PI = 1024+50.39
EL = 721.61'
VC = 1.605'
K = 542
DS = 80+ MPH

-Y21-
WESTMORELAND ROAD
(SR 2390)
-NB- POC STA.1025+87.05 =
-Y21- POC STA.20+09.00

(-)1.4650%

(+)1.4937%

(+)1.4937%

SEE SHEET 7 FOR PLAN

790 780 770 760 750 740 730 720 710 700

1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030

8/14/2015 4:08:52 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	45

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SB-

PI = 1028+23.00
EL = 721.04'
VC = 1,600'
K = 538
DS = 80+ MPH

PROP GRADE -SB-

EXIST GROUND

(+)1.5470%

(+)1.5470%

SEE SHEET 8 FOR PLAN

790 780 770 760 750 740 730 720 710 700

1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045

-NB-

PI = 1024+50.39
EL = 721.61'
VC = 1,605'
K = 542
DS = 80+ MPH

PROP GRADE -NB-

EXIST GROUND

(+)1.4937%

(+)1.4937%

SEE SHEET 8 FOR PLAN

790 780 770 760 750 740 730 720 710 700

1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044

8/14/2015 4:08:55 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	46

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

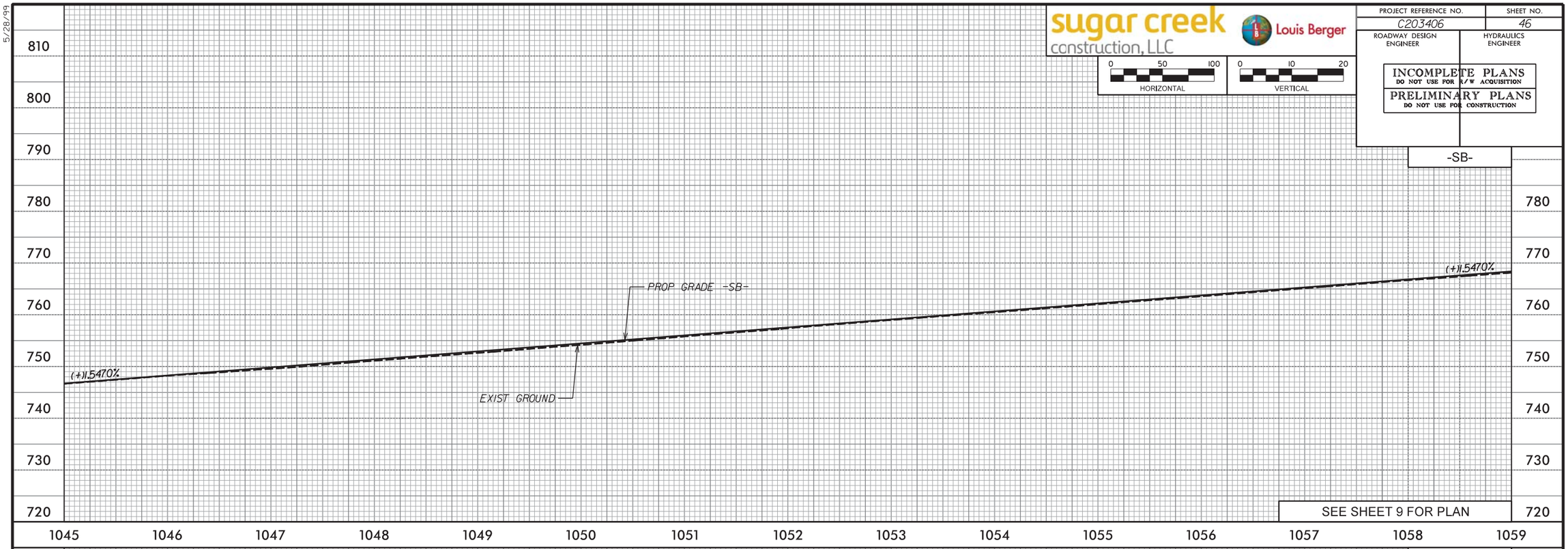
HORIZONTAL 0 50 100

VERTICAL 0 10 20

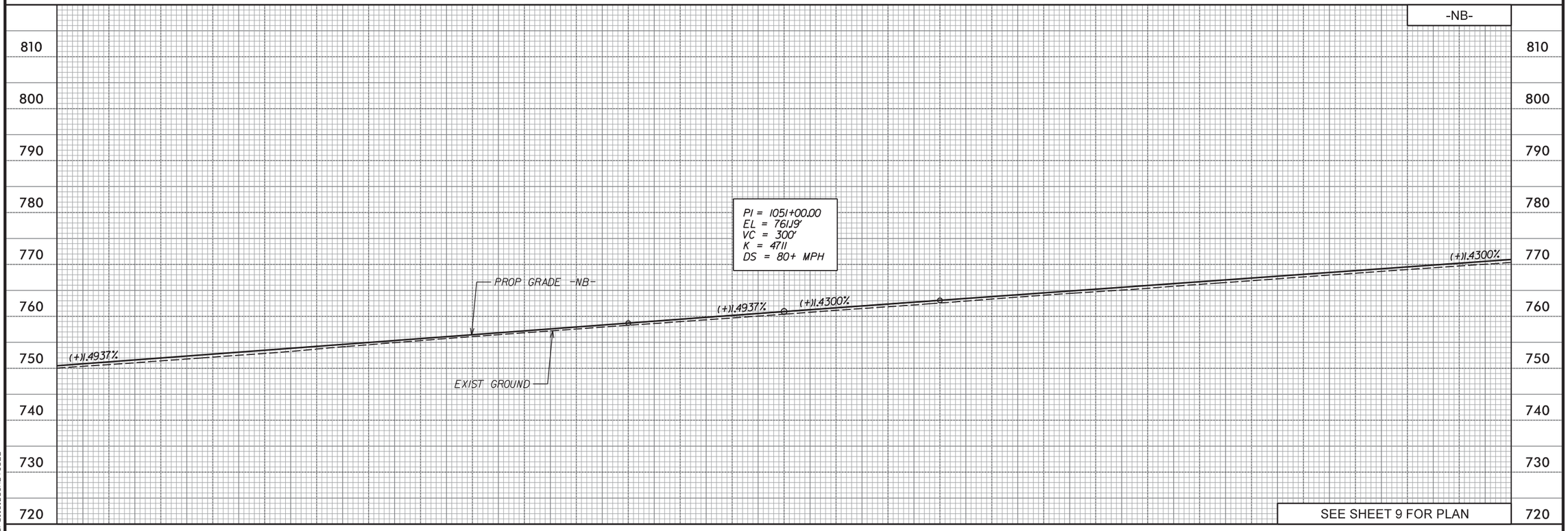
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SB-



-NB-



8/14/2015 4:08:58 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	47

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SB-

PI = 1074+35.00
EL = 792.38'
VC = 975'
K = 541
DS = 80+ MPH

(+)1.5470%

PROP GRADE -SB-

EXIST GROUND

(+)1.5470%

SEE SHEET 10 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073

-NB-

PI = 1072+56.61
EL = 792.03'
VC = 1,000'
K = 626
DS = 80+ MPH

(+)1.4300%

PROP GRADE -NB-

EXIST GROUND

(+)1.4300%

SEE SHEET 10 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072

8/14/2015 4:09:01 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	48

ROADWAY DESIGN ENGINEER

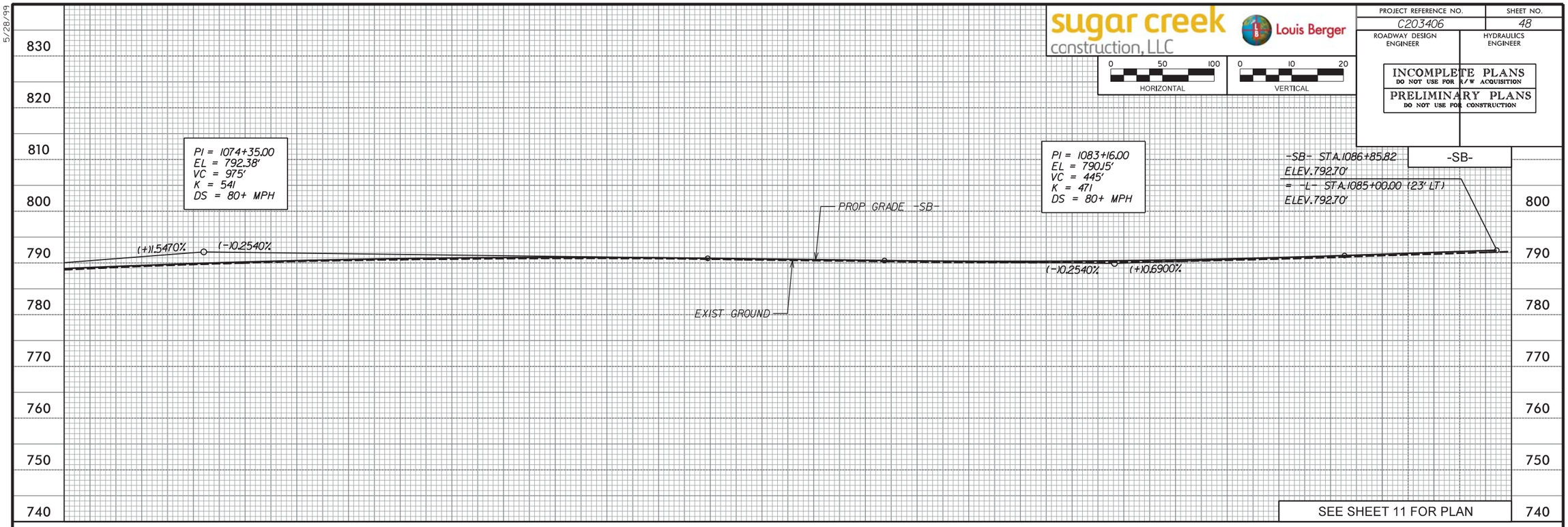
HYDRAULICS ENGINEER

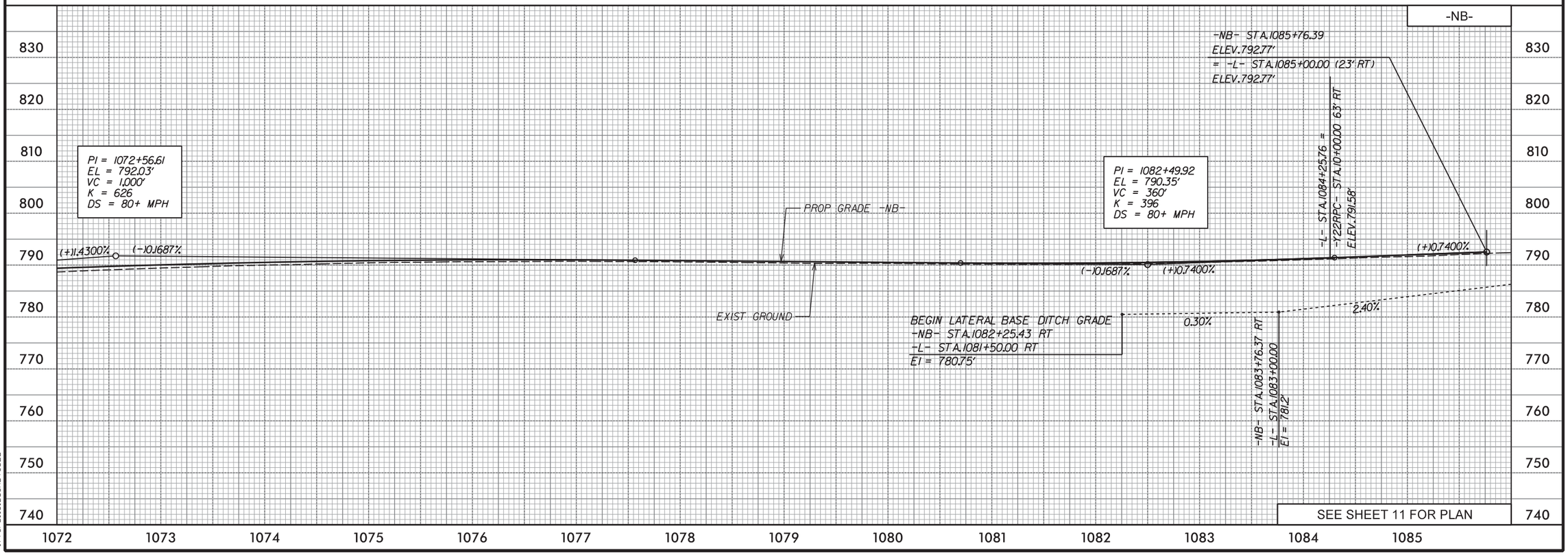
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





8/14/2015 4:09:04 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	49

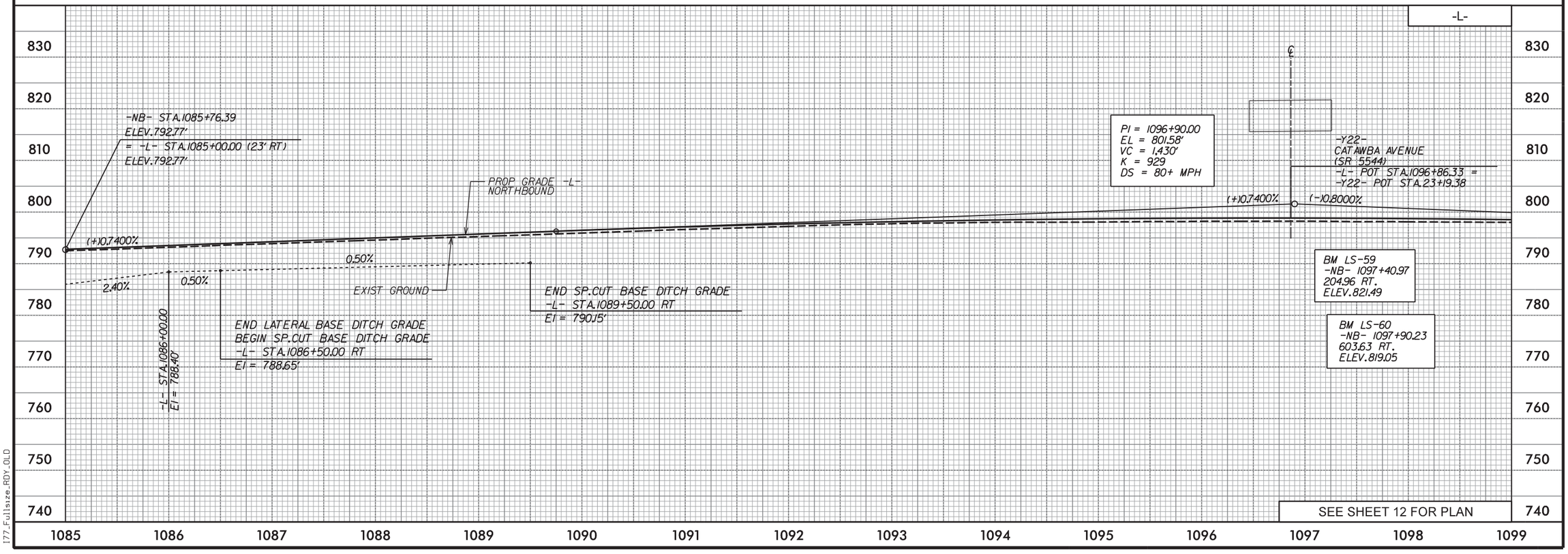
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

HORIZONTAL 0 50 100 | VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





8/14/2015 4:09:07 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	50

ROADWAY DESIGN ENGINEER

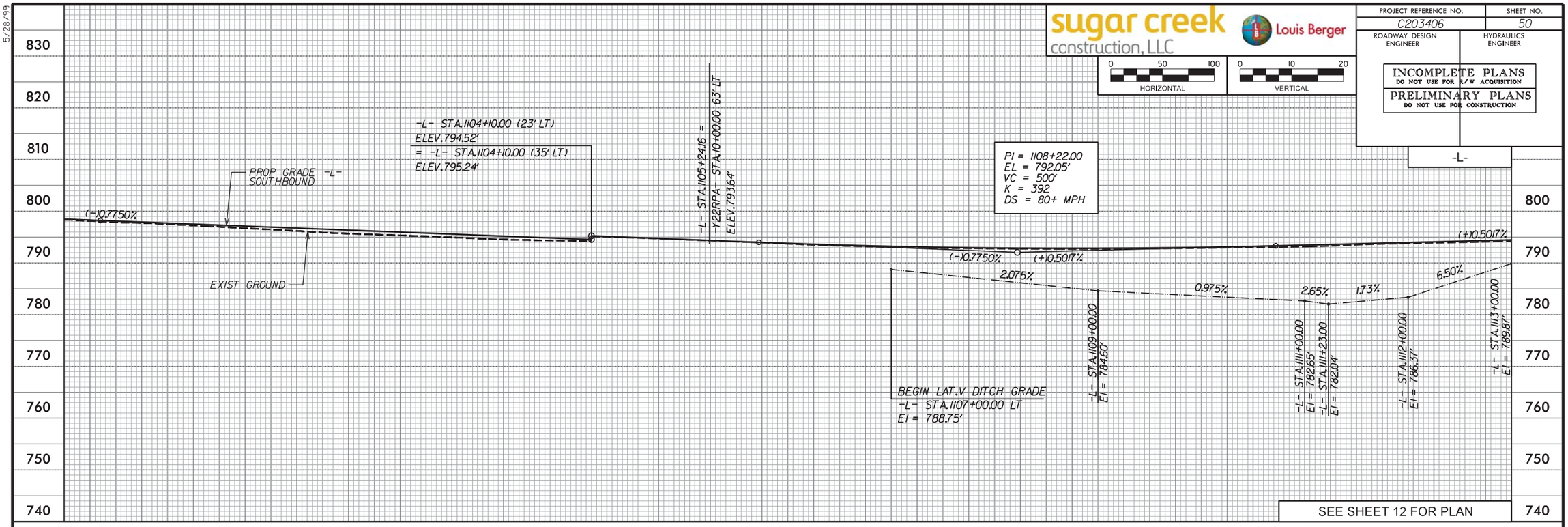
HYDRAULICS ENGINEER

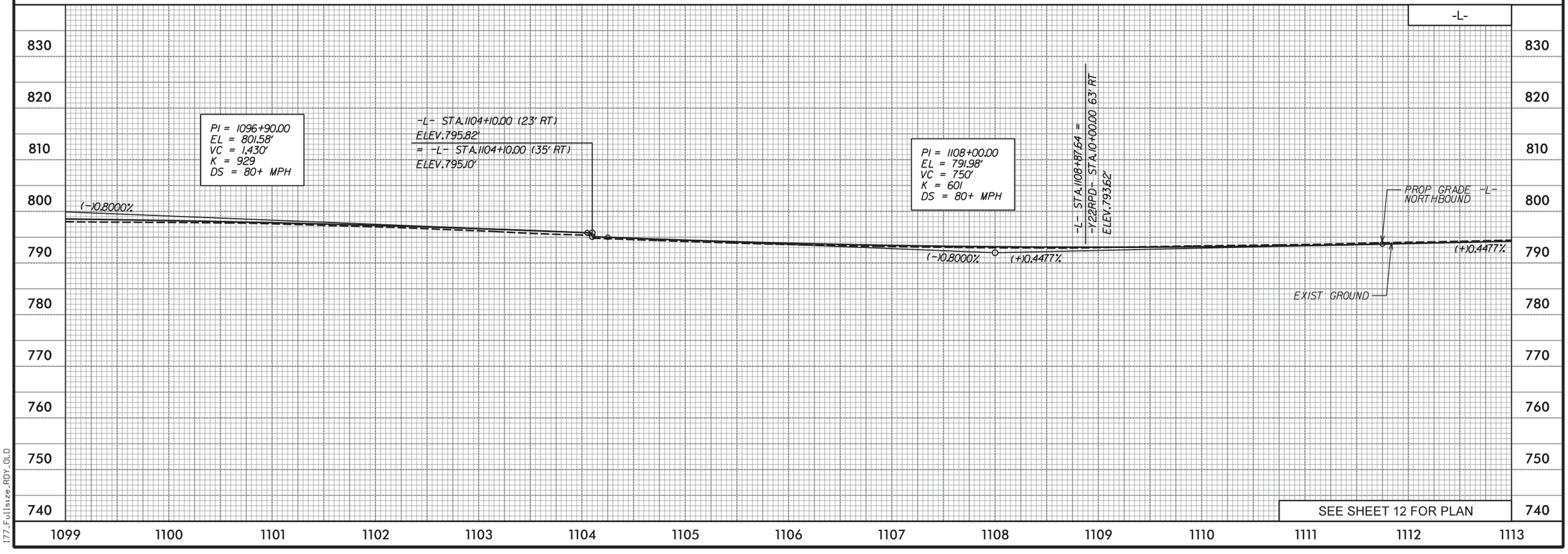
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





8/14/2015 4:09:11 PM
$FILE$
177-Fullsize-ROY-OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	51

ROADWAY DESIGN ENGINEER

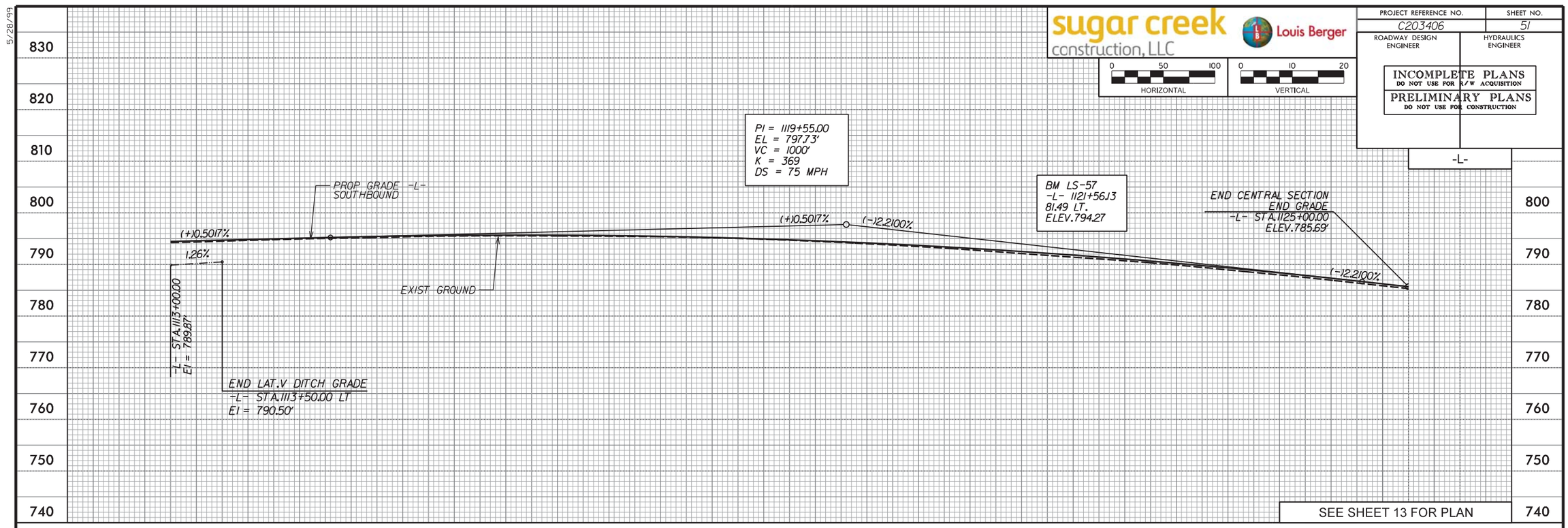
HYDRAULICS ENGINEER

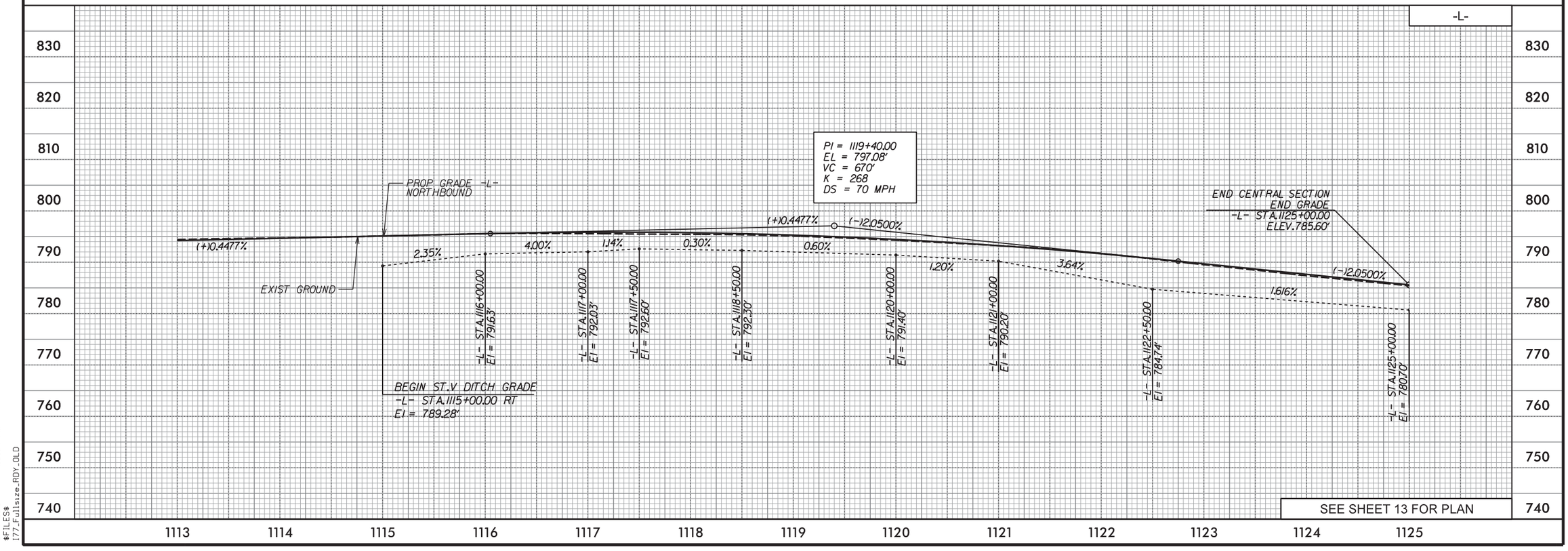
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





8/14/2015 4:09:14 PM
$FILE$s
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	84

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

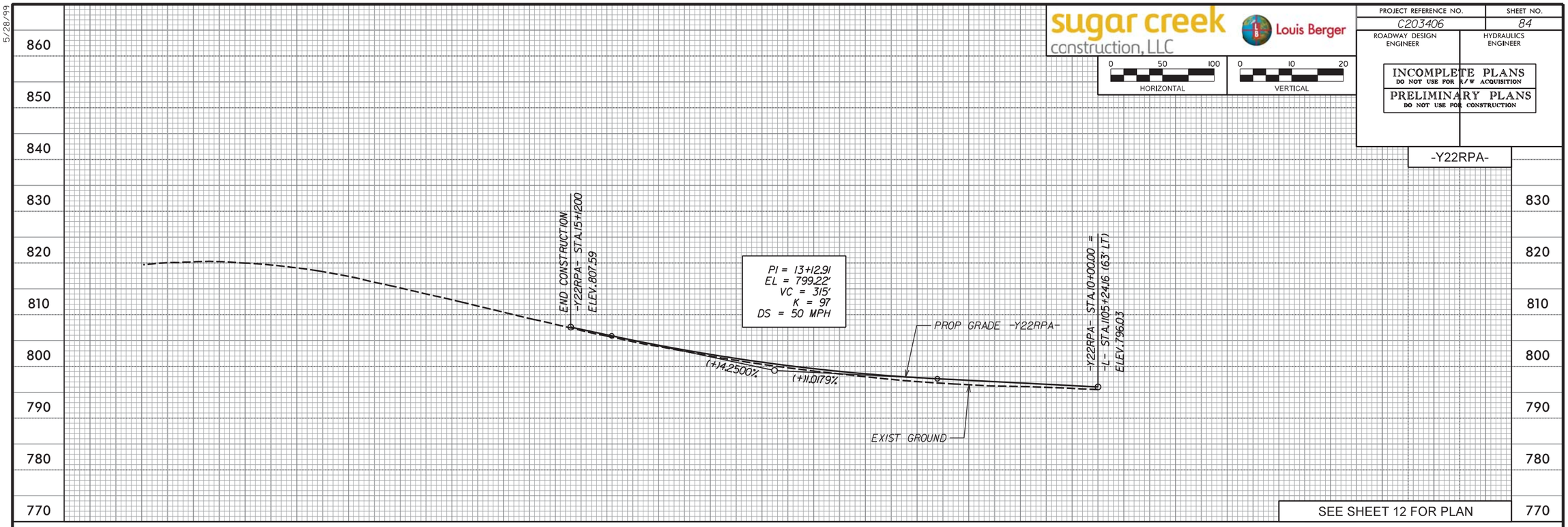
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

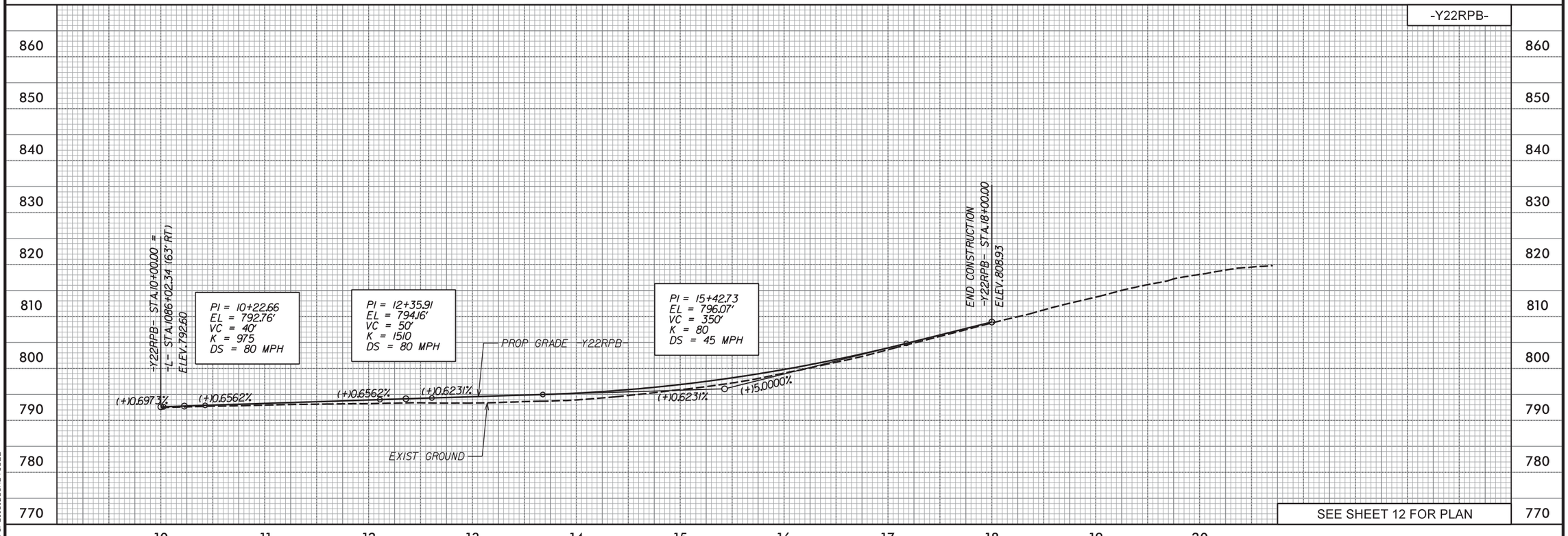
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y22RPA-



SEE SHEET 12 FOR PLAN

-Y22RPB-



SEE SHEET 12 FOR PLAN

8/14/2015 4:09:17 PM
$FILE$
177-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	85

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

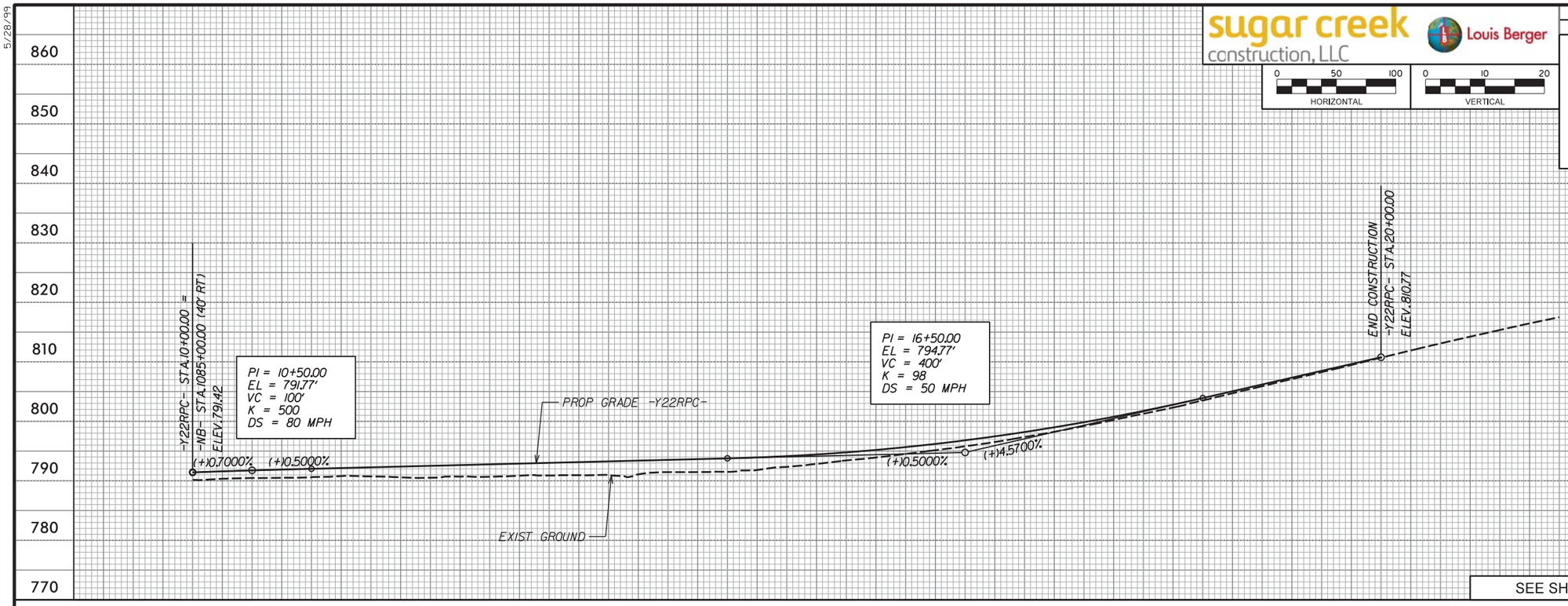
0 50 100 HORIZONTAL

0 10 20 VERTICAL

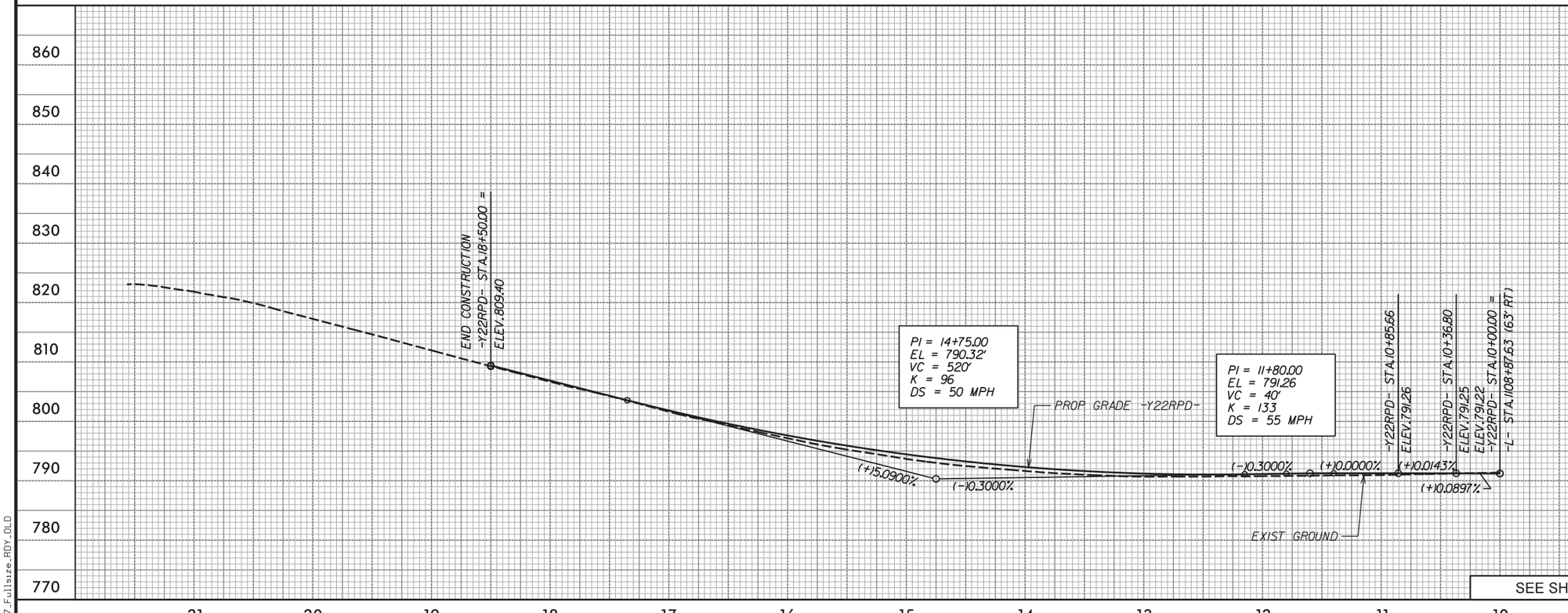
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y22RPC-



-Y22RPD-



8/14/2015 4:09:20 PM
$FILE$
177-Fullsize-RDY_OLD

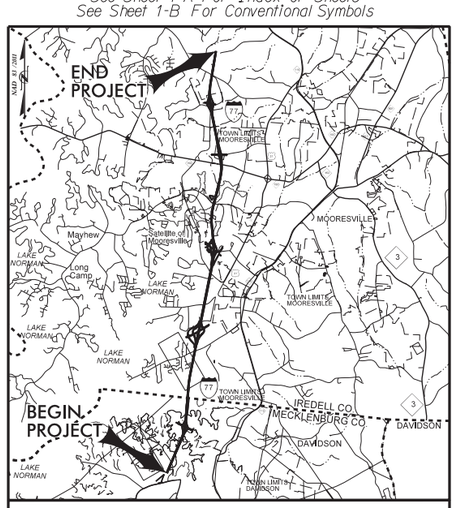
09/08/99

TIP PROJECT: I-4750AA

CONTRACT: C203406

8/14/2015 4:11:14 PM
C203406_RDY_001_SH_N
I77_FullSize_RDY_OLD

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG & IREDELL COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-4750AA	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
45454.3.P3S1		P.E.

sugar creek construction, LLC

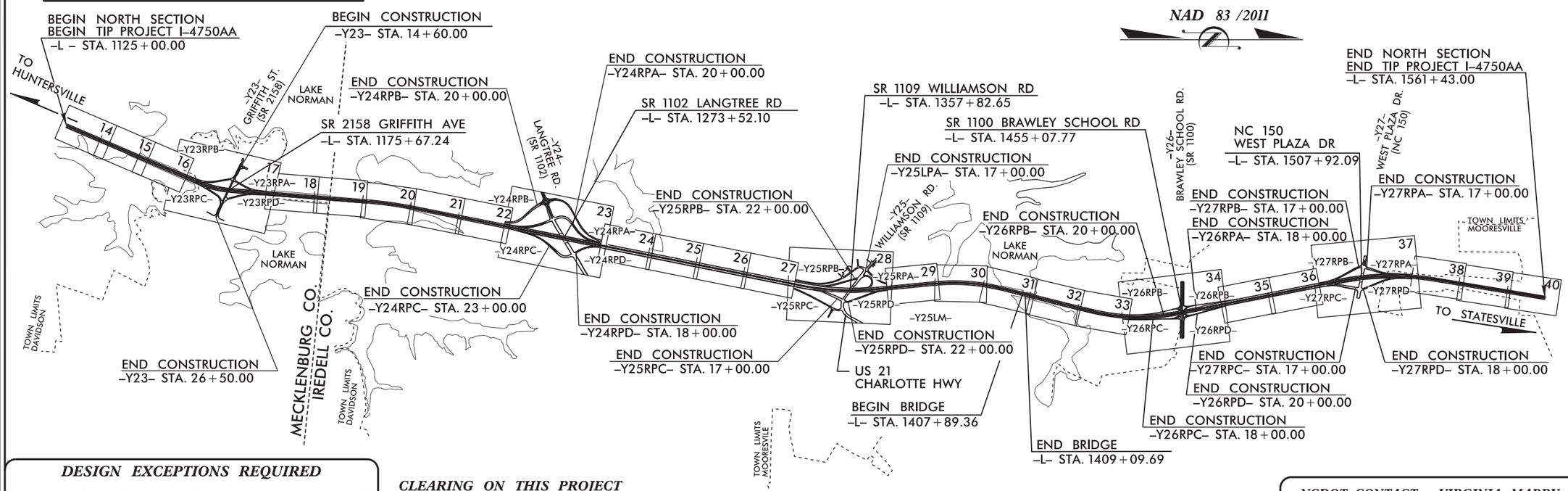
PRELIMINARY ROADWAY PLANS
SUBMITTAL NO. D0008-R1
JULY 15, 2015

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

LOCATION: *I-77 FROM NORTH OF SR 5544 (CATAWBA AVE.) TO NORTH OF NC 150 (WEST PLAZA DR.)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, SIGNING, ITS, GUARDRAIL, PAVEMENT MARKINGS, TOLLING STRUCTURES /EQUIPMENT AND STRUCTURES*

NAD 83 /2011



DESIGN EXCEPTIONS REQUIRED

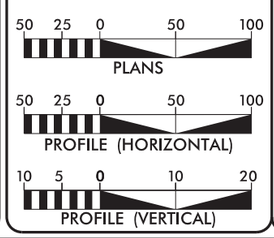
MEDIAN SHOULDER WIDTH AT -Y25- (WILLIAMSON ROAD)
VERTICAL CLEARANCE AT -Y25- (WILLIAMSON ROAD)

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES

NCDOT CONTACT: VIRGINIA MABRY MANAGER PRIORITY PROJECTS UNIT

GRAPHIC SCALES



DESIGN DATA

ADT 2012 = 185,400
ADT 2035 = 231,400
DHV = 10 %
D = 60 %
T = 8 % *
V = 70 MPH
* (TTST 4% + DUAL 4%)
FUNC. CLASS = INTERSTATE "STATEWIDE TIER"

PROJECT LENGTH

*LENGTH ROADWAY TIP PROJECT I-4750AA * (NORTH SECTION)* = *8.245 MI*

*LENGTH STRUCTURES TIP PROJECT I-4750AA * (NORTH SECTION)* = *0.023 MI*

TOTAL LENGTH OF TIP PROJECT I-4750AA (NORTH SECTION) = *8.268 MI*

** NOTE: PROJECT LENGTH BASED ON NORTHBOUND LANES*

Prepared for NCDOT In the Office of:
LOUIS BERGER GROUP, Inc.
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605
License No.: F-0840

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: TBD

DEAN HATFIELD, P.E.
PROJECT ENGINEER

R. D. ODELL, P. E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
C203406	1B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

8/14/2015 4:11:18 PM
c203406_RDY_001B.dgn
I77_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

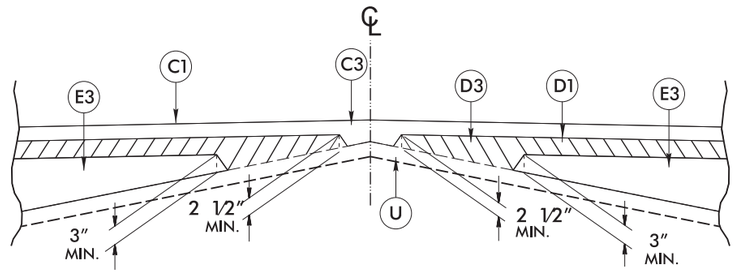
Louis Berger

NOTE: NOT TO SCALE

PAVEMENT SCHEDULE

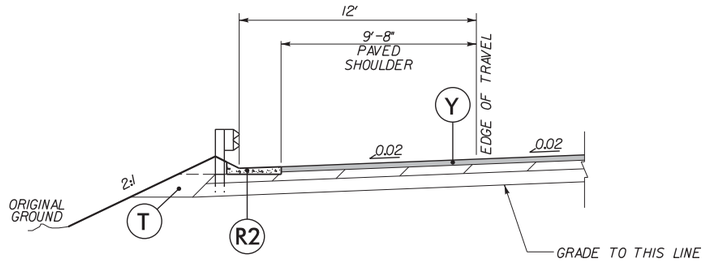
ITEM	DESCRIPTION
C1	Prop. Approx. 1.5" Depth Asphalt Concrete Surface Course, Type S9.5D, at an Average Rate of 112 lbs. Per sq. yard Per 1" Depth
C2	TBD
C3	Prop. Var. Depth Asphalt Concrete Surface Course, Type S9.5D, at an Average Rate of 112 lbs. Per sq. yard Per 1" Depth
D1	TBD
D2	TBD
D3	Prop. Var. Depth Asphalt Concrete Intermediate Course, Type I19.0D, at an Average Rate of 114 lbs. Per sq. yard Per 1" Depth, to be placed in layers not less than 2.5" in Depth or greater than 4" in Depth.
E1	TBD
E2	TBD
E3	Prop. Var. Depth Asphalt Concrete Base Course, Type B25.0C, at an Average Rate of 114 lbs. Per sq. yard Per 1" Depth, to be placed in layers not less than 3" in Depth or greater than 5.5" in Depth.
K	Base to be treated with Lime (Method–Slurry) to a Depth of 8", at a Rate of 20 lbs. Per sq. yard as directed by the Engineer. OR Base to be treated with cement to a depth of 7", at a Rate of 55 lbs. Per sq. yard as directed by the Engineer.
R1	Prop. 2'–6" Concrete Curb and Gutter
R2	Prop. Shoulder Berm Gutter
R3	Prop. Expressway Gutter
R4	Prop. Single Faced Concrete Barrier
R5	Prop. Double Faced Concrete Barrier
S	Prop. 4" Concrete Sidewalk
T	Earth Material
U	Existing Pavement (Asphalt)
W	Var. Depth Asphalt Pavement
Y	Milled Rumble Strips

Note: All pavement edge slopes are 1:1 unless noted otherwise.



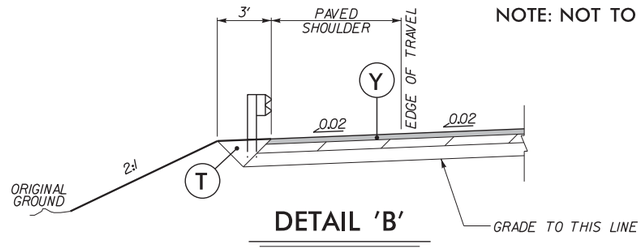
Detail Showing Method of Wedging

✱NOTE: FOR PAVEMENT TYPES AND DEPTHS SEE RELEVANT TYPICAL SECTION



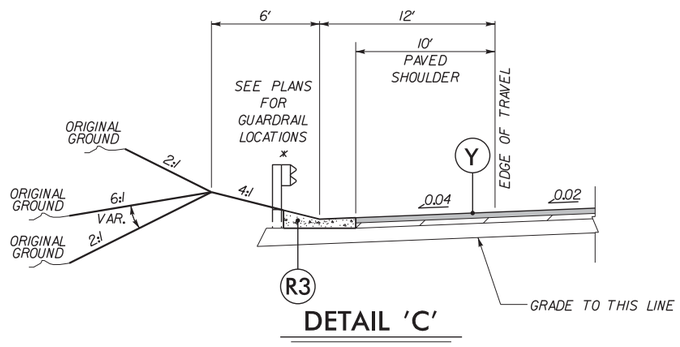
DETAIL 'A'

USE IN CONJUNCTION WITH TYPICAL NO. 2 & 4 AS FOLLOWS:
–NB– STA 1037+12.01 TO –NB– STA 1042+60.89 LT.
–SB– STA 1031+20.00 TO –SB– STA 1044+15.00 RT.



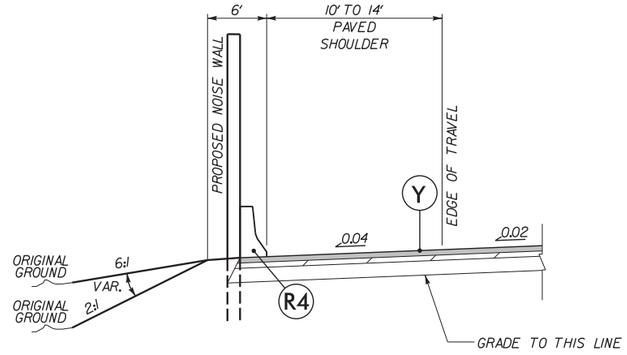
DETAIL 'B'

USE IN CONJUNCTION WITH TYPICAL NO. 1, 2, 3 & 4 AS FOLLOWS:
–NB– STA 1022+50.00 TO –NB– STA 1027+50.00 LT.
–SB– STA 1031+20.00 TO –SB– STA 1028+50.00 RT.



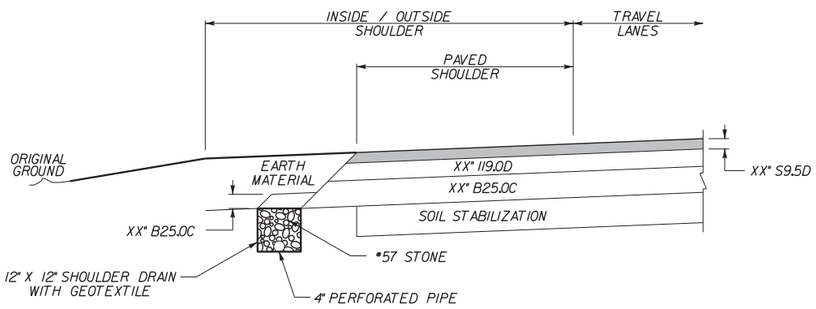
DETAIL 'C'

USE IN CONJUNCTION WITH TYPICAL NO. 4 & 8 AS FOLLOWS:
–NB– STA 1063+00.00 TO –NB– STA 1079+80.00 RT.
–L– STA 1113+50.00 TO –L– STA 1123+00.00 LT.



DETAIL 'D'

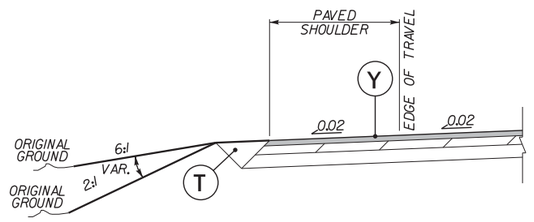
USE IN CONJUNCTION WITH TYPICAL NO. 3, 4 & 8 AS FOLLOWS:
–SB– STA 1010+05.00 TO –SB– STA 1025+80.00 LT.
–L– STA 1109+45.00 TO –L– STA 1125+00.00 RT.
–L– STA 1123+47.00 TO –L– STA 1125+00.00 LT.



SHOULDER DRAIN DETAIL

(TO BE REVISED WITH PAVEMENT DESIGN)

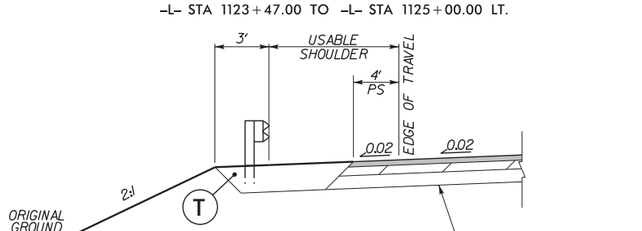
USE IN CONJUNCTION WITH TYPICAL NO. 1, 2, 3, 4, 5, 6, 7 & 8
SEE SHOULDER DRAIN SUMMARY ON SHEET 3__



MEDIAN SHOULDER DETAIL

(USED ONLY ON THE MEDIAN PAVED SHOULDER ADJACENT TO THE HOT LANES)

USE IN CONJUNCTION WITH TYPICAL NO. 1 & 2



DETAIL 'E'

USE IN CONJUNCTION WITH TYPICAL NO. 1 & 3 AS FOLLOWS:
–NB– STA 981+80.00 TO –NB– STA 1001+55.00 LT.
–SB– STA 982+40.00 TO –SB– STA 1001+90.00 RT.

8/14/2015 4:11:22 PM
c203406_RDY_002_TYP_CENTRAL.dgn
177_Fullsize_RDY_OLD

Note: All pavement edge slopes are 1:1 unless noted otherwise.

Note: Typical Sections are for tangent sections only; see plans and cross–sections for superelevation.

PROJECT REFERENCE NO.	SHEET NO.
C203406	2-D
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

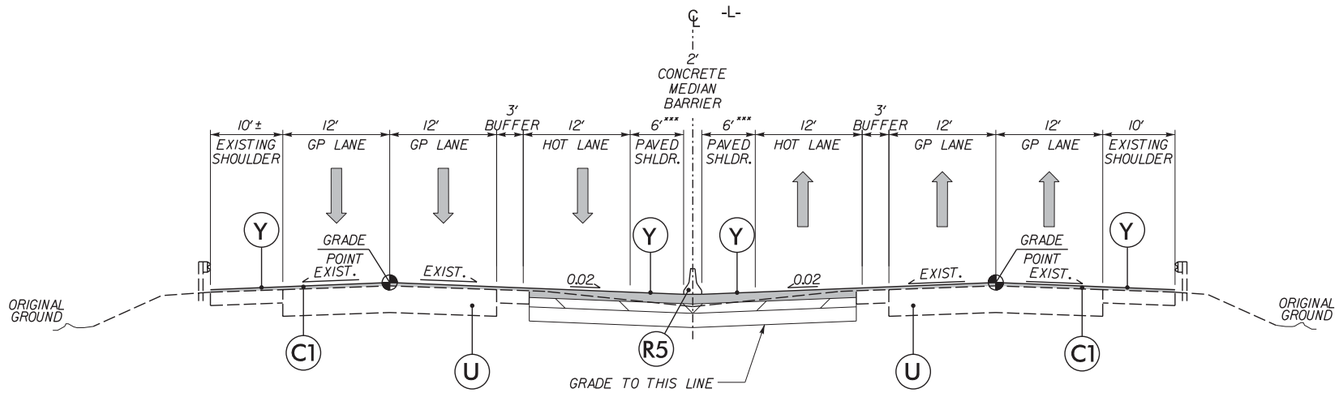
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

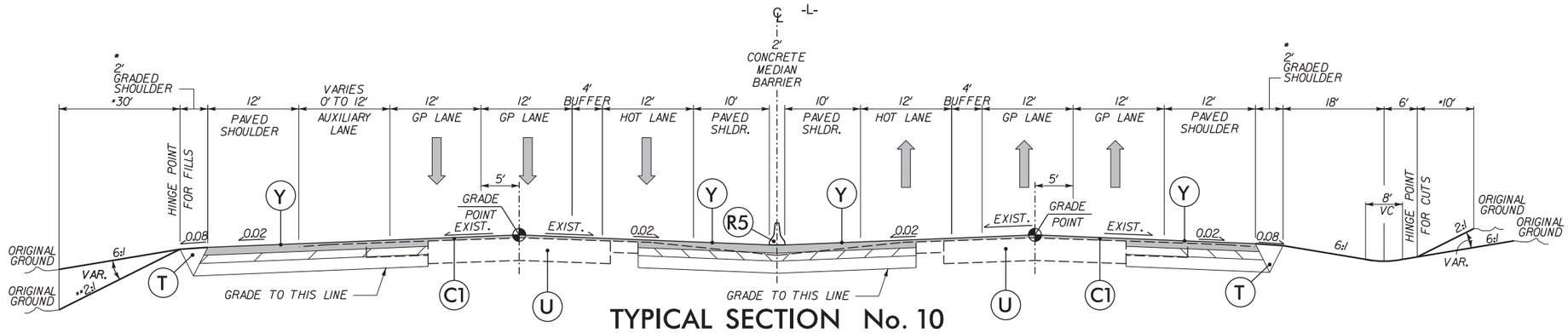
Louis Berger

NOTE: NOT TO SCALE



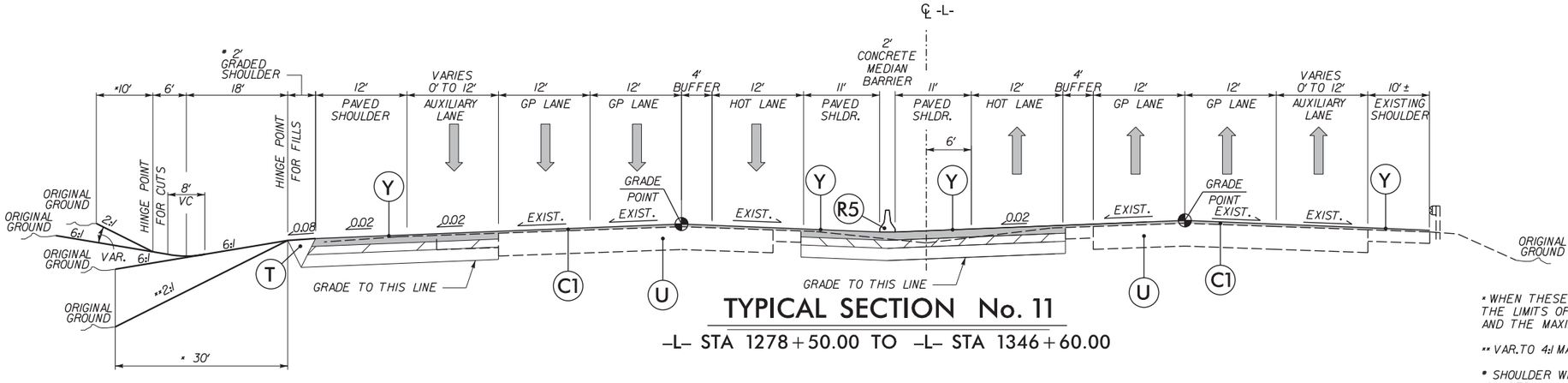
TYPICAL SECTION No. 9

–L– STA 1125+00.00 TO –L– STA 1247+00.00
–L– STA 1401+50.00 TO –L– 1407+89.36 (BEGIN BRIDGE)
–L– 1409+08.67 (END BRIDGE) TO –L– STA 1424+00.00



TYPICAL SECTION No. 10

–L– STA 1247+00.00 TO –L– STA 1278+50.00
–L– STA 1346+60.00 TO –L– STA 1372+40.00
–L– STA 1424+00.00 TO –L– STA 1450+00.00



TYPICAL SECTION No. 11

–L– STA 1278+50.00 TO –L– STA 1346+60.00

PAVEMENT SCHEDULE	
C1	1.5" S9.5D
C2	TBD
C3	Var. S9.5D
D1	TBD
D2	TBD
D3	Var. I19.0D
E1	TBD
E2	TBD
E3	Var. B25.0C
R1	2'–6" Curb & Gutter
R2	SBG
R3	Expressway Gutter
R4	Single Faced Conc. Barrier
R5	Double Faced Conc. Barrier
S	4" Sidewalk
T	Earth Material
U	Existing Pavement
W	Wedging
Y	Milled Rumble Strips

* WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

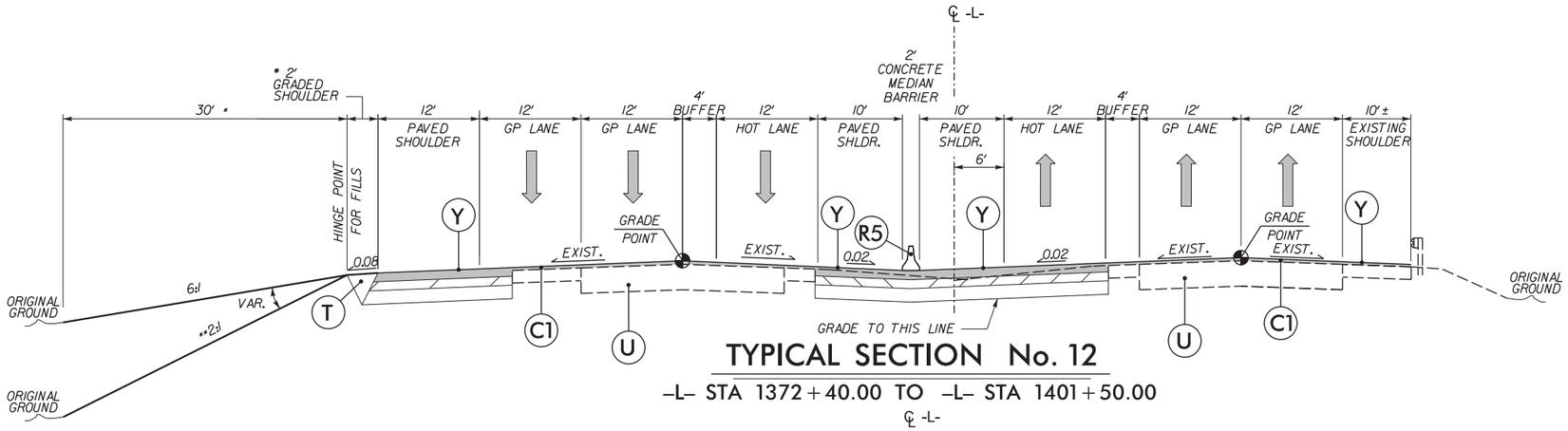
** VAR. TO 4:1 MAX INSIDE INTERCHANGES

* SHOULDER WIDTH TO BE INCREASED 3' WHERE GUARDRAIL IS USED.

8/14/2015 4:11:28 PM
$FILE1$
I-77_Fullsize_RDY.tbl

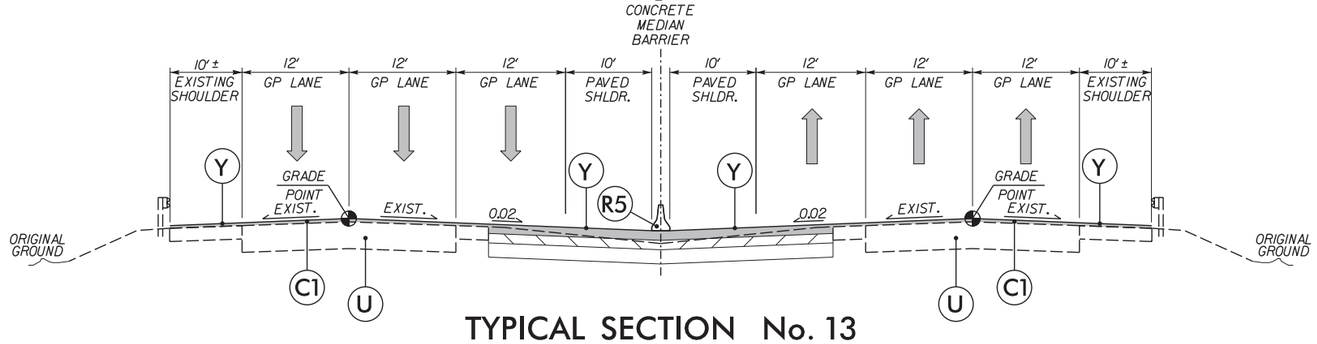
Note: All pavement edge slopes are 1:1 unless noted otherwise.

Note: Typical Sections are for tangent sections only; see plans and cross–sections for superelevation.



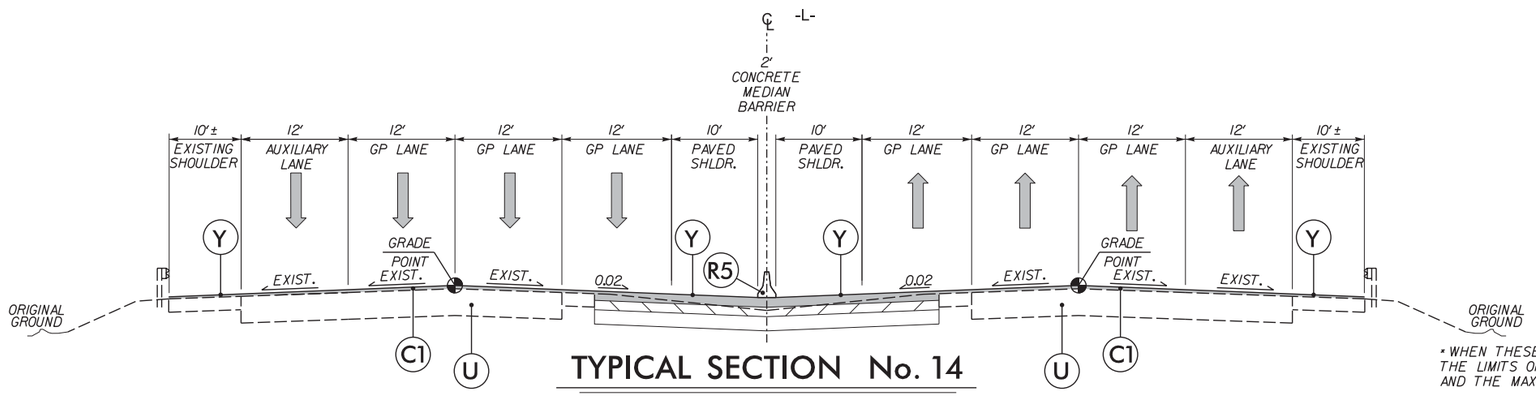
TYPICAL SECTION No. 12

–L– STA 1372+40.00 TO –L– STA 1401+50.00



TYPICAL SECTION No. 13

–L– STA 1450+00.00 TO –L– STA 1473+50.00
–L– STA 1497+00.00 TO –L– STA 1529+00.00



TYPICAL SECTION No. 14

–L– STA 1473+50.00 TO –L– STA 1497+00.00

* WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS OF 2:1 TO 6:1, THE DISTANCE BECOMES VARIABLE AND THE MAXIMUM OR MINIMUM SLOPE MAINTAINED.

** VAR. TO 4:1 MAX INSIDE INTERCHANGES

* SHOULDER WIDTH TO BE INCREASED 3' WHERE GUARDRAIL IS USED.

PROJECT REFERENCE NO.	SHEET NO.
C203406	2-E

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

Louis Berger

NOTE: NOT TO SCALE

PAVEMENT SCHEDULE	
C1	1.5" S9.5D
C2	TBD
C3	Var. S9.5D
D1	TBD
D2	TBD
D3	Var. I19.0D
E1	TBD
E2	TBD
E3	Var. B25.0C
R1	2'–6" Curb & Gutter
R2	SBG
R3	Expressway Gutter
R4	Single Faced Conc. Barrier
R5	Double Faced Conc. Barrier
S	4" Sidewalk
T	Earth Material
U	Existing Pavement
W	Wedging
Y	Milled Rumble Strips

8/14/2015 4:11:32 PM
$FILE1$
I-77_Fullsize_RDY.tbl

Note: All pavement edge slopes are 1:1 unless noted otherwise.

Note: Typical Sections are for tangent sections only; see plans and cross–sections for superelevation.

PROJECT REFERENCE NO.	SHEET NO.
C203406	2-F
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

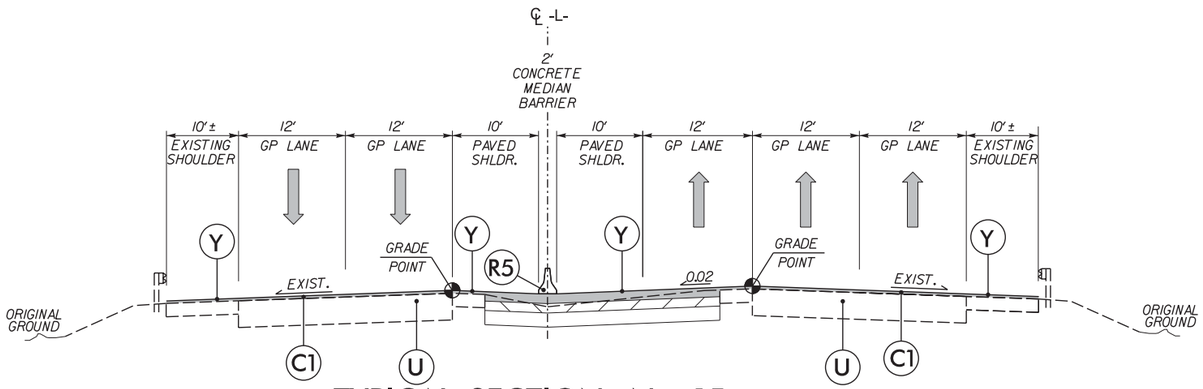
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

sugar creek construction, LLC

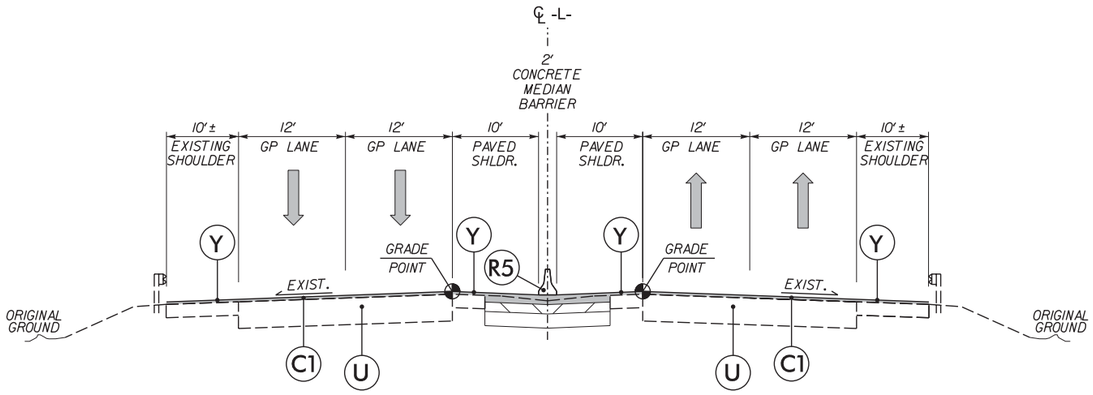
Louis Berger

NOTE: NOT TO SCALE



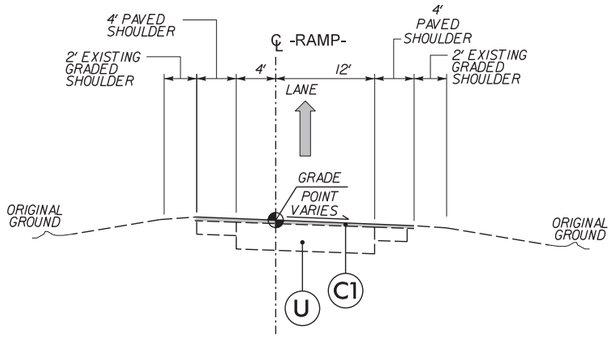
TYPICAL SECTION No. 15

–L– STA 1529+00.00 TO –L– STA 1545+85.00



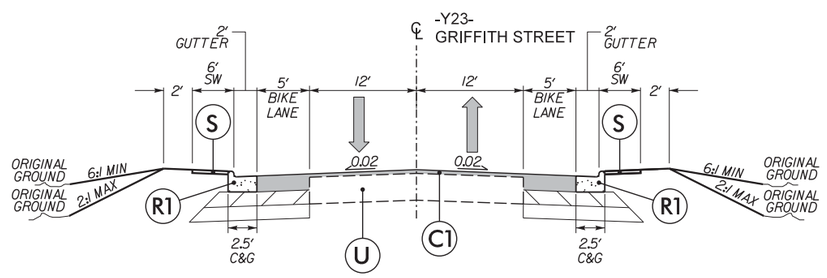
TYPICAL SECTION No. 16

–L– STA 1545+85.00 TO –L– STA 1561+43.00



TYPICAL SECTION No. 17

-Y23RPA-, -Y23RPB-, -Y23RPC-, -Y23RPD-
-Y24RPA-, Y24RPB-, -Y24RPC-, Y24RPD-
-Y25RPA-, -Y25RPB-, -Y25RPC-, -Y25RPD-, -Y25LPA-
-Y26RPA-, -Y26RPB-, -Y26RPC-, -Y26RPD-
-Y27RPA-, -Y27RPB-, -Y27RPC-, -Y27RPD-



TYPICAL SECTION No. 18

–Y23– STA 14+60.00 TO –Y23– STA 18+05.55 (BEGIN BRIDGE)
–Y23– STA 19+81.42 (END BRIDGE) TO –Y23– STA 26+50.00

PAVEMENT SCHEDULE	
C1	1.5" S9.5D
C2	TBD
C3	Var. S9.5D
D1	TBD
D2	TBD
D3	Var. I19.0D
E1	TBD
E2	TBD
E3	Var. B25.0C
R1	2'–6" Curb & Gutter
R2	SBG
R3	Expressway Gutter
R4	Single Faced Conc. Barrier
R5	Double Faced Conc. Barrier
S	4" Sidewalk
T	Earth Material
U	Existing Pavement
W	Wedging
Y	Milled Rumble Strips

8/14/2015 4:11:37 PM
$FILE$
I-77_Fullsize_RDY.tbl

PROJECT REFERENCE NO.	SHEET NO.
C203406	14
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

0' 50' 100'

NAD 83/2011

1975 LLC
21052 / 804

BRANDON L RIDGE
21529 / 549

ELIZABETH KENTON, LLC
21586 / 224

GERALD SCHROEDER
09928 / 868

2SBKD

BEGIN TIP PROJECT I-4750AA
BEGIN NORTH SECTION
-L- Sta. 1125+00.00

MATCH LINE SEE SHEET 13
-L- STA. 1125+00.00

WOODS

BEGIN PROP. RETAINING WALL -L- STA. 1126+50.00

END PROP. RETAINING WALL -L- STA. 1131+00.00

REMOVE EXIST. GUARDRAIL

PROP. SINGLE-FACE CONCRETE BARRIER

PROP. NOISE WALL -NW16-
2,376 LF

PROP. -NW16-
-L- STA. 1132+75.00
(67' LT) FACE OF WALL

PROP. -NW16-
-L- STA. 1134+50.00
(110' LT) FACE OF WALL

1000' SB EGRESS

GRAU-350
TL-3

B-77

EXISTING R/W

INV=774.54'

INV=767.03'

INV=772.68'

MTL

14' PS

RETAIN

24'

12'

10' PS

4' BUFFER

2.02

-L-

1130+00

1135+00

20:1

16'

40'

REMOVE DI CONSTRUCT SP. 2GI

REMOVE DI, SP. 2GI

INV=778.12'
TOP=781.39'

INV=775.91'

INV=776.63'

N 23°14' 29.9" E

+90.00

TIE TO EXISTING

REMOVE GUARDRAIL IN MEDIAN

PROP. NOISE WALL -NW17-
2,291 LF

PROP. SINGLE-FACE CONCRETE BARRIER

PROP. DOUBLE FACED CONC. BARRIER

REMOVE EXIST. GUARDRAIL

1000' NB INGRESS

48" WW

END PROP. -NW17-
-L- STA. 1132+36.00
(67' RT) FACE OF WALL

DO NOT DISTURB FENCE

70.00

WLB

ST

CURB

G

48" CHL

BST

3SBKAPT

LAKE NORMAN

WOODS

WMCI CHARLOTTE III LLC
16556 / 246

MATCH LINE SEE SHEET 15
-L- STA. 1137+00.00

NOTES:

1.) FOR -L- PROFILE SEE SHEET 52.

8/14/2015 4:12:35 PM
$FILES$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	15
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

0' 50' 100'

NAD 83/2011

JEFFREY L. JORGENSEN
20905 / 234

LINCOLN C CONAWAY
19152 / 909

SHEBRA S PATTERSON
08767 / 870

CROWN HARBOR HOMEOWNERS ASSOCIATION OF MECK INC
16495 / 338

RUTHANN M FOX
REVOCABLE LIVING TRUST
25374 / 626

TRACY S. FORD
21690/359

PETER G KOURES
23316 / 978

KYM NWOSU
18647 / 886

LORENZO FRIDAY JR.
20808 / 818

CURTIS NAY HELMS II
11551 / 193

ELIZABETH KENTON LLC
20629 / 628

LAKE NORMAN

WMCI CHARLOTTE III LLC
16556 / 246

MATCH LINE SEE SHEET 14 –L– STA. 1137+00.00

MATCH LINE SEE SHEET 16 –L– STA. 1149+00.00

1000' SB EGRESS

PROP. –NW16– –L– STA. 1141+75.00 (110' LT) FACE OF WALL

PROP. –NW16– –L– STA. 1143+50.00 (67' LT) FACE OF WALL

PROP. NOISE WALL –NW16– 2,376 LF

REMOVE GUARDRAIL IN MEDIAN

PROP. SINGLE-FACED CONCRETE BARRIER

350' TRANSITION

POTENTIAL HSB LOCATION DO NOT DISTURB

TIE FENCE TO NOISE WALL

END PROP. –NW16– –L– STA. 1147+23.00 (58' LT) FACE OF WALL

TIE EXIST.GUARDRAIL TO CONCRETE BARRIER

1000' NB INGRESS

350' TRANSITION

REMOVE EXIST. GUARDRAIL

PROP. DOUBLE FACED CONC. BARRIER

TIE TO EXIST. GUARDRAIL

REMOVE AND RESET EXIST. GUARDRAIL

N 23°14'29.9" E

NOTES:

1.) FOR –L– PROFILE SEE SHEET 53.

8/14/2015 4:12:41 PM
$FILES$
177_Fullsize_ROY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	16
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

0' 50' 100'

NAD 83/2011

ELIZABETH KENTON LLC
20629 / 628

LAKE NORMAN

BOAT DOCK

EXISTING R/W

REMOVE AND RESET EXIST. GUARDRAIL

DO NOT DISTURB FENCE

INV=757.12'

INV=757.43'

INV=758.34'

48" WW

10' EXIST. PS

15" RCP

18" RCP

3' BUFFER

24'

12'

6' PS

02.02

RETAIN 1150+00

REMOVE DI
SP. TB DI

-L-

SP. TB DI

15"

REMOVE DI
SP. TB DI

RETAIN

1155+00

I-77 SBL
39.0' BST

RETAIN

15" RCP

1160+00

SP. TB DI

N 23°14'29.9" E

INV=758.79'
TOP=762.66'

INV=759.80'
TOP=762.62'

I-77 NBL
36.9' BST

INV=759.44'
TOP=764.62'

MTL

PROP. DOUBLE FACED CONC. BARRIER

REMOVE AND RESET EXIST. GUARDRAIL

REMOVE GUARDRAIL IN MEDIAN

REMOVE AND RESET EXIST. GUARDRAIL

ELIZABETH KENTON LLC
27336 / 261

LAKE NORMAN

MATCH LINE SEE SHEET 15 -L- STA. 1149+00.00

MATCH LINE SEE SHEET 17 -L- STA. 1161+00.00

NOTES:

1.) FOR -L- PROFILE SEE SHEET 54.

8/14/2015 4:12:46 PM
$FILES$
I77_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	17
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

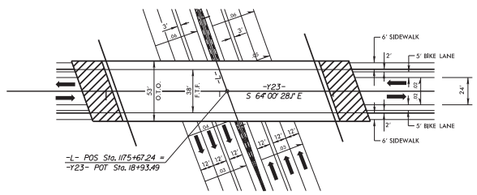
sugar creek construction, LLC

Louis Berger

0' 100' 200'

PAVEMENT–BRIDGE RELATIONSHIP SKETCH

N.T.S.



NAD 83/2011

A

B

C

D

-Y23- POT Sta. 10+00.00

-Y23- PRC Sta. 14+67.04

-Y23- PC Sta. 12+23.72

-Y23RPB- POT Sta. 22+25.91 =
-Y23- POC Sta. 15+20.43

BEGIN CONSTRUCTION
-Y23- STA.14+60.00

-Y23RPA- POT Sta. 18+66.53 =
-Y23- POC Sta. 15+79.44

-Y23RPA- TS Sta. 10+32.20

-Y23RPA- POT Sta. 10+00.00 =
-L- POT Sta. 1185+00.00 (46.07 LT)
DIVERGENCE ANGLE = 3° 0' 0"

-Y23RPB- ST Sta. 17+77.00

-Y23RPB- TS Sta. 10+00.00 =
-L- POT Sta. 1164+61.18 (46.07 LT)

-L- TS Sta. 1165+48.09

-L- SC Sta. 1168+41.09

-Y23RPB- SC Sta. 12+00.00

-Y23RPB- CS Sta. 15+77.00

-Y23RPB- PT Sta. 17+11.00

-Y23RPA- ST Sta. 16+19.40

-Y23RPA- CS Sta. 14+19.49

-Y23RPA- SC Sta. 12+32.20

-Y23RPC- POT Sta. 10+00.00 =
-L- POT Sta. 1166+00.00 (46.07 RT)
DIVERGENCE ANGLE = 2° 0' 0"

-Y23RPC- TS Sta. 10+62.60

-Y23RPC- CS Sta. 13+33.86

-Y23RPC- SC Sta. 12+62.60

-Y23RPC- ST Sta. 15+33.85

-Y23RPC- PC Sta. 16+93.38

-Y23RPC- PT Sta. 20+70.35 =
-Y23- POT Sta. 24+21.22 (240.7 RT.)

-Y23RPD- POT Sta. 10+00.00 =
-L- POT Sta. 1184+44.25 (46.07 RT)

-Y23RPD- SC Sta. 12+00.01

-Y23RPD- CS Sta. 14+78.40

-Y23RPD- ST Sta. 16+78.40

-Y23RPD- PC Sta. 18+59.89

-Y23RPD- PT Sta. 21+59.40
-Y23- POT Sta. 23+49.80

-Y23- PC Sta. 26+12.35

-Y23- PT Sta. 27+05.17

-Y23- POT Sta. 27+65.06

END CONSTRUCTION
-Y23- STA.26+50.00

-L- POS Sta. 1175+67.24 =
-Y23- POT Sta. 18+93.49

END BRIDGE
-Y23- POT Sta. 19+18.42

BEGIN BRIDGE
-Y23- POT Sta. 18+05.55

-L- ST Sta. 1177+59.96

-L- CS Sta. 1174+66.96

MATCH LINE SEE SHEET 16
-L- STA. 1164+00.00

MATCH LINE SEE SHEET 18
-L- STA. 1187+00.00

CURVE DATA FOR -L-

PIs Sta 1167+43.45	PI Sta 1171+55.31	PIs Sta 1175+64.61
Θs = 2° 58' 19.8"	Δ = 12° 41' 51.0" (LT)	Θs = 2° 58' 19.8"
Ls = 293.00'	D = 2° 04' 43.6"	Ls = 293.00'
LT = 195.36'	L = 625.87'	LT = 195.36'
ST = 97.69'	T = 314.22'	ST = 97.69'
	R = 2,824.14'	
	e = 0.07'	
	RO = 293.00'	
	DS = 70 MPH	

CURVE DATA FOR -Y23-

PI Sta 13+45.41	PI Sta 15+89.05	PI Sta 26+58.80
Δ = 2° 54' 16.2" (LT)	Δ = 2° 54' 43.2" (RT)	Δ = 5° 19' 05.4" (LT)
D = 1° 11' 37.2"	D = 1° 11' 37.2"	D = 5° 43' 46.5"
L = 243.32'	L = 243.95'	L = 92.82'
T = 121.69'	T = 122.00'	T = 46.44'
R = 4,800.00'	R = 4,800.00'	R = 1,000.00'
e = NC	e = NC	e = EXIST.
RO = N/A	RO = N/A	RO = EXIST.
DS = 45 MPH	DS = 45 MPH	DS = EXIST.

CURVE DATA FOR -Y23RPA-

PIs Sta 11+65.60	PI Sta 13+26.12	PIs Sta 14+86.22
Θs = 5° 43' 46.5"	Δ = 17° 43' 51.1" (RT)	Θs = 5° 43' 46.5"
Ls = 200.00'	D = 5° 43' 46.5"	Ls = 200.00'
LT = 133.40'	L = 187.29'	LT = 133.40'
ST = 66.73'	T = 93.92'	ST = 66.73'
	R = 1,000.00'	

CURVE DATA FOR -Y23RPB-

PIs Sta 11+33.42	PI Sta 13+90.27	PIs Sta 16+43.73
Θs = 5° 43' 46.5"	Δ = 21° 35' 59.9" (LT)	Θs = 5° 43' 46.5"
Ls = 200.00'	D = 5° 43' 46.5"	Ls = 200.00'
LT = 133.40'	L = 376.99'	LT = 133.40'
ST = 66.73'	T = 190.76'	ST = 66.73'
	R = 1,000.00'	

CURVE DATA FOR -Y23RPC-

PIs Sta 11+95.95	PI Sta 12+98.24	PIs Sta 14+00.54	PI Sta 19+23.70
Θs = 2° 51' 53.2"	Δ = 2° 02' 29.1" (RT)	Θs = 2° 51' 52.7"	Δ = 83° 04' 22.8" (RT)
Ls = 200.00'	D = 2° 51' 53.2"	Ls = 199.99'	D = 22° 02' 12.6"
LT = 133.35'	L = 71.26'	LT = 133.34'	L = 376.97'
ST = 66.68'	T = 35.63'	ST = 66.68'	T = 210.15'
	R = 2,100.00'		R = 260.00'

CURVE DATA FOR -Y23RPD-

PIs Sta 11+33.38	PI Sta 13+39.67	PIs Sta 15+45.10	PI Sta 20+19.50
Θs = 4° 05' 33.2"	Δ = 11° 23' 35.1" (LT)	Θs = 4° 05' 33.2"	Δ = 49° 01' 50.3" (LT)
Ls = 200.00'	D = 4° 05' 33.2"	Ls = 200.00'	D = 16° 22' 10.8"
LT = 133.37'	L = 278.39'	LT = 133.37'	L = 299.5'
ST = 66.70'	T = 139.65'	ST = 66.70'	T = 159.02'
	R = 1,400.00'		R = 350.00'

NOTES:
1.) FOR -L- PROFILE SEE SHEET 55 & 56.
2.) FOR -Y23- PROFILE SEE SHEET 98.
3.) FOR -Y23- RAMPS PROFILE SEE SHEET 86 & 87.

REVISIONS

8/14/2015 4:12:51 PM
$FILE$
177_HalfSize_RDY

REVISIONS

0' 50' 100'

PROJECT REFERENCE NO.	SHEET NO.
C203406	18
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

NAD 83/2011

LAKE NORMAN

MILE 3 0

BOAT DOCK

MATCH LINE SEE SHEET 17 –L– STA. 1187+00.00

MATCH LINE SEE SHEET 19 –L– STA. 1201+00.00

EXISTING R/W

DO NOT DISTURB FENCE

REMOVE GUARDRAIL IN MEDIAN

REMOVE AND RESET EXIST. GUARDRAIL

PROP. DOUBLE FACED CONC. BARRIER

REMOVE AND RESET EXIST. GUARDRAIL

RIP-RAP

INV=758.03'

INV=759.32'

MTL

10' EXIST. PS

RETAIN

24'

12'

6' PS

3' BUFFER

02.02

1190+00

1195+00

1200+00

15"

REMOVE DI SP. TB DI

TOP=762.55'
INV=759.55'

INV=760.37'
TOP=763.38'

SP. TB DI

–L–

N 4° 36' 03.6" E

I-77 SBL
367' BST

I-77 NBL
374' BST

60' S

WOODS

INV=758.81'

INV=758.08'
DIP=5.00%

72" CMP

CONC

RIP RAP

CMP

THE CITY OF CHARLOTTE
269411 45

NOTES:

1.) FOR –L– PROFILE SEE SHEET 57.

8/14/2015 4:12:57 PM
$FILE$
177_Fullsize_ROY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	19
R/W SHEET NO.	

0' 50' 100'

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

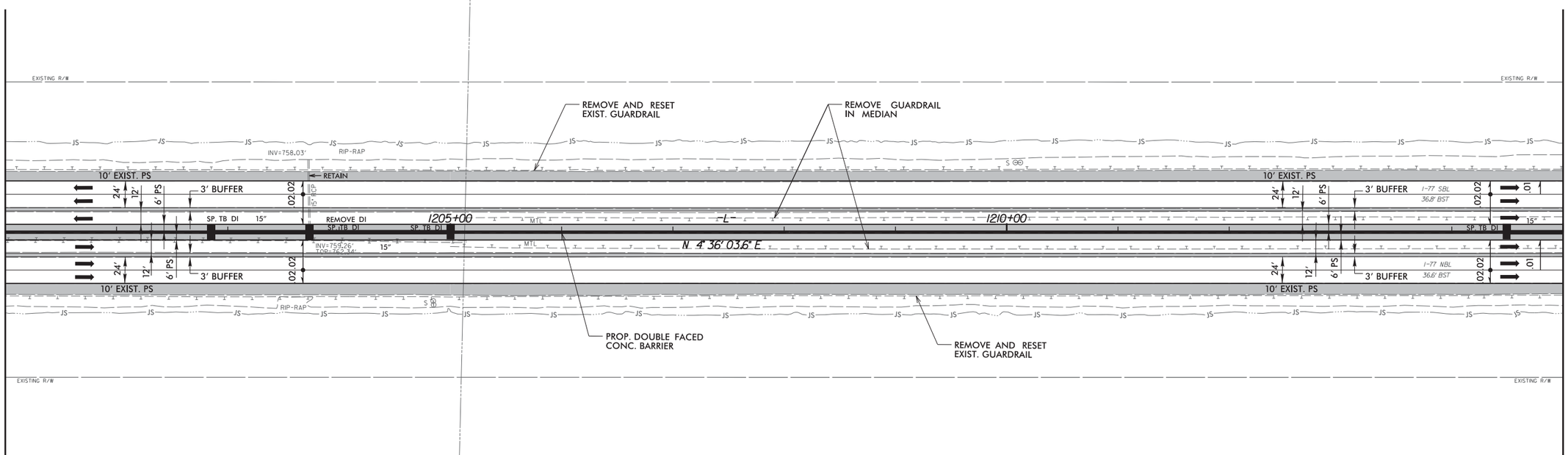
Louis Berger

REVISIONS

NAD 83/2011

MECKLENBURG COUNTY
IREDELL COUNTY

LAKE NORMAN



LAKE NORMAN

MECKLENBURG COUNTY
IREDELL COUNTY

NOTES:

1.) FOR -L- PROFILE SEE SHEET 58.

8/14/2015 4:13:02 PM
$FILE$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	20
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

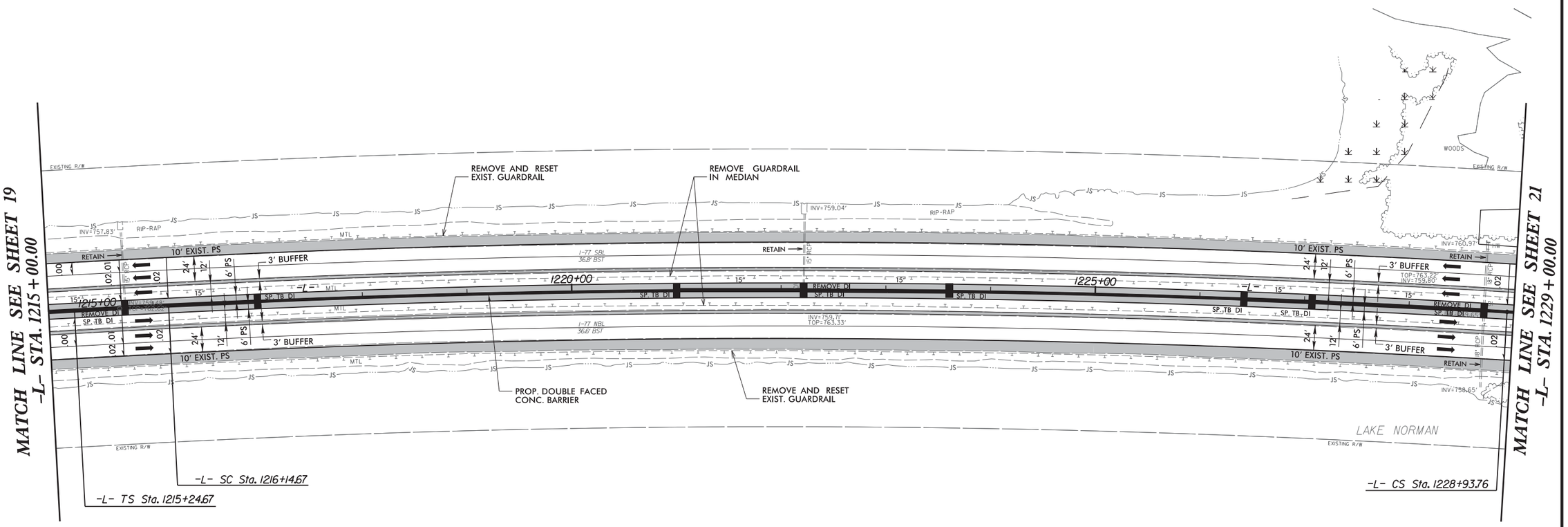
Louis Berger

0' 50' 100'

NAD 83/2011

LAKE NORMAN

REVISIONS



CURVE DATA FOR -L-		
PIs Sta 1215+84.67	PI Sta 1222+54.85	PIs Sta 1229+23.74
Θs = 0° 13' 13.5"	Δ = 6° 15' 55.4" (RT)	Θs = 0° 13' 13.5"
Ls = 90.00'	D = 0° 29' 23.4"	Ls = 90.00'
LT = 60.00'	L = 1,279.09'	LT = 60.00'
ST = 30.00'	T = 640.18'	ST = 30.00'
	R = 11,697.00'	
	e = 0.02	
	RO = 90.00'	
	DS = 70 MPH	

NOTES:

1.) FOR -L- PROFILE SEE SHEET 59.

8/14/2015 4:13:06 PM
$FILE$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	21
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

0' 50' 100'

NAD 83/2011

MATCH LINE SEE SHEET 20
-L- STA. 1229+00.00

MATCH LINE SEE SHEET 22
-L- STA. 1243+00.00

WESTVIEW OWNERS ASSOCIATION
01435 / 0010

COVE KEY ASSOCIATES INC
01938 / 0494

PIEDMONT NATURAL GAS CO., INC.
50' R/W
DB 336 PG 419

LITZ E ADAMS
02033 / 0148

WESTVIEW OWNERS ASSOC INC
1435 / 10

WESTPAYES ROAD
20' BST

MECKLYNN ROAD
20' BST

POND

WOODS

EXISTING R/W

REMOVE AND RESET EXIST. GUARDRAIL

POTENTIAL HSB LOCATION DO NOT DISTURB

45.00' (TYP.)

DO NOT DISTURB FENCE

REMOVE GUARDRAI IN MEDIAN

RETAIN

10' EXIST. PS

3' BUFFER

REMOVE DI

SP. TB DI

1230+00

1235+00

1240+00

-L-

N 11° 18' 25.6" E

-L- ST Sta. 1229+83.76

OTHER END UNKNOWN

PROP. DOUBLE FACED CONC. BARRIER

LAKE NORMAN

LANGTREE DEVELOPMENT CO LLC
02105 / 2052

CURVE DATA FOR -L-

PIs Sta 1229+23.74
Θs = 0°13'13.5"
Ls = 90.00'
LT = 60.00'
ST = 30.00'

NOTES:

1.) FOR -L- PROFILE SEE SHEET 60.

8/14/2015 4:13:12 PM
$FILES$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	22
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

MATCH LINE SEE SHEET 21 –L– STA. 1243+00.00

MATCH LINE SEE SHEET 23 –L– STA. 1257+00.00

PB 7 PG 13
40.00'
EXISTING R/W

PIEDMONT NATURAL GAS CO., INC.
50' R/W
DB 356 PG 69

219.21'

WOODS

14" GR

EXISTING R/W

48" WW

DO NOT DISTURB FENCE

+00.00

350' TRANSITION

+17.58

300' TAPER

+50.00

+17.58

580' ACCELERATION LANE

U/C

MECKLYNN ROAD
20' DST

OTHER END UNKNOWN
INV=779.24'
TOP=787.74'
INV=779.48'

30" RCP
36" RCP

REBAR

RIP RAP

OTHER END UNKNOWN

EXISTING R/W

DI
INV=783.21'
TOP=785.18'

RETAIN

INV=780.32'
TOP=788.92'
INV=779.72'

10' EXIST. PS

I-77 SBL
37.3' BST

3' BUFFER

2' BUFFER

4' BUFFER

I-77 SBL
54.6' BST

1245+00

1250+00

1255+00

REMOVE DI

SP. TB DI

18" RCP

15"

36"

24"

12"

6' PS

10' PS

12' PS

.02

I-77 NBL
35.4' BST

I-77 NBL
41.4' BST

N 11° 18' 25.6" E

INV=782.24'

TOP=789.07'
INV=782.65'

INV=783.03'
INV=783.18'
TOP=787.67'

INV=785.24'

10' EXIST. PS

MTL

RETAIN

REMOVE AND RESET EXIST. GUARDRAIL

INV=767.08'

70:1 TAPER

REMOVE GUARDRAIL IN MEDIAN

PROP. DOUBLE FACED CONC. BARRIER

30" STEEL CASING PIPE

DO NOT DISTURB FENCE

GAS VENT

42" STEEL CASING PIPE

NDIS

WOODS

LANGTREE DEVELOPMENT CO LLC
02105 / 2052

VAN WINGERDEN LAND DEVELOPMENT
02010 / 1914

350' TRANSITION

+00.00

+50.00

CONC BLK WALLS

GR

TEMPORARY TREE FARM

RIP RAP

72" CMP

WATER TANK

TRANSCONTINENTAL GAS PIPE LINE CORP
00467 / 0313

PIEDMONT NATURAL GAS CO. INC.
DB 356 PG 69

NOTES:

1.) FOR –L– PROFILE SEE SHEET 61.

8/14/2015 4:13:16 PM
$FILE$
177-Fullsize-ROY-OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	23
R/W SHEET NO.	

0' 100' 200'

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

NAD 83/2011

-Y24- PC Sta. 15+53.99

-Y24- PRC Sta. 20+20.66

-Y24RPA- POT Sta. 27+03.89 = -Y24RPB- POT Sta. 22+49.12 = -Y24- POT Sta. 23+00.00

-Y24RPA- CS Sta. 24+80.30

-Y24RPA- SC Sta. 22+65.03

-Y24RPA- TS Sta. 20+65.03

-Y24RPA- ST Sta. 19+32.93

-Y24RPA- CS Sta. 17+32.93

-Y24RPA- POT Sta. 10+00.00 = -L- POT Sta. 1284+71.40 (58.0' LT.) DIVERGENCE ANGLE = 4° 0' 0"

-Y24RPA- SC Sta. 13+87.64

-Y24RPA- TS Sta. 11+87.64

-Y24RPB- ST Sta. 20+27.83

-Y24RPB- CS Sta. 18+27.83

-Y24RPB- TS Sta. 10+00.00 = -L- POT Sta. 1257+97.58 (51.0' LT.)

-Y24RPB- SC Sta. 12+00.00

-Y24RPA- ST Sta. 26+80.30

-Y24- PT Sta. 25+23.85

END CONSTRUCTION END RESURFACE -Y24RPA- Sta. 20+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

END CONSTRUCTION END RESURFACE -Y24RPB- Sta. 20+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

-Y24RPC- TS Sta. 11+62.87

-Y24RPC- POT Sta. 10+00.00 = -L- POT Sta. 1260+00.00 (50.0' RT.) DIVERGENCE ANGLE = 3° 0' 0"

-Y24RPC- SC Sta. 13+62.87

-Y24RPC- CS Sta. 20+05.70

-Y24RPC- ST Sta. 22+05.69

-Y24RPC- TS Sta. 23+32.50

-Y24RPC- SC Sta. 25+32.50

-Y24RPC- CS Sta. 26+60.17

-Y24RPC- ST Sta. 28+06.17

-Y24RPC- POT Sta. 28+63.35 = -Y24RPD- POT Sta. 19+42.29 = -Y24- POT Sta. 34+42.21

-L- POT Sta. 1271+52.10 = -Y24- POT Sta. 28+98.96

-Y24RPD- ST Sta. 18+66.95

-Y24RPD- CS Sta. 16+66.95

-Y24RPD- SC Sta. 12+00.00

END CONSTRUCTION END RESURFACE -Y24RPD- Sta. 18+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

-Y24- PC Sta. 37+67.61

-Y24- PT Sta. 34+42.21

-Y24- PC Sta. 15+53.99

-Y24- PT Sta. 25+23.85

-Y24- PC Sta. 37+67.61

A **B** **C** **D**

MATCH LINE SEE SHEET 22 -L- STA. 1257+00.00

MATCH LINE SEE SHEET 24 -L- STA. 1285+00.00

CURVE DATA FOR -Y24RPA-

PIs Sta. 13+21.08	PI Sta. 15+62.85	PIs Sta. 17+99.69	PIs Sta. 21+99.15	PI Sta. 23+77.53	PIs Sta. 25+47.68
θs = 6° 56' 41.8"	Δ = 23° 58' 49.3" (RT.)	θs = 6° 56' 41.8"	θs = 19° 05' 54.5"	Δ = 41° 06' 45.7" (LT.)	θs = 19° 05' 54.5"
Ls = 200.00'	D = 6° 56' 41.8"	Ls = 200.00'	Ls = 200.00'	D = 19° 05' 54.5"	Ls = 200.00'
LT. = 133.44'	L = 345.29'	LT. = 133.44'	LT. = 134.12'	L = 215.27'	LT. = 134.12'
ST. = 66.76'	T = 175.21'	ST. = 66.76'	ST. = 67.38'	T = 112.50'	ST. = 67.38'
	R = 825.00'			R = 300.00'	

CURVE DATA FOR -Y24RPB-

PIs Sta. 11+33.37	PI Sta. 15+18.74	PIs Sta. 18+94.52
θs = 3° 5.3' 04.2"	Δ = 24° 23' 15.9" (LT.)	θs = 3° 5.3' 04.2"
Ls = 200.00'	D = 3° 5.3' 04.1"	Ls = 200.00'
LT. = 133.37'	L = 627.81'	LT. = 133.37'
ST. = 66.70'	T = 318.74'	ST. = 66.70'
	R = 1,475.00'	

CURVE DATA FOR -Y24RPC-

PIs Sta. 12+96.23	PI Sta. 16+88.54	PIs Sta. 20+72.39	PIs Sta. 24+66.97	PI Sta. 25+97.76	PIs Sta. 27+27.87
θs = 3° 3.' 33.2"	Δ = 22° 39' 55.7" (RT.)	θs = 3° 3.' 32.6"	θs = 22° 55' 05.9"	Δ = 29° 15' 34.8" (LT.)	θs = 22° 55' 05.9"
Ls = 200.05'	D = 3° 3.' 33.2"	Ls = 199.99'	Ls = 200.00'	D = 22° 55' 05.9"	Ls = 200.00'
LT. = 133.16'	L = 642.83'	LT. = 133.15'	LT. = 134.47'	L = 107.67'	LT. = 134.47'
ST. = 66.69'	T = 325.67'	ST. = 66.69'	ST. = 67.70'	T = 65.26'	ST. = 67.70'
	R = 1825.00'			R = 250.00'	

CURVE DATA FOR -Y24RPD-

PIs Sta. 11+33.42	PI Sta. 14+38.86	PIs Sta. 17+33.70
θs = 6° 21' 58.3"	Δ = 29° 43' 57.3" (LT.)	θs = 6° 21' 58.3"
Ls = 200.00'	D = 6° 21' 58.3"	Ls = 200.00'
LT. = 133.42'	L = 466.95'	LT. = 133.42'
ST. = 66.75'	T = 238.86'	ST. = 66.75'
	R = 900.00'	

CURVE DATA FOR -Y24-

PI Sta. 17+87.34	PI Sta. 22+73.05	PI Sta. 39+68.08	PI Sta. 43+35.19
Δ = 1° 0' 00.0" (RT.)	Δ = 11° 05' 59.5" (LT.)	Δ = 2° 54' 00.1" (LT.)	Δ = 3° 20' 00.1" (RT.)
D = 1° 0' 00.0"	D = 2° 12' 21.4"	D = 17° 43' 24.4"	D = 1° 00' 00.0"
L = 466.67'	L = 503.19'	L = 400.87'	L = 333.34'
T = 233.34'	T = 252.38'	T = 200.48'	T = 166.72'
R = 22,918.31'	R = 2,597.34'	R = 7,920.00'	R = 5729.65'

NOTES:
1.) FOR -L- PROFILE SEE SHEET 62 & 63.
2.) FOR -Y24- RAMPS PROFILE SEE SHEET 88 & 89

8/14/2015 4:13:23 PM
$FILE$
177_Halfsize.ROY

PROJECT REFERENCE NO.	SHEET NO.
C203406	24
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

LANGTREE PROPERTIES LLC
01829 / 1238

LANGTREE PROPERTIES LLC
01753 / 2303

HAMMONS JOHN O
REVOCABLE TRUST
01753 / 1125

HAMMONS JOHN O
REVOCABLE TRUST
01650 / 0497

MM 32.0

WOODS

RIP RAP

18" GR

18" RCP

MTL

REMOVE EXIST. GUARDRAIL

BOULDERS

INV=771.35'

BEGIN EXPRESSWAY GUTTER -L- 10+00.00

END EXPRESSWAY GUTTER -L- 12+75.00

PROP. NOISE WALL -NW24-
1,740 LF

BEGIN PROP. -NW24-
-L- STA. 1297+30.00
(106' LT) FACE OF WALL

EXISTING R/W

ALCOVE ROAD
20' BST

DO NOT DISTURB FENCE

GRAU-350 TL-2

GRAU-350 TL-3

REMOVE AND RESET CHAIN LINK FENCE

REMOVE GUARDRAIL

TIE PROP. FENCE TO NOISE WALL

48" CHL

48" WW

RETAIN

INV=796.69'

INV=788.23'

14' PS

10' PS

DI

NDIS

I-77 SBL
54.6' BST

I-77 NBL
41.4' BST

I-77 SBL
50.3' BST

I-77 NBL
54.4' BST

36'

12'

11' PS

4' BUFFER

.02

1290+00

1295+00

-L-

N 11° 18' 25.6" E

15" CMP

SP. 2GI

REMOVE DI CONSTRUCT SP. 2GI

INV=802.48'
TOP=805.65'

INV=796.74'
TOP=799.49'

INV=792.07'
TOP=796.39'

INV=786.46'
TOP=791.95'

INV=782.48'
TOP=786.11'
INV=782.69'

INV=783.46'
TOP=784.25'

18" RCP

10+00

10' EXIST. PS

TOP=809.76'
INV=806.58'

-Y24RPD- ST Sta. 10+00.00 =
-L- POT Sta. 1285+56.87 (46.0' RT)

REMOVE GUARDRAIL IN MEDIAN

REMOVE EXISTING HW, CONSTRUCT JB w/Slab Lid

INV=776.81' HW

INV=789.41'

PROP. DOUBLE FACED CONC. BARRIER

REMOVE AND RESET EXIST. GUARDRAIL

SIGN

REBAR

NAIL

INV=798.09'

HW

WOODS

LANGTREE DEVELOPMENT GROUP LLC
02174 / 0499

LANGTREE DEVELOPMENT GROUP LLC
02174 / 0499

MATCH LINE SEE SHEET 23
-L- STA. 1285+00.00

MATCH LINE SEE SHEET 25
-L- STA. 1299+00.00

NOTES:

1.) FOR -L- PROFILE SEE SHEET 64.

8/14/2015 4:13:29 PM
$FILES$
I77_Fullsize_ROY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	25
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

NAD 83/2011

REVISIONS

MATCH LINE SEE SHEET 24 –L– STA. 1299+00.00

MATCH LINE SEE SHEET 26 –L– STA. 1313+00.00

HAMMONS JOHN O
REVOCABLE TRUST
01650 / 0497

KIPKA JAMES EDWARD JR
01628 / 2328

STEWART TRAVIS M &
01525 / 2126

TRAVIS M & STEWART
01524 / 2169

PROP. NOISE WALL –NW24–
1,740 LF

PROP. –NW24–
–L– STA. 1299+10.00
(106' LT) FACE OF WALL

PROP. –NW24–
–L– STA. 1299+18.00
(98' LT) FACE OF WALL

PERRINT RD
20' BST

EDGEWAY RD
10' BST

REMOVE FENCE

RETAIN GUARDRAIL

REMOVE AND RESET
EXIST. GUARDRAIL

PROP. DOUBLE FACED
CONC. BARRIER

REMOVE GUARDRAIL
IN MEDIAN

RETAIN EX.
BASIN
DO NOT
DISTURB

CLASS I RIP RAP

4' BUFFER

14' PS

10' EXIST. PS

1000'
NB & SB INGRESS / EGRESS

LANGTREE DEVELOPMENT GROUP LLC
02174 / 0499

TOWN OF MOORESVILLE
SANITARY SEWER EASEMENT
DB 1061 PG 151

TOWN OF MOORESVILLE
TAPE SEWER EASEMENT
DB 1061 PG 151

TOWN OF MOORESVILLE
DB 1061 / 1448

OTHER END
UNKNOWN

NOTES:

1.) FOR –L– PROFILE SEE SHEET 65.

8/14/2015 4:13:34 PM
$FILES$
177-Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	26
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

NAD 83/2011

REVISIONS

MATCH LINE SEE SHEET 25 –L– STA. 1313+00.00

MATCH LINE SEE SHEET 27 –L– STA. 1327+00.00

PROP. NOISE WALL –NW24– 1,740 LF

REMOVE FENCE

END PROP. –NW24– –L– STA. 1314+70.00 (98' LT) FACE OF WALL

TIE EXIST. FENCE TO NOISE WALL

REMOVE GUARDRAIL IN MEDIAN

BEGIN EXPRESSWAY GUTTER –L– 00.00

DO NOT DISTURB FENCE

WOODS

ALCOVE ROAD
2I BST

EXISTING R/W

14' PS

10' PS

10' EXIST. PS

I-77 SBL
50.3' BST

I-77 NBL
54.7' BST

1315+00

1320+00

1325+00

–L–

N 11° 18' 25.6" E

RETAIN

REMOVE DI

SP. TB DI

20:1

4' BUFFER

PROP. DOUBLE FACED CONC. BARRIER

REMOVE AND RESET EXIST. GUARDRAIL

DUKE DUCT

E-METER

SIGN

STMH

RIP RAP

DUKE POWER COMPANY R/W

1000'
NB & SB INGRESS/EGRESS

+80.00

TOWN OF MOORESVILLE SANITARY SEWER EASEMENT DB 1061 PG 151

LOWES HOME CENTERS INC
01322 / 0374

NOTES:

1.) FOR –L– PROFILE SEE SHEET 66.

8/14/2015 4:13:40 PM
$FILE$
177-Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	27
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

CHARLENE R. HUNTER
DB 789 PG 870

SOUTHWEST 33 ASSOCIATES LLC
01082 / 0549

WOODS

EIP 5' CHL EIP

GATE

EIP 15" CMP

EXISTING R/W

TEMPLETON ROAD
BST

48" WW

15" RCP

END EXPRESSWAY GUTTER
-L- 1340+00.00

PROPOSED ROCK PLATING
-L- STA. 1338+00 TO 1348+00.
SEE STANDARD ROCK PLATING DETAILS SHEET 2B-?

PROPOSED RETAINING WALL

7' CHL

GATE

15" RCP

DO NOT DISTURB FENCE

REMOVE GUARDRAIL IN MEDIAN

DO NOT DISTURB GUARDRAIL

ALCOVE ROAD
20' BST

DO NOT DISTURB FENCE

PROP. SINGLE-FACED CONC. BARRIER

ALCOVE ROAD
20' BST

18" RCP
INV=810.98'
TOP=813.08'
INV=810.98'

10' PS

RETAIN

36'

12'

11' PS

4' BUFFER

02

18" RCP
INV=808.67'
TOP=811.93'
INV=808.26'

1330+00

REMOVE DI 15"

15"

-L-

1335+00

MTL

48" WW

18" RCP

SIGN

INV=824.84'
TOP=829.58'
INV=824.06'

I-77 SBL
50.3' BST

I-77 SBL
52.5' BST

INV=823.07'
TOP=827.19'

REMOVE DI

INV=831.82'
TOP=834.95'
INV=831.74'

10' PS 14' PS

1340+00

SP. TB DI

SP. TB DI

SP. TB DI

N 11° 18' 25.6" E

INV=822.91'

SP. TB DI

SP. TB DI

DI

I-77 NBL
54.7' BST

I-77 NBL
53.0' BST

INV=832.24'

10' EXIST. PS

10' EXIST. PS

30" CLASS III PIPE
16" TOWN OF MOORESVILLE

PROP. DOUBLE FACED CONC. BARRIER

18" RCP

INV=805.55'

INV=820.89'

INV=829.54'

CONC DITCH

OTHER EMB UNKNOWN

TOWN OF MOORESVILLE

REBAR

EXISTING R/W

48" WW

WOODS

JS

JS

DO NOT DISTURB FENCE

CAMERA POLE

DRIVEWAY

SIGN

CAMERA

AT&T (PED)

UNKNOWN AT&T

AT&T

FAIRVIEW RD
24' BST

SCOOM

LOWES HOME CENTERS INC
01652 / 0684

NOTES:

1.) FOR -L- PROFILE SEE SHEET 67.

MATCH LINE SEE SHEET 26
-L- STA. 1327+00.00

MATCH LINE SEE SHEET 28
-L- STA. 1341+00.00

8/4/2015 4:13:47 PM
$FILE$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	28
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 100' 200'

NAD 83/2011

REVISIONS

8/14/2015 4:13:55 PM
$FILE$
177_Half size_RDY

MATCH LINE SEE SHEET 27 -L- STA. 1341+00.00

MATCH LINE SEE SHEET 29 -L- STA. 1369+00.00

SOUTHWEST 33 ASSOCIATES LLC 00182 / 0549

PIEDMONT AVIATION CREDIT UNION 04931 / 2232

SKIPJACK PROPERTIES LLC 0439 / 1782

WILLIAMS E JERRY LIVING TRUST 08107 / 1089

ALCOVE DEVELOPMENT LLC 0055 / 0590

JOHN H & PATRICIA B MOORE 00682 / 0182

BELK B V JR 0373 / 0015

SUSAN K TR BLUE & JEAT ENTERPR 0444 / 0206

SOUTHWEST 33 ASSOCIATES LLC 802 / 1785

TED L BIRMINGHAM ET AL 0602 / 0439

TED L BIRMINGHAM ET AL 0602 / 0445

SPECTRUM HOSPITALITY III LLC 01926 / 2048

SPECTRUM HOSPITALITY III LLC 02136 / 0285

SPECTRUM HOSPITALITY III LLC 04485 / 0481

HAMRAH REAL ESTATE INVESTMENTS 00198 / 2182

LITTLE DADDY'S LLC 0549 / 1408

KAZALI TRUST ET AL 01707 / 0753

CENTRE PRESBYTERIAN 00405 / 0395

-Y25RPB- SC Sta. 12+00.00

-Y25RPB- CS Sta. 14+85.20

-Y25RPB- PC Sta. 10+00.00 = -L- POC Sta. 1347+68.27 (68.0' LT)

-Y25RPB- PT Sta. 23+09.41 = -Y25- POT Sta. 21+01.61

-Y25RPB- ST Sta. 16+85.20

-Y25RPB- PT Sta. 20+98.93

-Y25RPB- SC Sta. 11+75.00

-Y25RPB- CS Sta. 10+00.00 = -L- POC Sta. 1361+69.67 (45.5' LT)

-Y25RPA- PC Sta. 16+88.10

-Y25RPA- ST Sta. 21+04.70

-Y25RPA- CS Sta. 19+04.70

-Y25LPA- ST Sta. 19+19.88

-Y25LPA- CS Sta. 16+79.88

-Y25LPA- PC Sta. 16+68.25

-Y25LPA- POT Sta. 21+04.88 = -Y25- POT Sta. 23+77.72 (112.52' RT)

-Y25RPC- PC Sta. 12+60.01

-Y25RPC- CS Sta. 13+71.78

-Y25RPC- ST Sta. 15+71.78

-Y25RPC- TS Sta. 10+60.01

-Y25RPC- POT Sta. 10+00.00 = -L- POC Sta. 1341+00.00 (46.0' RT) DIVERGENCE ANGLE = 3° 01' 01"

-Y25RPC- POT Sta. 19+44.02 = -Y25RPD- POT Sta. 24+86.89

-Y25RPD- PC Sta. 22+82.45

-Y25RPD- ST Sta. 16+59.04

-Y25RPD- CS Sta. 14+59.04

-Y25RPD- TS Sta. 11+49.79

-Y25RPD- SC Sta. 13+49.79

-Y25RPD- PT Sta. 24+40.92

-Y25- PC Sta. 28+19.55

-Y25- PT Sta. 34+51.04

-L- POC Sta. 1357+82.65 = -Y25- POT Sta. 25+75.43

-L- CS Sta. 1365+02.13

-L- ST Sta. 1366+24.13

-L- TS Sta. 1342+45.73

-L- SC Sta. 1343+67.73

END CONSTRUCTION END RESURFACE -Y25RPA- Sta. 22+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

END CONSTRUCTION END RESURFACE -Y25LPA- Sta. 17+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

END CONSTRUCTION END RESURFACE -Y25RPB- Sta. 22+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

END CONSTRUCTION END RESURFACE -Y25RPD- Sta. 22+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

PROPOSED ROCK PLATING STA. 1338+00 TO 1348+00. SEE STANDARD ROCK PLATING DETAILS SHEET 28-F

PROP SINGLE FACED CONC. BARRIER

PROP RETAINING WALL

DO NOT DISTURB FENCE

REMOVE AND RESET EXIST. GUARDRAIL

REMOVE GUARDRAIL

RETAIN EXISTING GUARDRAIL AND GUARDRAIL ANCHOR UNIT

PROP DOUBLE FACED CONC. BARRIER

RESURFACE

FARMER RD

CENTRE CHURCH RD

A **B** **C** **D**

CURVE DATA FOR -L-

PI Sta 1343+27.06	PI Sta 1354+61.85	PI Sta 1365+42.77
θs = 1° 27' 18.7"	Δ = 15° 55' 39.3" (LT)	θs = 1° 27' 18.7"
Ls = 122.00'	D = 1° 44' 46.4"	Ls = 122.00'
LT = 81.33'	L = 2134.40'	LT = 81.33'
ST = 40.67'	T = 1077.43'	ST = 40.67'
	R = 1,378.00'	
	e = 0.03	
	RD = 122.00'	
	DS = 70 MPH	

CURVE DATA FOR -Y25RPA-

PI Sta 13+93.88	PI Sta 16+88.10	PI Sta 19+71.46
θs = 6° 56' 41.8"	Δ = 30° 51' 12.6" (RT)	θs = 6° 56' 41.8"
Ls = 200.00'	D = 6° 56' 41.8"	Ls = 200.00'
LT = 133.44'	L = 444.26'	LT = 133.44'
ST = 66.76'	T = 227.66'	ST = 66.76'
	R = 825.00'	

CURVE DATA FOR -Y25RPB-

PI Sta 8+01.54	PI Sta 11+24.33	PI Sta 13+43.27
Δ = 2° 59' 13.3" (LT)	θs = 1° 45' 01.6"	Δ = 13° 37' 03.2" (LT)
D = 1° 45' 08.7"	θs = 4° 46' 29.8"	D = 4° 46' 28.7"
L = 391.00'	Ls = 200.00'	L = 285.21'
T = 196.54'	LT = 124.33'	T = 143.28'
R = 1,615.00'	ST = 75.81'	R = 1,200.00'

PI Sta 15+51.91		
θs = 4° 46' 28.7"		
Ls = 200.00'		
LT = 133.38'		
ST = 66.71'		

CURVE DATA FOR -Y25RPC-

PI Sta 11+93.39	PI Sta 13+15.93	PI Sta 14+38.48
θs = 4° 19' 27.2"	Δ = 4° 49' 58.2" (RT)	θs = 4° 19' 27.2"
Ls = 200.00'	D = 4° 19' 27.2"	Ls = 200.00'
LT = 133.37'	L = 111.76'	LT = 133.37'
ST = 66.70'	T = 55.88'	ST = 66.70'
	R = 1,325.00'	

CURVE DATA FOR -Y25RPD-

PI Sta 12+83.17	PI Sta 14+04.45	PI Sta 15+25.75	PI Sta 23+66.11
θs = 4° 5' 20.1"	Δ = 5° 18' 16.2" (LT)	θs = 4° 5' 20.1"	Δ = 45° 43' 59.8" (RT)
Ls = 200.00'	D = 4° 5' 20.1"	Ls = 200.00'	D = 28° 38' 52.4"
LT = 133.38'	L = 109.25'	LT = 133.38'	L = 158.48'
ST = 66.71'	T = 54.66'	ST = 66.71'	T = 83.66'
	R = 1,080.00'		R = 200.00'

CURVE DATA FOR -Y25LPA-

PI Sta 5+00.72	PI Sta 11+16.91	PI Sta 22+34.05	PI Sta 17+63.43
Δ = 7° 30' 24.6" (LT)	θs = 0° 38' 48.5"	Δ = 160° 42' 28.2" (LT)	θs = 38° 11' 49.9"
D = 0° 45' 02.5"	θs = 27° 51' 43.6"	D = 31° 49' 51.6"	Ls = 240.00'
L = 1,000.00'	Ls = 175.00'	L = 504.88'	LT = 163.89'
T = 500.72'	LT = 116.91'	T = 1,059.05'	ST = 83.55'
R = 7,632.50'	ST = 61.12'	R = 180.00'	

CURVE DATA FOR -Y25-

PI Sta 11+89.29	PI Sta 18+83.96	PI Sta 32+43.60
Δ = 14° 23' 04.0" (LT)	Δ = 6° 13' 31.0" (LT)	Δ = 91° 41' 17.4" (LT)
D = 3° 49' 11.2"	D = 1° 54' 35.5"	D = 15° 29' 01.2"
L = 376.58'	L = 430.67'	L = 631.49'
T = 189.29'	T = 215.71'	T = 424.05'
R = 1,500.00'	R = 3,000.00'	R = 370.00'

NOTE: DESIGN EXCEPTION FOR PROPOSED MEDIAN SHOULDER WIDTH OF 3 FEET AND 2.5 FEET ON I-77 NORTHBOUND AND I-77 SOUTHBOUND RESPECTIVELY UNDER SR 1109 (WILLIAMSON ROAD).

NOTE: DESIGN EXCEPTION FOR PROPOSED VERTICAL CLEARANCE IS 15.495 FEET UNDER SR 1109 (WILLIAMSON ROAD).

NOTES:
1.) FOR -L- PROFILE SEE SHEET 68 & 69.
2.) FOR -Y25- RAMPS PROFILE SEE SHEETS 90 & 91.

PROJECT REFERENCE NO.	SHEET NO.
C203406	29
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

WATERMARK SHOPPING CENTER LLC
01203 / 2165

BELK B V JR
01123 / 0925

AQUA NORTH CAROLINA INC
02007 / 0327

DOUGLAS P EHMANN
01561 / 0059

HOWELL MICHAEL LEEVON
01217 / 0319

-Y25RPA- SC Sta. 14+60.45

-Y25RPA- TS Sta. 12+60.45

-Y25RPA- POT Sta. 10+00.00 =
-L- POT Sta.1374+40.00 (56.0' LT)
DIVERGENCE ANGLE = 3° 30' 0"

BEGIN PROP. -NW25-
-L- STA. 1379+80.00
(86' LT) FACE OF WALL
PROP. NOISE WALL -NW25-
2,195 LF

BEGIN EXPRESSWAY GUTTER
-L- +75.00

DO NOT DISTURB FENCE

840' TRANSITION

98' TAPER

40.00' (TYP.)

S 2° 01' 50.3" E

N. 5° 31' 50.3" W

S 5° 31' 50.3" E

-Y25RPD- POT Sta. 10+00.00 =
-L- POT Sta. 1370+00.00 (46.0' RT)

REMOVE AND RESET EXIST. GUARDRAIL

REMOVE GUARDRAIL IN MEDIAN

REMOVE AND RESET EXIST. GUARDRAIL

-L- TS Sta. 1381+44.65

CURVE DATA FOR -L-

PIs Sta 1382+51.32
Δs = 0° 48' 30.3"
Ls = 160.00'
LT = 106.67'
ST = 53.33'

NOTES:

1.) FOR -L- PROFILE SEE SHEET 70.

MATCH LINE SEE SHEET 28
-L- STA. 1369+00.00

MATCH LINE SEE SHEET 30
-L- STA. 1383+00.00

MOORESVILLE HOTEL PARTNERS LLC
01760 / 1661

JIMISH QUICKEL LLC
01276 / 2044

MOORESVILLE GATEWAY PROPERTY
01213 / 0249

SPECTRUM HOSPITALITY III LLC

8/14/2015 4:14:01 PM
$FILES$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	30
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

MATCH LINE SEE SHEET 29
-L- STA. 1383+00.00

MATCH LINE SEE SHEET 31
-L- STA. 1397+00.00

CARRIE & SCOTT ROBITZER
01966 / 0990

JOHNNY BYNUM & BUTNER
01979 / 0047

JOHNNY BYNUM & BUTNER
01979 / 0047

LAKE NORMAN

WD PIER

WD RET WALL

PROP. -NW25-
-L- STA. 1383+34.26
(86' LT) FACE OF WALL

END
EXP. GUTTER
-L- +50.00

PROP. -NW25-
-L- STA. 1383+50.00
(70' LT) FACE OF WALL

PROP. -NW25-
-L- STA. 1391+00.00
(70' LT) FACE OF WALL

PROP. -NW25-
-L- STA. 1392+00.00
(85' LT) FACE OF WALL

PROP. -NW25-
-L- STA. 1393+00.00
95' LT) FACE OF WALL

PROP. -NW25-
-L- STA. 1395+00.00
(105' LT) FACE OF WALL

PROP. -NW25-
-L- STA. 1396+00.00
(125' LT) FACE OF WALL

PROP. NOISE WALL -NW25-
2,195 LF

PROP. SINGLE-FACED
CONCRETE BARRIER

PROP. NOISE WALL -NW25-
2,195 LF

BEGIN EXP.
GUTTER
-L- +00.00

DO NOT
DISTURB FENCE

REMOVE DI &
COLLAR AND EXTEND

630' TRANSITION

REMOVE GUARDRAIL
IN MEDIAN

REMOVE AND RESET
EXIST. GUARDRAIL

DO NOT
DISTURB FENCE

PROP. DOUBLE FACED
CONC. BARRIER

-L- SC Sta. 1383+04.65

BRIDGEWATER LANE
19' BST

BEAR RUN CIRCLE

I-77 SBL
38.4' BST

I-77 NBL
38.4' BST

14' PS
10' PS
10' EXIST. PS
4' BUFFER
RETAIN
CONC. DITCH
WOODS
EXISTING R/W
HTR
DK
GR
S
JS
ST
1385+00
1390+00
1395+00
-L-
REMOVE DI
SP. TB DI
15' X 18' TEE MTL
2GI
CARPORT

M & J LAND INC
2009E / 0284

CURVE DATA FOR -L-

PIs Sta 1382+51.32	PI Sta 1391+90.53
Θs = 0° 48' 30.3"	△ = 17° 45' 36.7" (RT)
Ls = 160.00'	D = 1° 00' 37.8"
LT = 106.67'	L = 1,757.55'
ST = 53.33'	T = 885.88'
	R = 5,670.00'
	e = 0.04
	R0 = 160.00'
	DS = 70 MPH

NOTES:

1.) FOR -L- PROFILE SEE SHEET 71.

8/14/2015 4:14:07 PM
$FILE$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	31
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

NAD 83/2011

MM 34.0

PROP. –NW25–
–L– STA. 1397+00.00
(120' LT) FACE OF WALL

END EXPRESSWAY GUTTER –L– +25.00

KEVIN M & PATRICIA DAVIDSON

KEVIN M & PATRICIA DAVIDSON
01547 / 0795

ISBKD

PROP. –NW25–
–L– STA. 1399+00.00
(88' LT) FACE OF WALL

RICKY L & JOHN F HILEMAN
0916 / 0388

WOODS

PROP. NOISE WALL
–NW25–
2,195 LF

PROP. –NW25–
–L– STA. 1399+25.00
(62' LT) FACE OF WALL

WD BOAT DOCK

HTR

10' GR

EXISTING R/W

LAKE NORMAN

END PROP. –NW25–
–L– STA. 1401+75.00
(58' LT) FACE OF WALL

REMOVE AND REPLACE EXIST. GUARDRAIL

REMOVE GUARDRAIL IN MEDIAN

BEGIN BRIDGE
–L– STA. 1407+89.36

END BRIDGE
–L– STA. 1409+09.69

630' TRANSITION

40.00' (TYP.)

PROP. SINGLE-FACED CONCRETE BARRIER

RIP RAP

GRASS DITCH

50.00'

B–77

TIE EXIST. GUARDRAIL S.F. BARRIER

INV=753.93'

INV=758.63'

INV=757.50'

INV=761.69'

10' PS

3' BUFFER

I–77 SBL
38.8' BST

I–77 NBL
38.4' BST

SP TB DI

1400+00

1405+00

1410+00

N 13° 50' 46.7" E

RETAIN

15' X 18" TEE

REMOVE DI

10' EXIST. PS

6' PS

24'

12'

INV=772.35'

INV=771.69'
TOP=775.93'
INV=772.69'

INV=769.16'
TOP=771.20'

INV=767.12'

INV=767.36'
TOP=769.83'

TOP=769.48'

CONC

MTL

48" W

18" CMP

15"

MATCH LINE SEE SHEET 30
–L– STA. 1397+00.00

MATCH LINE SEE SHEET 32
–L– STA. 1411+00.00

+00.00

350' TRANSITION

+50.00

–L– CS Sta. 1400+62.20

–L– ST Sta. 1402+22.20

INV=772.83'
TOP=775.36'

SCP

W WATERLYNN RD
18' BST

WOODS

B

GRIER A HAGER
0393 / 0531

DO NOT DISTURB FENCE

HAGER J M EST
02039 / 2470

M & J LAND INC
0783 / 0837

PROP. DOUBLE FACED CONC. BARRIER

TIE FENCE TO BRIDGE RAIL (TYP. EACH CORNER)

–L– Sta. 1408+49.53

PAVEMENT – BRIDGE RELATIONSHIP SKETCH NOT TO SCALE

CURVE DATA FOR –L–

PI Sta 1391+90.53	PIs Sta 1401+15.53
△ = 17° 45' 36.7" (RT)	Θs = 0° 48' 30.3"
D = 1° 00' 37.8"	Ls = 160.00'
L = 1,757.55'	LT = 106.67'
T = 885.88'	ST = 53.33'
R = 5,670.00'	
e = 0.04	
R0 = 160.00'	
DS = 70 MPH	

NOTES:

1.) FOR –L– PROFILE SEE SHEET 72.

REVISIONS

8/14/2015 4:14:13 PM
$FILES$
177_Fullsize_ROY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	32
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

REVISIONS

0′ 50′ 100′

NAD 83/2011

KIM A & BASS
01500 / 1672

SARA MARLENE MCCRAW
1090 / 1712

JEFFREY F & THERESA J DEROOS
01574 / 1476

FISHER CHARLOTTE
01270 / 0465

JAMES & NANCY MURRAY
01568 / 1752

DEXTER C DURLIN
01168 / 1938

GIBBS COVE OWNERS ASSOCIATION
01365 / 0677

BEGIN PROP. –NW27–
–L– STA. 1412+55.00
(58′ LT) FACE OF WALL

PROP. –NW27–
–L– STA. 1422+59.89
(58′ LT) FACE OF WALL

MATCH LINE SEE SHEET 31
–L– STA. 1411+00.00

MATCH LINE SEE SHEET 33
–L– STA. 1425+00.00

TIE EXIST. GUARDRAIL TO SF CONCRETE BARRIER RAIL

REMOVE EXIST. GUARDRAIL

DO NOT DISTURB FENCE

B–77

POTENTIAL HSB LOCATION

PROP. NOISE WALL –NW27–
4,020 LF

DO NOT DISTURB

PROP. SINGLE–FACED CONCRETE BARRIER

350′ TRANSITION

70:1 TAPER

RETAIN

10′ EXIST. PS

3′ BUFFER

I–77 SBL
38.2 BST

I–77 NBL
38.2 BST

I–77 SBL
37.9 BST

I–77 NBL
38.9 BST

SP. TB DI

REMOVE DI

1415+00

1420+00

–L–

N 13° 50′ 46.7″ E

INV=767.39′
TOP=770.24′

INV=768.24′
TOP=770.36′

INV=764.37′
TOP=771.63′

INV=764.46′

INV=761.08′

INV=763.02′

INV=758.60′

TOP=770.12′
INACCESSIBLE
CONC TOP CB

APPROX
CONC DITCH

CONC DITCH

PROP. DOUBLE FACED CONC. BARRIER

REMOVE GUARDRAIL IN MEDIAN

DO NOT DISTURB FENCE

REMOVE AND RESET EXIST. GUARDRAIL

WOODS

POND

GR

10′ GR

72′ CHL

EXISTING R/W

LAKE NORMAN

M & J LAND INC
0783 / 0837

NOTES:

1.) FOR –L– PROFILE SEE SHEET 73.

8/14/2015 4:44:9 PM
$FILE$
I77_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	33
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

NAD 83/2011

REVISIONS

MATCH LINE SEE SHEET 32
-L- STA. 1425+00.00

MATCH LINE SEE SHEET 34
-L- STA. 1439+00.00

JESUS LOPEZ JR
PB 24 PG 45-46
PB 26 PG 58
DB 1307 PG 442

TED WAYNE RITCHIE
DB 723 PG 99

TED WAYNE RITCHIE
DB 691 PG 960

R3833C_BY22-77

ROGER JASON & THORNTON
01695 / 0409

MILLSAPS LEONARD & LUSHORN
0991 / 0352

FRANCIS W & BEVERLY P WHITLOW
01849 / 1030

FREDERICK A & MARY A WERMUTH
01579 / 0981

FREDERICK WERMUTH
02013 / 2237

JASON L CRAGO
01549 / 1759

HUBERT M & JENNIE JOHNSTON
00700 / 0755

MARLO CORP
00785 / 0962

MARLO CORP
00697 / 0585

-Y26RPB- CS Sta. 10+00.00 =
-L- POC Sta. 1437+74.49
51.0' LT.

-L- SC Sta. 1429+57.77

-L- TS Sta. 1427+97.77

-Y26RPB- SC Sta. 11+20.00

-Y26RPC- TS Sta. 10+57.60

-Y26RPC- POT Sta. 10+00.00 =
-L- POC Sta. 1438+00.00
51.0' RT.
DIVERGENCE ANGLE = 3°0'0"

PROP. -NW27-
-L- STA. 1427+50.00
(65' LT) FACE OF WALL

PROP. -NW27-
-L- STA. 1431+25.17
(65' LT) FACE OF WALL

PROP. -NW27-
-L- STA. 1432+98.31
(71' LT) FACE OF WALL

PROP. NOISE WALL -NW27-
4,020 LF

PROP. SINGLE-FACED CONCRETE BARRIER

PROP. DOUBLE FACED CONC. BARRIER

DO NOT DISTURB FENCE

REMOVE GUARDRAIL IN MEDIAN

REMOVE AND RESET EXIST. GUARDRAIL

350' TRANSITION

350' TAPER

132' TAPER

40.00' (TYP.)

RETAIN

RET WALL

FILL w/FLOWABLE FILL
REMOVE

OTHER END UNKNOWN

I-77 SBL
37.9' BST

I-77 NBL
38.9' BST

N 13° 50' 46.7" E

N 7° 37' 28.8" E

1430+00

1435+00

10+00

4' BUFFER

CURVE DATA FOR -L-	
PIs Sta 1429+04.44	PI Sta 1441+43.20
Θs = 0° 47' 59.8"	Δ = 23° 22' 37.4" (LT)
Ls = 160.00'	D = 0° 59' 59.7"
LT = 106.67'	L = 2,337.88'
ST = 53.33'	T = 1,185.43'
	R = 5,730.00'
	e = 0.04
	R0 = 160.00'
	DS = 75 MPH

NOTES:

1.) FOR -L- PROFILE SEE SHEET 74.

8/14/2015 4:14:25 PM
$FILES$
I77_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	34
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

NAD 83/2011

REVISIONS

B

A

C

D

-L- ST Sta. 1454+55.65

-L- CS Sta. 1452+95.65

-Y26- PT Sta. 20+18.38

-Y26RPB- POT Sta. 20+00.00
MATCH EXIST. PVMT
SLOPE & ELEV.

END CONSTRUCTION
END RESURFACE

-Y26RPB- POT Sta. 27+44.09 =
-Y26- POT Sta. 27+42.55

-Y26RPA- POT Sta. 28+51.32 =
-Y26- POT Sta. 27+49.61

-Y26RPA- POT Sta. 18+00.00
MATCH EXIST. PVMT
SLOPE & ELEV.

END CONSTRUCTION
END RESURFACE

PROP. -NW27-
-L- STA. 1432+50.00
(77.17) FACE OF WALL

PROP. NOISE WALL -NW27-
4,000 LF

PROP. SINGLE-FACED CONCRETE BARRIER

-Y26RPB- CS Sta. 22+16.96

-Y26RPB- ST Sta. 23+36.96

END PROF. -NW27-
-L- STA. 1432+91.15 =
-Y26RPB- STA. 23+00.00
120' OFFSET OF WALL

-Y26RPB-

280' TRANSITION

REMOVE & RESET EXIST. GUARDRAIL

REMOVE AND RESET EXIST. GUARDRAIL

REMOVE AND RESET FENCE

RESURFACE

REMOVE GUARDRAIL IN MEDIAN

150' TAPER

PROP. DOUBLE FACED CONC. BARRIER

-Y26RPC- SC Sta. 11+77.60

-Y26RPC- CS Sta. 16+84.71

-Y26RPC- POT Sta. 18+00.00
MATCH EXIST. PVMT
SLOPE & ELEV.

-Y26RPC- ST Sta. 18+04.70

-Y26RPC- POT Sta. 27+03.45 =
-Y26- POT Sta. 30+69.51

-Y26- PC Sta. 32+77.78

-Y26RPC-

-Y26RPD- ST Sta. 16+26.95

-Y26RPD- POT Sta. 20+00.00
MATCH EXIST. PVMT
SLOPE & ELEV.

-Y26RPD- POT Sta. 26+56.47

-L- POT Sta. 1455+07.77 =
-Y26- POT Sta. 28+93.25

-Y26- PT Sta. 37+39.54

-Y26RPD-

DO NOT DISTURB FENCE

MATCH LINE SEE SHEET 33
-L- STA. 1439+00.00

MATCH LINE SEE SHEET 35
-L- STA. 1467+00.00

N 17°02'50.2" W

N 21°05'11.2" W

S 89°28'49.2" E

S 15°23'11.4" E

S 8°13'48.7" E

N 84°04'29.2" W

VAN M. SLEED
DB 869 PG 965
PB 20 PG 94

JAMES STEPHEN BARANYI
DB 820 PG 859
PB 20 PG 94

SCOTT C. BERNER
DB 935 PG 1372
PB 20 PG 94

RONNY LEE & SANDRA KELLER
0809 / 0391

MARK F. & DONNA L. GRIFFIN
0450 / 0948

PETER E. & KATHLEEN BRIZA
0780 / 0801

PETER E. & KATHLEEN BRIZA
0798 / 0204

DAVID D. CARTER
DB 979 PG 065
DB 20 PG 94

JORDAN ROGER L
0829 / 0737

SUI-FAN TANG
DB 128 PG 989
PB 20 PG 94

DWAYNE K. & NANCY ROGERS
0079 / 0708

DONNA H. BROMAN
0119 / 1508

RANDALL W. & SHERRIE L. HEBBERT
0958 / 1584

THOMAS H. JR. & GRETA J. CARD
0250 / 1097

JAMES C. & TERRIG SIDES
0532 / 2553

SUNRIDGE PLACE OWNERS
0893 / 2463

KAREN LYNN TILLSON
SINGLE / 0862

ROSLYN E. MOORE
0130 / 0862

PAMELA A. DANIEL JR. JR. RAY
0433 / 2453

SUNRIDGE TOWNHOMES, LLC

THOMAS & KATHLEEN DOTOLI
00264 / 0556

ROE LTD
DB 873 PG 1-4

CAROL J. MURRAY
0141 / 0997

CAROL J. MURRAY
00324 / 0068

ROE LTD
DB 873 PG 1-4

JEANETTE P. SCIRE
0079 / 0576

PETER M. SCIRE
DB 319 PG 576
PB 17 PG 21

TERRY SCOTT WELCH
DB 1029 PG 18
PB 17 PG 21

UNITED STATES OF AMERICA
340 / 004

BOBBY RAY MOODY JR.
DB 969 PG 596
PB 17 PG 21

BOBBY R JR & KELLY K MOODY
00969 / 0596

JASON S PHILLIPS
0480 / 0828

WILLIAM L. PETTIT
0333 / 0820

WILLIAM L. PETTIT
DB 700 PG 402
PB 17 PG 21

DOYLE A. & FANNETTA TILLIS
00727 / 0440

DOYLE A. TILLIS
DB 727 PG 440

JIMMY G. CALDWELL
DB 1372 PG 1683

JIMMY G. CALDWELL
DB 1372 PG 1683

DENNIS A. CALDWELL
DB 1372 PG 1680

TERRY A. BOYLES
DB 822 PG 451
PB 17 PG 21

TERRY A. & TERESA BOYLES
00822 / 0451

NANCY J. KLINGEL
02057 / 1754

TOWN OF WOODSVILLE

CURVE DATA FOR -L-

PI Sta 1441+43.20
Δ = 23° 22' 37.4" (LT)
D = 1° 59' 59.1"
L = 2,337.88'
T = 1,185.43'
R = 2,730.00'
e = 0.04
RD = 160.00'
DS = 75 MPH

PI Sta 1453+37.23
θs = 0° 41' 59.8"
Ls = 140.00'
LT = 106.67'
ST = 53.33'

CURVE DATA FOR -Y26RPB-

PI Sta 10+16.39?
θs = 0° 36' 19.2"
θs = 0° 54' 16.8"
Ls = 120.00'
LT = 63.59'
ST = 56.04'

PI Sta 16+72.32
Δ = 15° 32' 23.2" (LT)
D = 1° 30' 28.0"
L = 1,096.96'
T = 552.32'
R = 3,800.00'

PI Sta 22+56.96
θs = 0° 54' 16.8"
Ls = 120.00'
LT = 80.00'
ST = 40.00'

CURVE DATA FOR -Y26RPC-

PI Sta 11+37.60
θs = 0° 55' 44.8"
Ls = 120.00'
LT = 80.00'
ST = 40.00'

PI Sta 14+31.55
Δ = 7° 51' 10.4" (LT)
D = 1° 32' 54.7"
L = 501.12'
T = 251.36'
R = 3,700.00'

PI Sta 17+24.71
θs = 0° 55' 44.6"
Ls = 119.99'
LT = 79.99'
ST = 40.00'

CURVE DATA FOR -Y26RPD-

PI Sta 13+81.28
Δ = 2° 52' 50.9" (LT)
D = 1° 08' 45.3"
L = 251.40'
T = 125.73'
R = 5,000.00'

PI Sta 15+46.95
θs = 0° 41' 15.2"
Ls = 120.00'
LT = 80.00'
ST = 40.00'

CURVE DATA FOR -Y26-

PI Sta 15+42.13
Δ = 48° 37' 27.4" (LT)
D = 4° 46' 28.7"
L = 1,018.38'
T = 540.13'
R = 1,200.00'

PI Sta 35+10.78
Δ = 18° 53' 52.5" (RT)
D = 4° 05' 33.2"
L = 460.76'
T = 233.00'
R = 1,400.00'

NOTE: DESIGN EXCEPTION FOR PROPOSED MEDIAN SHOULDER WIDTH OF 8 FEET UNDER BRIDGE AT SR 1100 (BRAWLEY SCHOOL ROAD).

NOTES:
1.) FOR -L- PROFILE SEE SHEET 75 & 76.
2.) FOR -Y26- RAMP PROFILES SEE SHEETS 92, 93, 94, & 95

8/14/2015 4:44:32 PM
$FILE$
177_Halfsize_RDY

PROJECT REFERENCE NO.	SHEET NO.
C203406	35
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

AMEX PROPERTIES, LLC
DB 955 PG 495
PB 20 PG 95

IRYD LLC
01991 / 0626

NAD 83/2011

-Y26RPA- POT Sta. 10+00.00 =
-L- POT Sta.1473+85.75, 47.0' LT.
DIVERGENCE ANGLE = 3°0'0"

MATCH LINE SEE SHEET 34
-L- STA. 1467+00.00

MATCH LINE SEE SHEET 36
-L- STA. 1481+00.00

15+00

REMOVE AND RESET EXIST. GUARDRAIL

S 8°13'48.7" E

-Y26RPA-

EXSIT. 12' PS

1470+00

-L-

1475+00

10+00

N. 11°07'50.1" W

1480+00

EXIST. 12' PS

RETAIN

REMOVE DI

SP. TB DI

15"

MTL

I-77 SBL
37.9' BST

30.6' BST

I-77 SBL

I-77 NBL
38.9' BST

29.7' BST
I-77 NBL

S 11°07'50.1" E

10+00

15+00

130' TAPER

+56.56

-Y26RPD- CS Sta. 15+06.95

Y26RPD- SC Sta. 12+55.55

-Y26RPD- TS Sta. 11+35.55

-Y26RPD- POT Sta. 10+00.00 =
-L- POT Sta.1472+70.42
47.0' RT.

REMOVE AND RESET EXIST. GUARDRAIL

PROP. DOUBLE FACED CONC. BARRIER

REMOVE GUARDRAIL IN MEDIAN

DO NOT DISTURB FENCE

DO NOT DISTURB FENCE

OTHER END UNKNOWN CONSTRUCTION AREA

DI UNDER CONSTRUCTION INV=799.89'

INV=793.26' DI UNDER CONSTRUCTION

REMOVE

2GI

15" RCP

BLK RET WALL

48" CHL

BOLLARDS

CONC LOADING DOCK

ISBLKBUS

CURB

CB

15" HDPE

36" VINYL

WOODS

POND

DENNIS A. CALDWELL
DB 1372 PG 1680

NOTES:

1.) FOR -L- PROFILE SEE SHEET 77.

8/14/2015 4:44:39 PM
$FILES$
177_Fullsize_ROY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	36
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

ROE LTD
DB 763 PG 75
PB 29 PG 58

ROE LTD
DB 763 PG 75
PB 29 PG 58

WOODS

DO NOT DISTURB FENCE

DO NOT DISTURB FENCE

EXISTING R/W

DI UNDER CONSTRUCTION
INV=798.89'

REMOVE AND RESET EXIST. GUARDRAIL

INV=803.45'
DI UNDER CONSTRUCTION

18" RCP

30" RCP

RIP RAP

INV=798.21'

REMOVE GUARDRAIL IN MEDIAN

INV=812.80'

18" RCP

RIP-RAP
INV=792.28'

REMOVE AND RESET EXIST. GUARDRAIL

GR

EXIST. 12' PS

48'

10' PS

.02

30.6' BST
I-77 SBL

29.7' BST
I-77 NBL

RETAIN

TOP=806.04'
INV=802.11'
INV=802.22'

1485+00

-L-

1490+00

INV=807.71'

TOP=819.83'
INV=816.94'

REMOVE DI
SP. TB DI

15"

MTL

INV=801.82'

N 11° 07' 50.1" W

INV=808.63'
TOP=812.90'

18" RCP

30" RCP

15" RCP

REMOVE DI
COLLAR AND EXTEND
TOP=804.03'
INV=800.47'
2GI

TOP=806.49'
INV=803.88'

INV=809.24'
TOP=815.41'
INV=809.01'

REMOVE

TOP=816.16'
INV=813.32'

DUCT

MATCH LINE SEE SHEET 35
-L- STA. 1481+00.00

MATCH LINE SEE SHEET 37
-L- STA. 1495+00.00

36" VINYL

48" CMP

36" CMP

CURB

CB

BST

ISBLKBUS

ISBKBUS

SOUTHERN STAR LLC
01847 / 0340

BUFFALO-MOORESVILLE II LLC
02032 / 1682

NOTES:

1.) FOR -L- PROFILE SEE SHEET 78.

8/4/2015 4:44:44 PM
$FILES$
I77_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	37
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

NAD 83/2011

REVISIONS

MATCH LINE SEE SHEET 36 -L- STA. 1495+00.00

MATCH LINE SEE SHEET 38 -L- STA. 1523+00.00

A **B** **C** **D**

-Y27RPB- POT Sta. 10+00.00 = -L- POT Sta. 1496+75.21 (47.17 LT)

-Y27RPB- ST Sta. 15+83.51

END CONSTRUCTION END RESURFACE -Y27RPB- Sta. 17+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

-Y27RPB- CS Sta. 13+83.51

-Y27RPB- SC Sta. 12+03.91

-Y27RPB- TS Sta. 10+03.91

-L- POC Sta. 1507+92.09 = -Y27- POT Sta. 26+07.12

-L- SC Sta. 1502+58.08

-Y27RPB- PT Sta. 21+78.95

-Y27RPB- PC Sta. 20+25.67

-Y27RPB- POT Sta. 22+70.73 = -Y27- POT Sta. 22+66.07

-Y27RPA- POT Sta. 19+81.73 = -Y27- POT Sta. 23+14.19

END CONSTRUCTION END RESURFACE -Y27RPA- Sta. 17+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

-Y27RPA- ST Sta. 15+60.89

-Y27RPA- CS Sta. 13+60.89

-Y27RPA- POT Sta. 10+00.00 = -L- POT Sta. 1518+00.00 (47.17 LT)

-Y27RPA- TS Sta. 11+44.33

-Y27RPA- SC Sta. 13+44.33

-Y27RPC- POT Sta. 10+00.00 = -L- POT Sta. 1497+00.00 (47.17 RT)

-Y27RPC- TS Sta. 10+69.42

-Y27RPC- SC Sta. 12+69.42

-Y27RPC- CS Sta. 14+15.38

-Y27RPC- ST Sta. 16+15.38

END CONSTRUCTION END RESURFACE -Y27RPC- Sta. 17+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

-Y27RPC- POT Sta. 29+23.55 = -Y27- POT Sta. 29+21.52

-Y27RPD- POT Sta. 23+88.40 = -Y27- POT Sta. 29+85.38

-Y27RPD- ST Sta. 18+41.43

-Y27RPD- CS Sta. 16+41.43

END CONSTRUCTION END RESURFACE -Y27RPD- Sta. 18+00.00 MATCH EXIST. PVMT SLOPE & ELEV.

-Y27RPD- SC Sta. 12+00.00

-Y27RPD- CS Sta. 10+00.00 = -L- POC Sta. 1520+53.51 (47.17 RT)

FITZ HOLDINGS LLC 0569 / 2408

TEJ-DEEP LLC 0799 / 1124

DYNAMIC DEVELOPMENT GROUP LLC 1078 / 1504

ROE LTD 0763 / 0075

TTX-EAT LLC 0290 / 1969

TTX EAT LLC 0290 / 1977

ONE STOP ASSOCIATION INC 0808 / 1949

BIG DADDY AND NONNIE LLC 0287 / 2407

CHICK-FIL-A INC ORT / 0922

BOBBY R & SYLVIA M HAROLD 1007 / 0986

RACE CITY LODGING LLC 0185/ 1787

REGENCY ASSOCIATION INC 1055 / 1525

REGENCY ASSOCIATION INC 1052 / 1455

CS REMAINDER I LLC 0222 / 0272

HALO HOLDINGS LLC 0256 / 1791

JIMMIE & RONNIE R POURLOS 0368 / 1470

RACE VIEW LLC 0024 / 0848

BEF-REIT INC 895 / 1680

QUALITY OIL PARTNERSHIP LTD 0741 / 0425

PNC OF STATESVILLE LLC 0404 / 1514

JOHN ROBERT GRAHAM JR 0604

JAMES C RAMEY 0743 / 038

CNL FUNDING 2006-A LP 0204 / 0025

NSK LODGING LLC 0952/ 0325

DATES VENTURES LLC 0845 / 0937

DATES VENTURES LLC 0867 / 2366

POND

CURVE DATA FOR -L-

Pis Sta 1502+08.08	PI Sta 1515+59.51
Δs = 17° 33' 55.5"	Δ = 19° 28' 03.3" (RT)
Ls = 150.00	D = 11° 45' 14.1"
LT = 100.00	L = 2,577.86'
ST = 50.00	T = 1,301.43'
	R = 1,600.00'
	e = 0.03
	Rq = 150.00'
	DS = 70 MPH

CURVE DATA FOR -Y27RPB-

Pis Sta 11+37.29	PI Sta 12+93.87	Pis Sta 14+50.22	PI Sta 21+02.80
Δs = 4° 35' 01.2"	Δ = 4° 13' 56.3" (LT)	Δs = 4° 35' 01.2"	Δ = 15° 49' 25.9" (RT)
Ls = 200.00'	D = 4° 35' 01.2"	Ls = 200.00'	D = 11° 19' 24.8"
LT = 133.38'	L = 179.60'	LT = 133.38'	L = 153.28'
ST = 66.71'	T = 89.86'	ST = 66.71'	T = 77.13'
	R = 1,250.00'		R = 555.00'

CURVE DATA FOR -Y27RPA-

Pis Sta 12+77.74	PI Sta 13+52.61	Pis Sta 14+27.63
Δs = 6° 01' 52.1"	Δ = 0° 59' 56.8" (RT)	Δs = 6° 01' 52.1"
Ls = 200.00'	D = 6° 01' 52.1"	Ls = 200.00'
LT = 133.41'	L = 16.51'	LT = 133.41'
ST = 66.74'	T = 8.25'	ST = 66.74'
	R = 950.00'	

CURVE DATA FOR -Y27RPC-

Pis Sta 12+02.81	PI Sta 13+42.50	Pis Sta 14+82.09
Δs = 4° 58' 56.2"	Δ = 7° 16' 18.7" (RT)	Δs = 4° 58' 56.2"
Ls = 200.00'	D = 4° 58' 56.2"	Ls = 200.00'
LT = 133.59'	L = 145.96'	LT = 133.59'
ST = 66.71'	T = 73.08'	ST = 66.71'
	R = 1,150.00'	

CURVE DATA FOR -Y27RPD-

Pis Sta 11+22.65	PI Sta 14+22.43	Pis Sta 17+08.13
Δs = 17° 45' 30.2"	Δ = 17° 26' 34.3" (LT)	Δs = 3° 57' 05.2"
Ds = 3° 57' 05.9"	D = 3° 57' 05.2"	Ls = 200.00'
Ls = 200.00'	L = 440.44'	LT = 133.37'
LT = 122.65'	T = 222.44'	ST = 66.70'
ST = 77.45'	R = 1,450.00'	

NOTE: DESIGN EXCEPTION FOR PROPOSED MEDIAN SHOULDER WIDTH OF 6 FEET UNDER BRIDGE AT NC 150 (WEST PLAZA DRIVE).

NOTES:
1.) FOR -L- PROFILE SEE SHEET 79 & 80.
2.) FOR -Y27- RAMPS PROFILE SEE SHEETS 95 & 96.

8/14/2015 4:14:50 PM
$FILE$
177_Half size.RDY

PROJECT REFERENCE NO.	SHEET NO.
C203406	38
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NATICK NC MOORESVILLE REALTY
01205 / 1735

NAD 83/2011

DETENTION POND

BST

BST PA

CANOPY

CB

18" CMP

36" CPP

18" C&G

EXISTING R/W

WOODS

48" WW & ISBW

INV=845.34
FES

CONC DITCH

850' TRANSITION

50.00' (TYP.)

+50.00

+00.00

DO NOT DISTURB FENCE

MONUMENT

R/W MON

SAM

REMOVE & RESET EXIST. GUARDRAIL

TOP=807.04'
INV=801.95'

12" CONC

RIP RAP

MTL

10' EXIST. PS

MATCH LINE SEE SHEET 37
-L- STA. 1523+00.00

12' PS

10' PS

TOP=848.21'
INV=845.64'

36"

1-77 SBL
37.9' BST

RETAIN

10' BST

1-77 SB

37.6' BST

4' BST

1-77 NBL
37.3' BST

1525+00

1530+00

1535+00

N 9° 26' 03.3" E

-L-

15" REMOVE DI

SP. TB DI

TOP=841.91'
INV=838.80'

INV=835.70'
TOP=835.34'

STANTEC-201

1-77 NB

37.6' BST

11' BST

INV=844.37'

INV=842.66'

INV=839.79'

INV=835.77'

INV=831.53'

REMOVE AND RESET EXIST. GUARDRAIL

REMOVE GUARDRAIL IN MEDIAN

PROP. DOUBLE FACED CONC. BARRIER

INV=820.08'

INV=813.78'

INV=813.17'

INV=809.37'

INV=805.01'

INV=805.12'

INV=806.50'

-L- CS Sta. 1528+35.93

-L- ST Sta. 1529+85.93

48" WW

48" WW & ISBW

OATES VENTURES LLC
01867 / 2366

AUTOMOTIVE COLLISION EXPERTS

CONCRETE

NOTE: THE 12" & 20" WATER LINES ARE LOCATED INSIDE THE UPPER SECTION OF THE EXISTING BOX CULVERT. BOTH WATER LINES ARE VISIBLE CROSSING THE CREEK.

12" CIC TOWN OF MOORESVILLE
20" PVC TOWN OF MOORESVILLE

MATCH LINE SEE SHEET 39
-L- STA. 1537+00.00

CURVE DATA FOR -L-

PI Sta 1515+59.51	PIs Sta 1528+85.91
Δ = 19° 26' 03.3" (RT)	Θs = 0° 33' 55.5"
D = 0° 45' 14.0"	Ls = 150.00'
L = 2,577.86'	LT = 100.00'
T = 1,301.43'	ST = 50.00'
R = 7,600.00'	
e = 0.03	
R0 = 150.00'	
DS = 70 MPH	

NOTES:

1.) FOR -L- PROFILE SEE SHEET 81.

8/14/2015 4:14:56 PM
$FILE$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	39
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

REALTICORP/MOORESVILLE LLC

NAD 83/2011

MATCH LINE SEE SHEET 38 -L- STA. 1537+00.00

MATCH LINE SEE SHEET 40 -L- STA. 1551+00.00

8' CONC WW
7' CONC HW
14' CONC WW

MONUMENT

EXISTING R/W

INV=795.61'

REMOVE GUARDRAIL IN MEDIAN

INV=802.63'

15" CMP

RIP RAP

10' EXIST. PS

RETAIN

I-77 SB

37.6' BST

1540+00

-L-

REMOVE DT
CONSTRUCT 2GI

STANTEC-202

I-77 NB

3' BST

12' BST

18" RCP

INV=813.93'

DO NOT DISTURB FENCE

AUTOMOTIVE COLLISION EXPERTS

INV=789.97'

REMOVE & RESET EXIST. GUARDRAIL

REMOVE AND RESET EXIST. GUARDRAIL

48" WW & ISBW

TOP=825.26'
INV=821.88'

TOP=817.03'
INV=814.19'

1545+00

N 9° 26' 03.3" E

INV=773.17'
TOP=779.52'

OUT OF LIMITS

10" CLAY

INV=773.39'

INV=776.61'
TOP=785.19'
INV=777.28'

INV=777.58'

72" CONC

INV=802.59'

INV=804.24'
TOP=807.10'

1550+00

2GI

REMOVE

+85.00

840' TRANSITION

INV=780.00'

TOP=790.85'

INV=783.93'

INV=785.15'

8" DIP

INV=761.04'

TOP=779.52'

INV=761.27'

OTHER END UNKNOWN

TALBERT POINTE FAMILY INVEST-

NOTES:

1.) FOR -L- PROFILE SEE SHEET 82.

8/14/2015 4:15:00 PM
$FILES$
177_Fullsize_RDY_OLD

PROJECT REFERENCE NO.	SHEET NO.
C203406	40
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REGISTERED ENGINEER | REGISTERED ENGINEER

sugar creek construction, LLC

Louis Berger

0' 50' 100'

REVISIONS

NAD 83/2011

MATCH LINE SEE SHEET 39
-L- STA. 1551+00.00

PERRY FAMILY INVESTMENT -

BRANTLEY H FRANCIS

OUT OF LIMITS — 10' CLAY

END TIP PROJECT I-4750AA
END NORTH SECTION
END CONSTRUCTION
-L- Sta. 1561+43.90

REMOVE GUARDRAIL IN MEDIAN

REMOVE GUARDRAIL IN MEDIAN

REMOVE & RESET EXIST. GUARDRAIL

RETAIN EXIST. GUARDRAIL

TIE PROP. G.R. TO EXIST. GUARDRAIL

REMOVE & RESET EXIST. GUARDRAIL

840' TRANSITION

DO NOT DISTURB FENCE

DO NOT DISTURB FENCE

TALBERT POINTE FAMILY INVEST-

BRANTLEY H FRANCIS

NOTES:

1.) FOR -L- PROFILE SEE SHEET 83.

8/14/2015 4:15:05 PM
$FILE$
I77-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	52

ROADWAY DESIGN ENGINEER

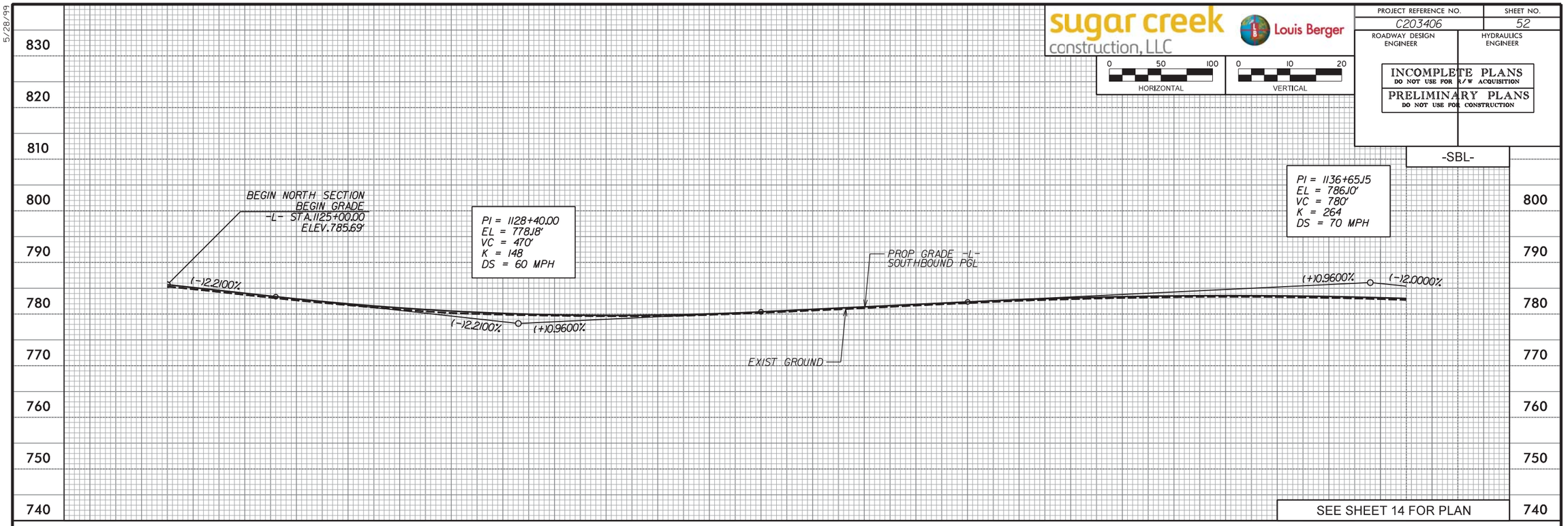
HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



8/14/2015 4:15:08 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	53

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

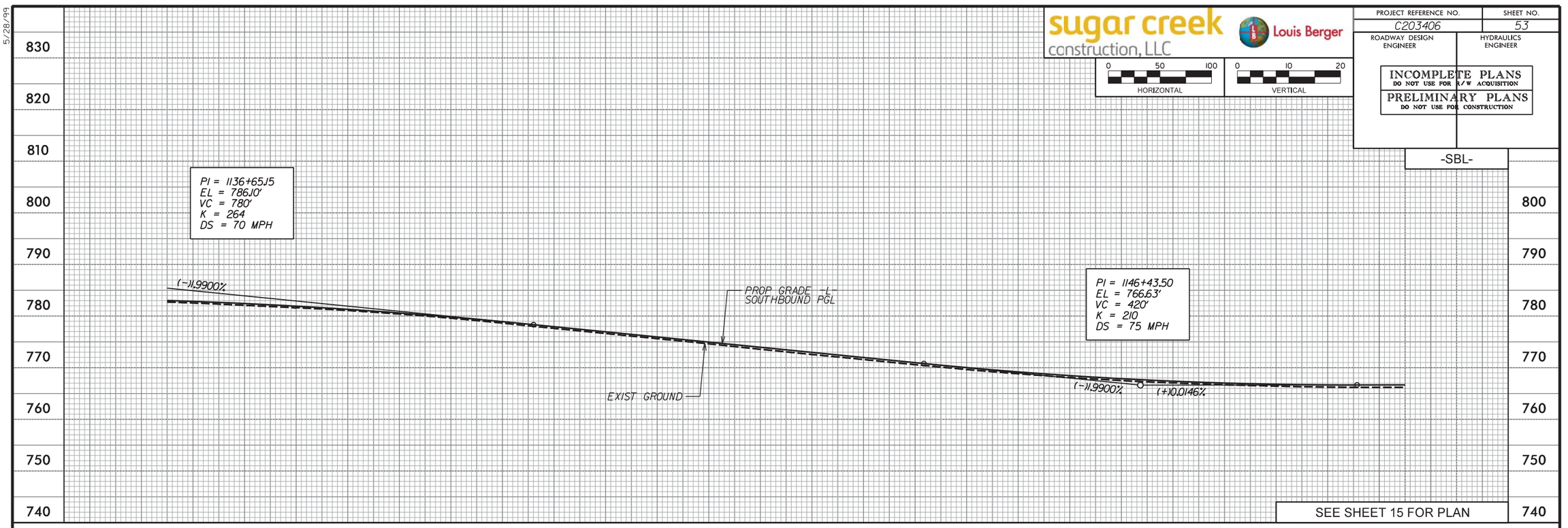
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

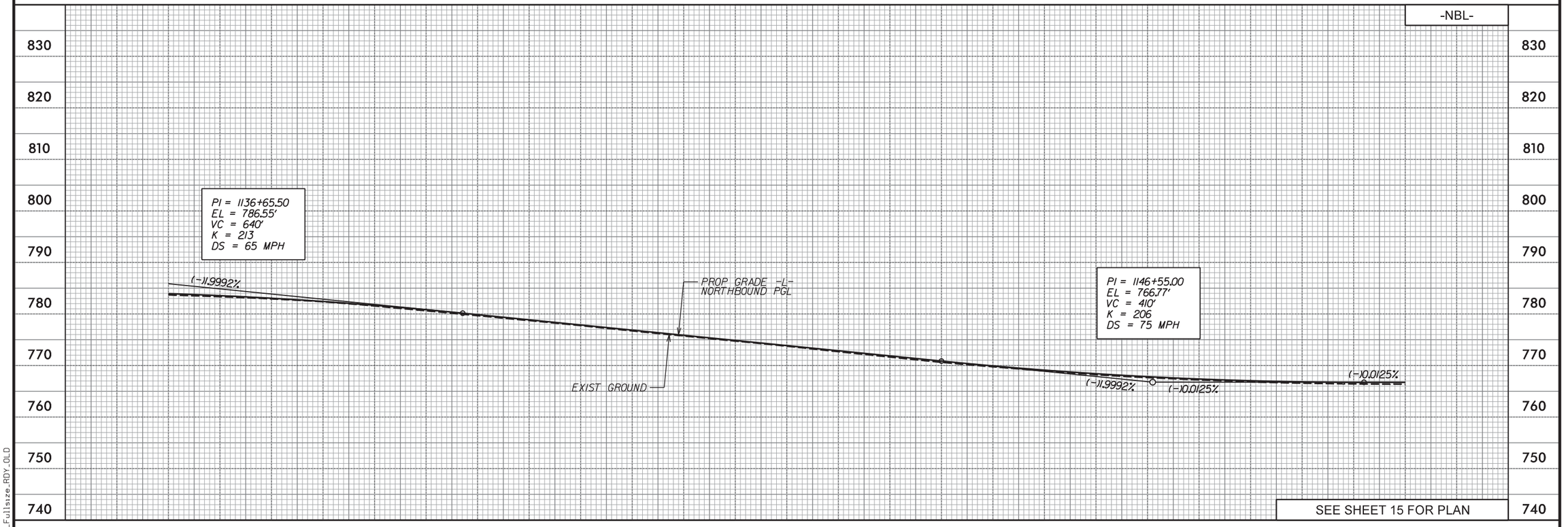
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



SEE SHEET 15 FOR PLAN

-NBL-



SEE SHEET 15 FOR PLAN

8/14/2015 4:15:12 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	54

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1164+14.00
EL = 766.89'
VC = 1,140'
K = 541
DS = 80+ MPH

PROP GRADE -L-
SOUTHBOUND PGL

(+)0.0146%

(+)0.0146%

EXIST GROUND

SEE SHEET 16 FOR PLAN

740 750 760 770 780 790 800 810 820 830

1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161

-NBL-

PI = 1163+25.00
EL = 766.56'
VC = 1,050'
K = 500
DS = 80+ MPH

PROP GRADE -L-
NORTHBOUND PGL

(-)0.0125%

(-)0.0125%

EXIST GROUND

SEE SHEET 16 FOR PLAN

740 750 760 770 780 790 800 810 820 830

1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161

8/14/2015 4:15:15 PM
$FILE$
177-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	55

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

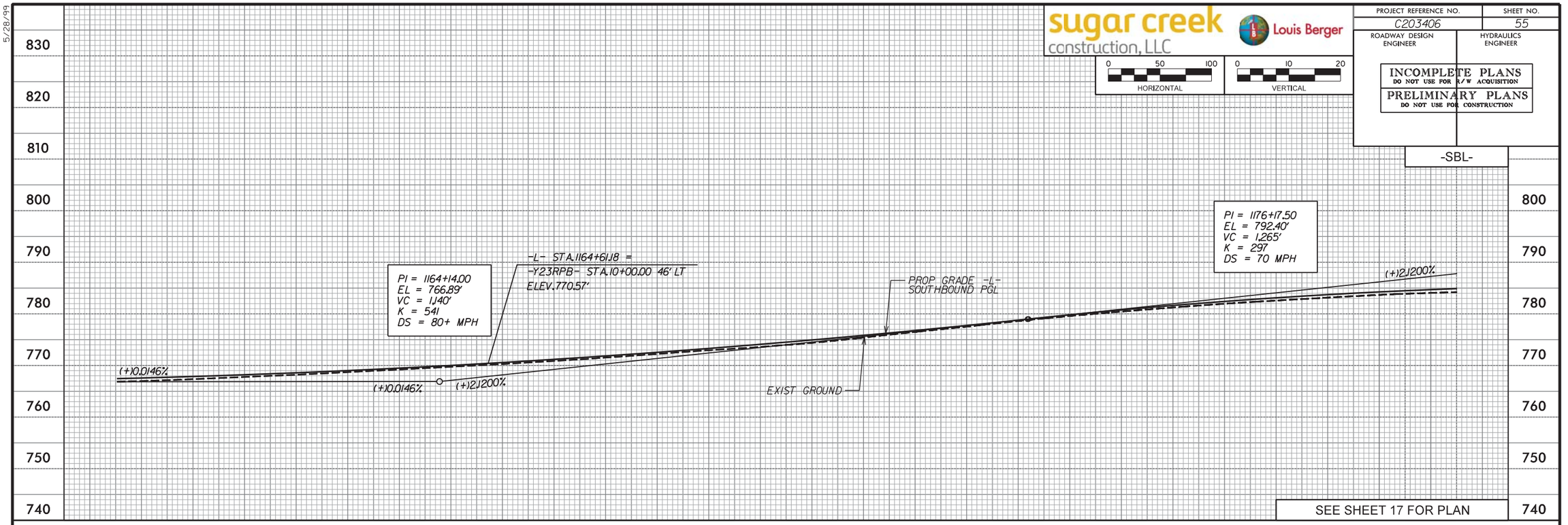
HORIZONTAL 0 50 100

VERTICAL 0 10 20

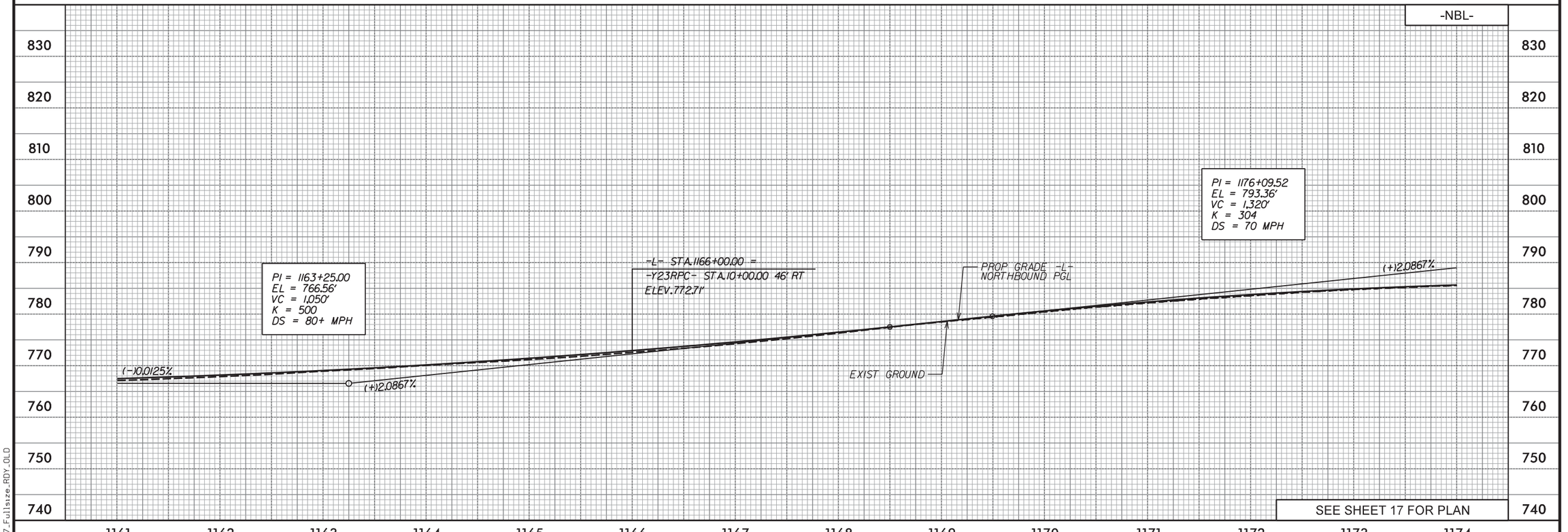
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:15:19 PM
$FILE$
177-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	56

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

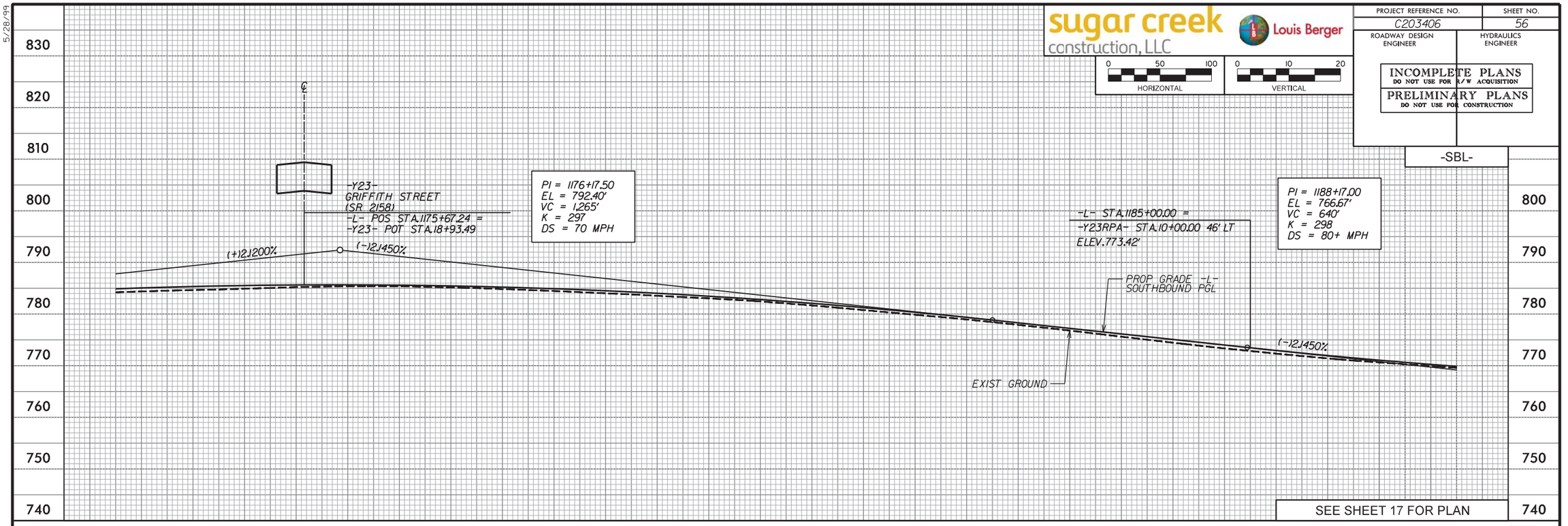
0 50 100 HORIZONTAL

0 10 20 VERTICAL

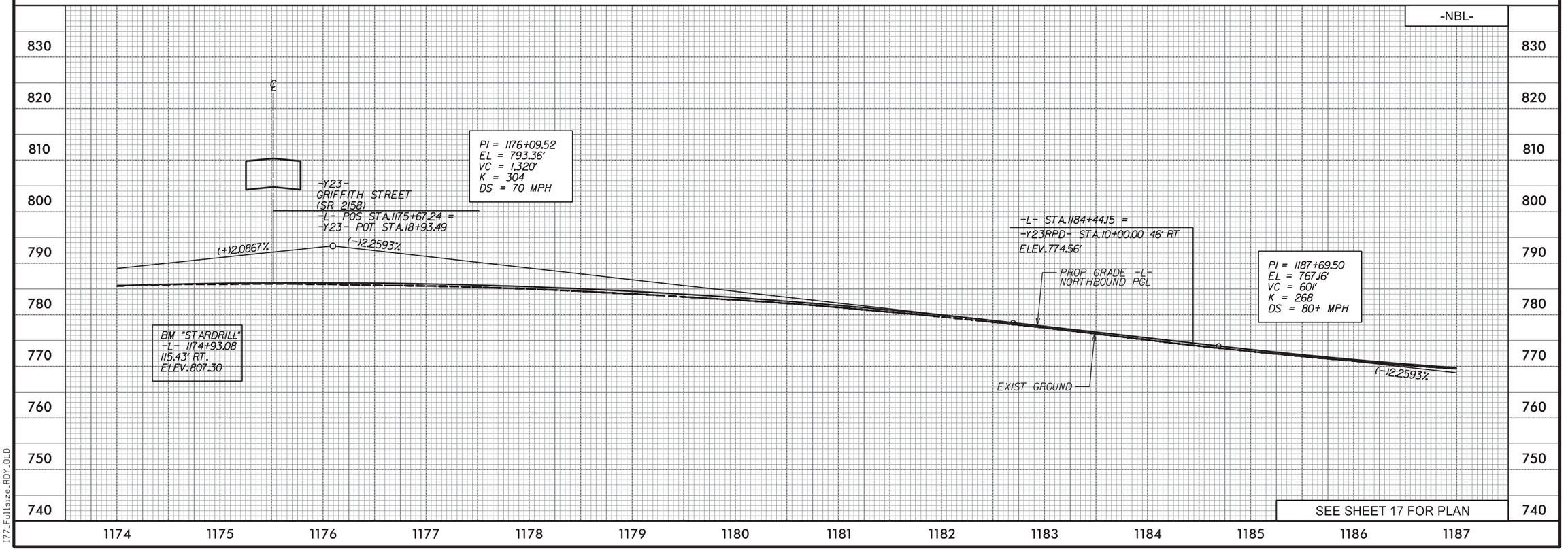
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:15:22 PM
$FILE$
177-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	57

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1188+17.00
EL = 766.67'
VC = 640'
K = 298
DS = 80+ MPH

(-)12.1450%

(+)0.0000%

PROP GRADE -L-
SOUTHBOUND PGL

(+)0.0000%

(+)0.0000%

EXIST GROUND

SEE SHEET 18 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201

-NBL-

PI = 1187+69.50
EL = 767.16'
VC = 601'
K = 268
DS = 80+ MPH

(-)2.2593%

(-)0.0170%

PROP GRADE -L-
NORTHBOUND PGL

(-)0.0170%

EXIST GROUND

SEE SHEET 18 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201

8/14/2015 4:15:26 PM
$FILE$
177-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	58

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

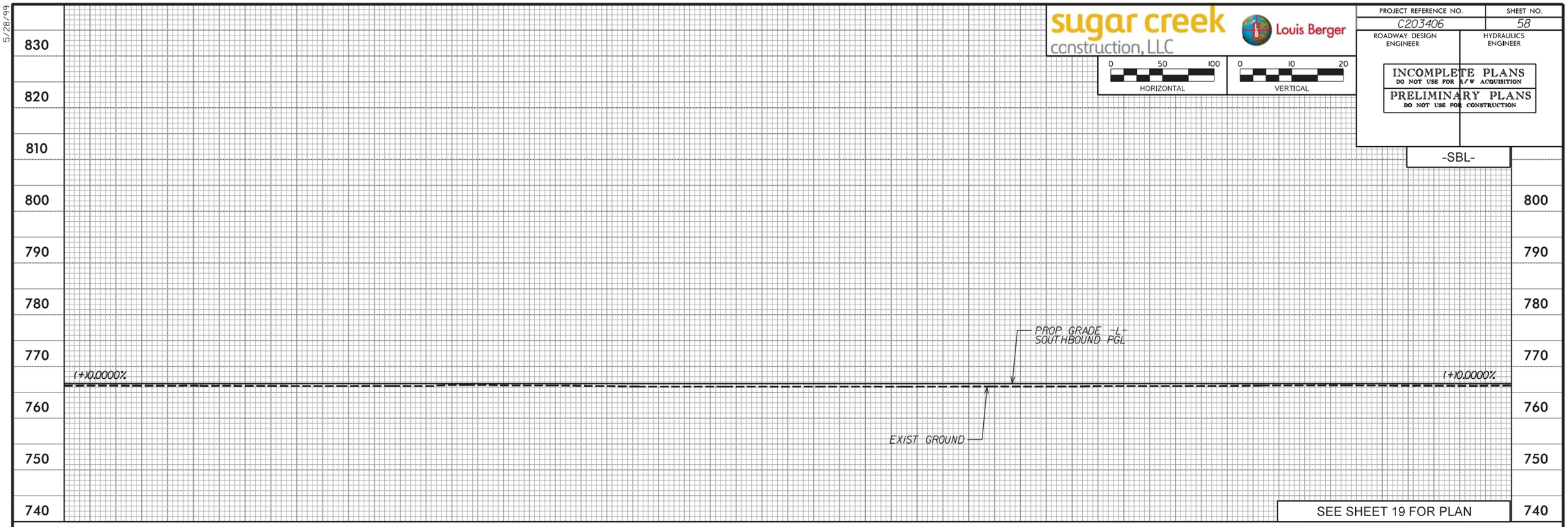
0 50 100 HORIZONTAL

0 10 20 VERTICAL

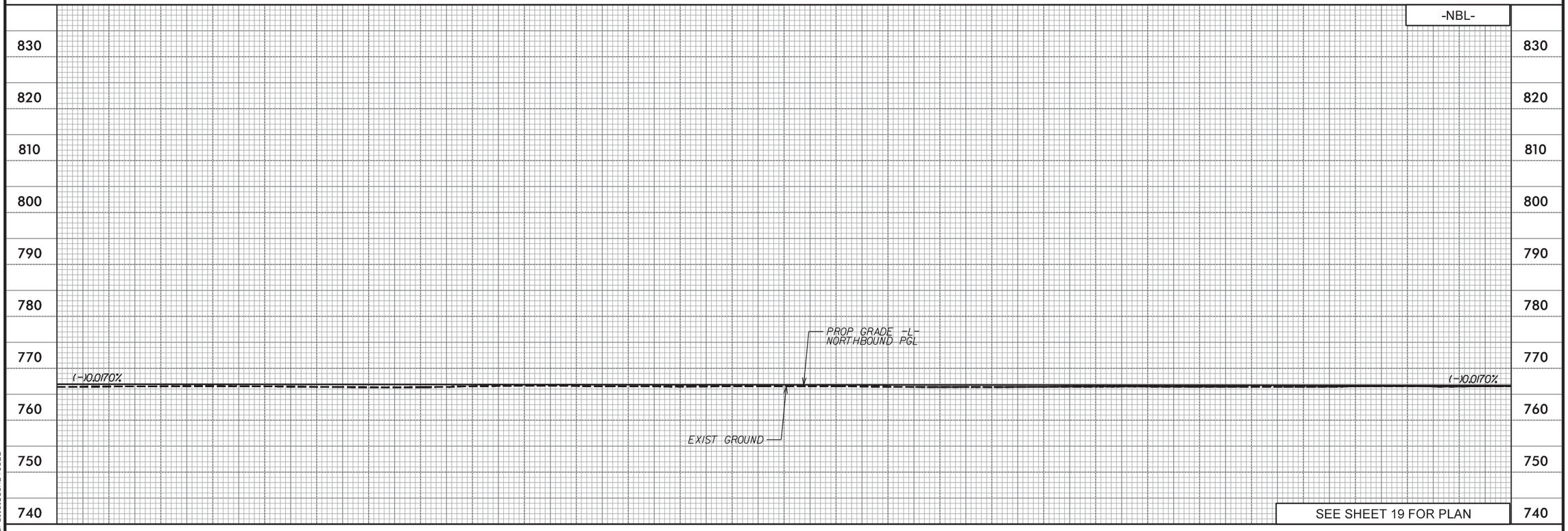
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:15:30 PM
$FILE$
177-Fullsize-ROY-OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	59

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1229+50.00
EL = 766.67'
VC = 300'
K = 132
DS = 55 MPH

PROP GRADE -L-
SOUTHBOUND PGL

(+)0.0000%

(+)0.0000%

EXIST GROUND

SEE SHEET 20 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229

-NBL-

PI = 1229+28.00
EL = 766.45'
VC = 520'
K = 298
DS = 80+ MPH

PROP GRADE -L-
NORTHBOUND PGL

(-)0.0170%

(-)0.0170%

EXIST GROUND

SEE SHEET 20 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229

8/14/2015 4:15:33 PM
$FILE$
177-Fullsize_RDY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	60

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1229+50.00
EL = 766.67'
VC = 300'
K = 132
DS = 55 MPH

PI = 1236+84.00
EL = 783.41'
VC = 700'
K = 397
DS = 80+ MPH

PROP GRADE -L-
SOUTHBOUND PGL

(+)0.0000% (+)2.2800% (+)2.2800% (+)0.5155% (+)0.5155%

EXIST GROUND

SEE SHEET 21 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243

-NBL-

PI = 1229+28.00
EL = 766.45'
VC = 520'
K = 298
DS = 80+ MPH

PI = 1239+94.00
EL = 784.85'
VC = 770'
K = 655
DS = 80+ MPH

PROP GRADE -L-
NORTHBOUND PGL

(+)1.7261% (+)1.7261% (+)0.5505%

EXIST GROUND

SEE SHEET 21 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243

8/14/2015 4:15:36 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	61

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1255+68.00
EL = 793.12'
VC = 360'
K = 182
DS = 70 MPH

PROP GRADE -L-
SOUTHBOUND PGL

EXIST GROUND

(+)0.5155%

(+)0.5155%

(+)2.4900%

SEE SHEET 22 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257

-NBL-

PI = 1239+94.00
EL = 784.85'
VC = 770'
K = 655
DS = 80+ MPH

PI = 1255+92.20
EL = 793.65'
VC = 300'
K = 150
DS = 60 MPH

PROP GRADE -L-
NORTHBOUND PGL

EXIST GROUND

(+)0.5505%

(+)0.5505%

(+)2.5454%

SEE SHEET 22 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257

8/14/2015 4:15:40 PM
$FILE$s
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	62

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1272+70.00
EL = 835.50'
VC = 1,900'
K = 425
DS = 80+ MPH

PI = 1255+68.00
EL = 793.12'
VC = 360'
K = 182
DS = 70 MPH

-L- STA.1257+97.58 =
-Y24RPB- STA.10+00.00 51' LT
ELEV.798.99'

PROP GRADE -L-
SOUTHBOUND PGL

(+)2.4900%

EXIST GROUND

BM "15405-24"
-L- 1269+21.79
399.43' LT.
ELEV.839.01

SEE SHEET 23 FOR PLAN

-NBL-

PI = 1272+70.00
EL = 836.36'
VC = 1,980'
K = 436
DS = 80+ MPH

-L- STA.1260+00.00 =
-Y24RPC- STA.10+00.00 51' RT
ELEV.803.87'

PROP GRADE -L-
NORTHBOUND PGL

(+)2.5454%

EXIST GROUND

SEE SHEET 23 FOR PLAN

870 860 850 840 830 820 810 800 790 780

1257 1258 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270 1271

8/14/2015 4:15:43 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	63

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

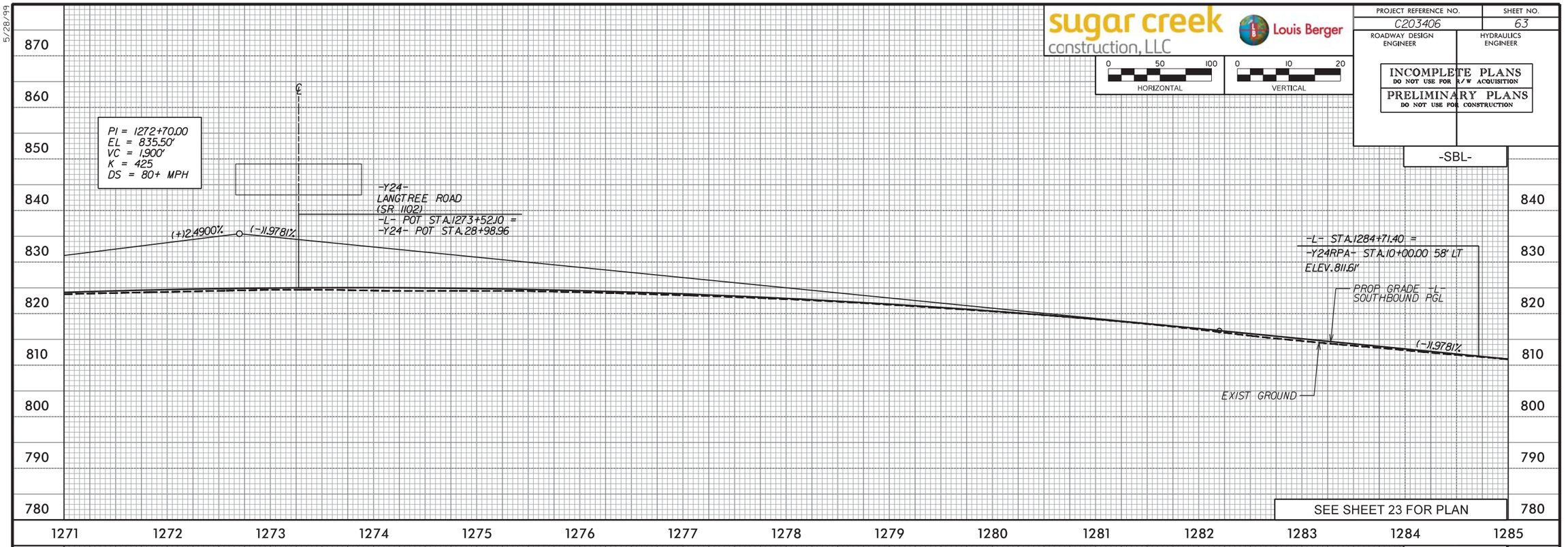
0 50 100 HORIZONTAL

0 10 20 VERTICAL

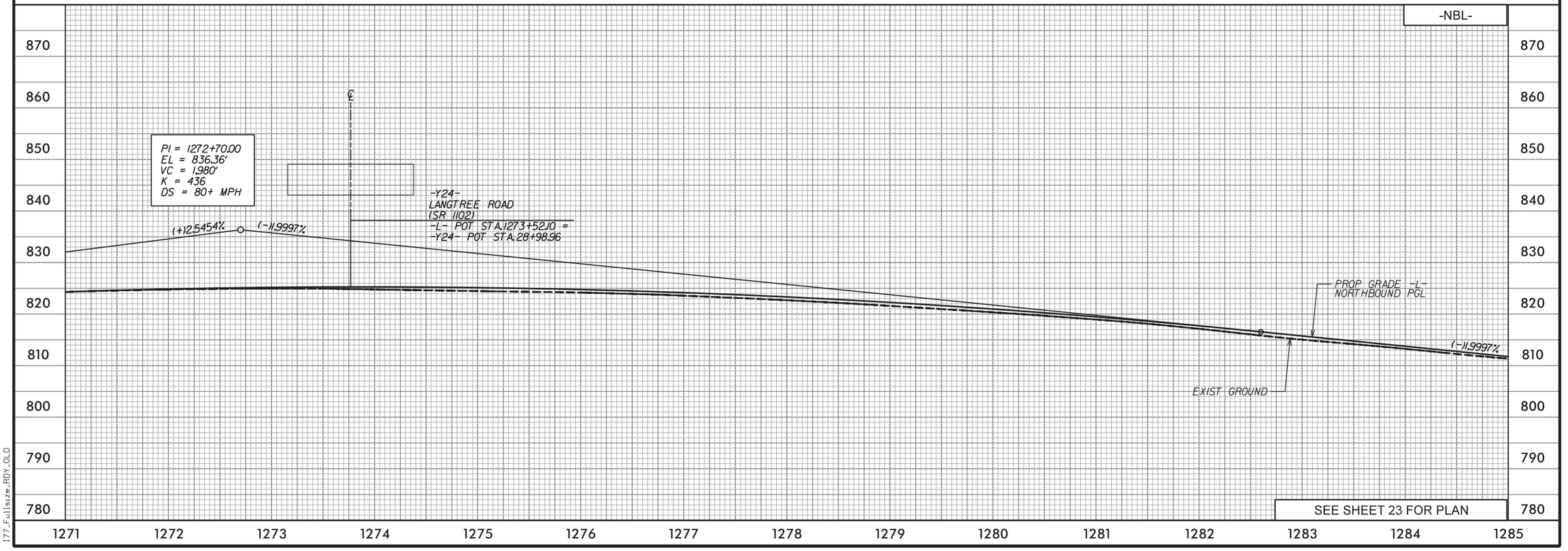
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:15:46 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	64

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

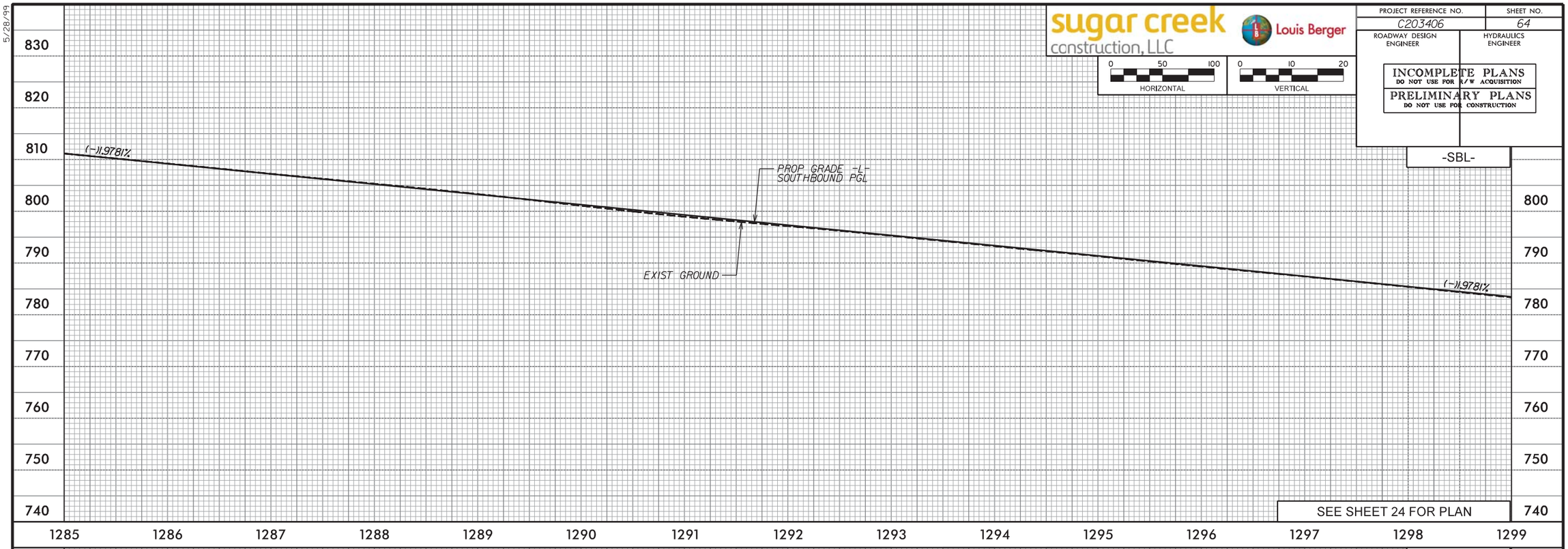
0 50 100 HORIZONTAL

0 10 20 VERTICAL

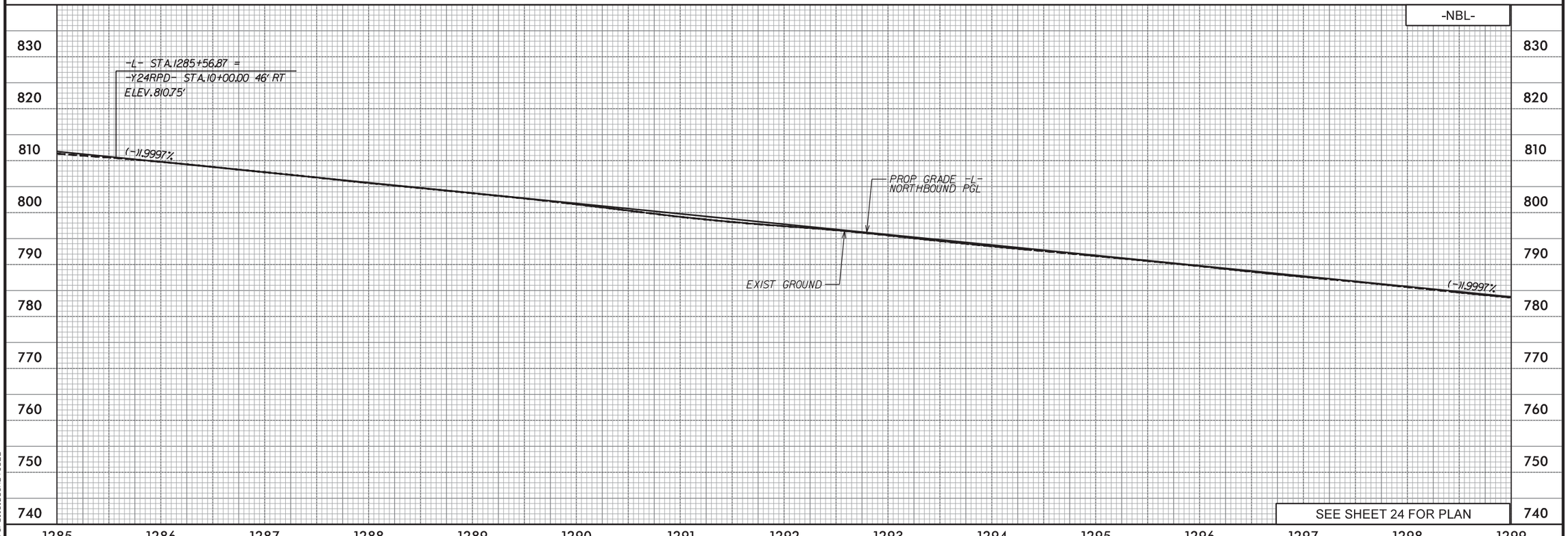
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:15:49 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	65

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1303+17.00
EL = 775.23'
VC = 560'
K = 157
DS = 65 MPH

(−)11.9781%

(−)11.9781%

(+)11.5788%

PROP GRADE -L-
SOUTHBOUND PGL

(+)11.5788%

EXIST GROUND

SEE SHEET 25 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313

-NBL-

PI = 1303+43.00
EL = 774.91'
VC = 620'
K = 172
DS = 65 MPH

(−)11.9997%

(−)11.9997%

(+)11.6016%

PROP GRADE -L-
NORTHBOUND PGL

(+)11.6016%

EXIST GROUND

SEE SHEET 25 FOR PLAN

830 820 810 800 790 780 770 760 750 740

1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313

8/14/2015 4:15:53 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	66

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

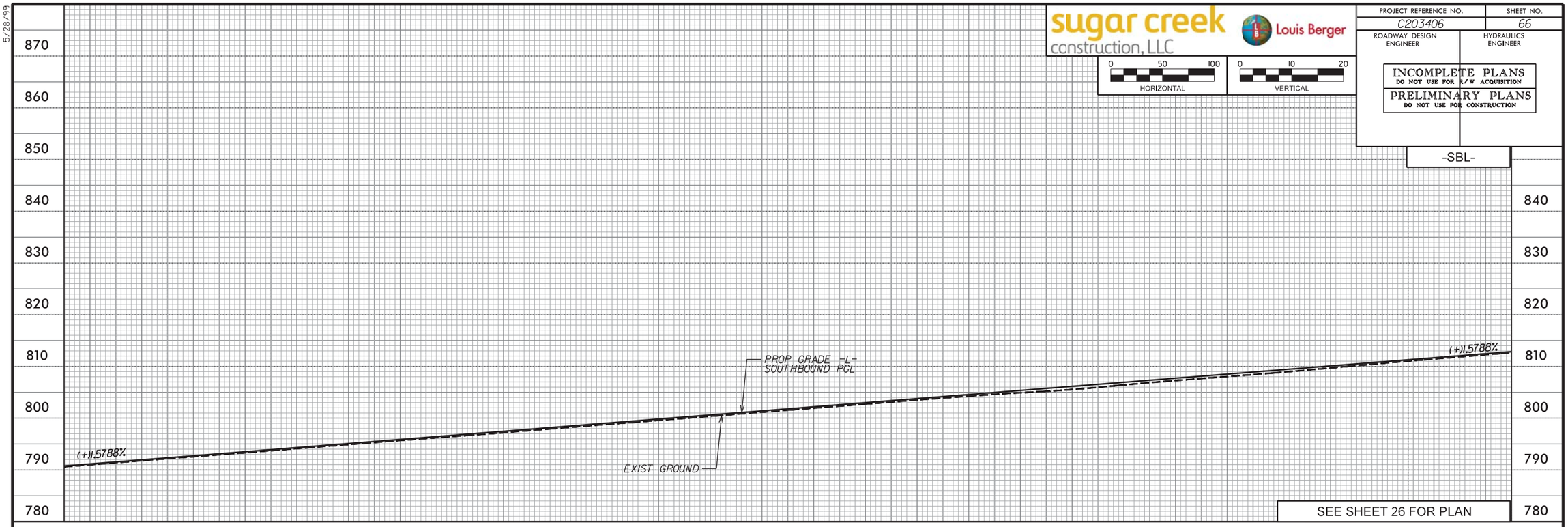
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

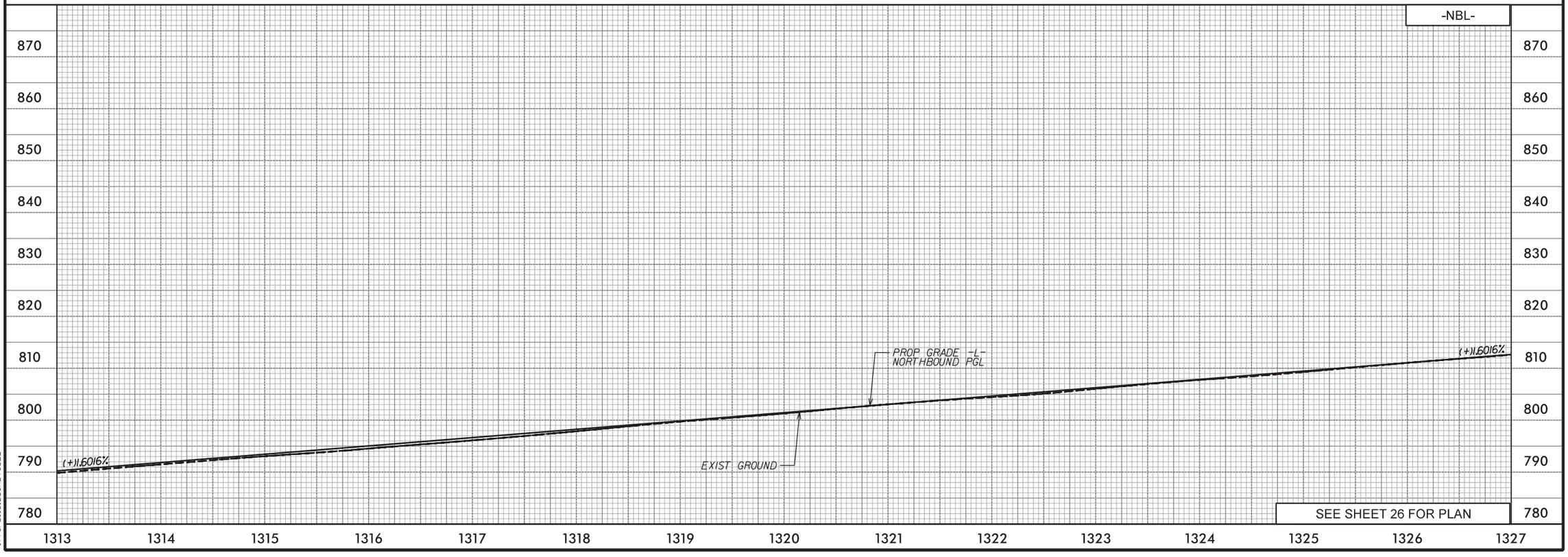
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



SEE SHEET 26 FOR PLAN

-NBL-



SEE SHEET 26 FOR PLAN

8/14/2015 4:15:57 PM
$FILE$
177_Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	67
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1329+96.00
EL = 817.52'
VC = 46.3'
K = 47.8
DS = 80+ MPH

(+)1.5788%

(+)1.5788%

(+)2.5485%

PROP GRADE -L-
SOUTHBOUND PGL

EXIST GROUND

(+)2.5485%

SEE SHEET 27 FOR PLAN

870 860 850 840 830 820 810 800 790 780

1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341

-NBL-

PI = 1330+30.00
EL = 817.94'
VC = 500'
K = 497
DS = 80+ MPH

(+)1.6016%

(+)1.6016%

(+)2.6072%

PROP GRADE -L-
NORTHBOUND PGL

EXIST GROUND

(+)2.6072%

SEE SHEET 27 FOR PLAN

870 860 850 840 830 820 810 800 790 780

1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341

8/14/2015 4:16:01 PM
$FILE$
177-Fullsize_RDY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	68
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HORIZONTAL 0 50 100

VERTICAL 0 10 20

-SBL-

PI = 1345+34.00
EL = 856.72'
VC = 1,150'
K = 285
DS = 70 MPH

-L- STA. 1347+68.27 =
-Y25RPB- STA. 10+00.00 68' LT
ELEV. 851.21'

(+)2.5485%

(+)2.5485%

(-)1.4800%

PROP GRADE -L-
SOUTHBOUND PGL

(-)1.4800%

EXIST GROUND

SEE SHEET 28 FOR PLAN

870 870 870 860 850 840 830 820 810 800

1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355

-NBL-

PI = 1345+69.00
EL = 858.06'
VC = 1,200'
K = 287
DS = 70 MPH

-L- STA. 1347+00.00 =
-Y25RPC- STA. 10+00.00 46' RT
ELEV. 852.16'

(+)2.6072%

(+)2.6072%

(-)1.5761%

BM "5JS21"
-L- 1349+84.27
431.38' RT.
ELEV. 867.50

PROP GRADE -L-
NORTHBOUND PGL

(-)1.5761%

EXIST GROUND

SEE SHEET 28 FOR PLAN

890 880 870 860 850 840 830 820 810 800

1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355

8/14/2015 4:16:05 PM
$FILE$
177_Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	69

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

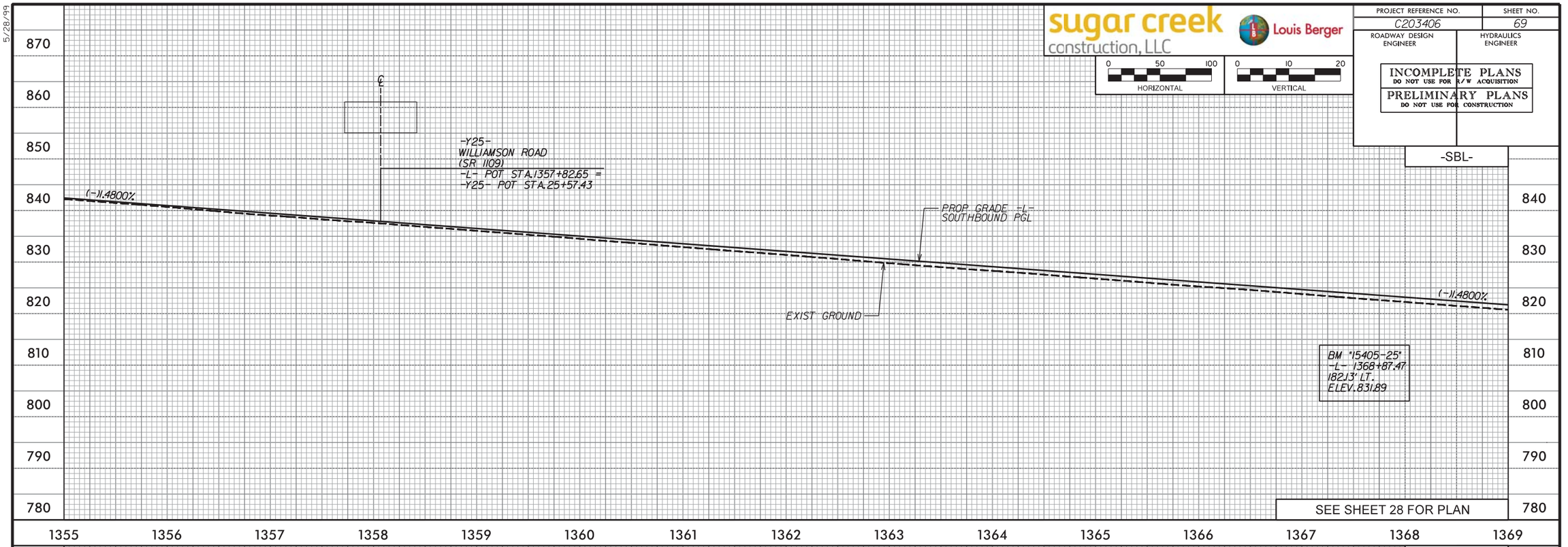
HORIZONTAL 0 50 100

VERTICAL 0 10 20

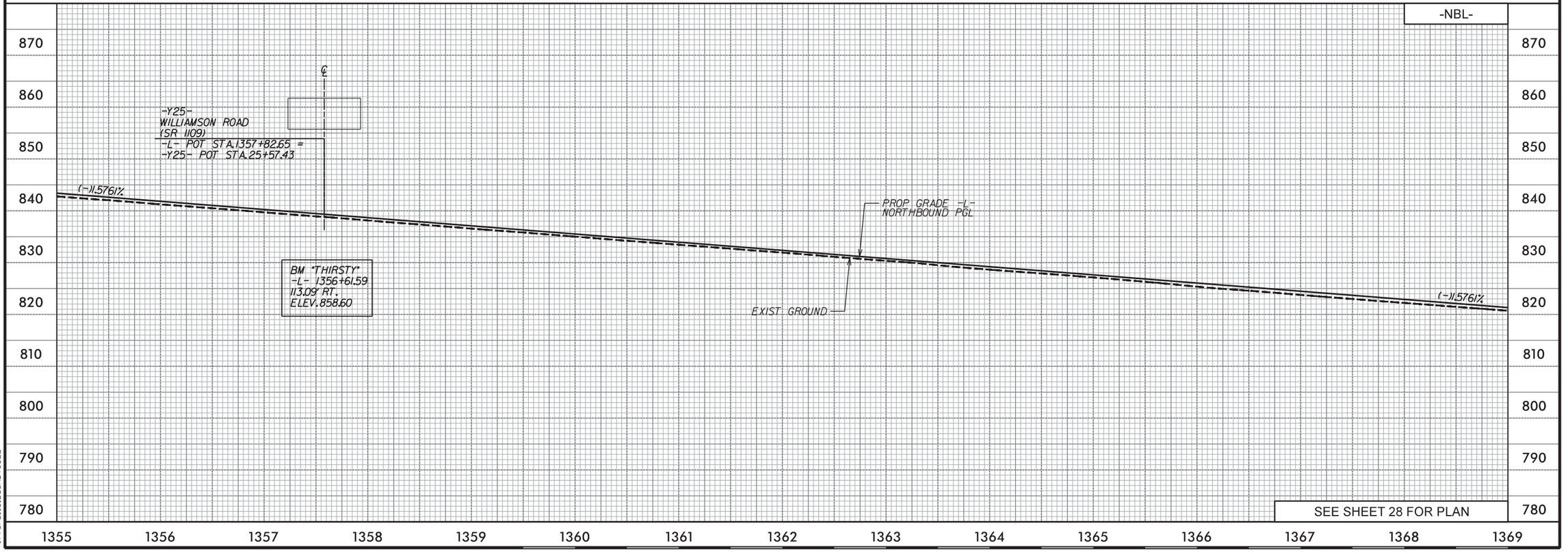
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:16:08 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	70

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

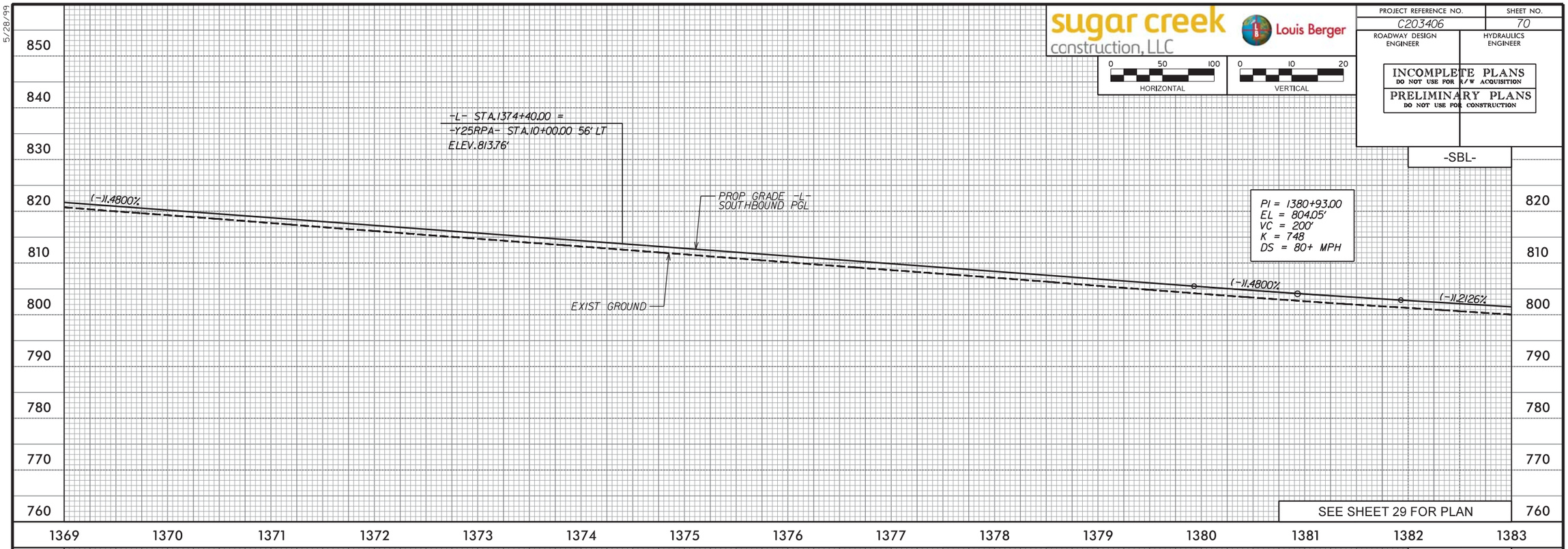
HORIZONTAL 0 50 100

VERTICAL 0 10 20

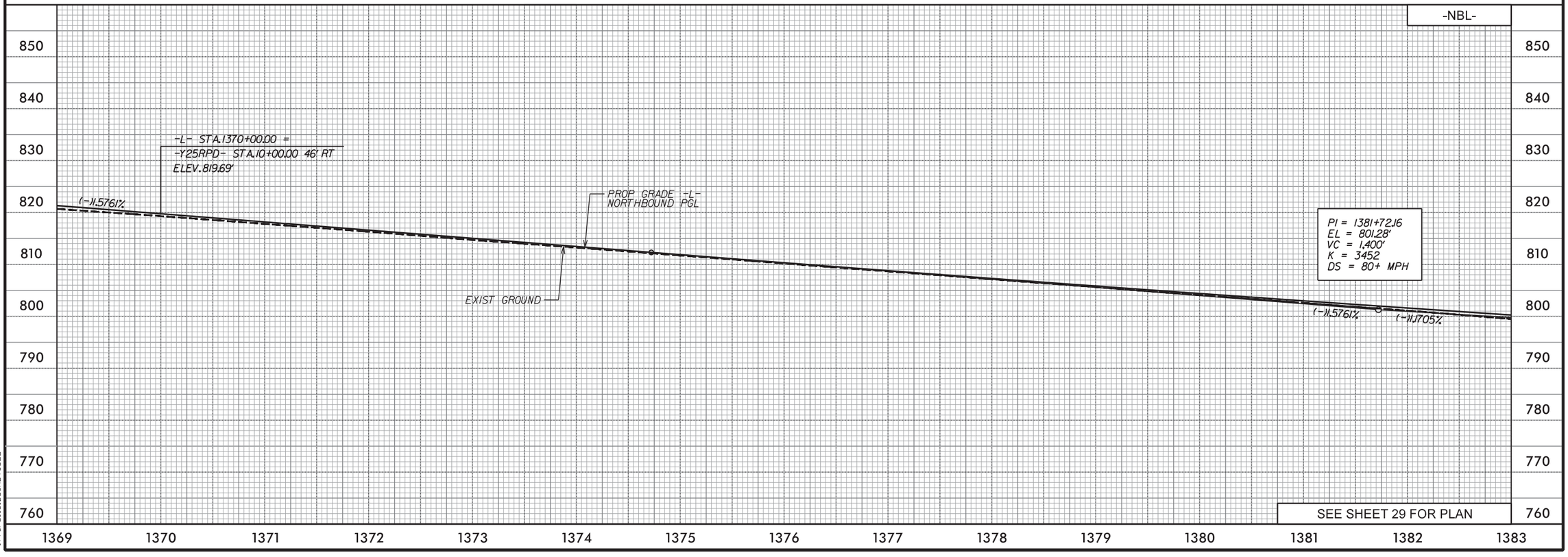
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:16:11 PM
$FILE$
177-Fullsize_RDY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	71

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

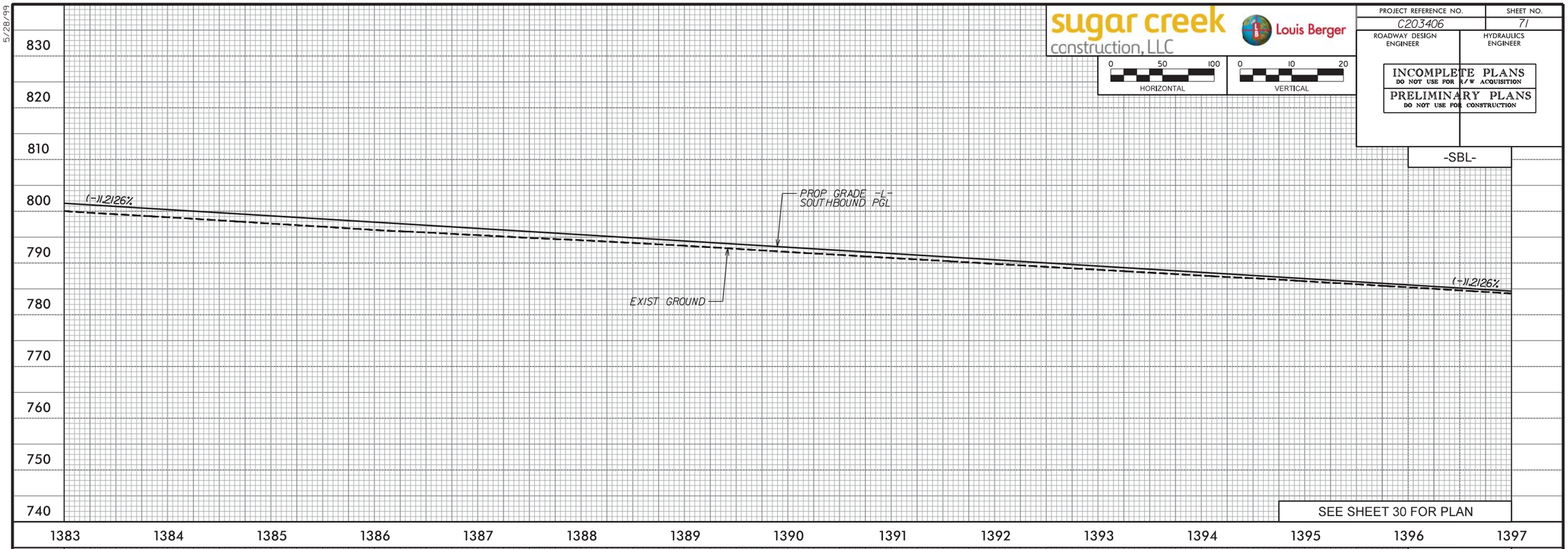
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

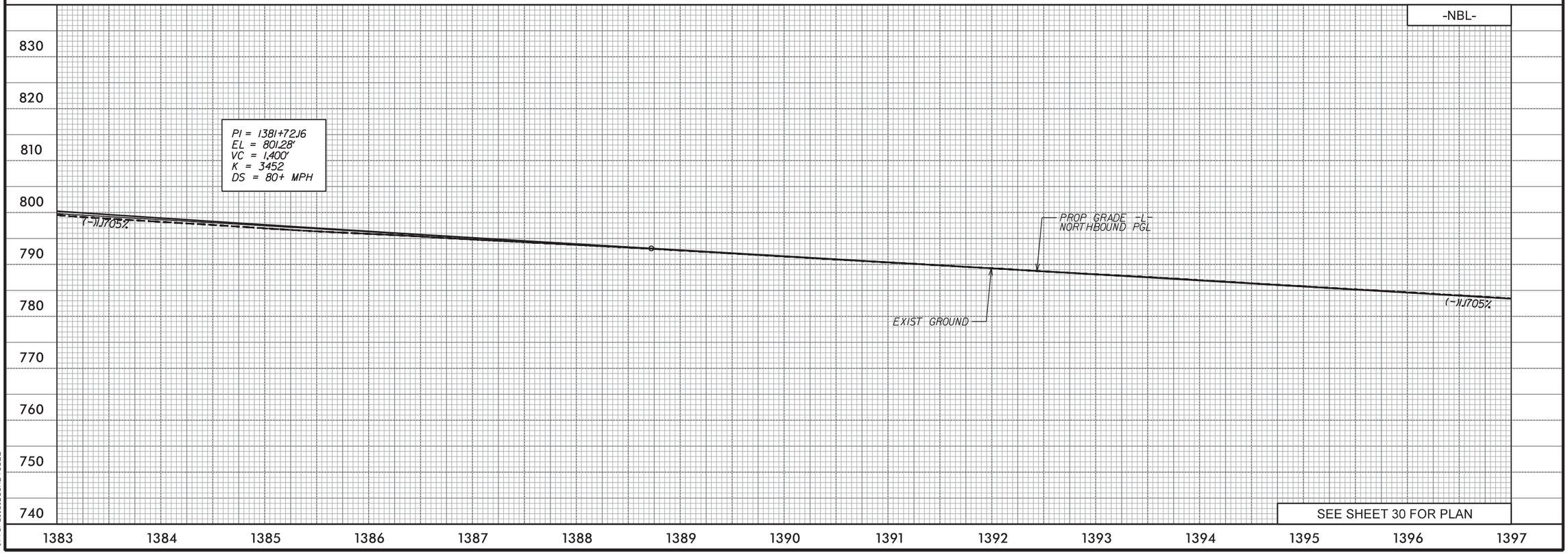
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



SEE SHEET 30 FOR PLAN

-NBL-



SEE SHEET 30 FOR PLAN

8/14/2015 4:16:15 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	72
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

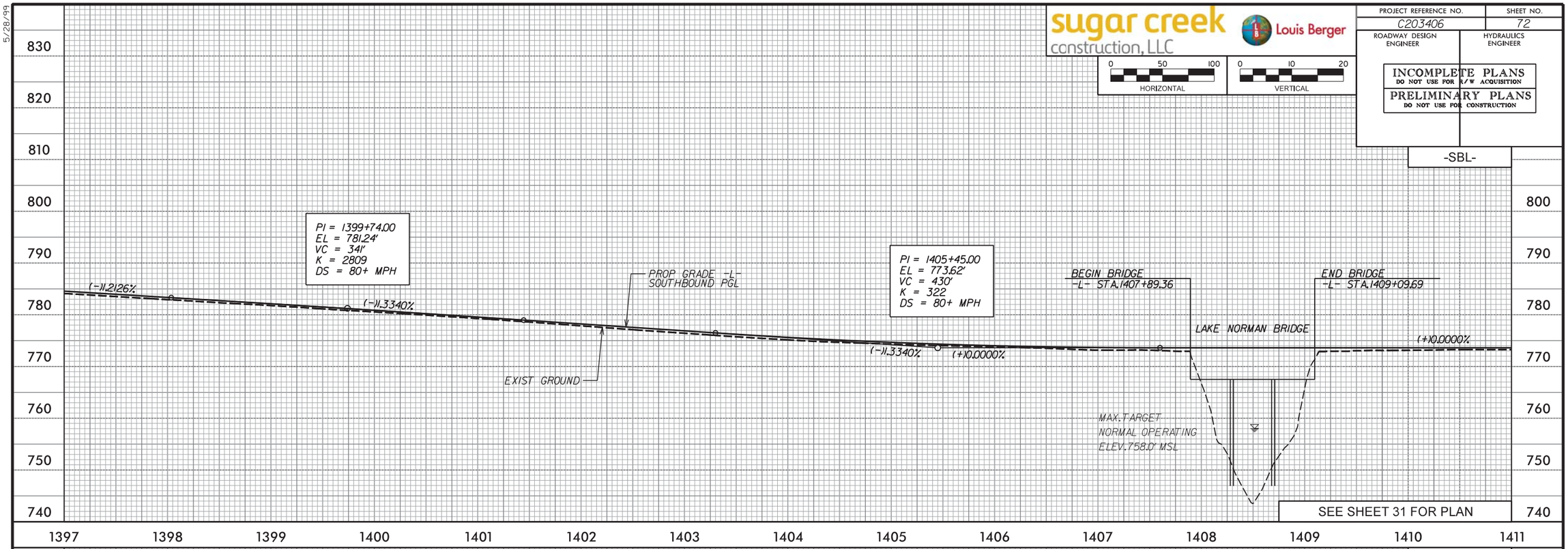
0 50 100 HORIZONTAL

0 10 20 VERTICAL

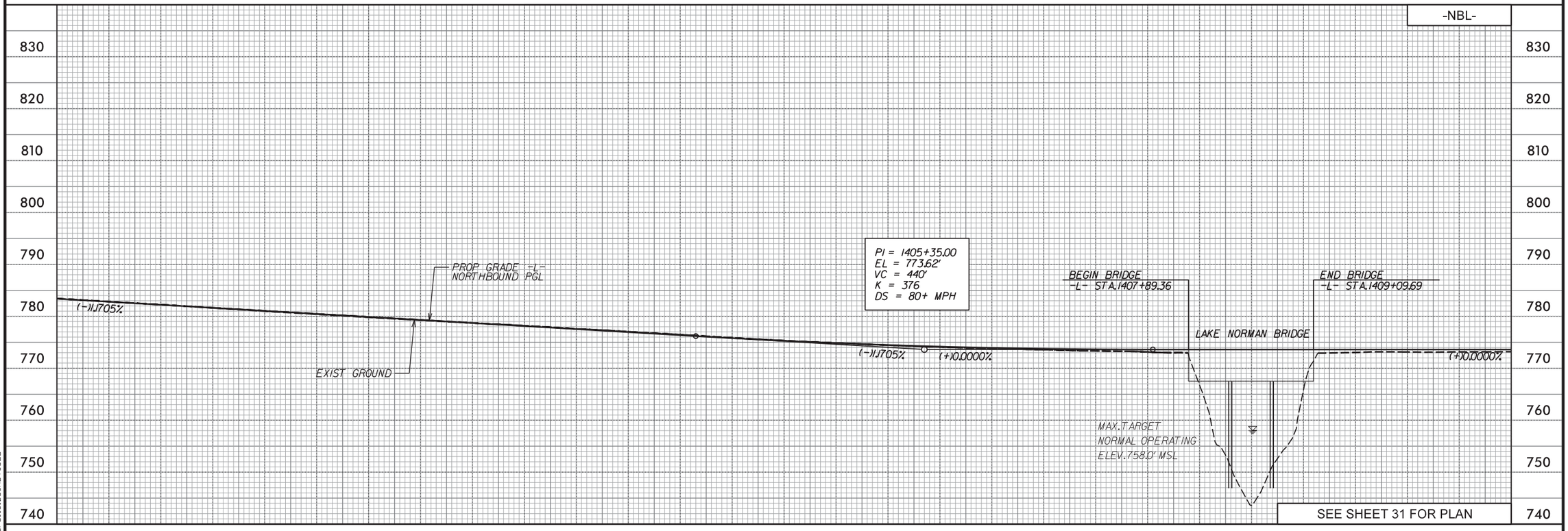
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:16:19 PM
$FILE$
177-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	73

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1423+42.00
EL = 773.62'
VC = 820'
K = 420
DS = 80+ MPH

PROP GRADE -L-
SOUTHBOUND PGL

(+)0.0000%

(+)1.9514%

EXIST GROUND

SEE SHEET 32 FOR PLAN

720 730 740 750 760 770 780 790 800 810

1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425

-NBL-

PI = 1423+53.78
EL = 773.62'
VC = 700'
K = 346
DS = 80+ MPH

PROP GRADE -L-
NORTHBOUND PGL

(+)0.0000%

(+)2.0237%

EXIST GROUND

SEE SHEET 32 FOR PLAN

720 730 740 750 760 770 780 790 800 810

1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425

8/14/2015 4:16:22 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	74

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1423+42.00
EL = 773.62'
VC = 820'
K = 420
DS = 80+ MPH

PROP GRADE -L-
SOUTHBOUND PGL

EXIST GROUND

(+)1.95147%

(+)1.95147%

-L- STA.1437+74.49 =
-Y26RPB- STA.10+00.00 51' LT
ELEV.801.61'

BM "R3833C_BY22-77"
-L- 1433+06.25
391.90' LT.
ELEV.827.49

SEE SHEET 33 FOR PLAN

-NBL-

PI = 1423+53.78
EL = 773.62'
VC = 700'
K = 346
DS = 80+ MPH

PROP GRADE -L-
NORTHBOUND PGL

EXIST GROUND

(+)2.02377%

(+)2.02377%

-L- STA.1438+00.00 =
-Y26RPC- STA.10+00.00 51' RT
ELEV.802.85'

SEE SHEET 33 FOR PLAN

740 750 760 770 780 790 800 810 820 830

1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439

8/14/2015 4:16:26 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	75
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

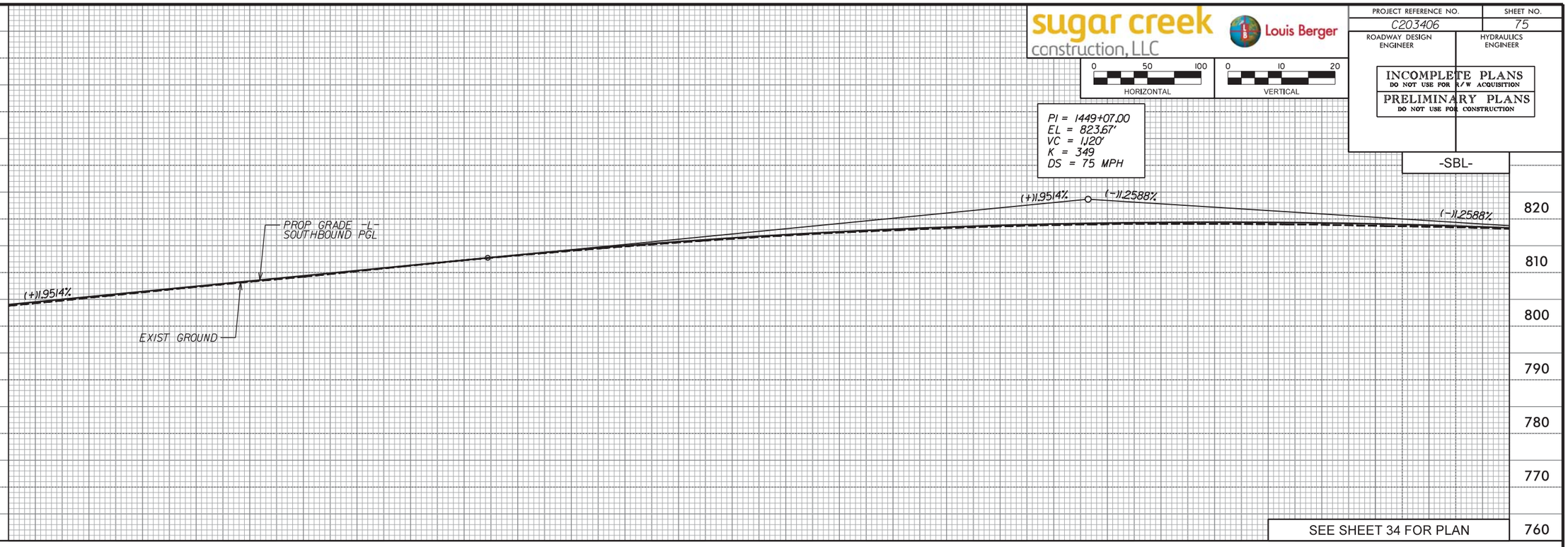
0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

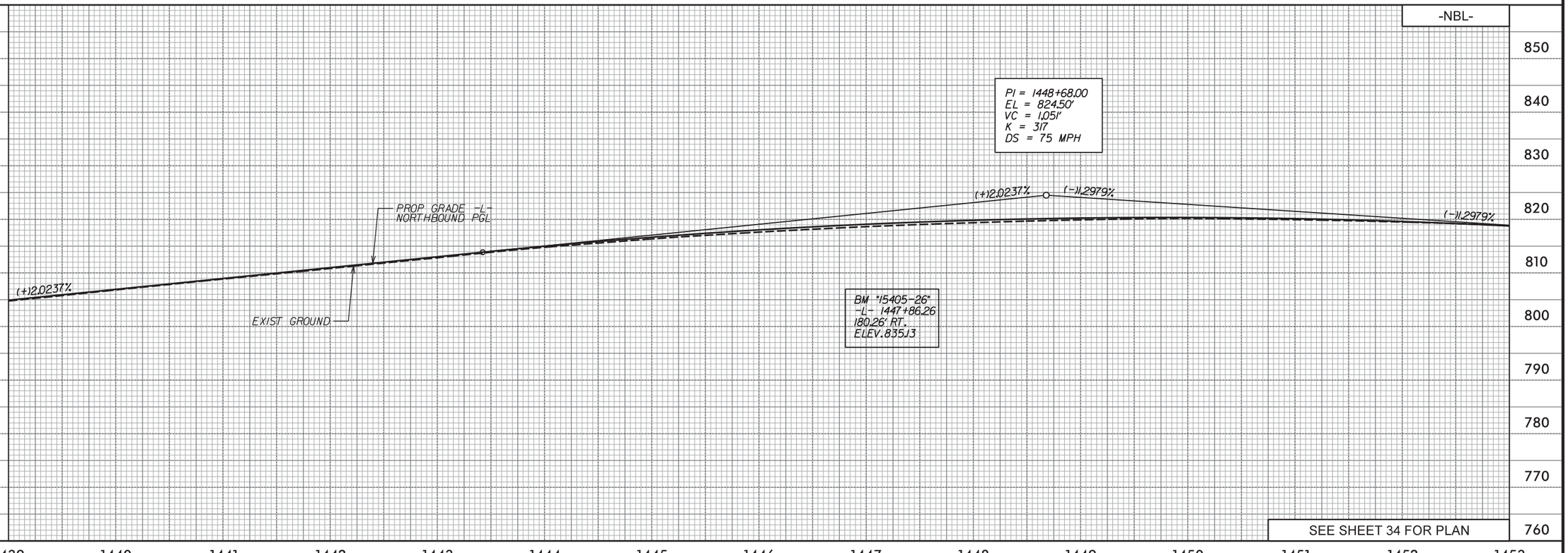
PI = 1449+07.00
EL = 823.67'
VC = 1,120'
K = 349
DS = 75 MPH



-NBL-

PI = 1448+68.00
EL = 824.50'
VC = 1,051'
K = 317
DS = 75 MPH

BM "15405-26"
-L- 1447+86.26
180.26' RT.
ELEV. 835.13



8/14/2015 4:16:29 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	76

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

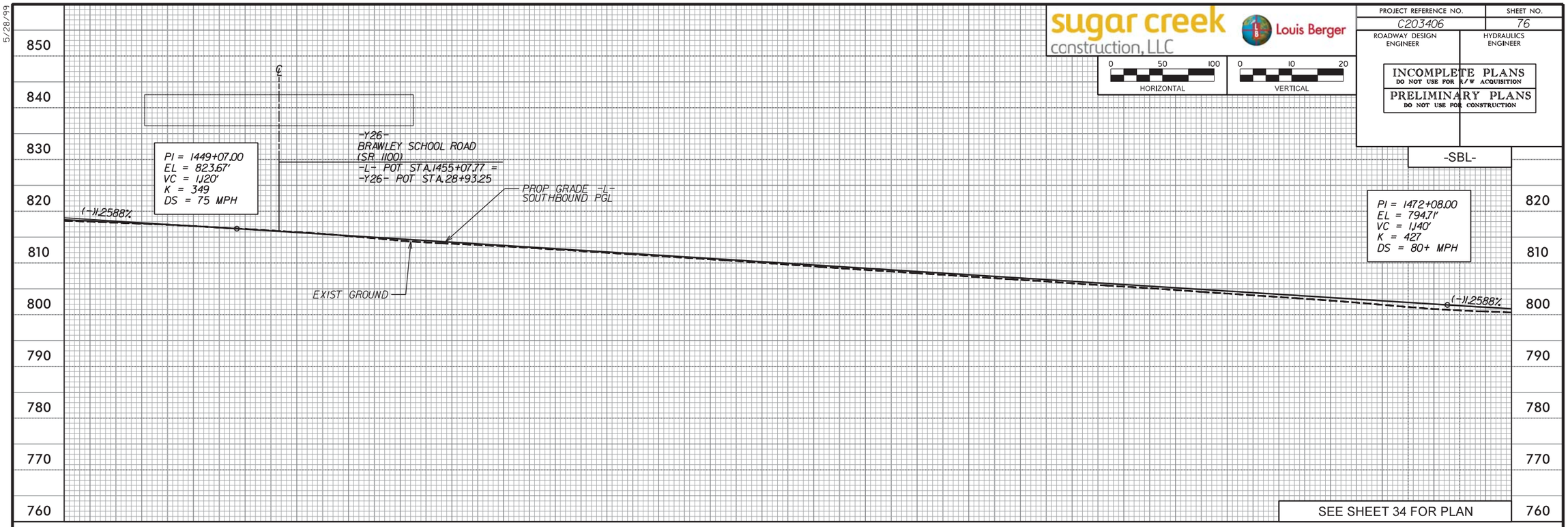
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

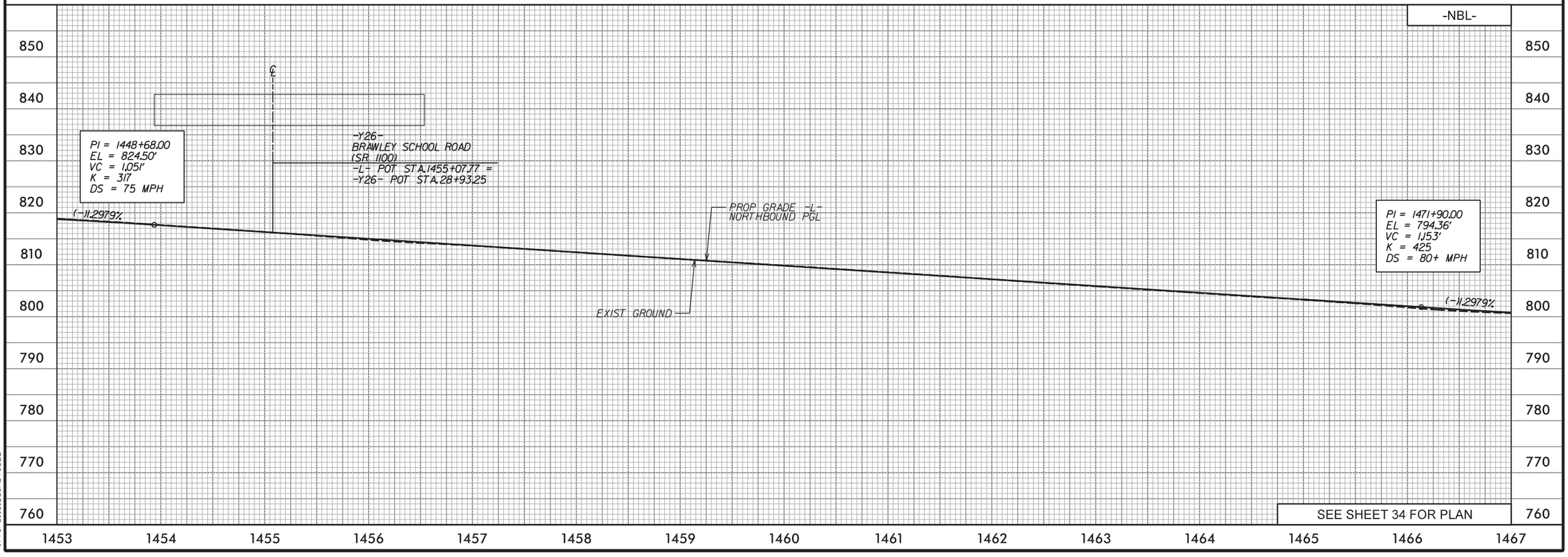
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



SEE SHEET 34 FOR PLAN

-NBL-



SEE SHEET 34 FOR PLAN

8/14/2015 4:16:33 PM
$FILE$s
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	77

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

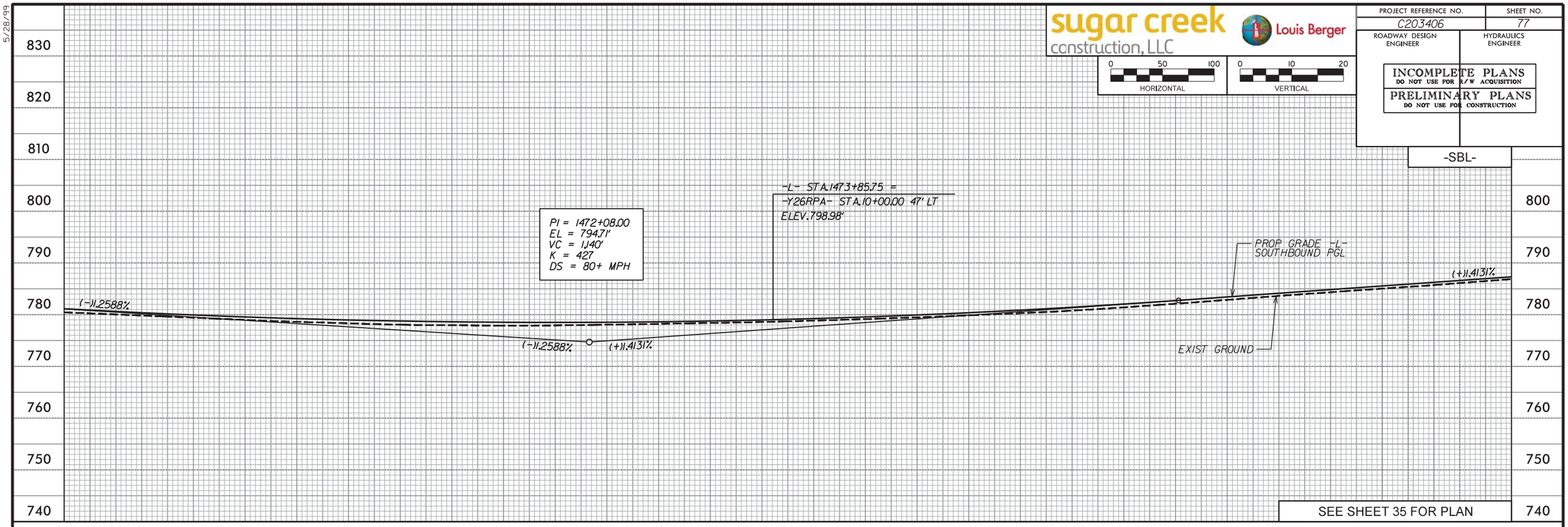
HORIZONTAL 0 50 100

VERTICAL 0 10 20

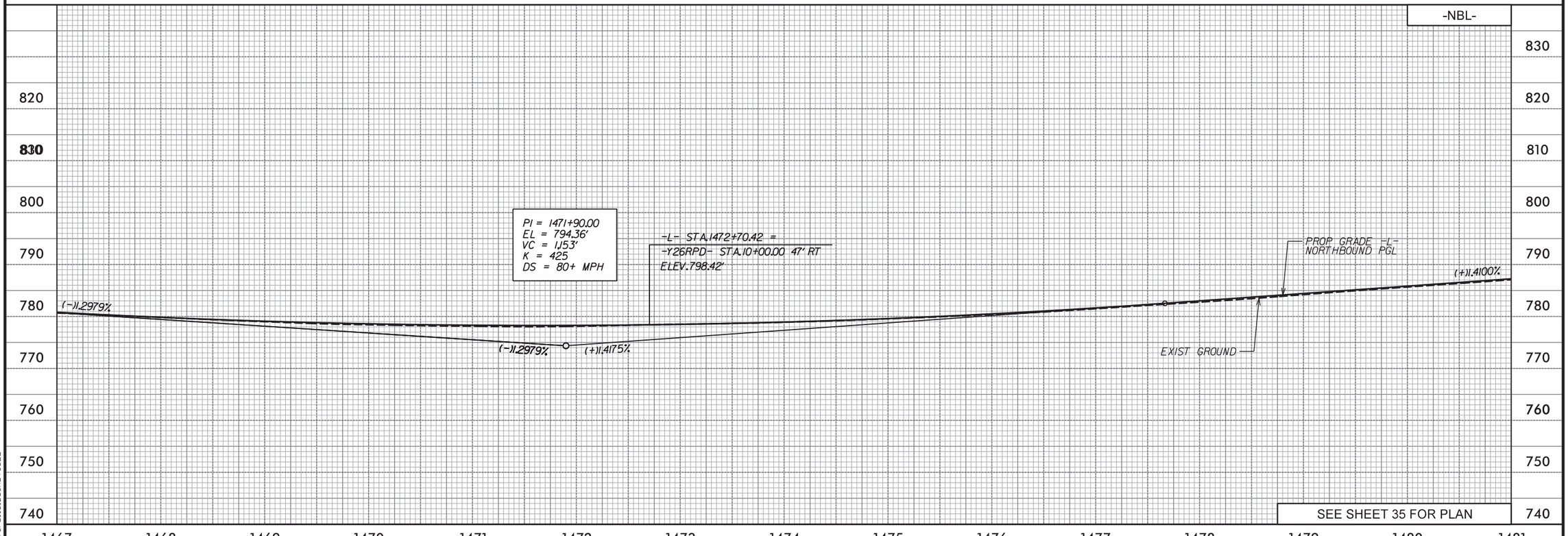
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:16:36 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	78

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

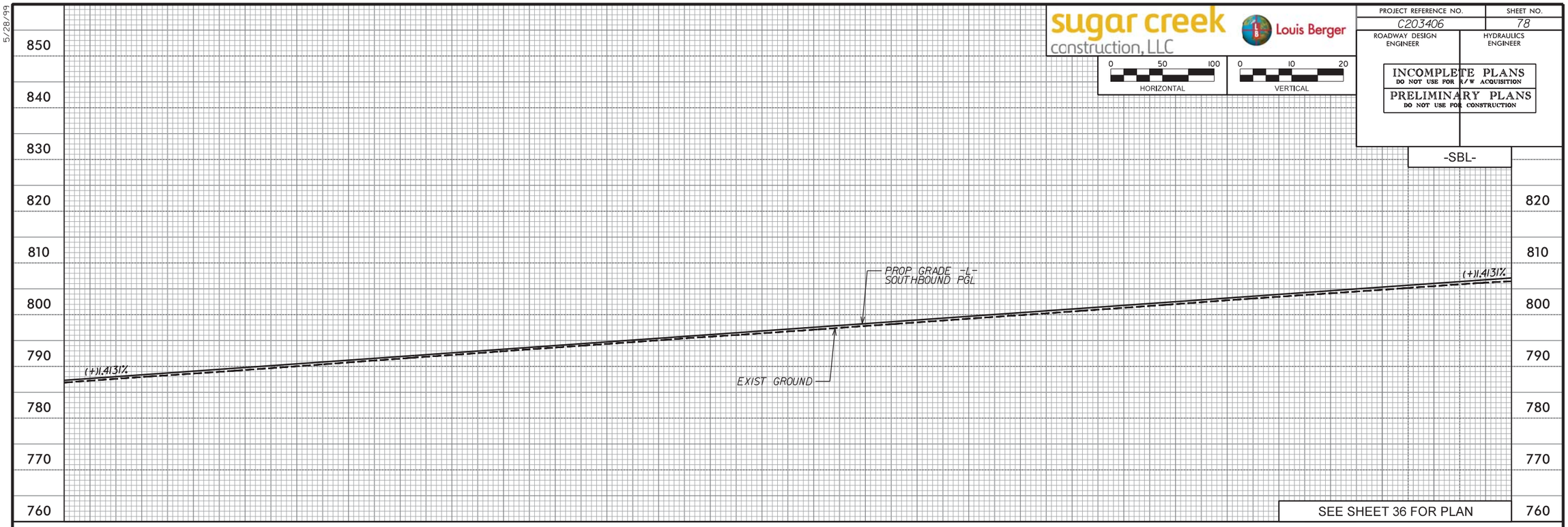
0 50 100 HORIZONTAL

0 10 20 VERTICAL

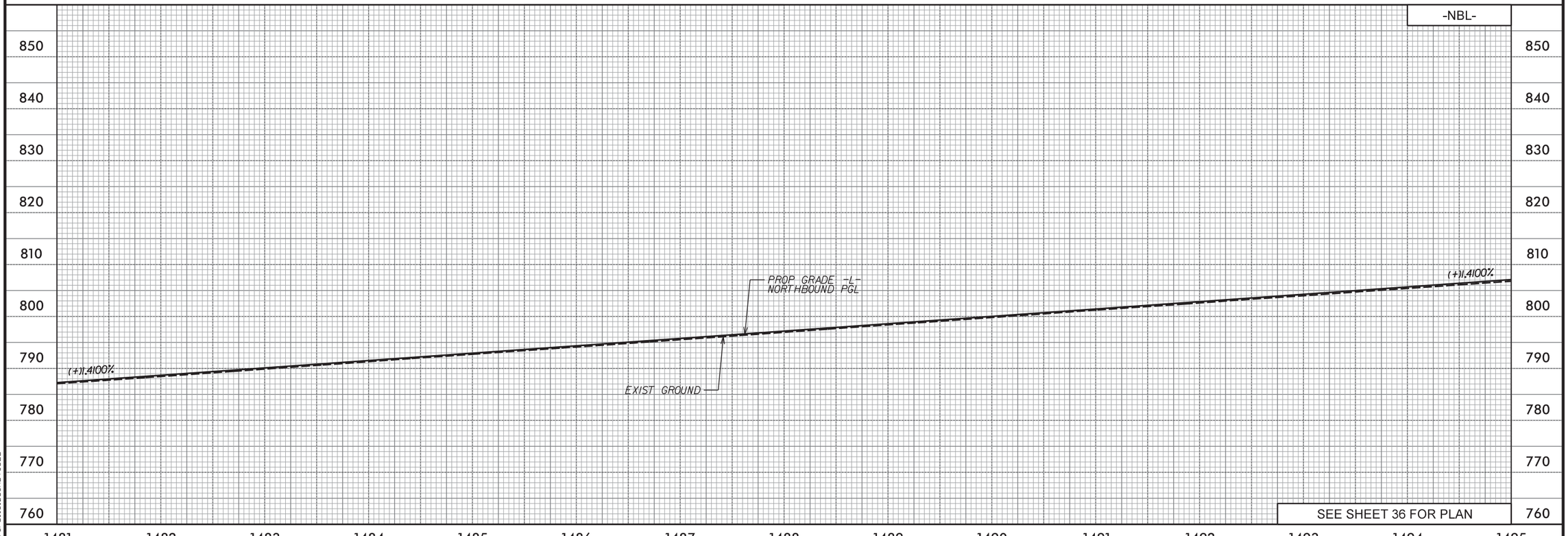
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:16:40 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	79

ROADWAY DESIGN ENGINEER

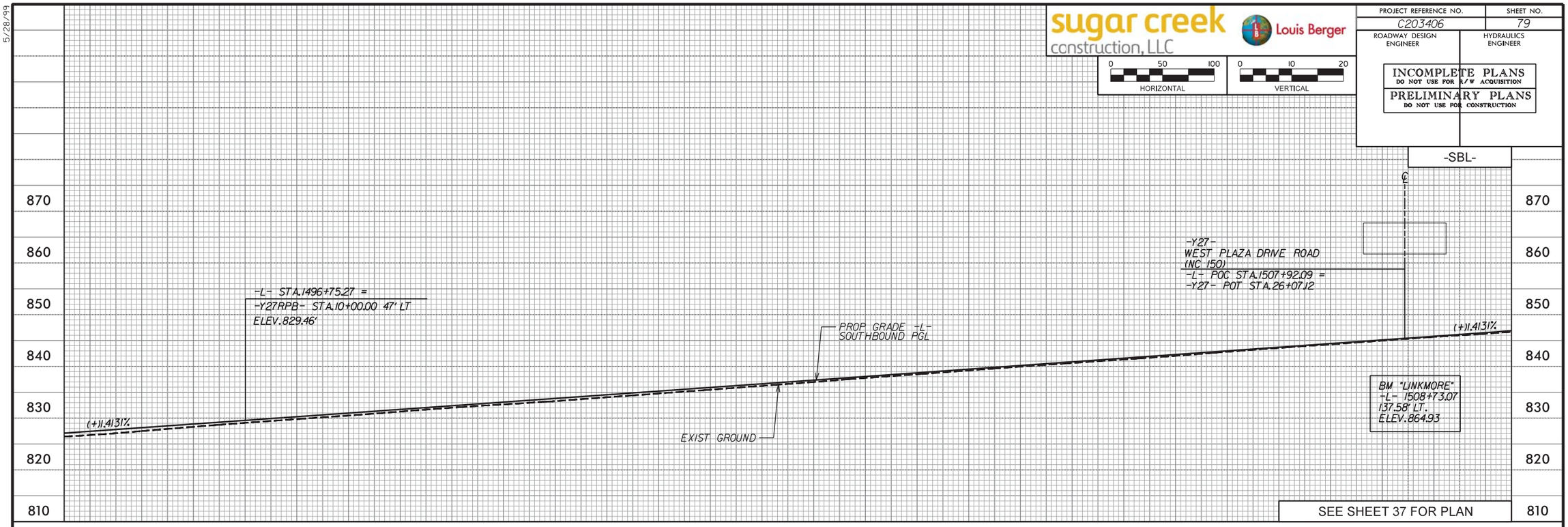
HYDRAULICS ENGINEER

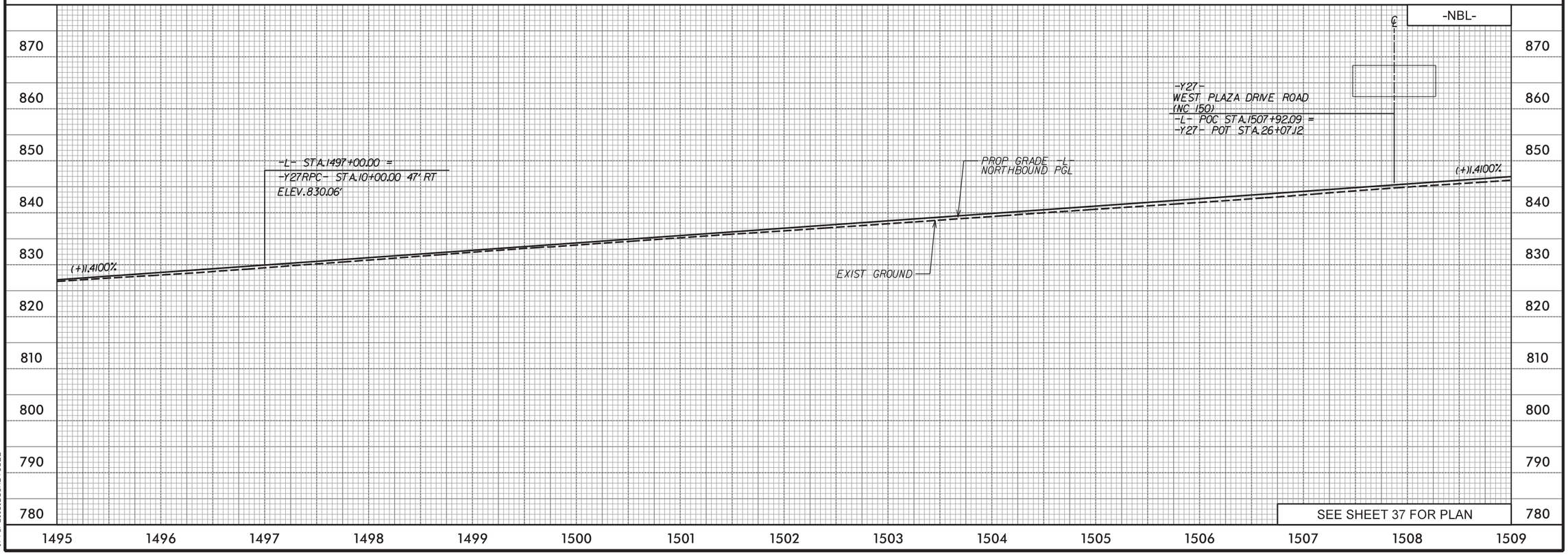
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION





8/14/2015 4:16:43 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	80

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

-L- STA.1518+00.00 =
-Y27RPA- STA.10+00.00 47' LT
ELEV.855.18'

PI = 1519+09.72
EL = 861.15'
VC = 1,600'
K = 540
DS = 80+ MPH

(+)1.4131%

(-)1.5500%

PROP GRADE -L-
SOUTHBOUND PGL

EXIST GROUND

SEE SHEET 37 FOR PLAN

-NBL-

PI = 1519+52.00
EL = 861.67'
VC = 1,950'
K = 674
DS = 80+ MPH

-L- STA.1520+53.31 =
-Y27RPD- STA.10+00.00 47' RT
ELEV.853.98'

(+)1.4100%

(+)1.4175%

(-)1.7200%

PROP GRADE -L-
NORTHBOUND PGL

EXIST GROUND

SEE SHEET 37 FOR PLAN

800 810 820 830 840 850 860 870 880 890

1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523

8/14/2015 4:16:47 PM
$FILE$
177-Fullsize_RDY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	81
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-

PI = 1519+09.72
EL = 861.15'
VC = 1,600'
K = 540
DS = 80+ MPH

(-)11.5500%

PROP GRADE -L-
SOUTHBOUND PGL

EXIST GROUND

-L- STA.1529+00.00
PROP.ELEV.845.44 35' LT.
PROP.ELEV.845.80 23' LT.

PI = 1532+25.00
EL = 840.40'
VC = 620'
K = 3181
DS = 80+ MPH

(-)11.5500%

(-)11.7449%

(-)11.7449%

SEE SHEET 38 FOR PLAN

890 880 870 860 850 840 830 820 810 800

1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537

-NBL-

PI = 1519+52.00
EL = 861.67'
VC = 1,950'
K = 674
DS = 80+ MPH

(-)11.7200%

-L- STA.1529+00.00
PROP.ELEV.845.56 23' RT.
PROP.ELEV.845.80 11' RT.

PROP GRADE -L-
NORTHBOUND PGL

(-)11.7200%

EXIST GROUND

SEE SHEET 38 FOR PLAN

890 880 870 860 850 840 830 820 810 800

1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537

8/14/2015 4:16:51 PM
$FILE$
177-Fullsize_RDY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	82

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

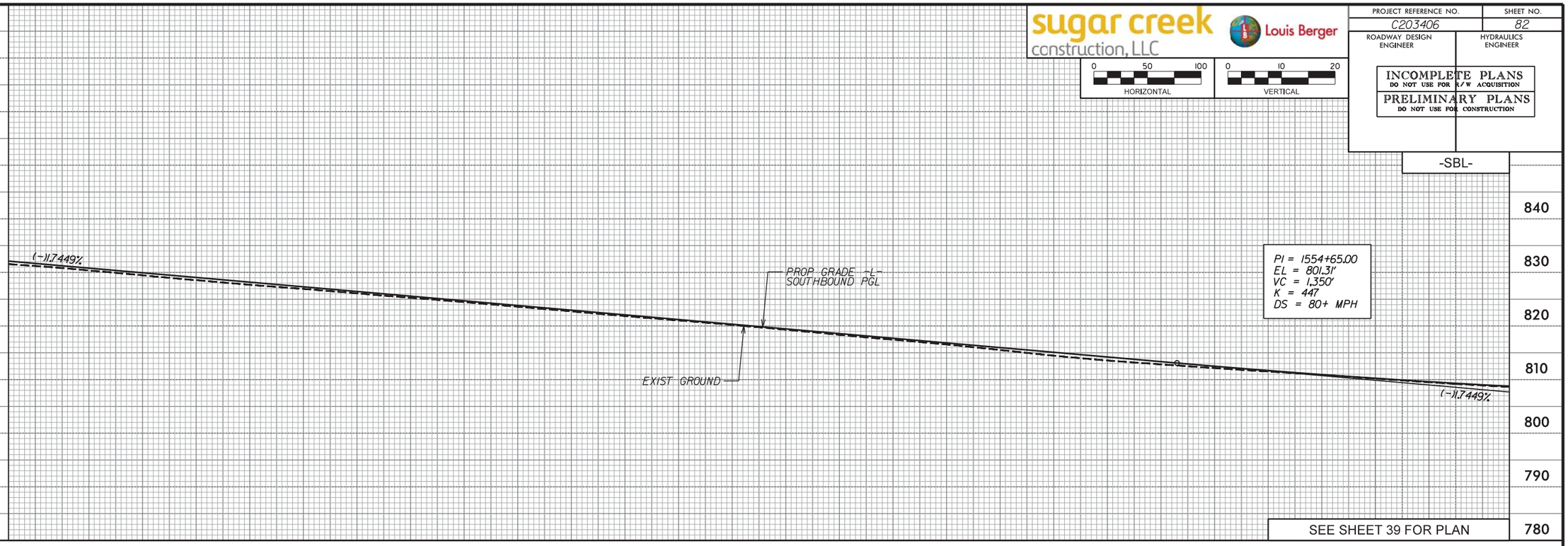
0 50 100 HORIZONTAL

0 10 20 VERTICAL

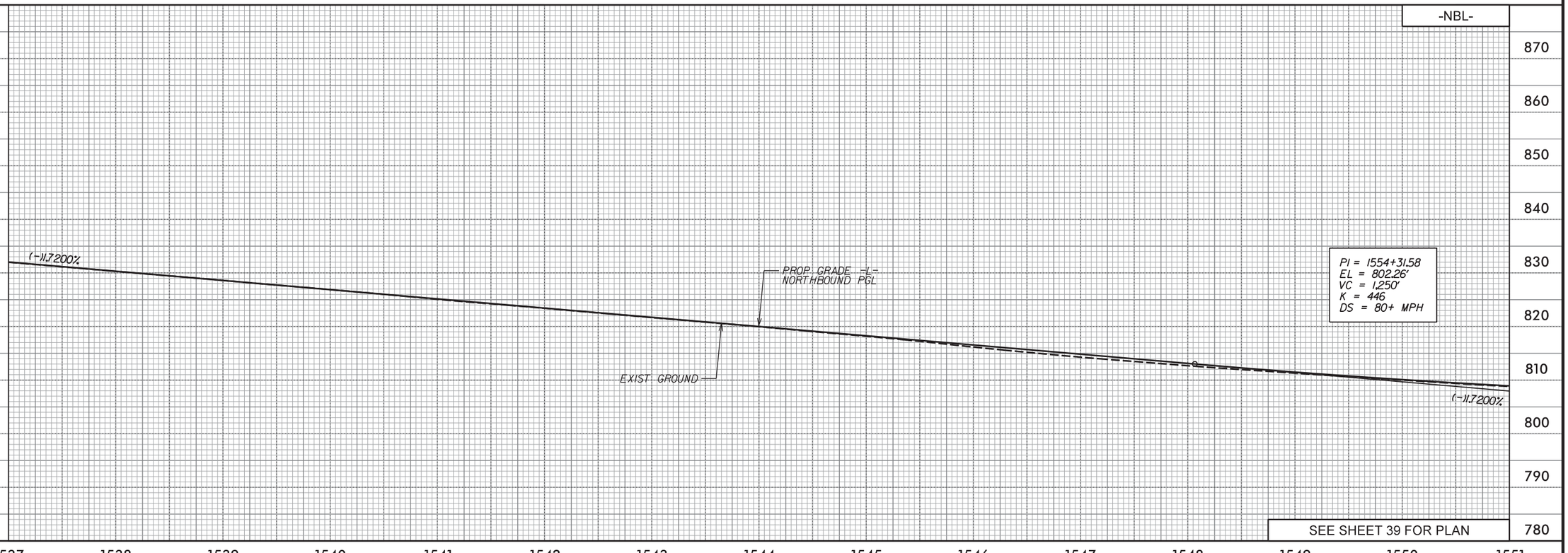
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



-NBL-



8/14/2015 4:16:54 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	83
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

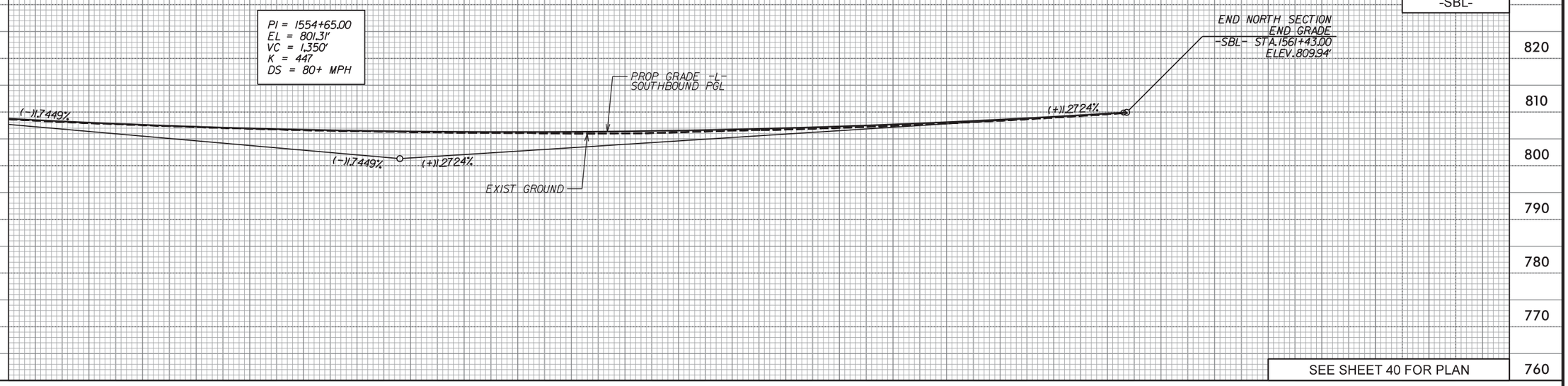
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

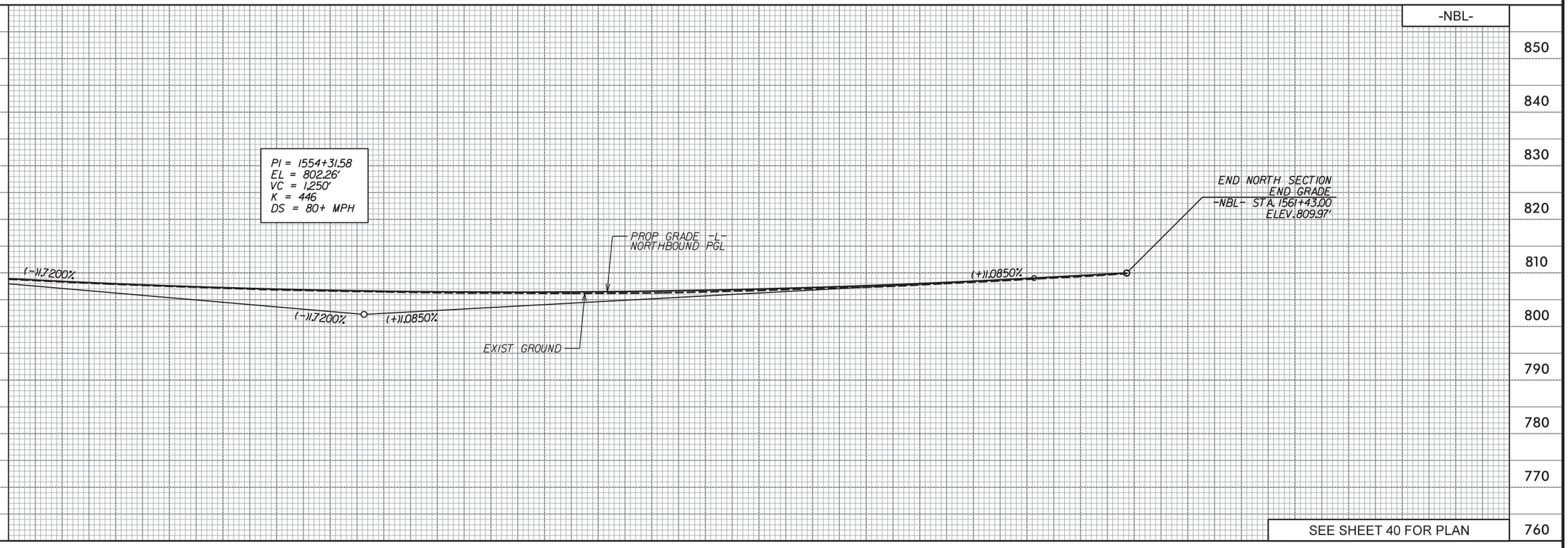
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-SBL-



SEE SHEET 40 FOR PLAN

-NBL-



SEE SHEET 40 FOR PLAN

8/14/2015 4:16:58 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	86

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

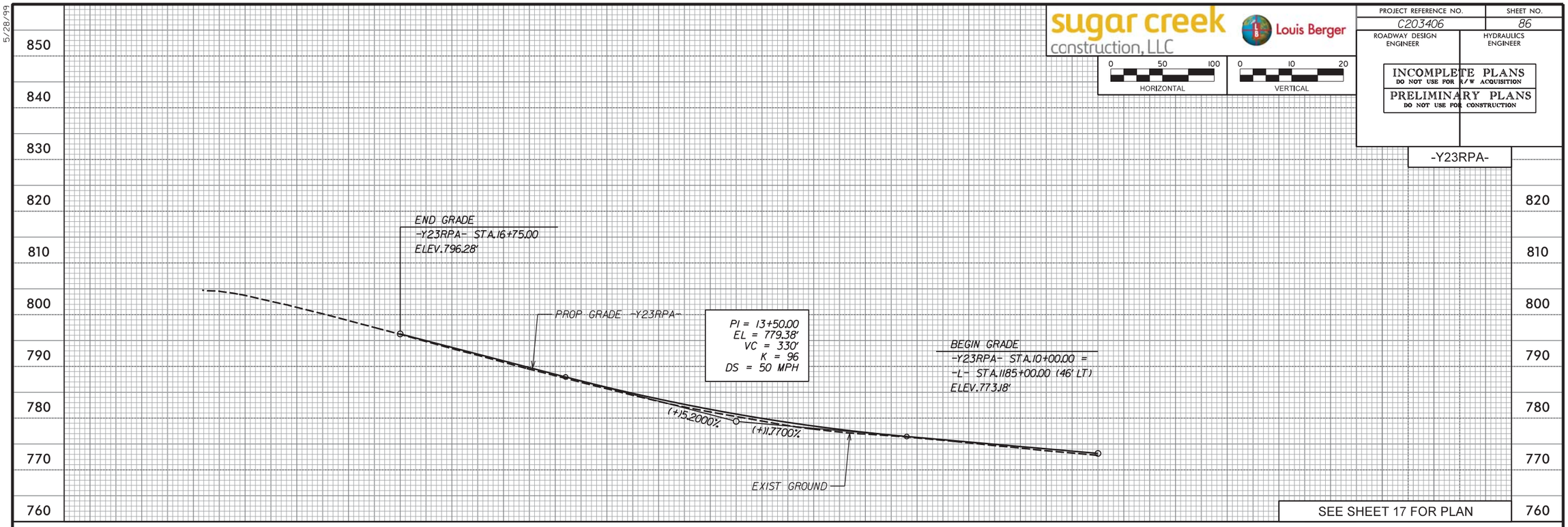
0 50 100 HORIZONTAL

0 10 20 VERTICAL

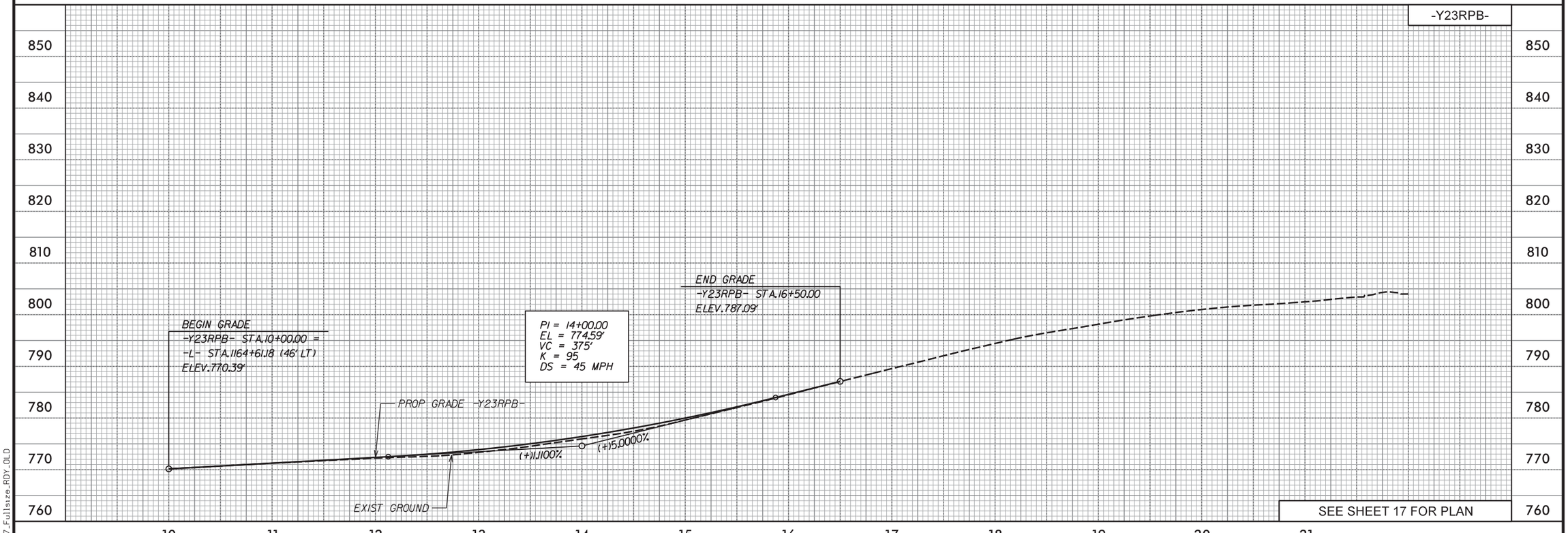
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y23RPA-



-Y23RPB-



8/14/2015 4:17:01 PM
$FILE$
177-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	87

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

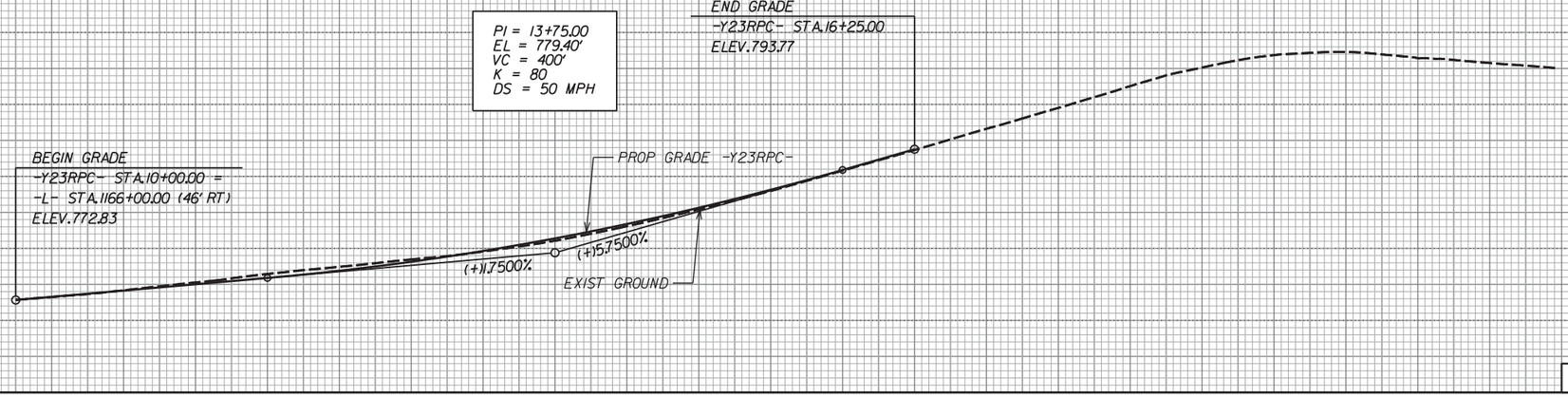
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

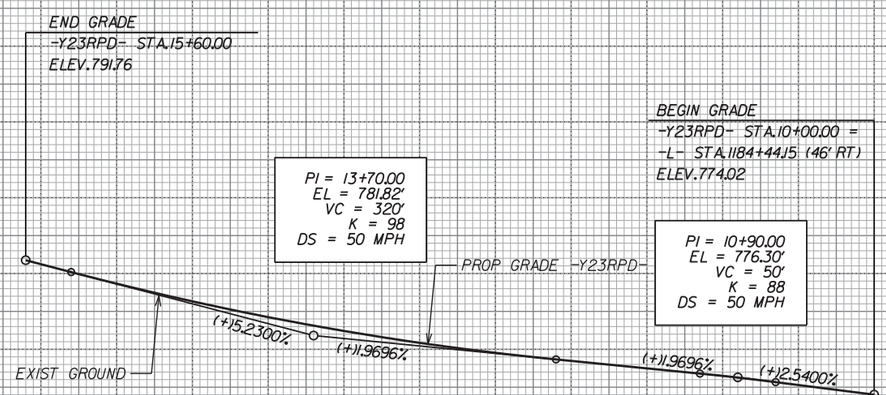
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y23RPC-



SEE SHEET 17 FOR PLAN

-Y23RPD-



SEE SHEET 17 FOR PLAN

8/14/2015 4:17:05 PM
$FILE$
177-Fullsize-ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	88

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

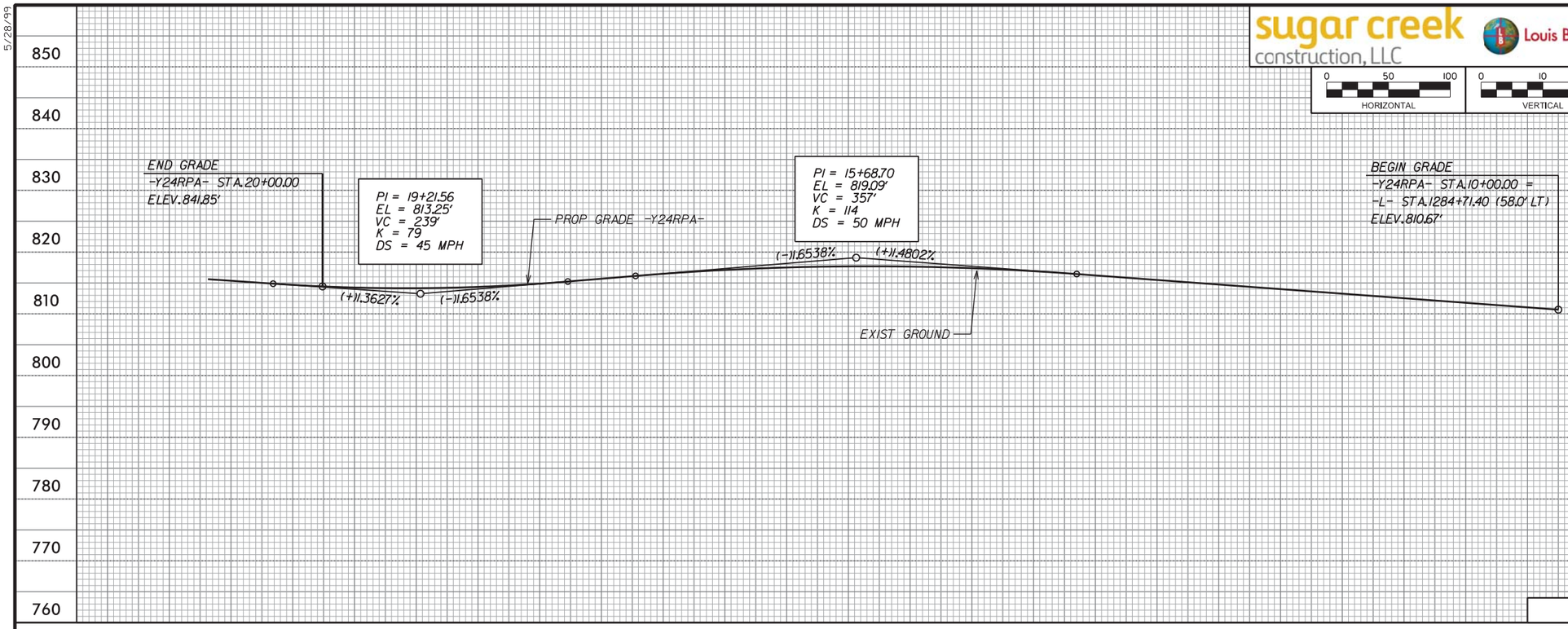
HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

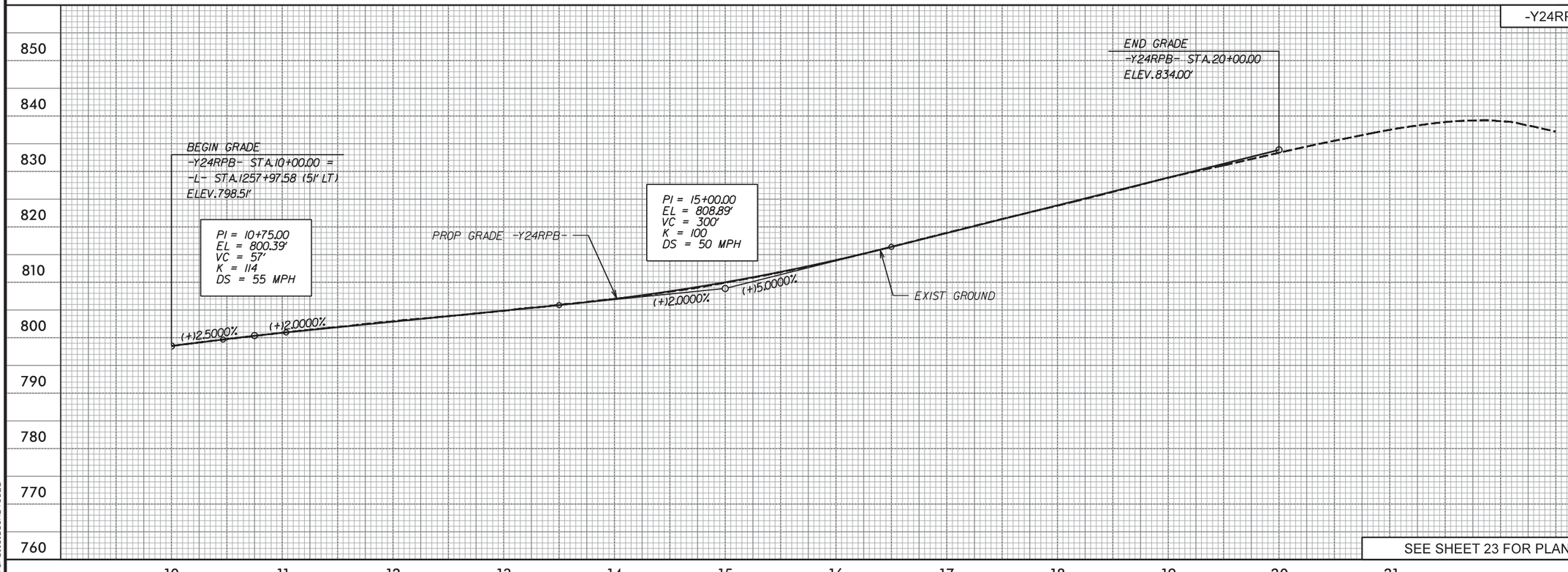
-Y24RPA-



SEE SHEET 23 FOR PLAN

20 19 18 17 16 15 14 13 12 11 10

-Y24RPB-



SEE SHEET 23 FOR PLAN

10 11 12 13 14 15 16 17 18 19 20 21

8/14/2015 4:17:09 PM
$FILE$
177-Fullsize-RDY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	89

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

0 50 100 HORIZONTAL

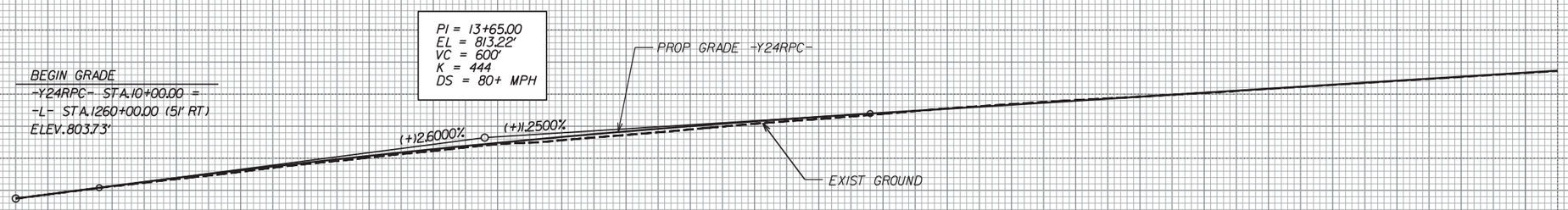
0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

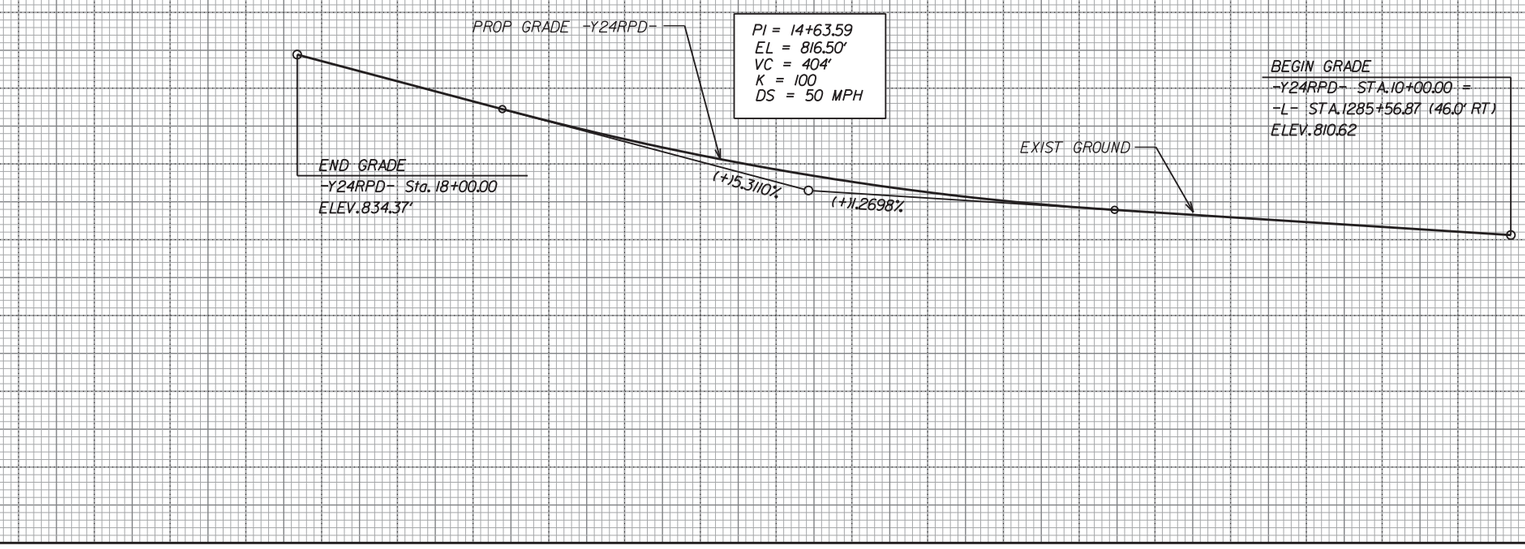
END GR
-Y24RP
ELEV.82

-Y24RPC-



SEE SHEET 23 FOR PLAN

-Y24RPD-



SEE SHEET 23 FOR PLAN

8/14/2015 4:17:12 PM
$FILE$
177-Fullsize-ROY-OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	90

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y25RPA-

END GRADE
-Y25RPA- STA.22+00.00
ELEV.845.37'

PI = 20+40.33
EL = 843.22'
VC = 325'
K = 93
DS = 50 MPH

(+)1.3459%

(+)4.8487%

EXIST GROUND

PROP GRADE -Y25RPA-

PI = 15+31.33
EL = 818.54'
VC = 400'
K = 106
DS = 50 MPH

(+)4.8487%

(+)1.0676%

PI = 11+91.33
EL = 814.91'
VC = 100'
K = 350
DS = 75 MPH

(+)1.0676%

(+)1.3537%

BEGIN GRADE
-Y25RPA- STA.10+00.00 =
-L- STA.1374+40.00 (56.0' LT)
ELEV.812.32

SEE SHEET 28 FOR PLAN

780 790 800 810 820 830 840 850 860 870

24 23 22 21 20 19 18 17 16 15 14 13 12 11 10

-Y25RPB-

BEGIN GRADE
-Y25RPB- STA.10+00.00 =
-L- STA.1347+68.27 (68' LT)
ELEV.848.50'

PI = 14+78.96
EL = 849.35'
VC = 180'
K = 52
DS = 35 MPH

(+)0.7600%

(+)4.2300%

EXIST GROUND

PROP GRADE -Y25RPB-

PI = 18+75.26
EL = 866.11'
VC = 320'
K = 49
DS = 40 MPH

(+)4.2300%

(-)2.2800%

END GRADE
-Y25RPB- STA.22+00.00
ELEV.858.34

SEE SHEET 28 FOR PLAN

800 810 820 830 840 850 860 870 880 890

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

8/14/2015 4:17:16 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	91

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

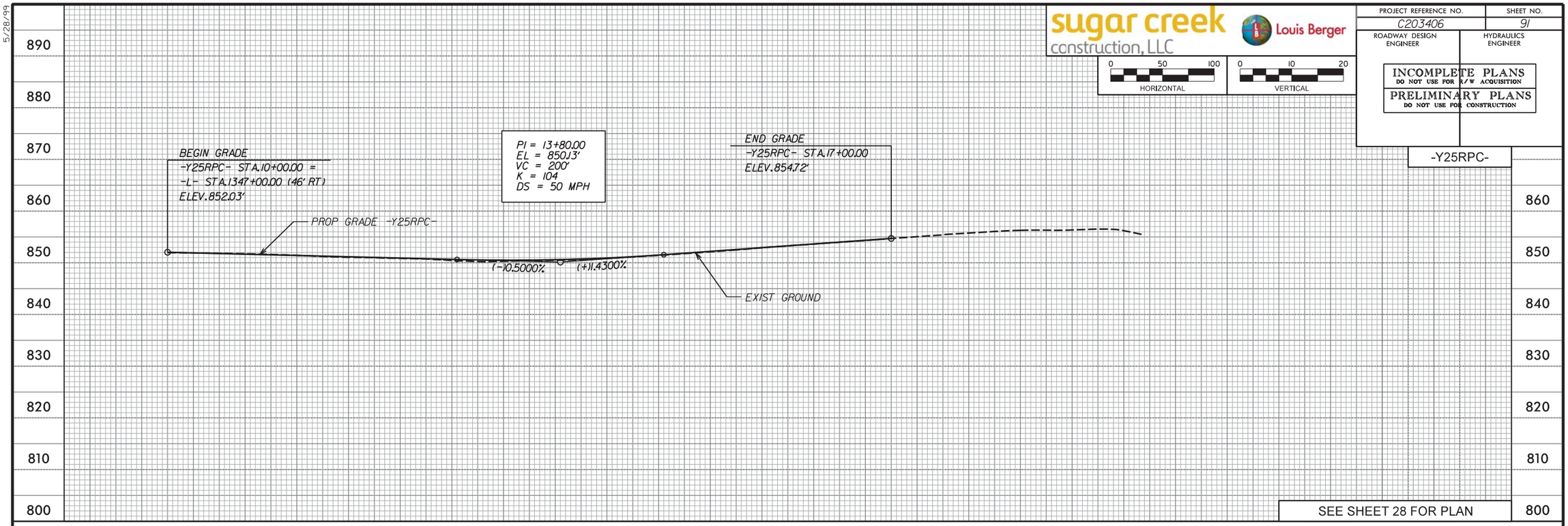
0 50 100 HORIZONTAL

0 10 20 VERTICAL

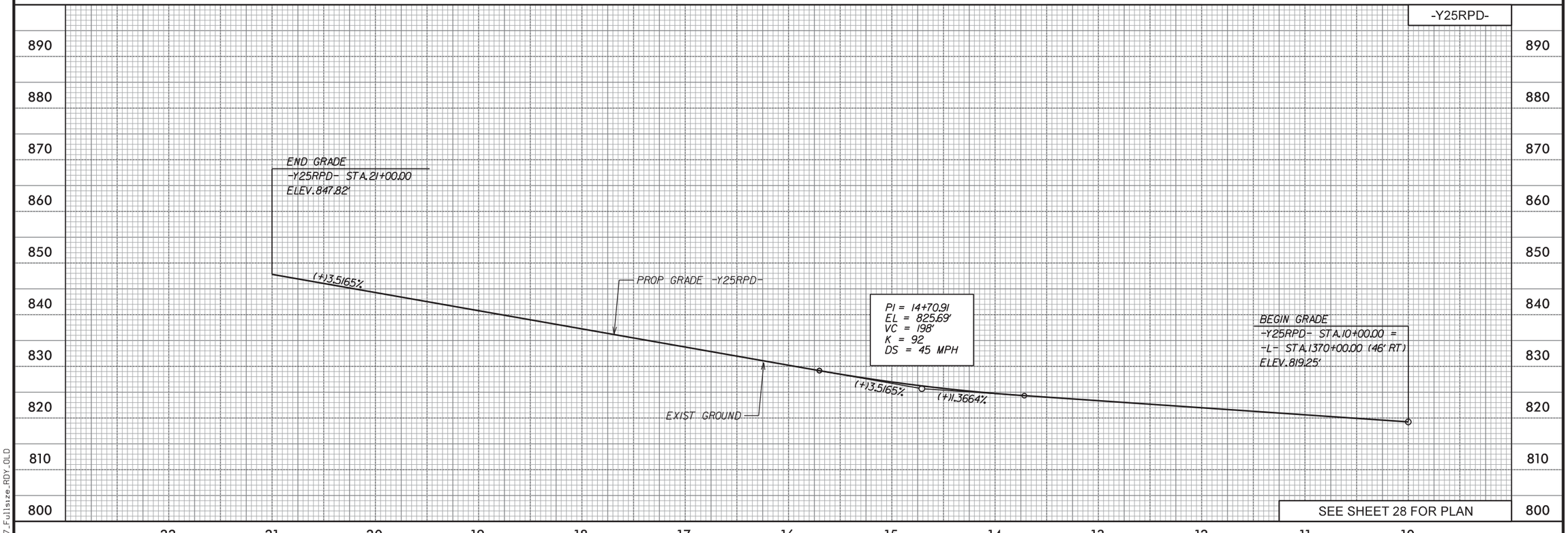
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y25RPC-



-Y25RPD-



8/14/2015 4:17:19 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	92

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

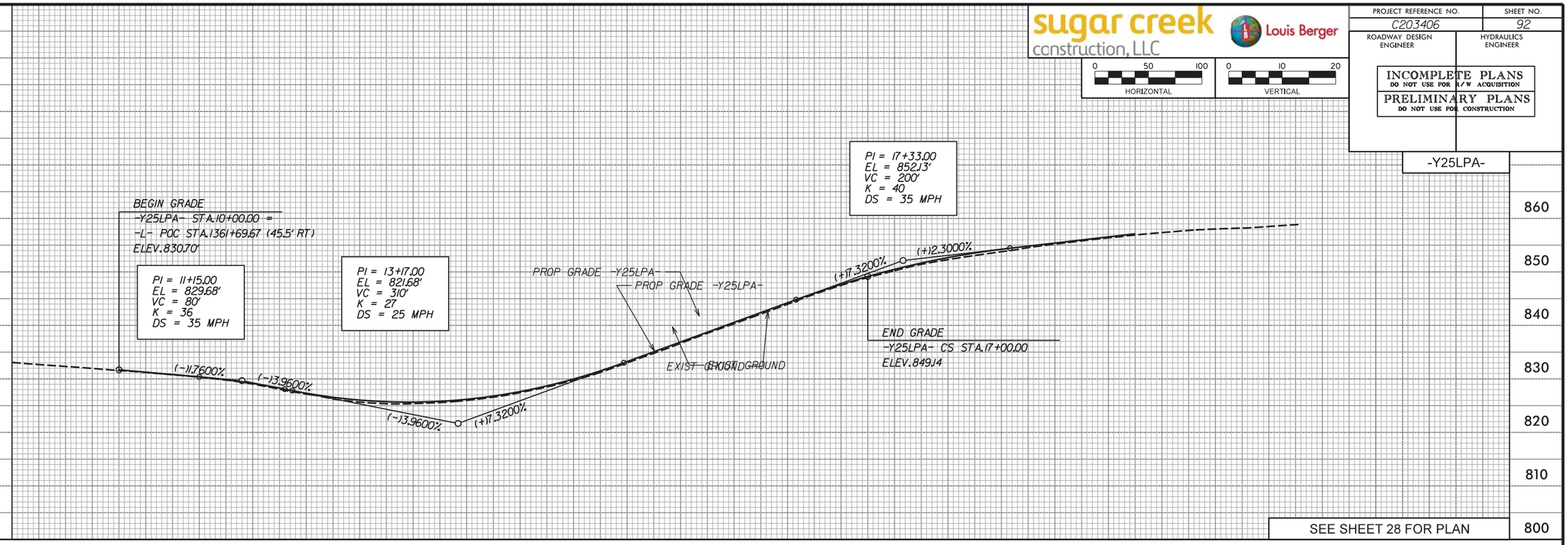
0 50 100 HORIZONTAL

0 10 20 VERTICAL

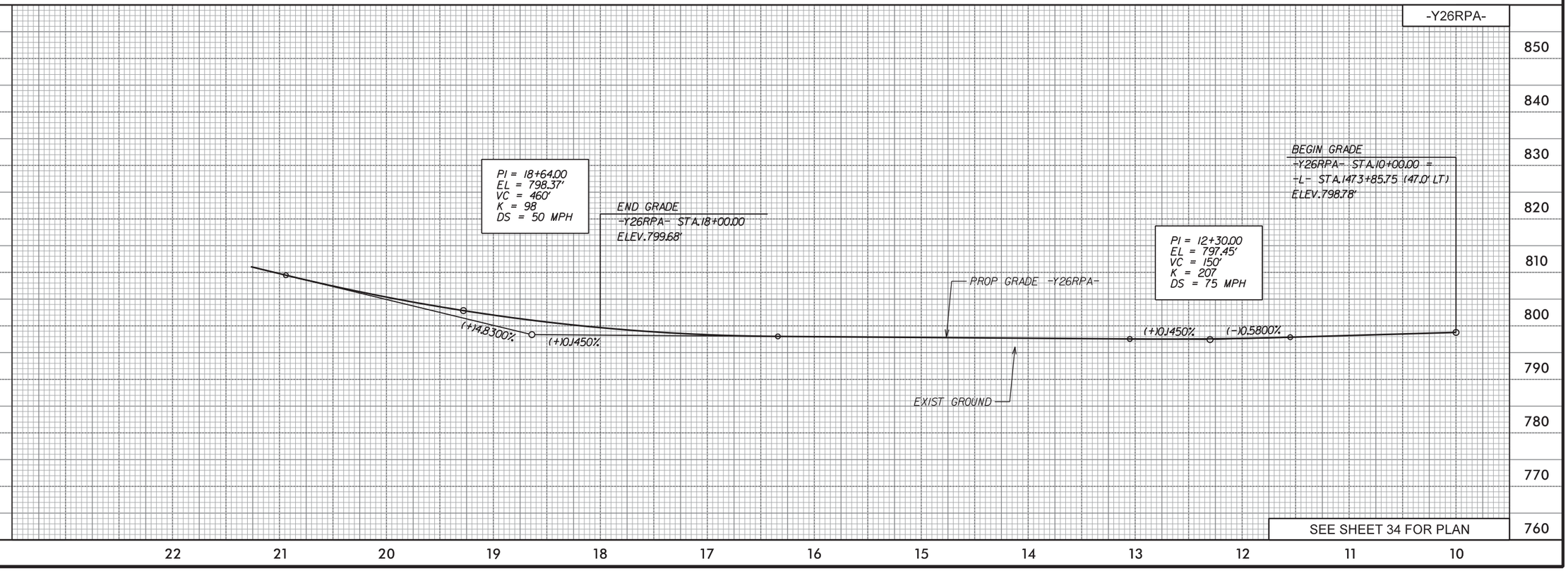
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y25LPA-



-Y26RPA-



8/14/2015 4:17:33 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	93

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

HORIZONTAL 0 50 100

VERTICAL 0 10 20

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y26RPB-

BEGIN GRADE
-Y26RPB- STA.10+00.00 =
-L- STA.1437+74.49 (51' LT)
ELEV.801.10'

PI = 17+75.00
EL = 815.21'
VC = 200'
K = 179
DS = 60 MPH

PROP GRADE -Y26RPB-

(+)1.8200%

EXIST GROUND

SEE SHEET 34 FOR PLAN

850 840 830 820 810 800 790 780 770 760

10 11 12 13 14 15 16 17 18

-Y26RPB-

END GRADE
-Y26RPB- STA.20+00.00
ELEV.817.51'

PI = 20+75.00
EL = 817.31'
VC = 400'
K = 108
DS = 50 MPH

PROP GRADE -Y26RPB-

(+)0.7000%

(+)4.4100%

EXIST GROUND

SEE SHEET 34 FOR PLAN

850 840 830 820 810 800 790 780 770 760

18 19 20 21 22 23 24 25 26 27 28

8/14/2015 4:17:36 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	94

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

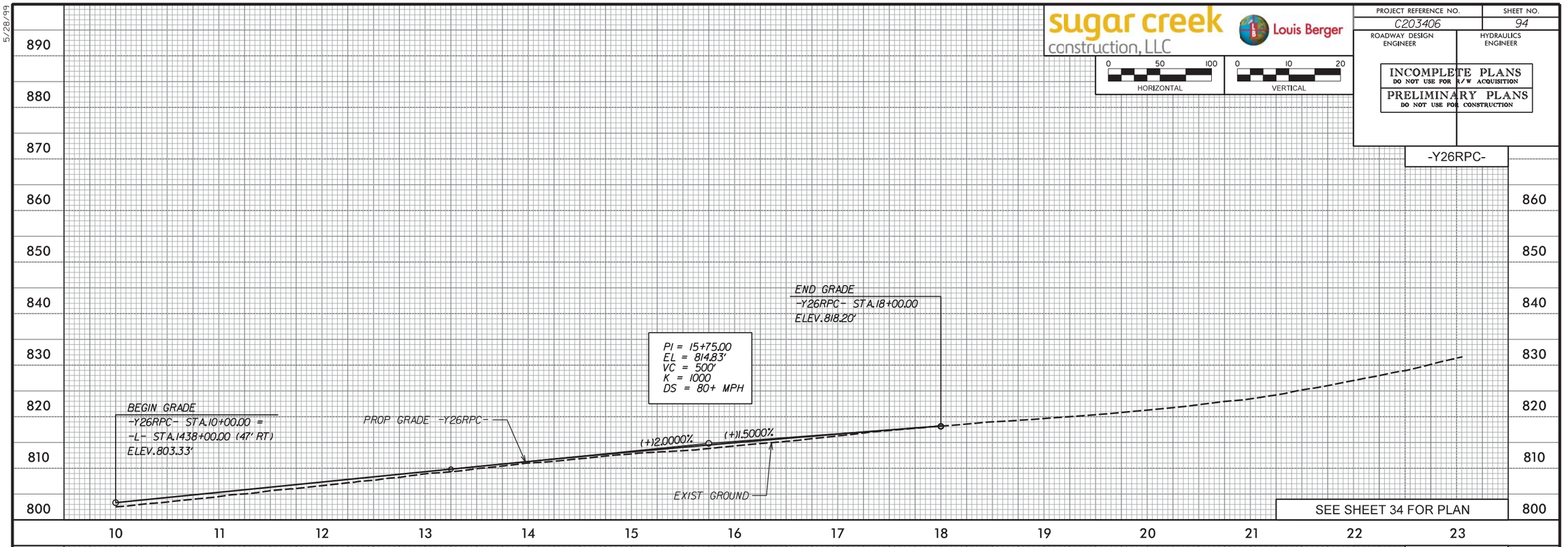
0 50 100 HORIZONTAL

0 10 20 VERTICAL

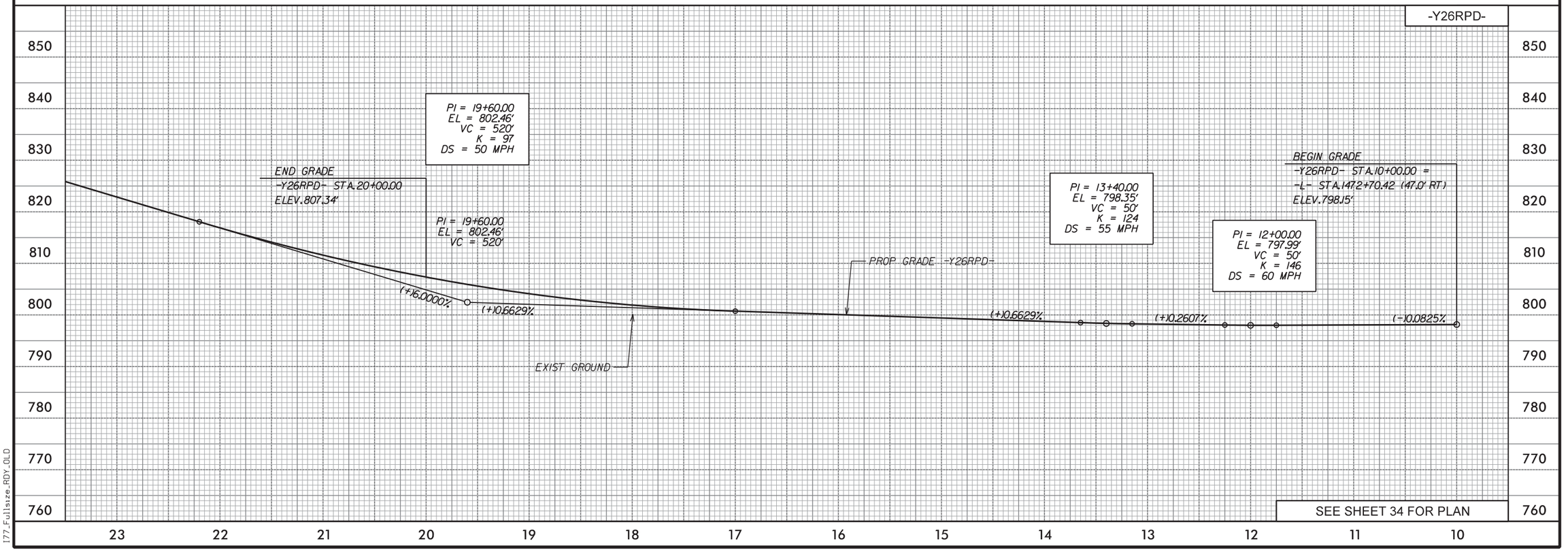
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y26RPC-



-Y26RPD-



8/14/2015 4:17:39 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	95

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

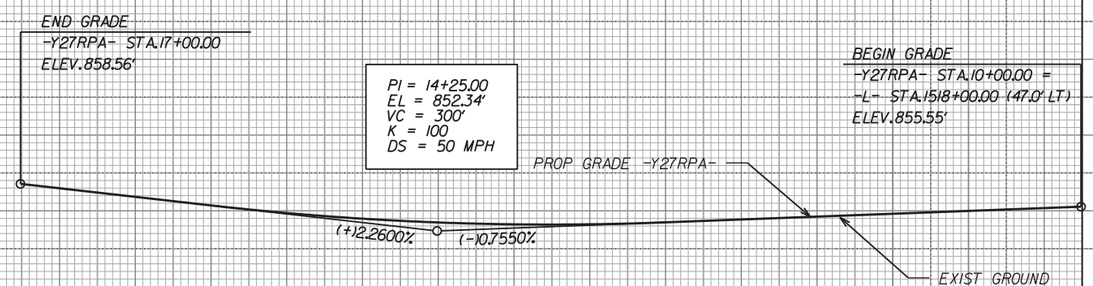
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y27RPA-



SEE SHEET 37 FOR PLAN

890 880 870 860 850 840 830 820

23 24 25 26 27 28

8/14/2015 4:17:41 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	96

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

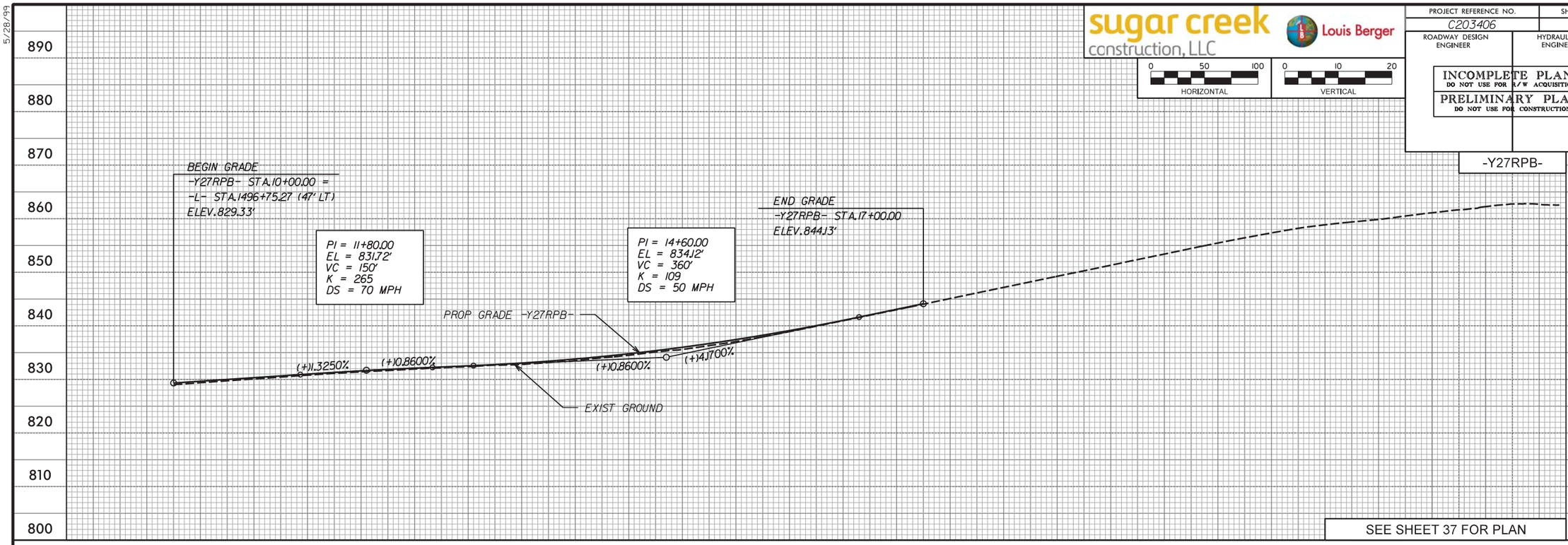
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

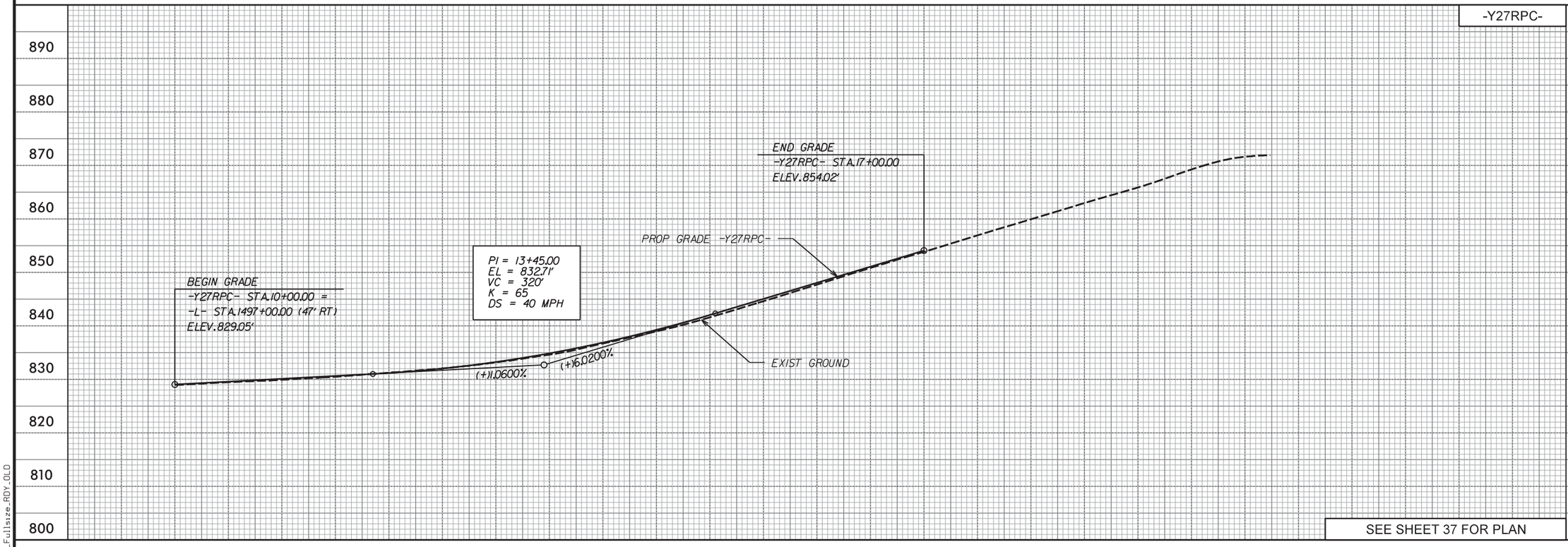
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y27RPB-



SEE SHEET 37 FOR PLAN

-Y27RPC-



SEE SHEET 37 FOR PLAN

8/14/2015 4:17:44 PM
$FILE$
177_Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	97

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

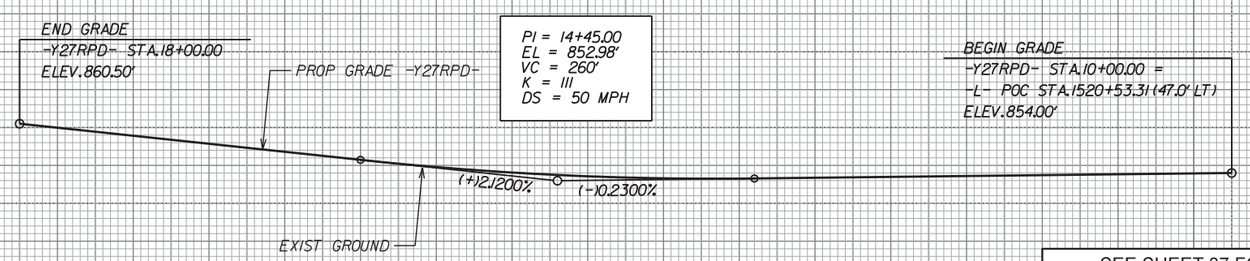
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y27RPD-



SEE SHEET 37 FOR PLAN

930 920 910 900 890 880 870 860 850 840

22 21 20 19 18 17 16 15 14 13 12 11 10

8/14/2015 4:17:46 PM
$FILE$
177-Fullsize_ROY_OLD

5/28/99

sugar creek construction, LLC

Louis Berger

PROJECT REFERENCE NO.	SHEET NO.
C203406	98

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

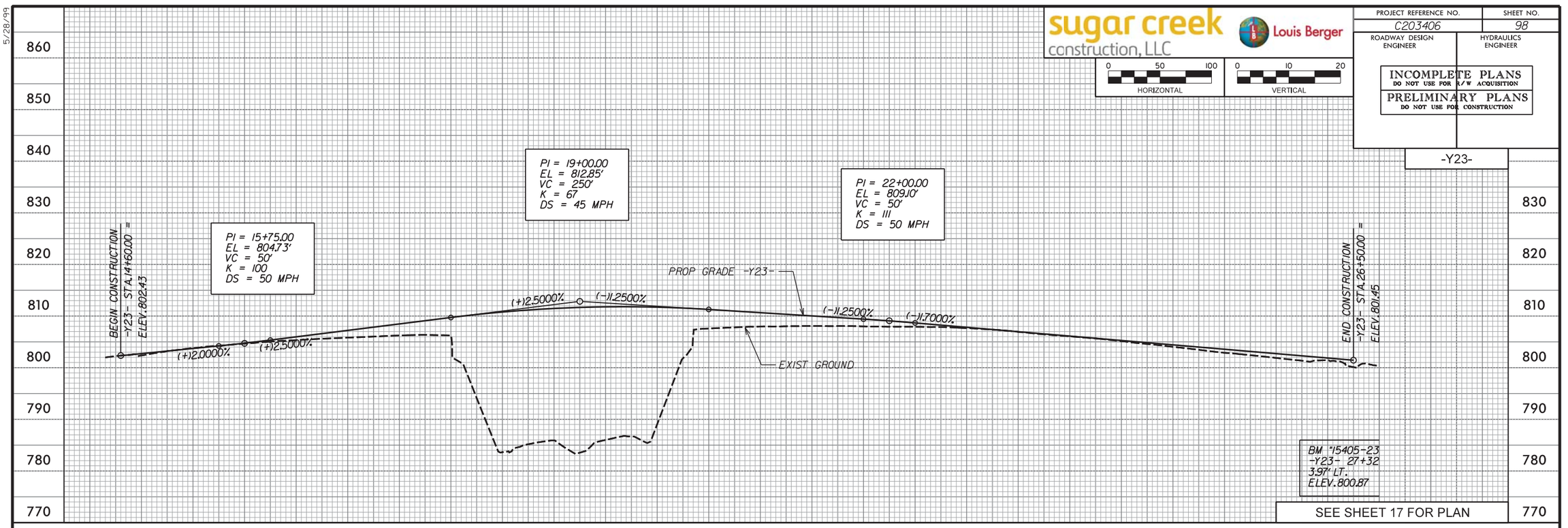
0 50 100 HORIZONTAL

0 10 20 VERTICAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y23-



8/14/2015 4:17:48 PM
$FILE$
177_Fullsize_ROY_OLD

TIP PROJECT: I-3311C

CONTRACT: C203406

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

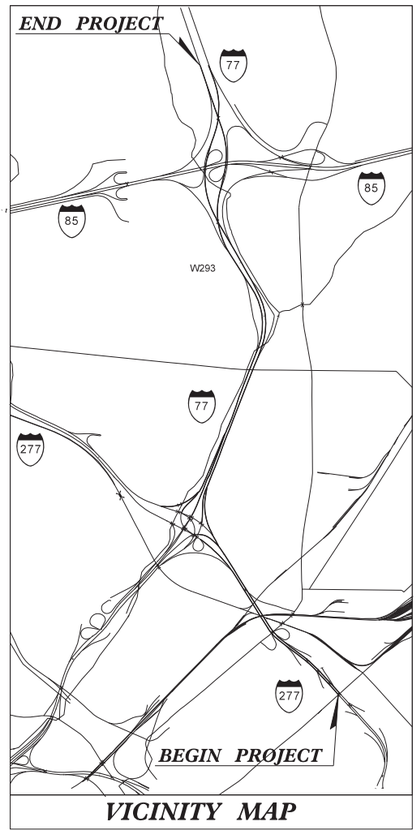
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.		1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

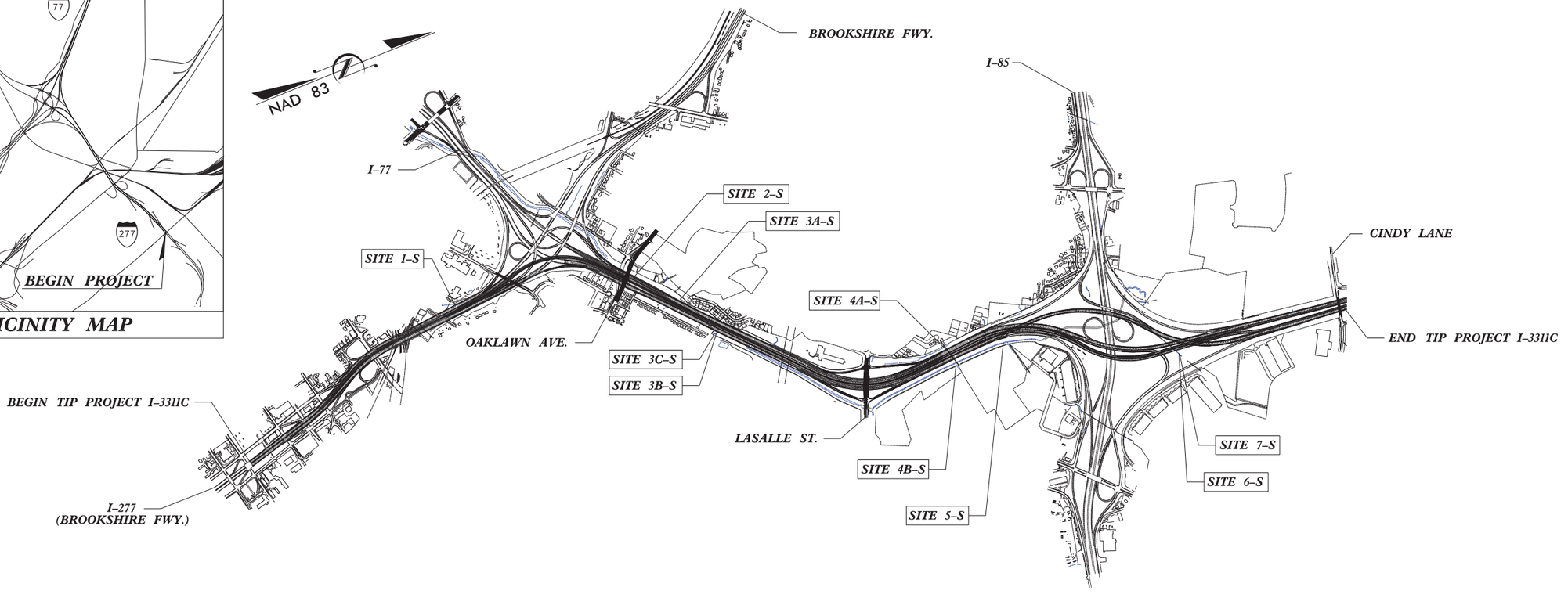
LOCATION: I–277 FROM N. BREVARD ST. TO I–77
2.6 MILES OF INTERSTATE 77
FROM MM 11.2 TO MM 13.8

TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNING, ITS, GUARDRAIL, PAVEMENT MARKINGS, TOLLING STRUCTURES/EQUIPMENT AND STRUCTURE





VICINITY MAP



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT
ADT

FUNC CLASS =
PRINCIPAL ARTERIAL

PROJECT LENGTH

Prepared In the Office of:
LOUIS BERGER
1000 Wade Ave, Suite 400, Raleigh NC, 27605

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

PROJECT ENGINEER

PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

12/05/11

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

SHEET NO. 3

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel / Sequence Number — 12
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap — V
- Sign — S
- Well — W
- Small Mine — M
- Foundation
- Area Outline
- Cemetery — y
- Building
- School — Y
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring — W
- Wetland — K
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION S
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker — h
- Existing Right of Way Line
- Proposed Right of Way Line
- Proposed Right of Way Line with Iron Pin and Cap Marker
- Proposed Right of Way Line with Concrete or Granite R/W Marker
- Proposed Control of Access Line with Concrete C/A Marker
- Existing Control of Access
- Proposed Control of Access
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree — X
- Single Shrub — Y
- Hedge
- Woods Line

- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — m
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole — P
- Proposed Power Pole
- Existing Joint Use Pole — R
- Proposed Joint Use Pole
- Power Manhole — p
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole — Q
- Proposed Telephone Pole
- Telephone Manhole — I
- Telephone Booth — e
- Telephone Pedestal — b
- Telephone Cell Tower — /
- U/G Telephone Cable Hand Hole —]
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — 4
- Water Meter — a
- Water Valve — I
- Water Hydrant — H
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish — r
- TV Pedestal — l
- TV Tower — I
- U/G TV Cable Hand Hole —]
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve — c
- Gas Meter — n
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

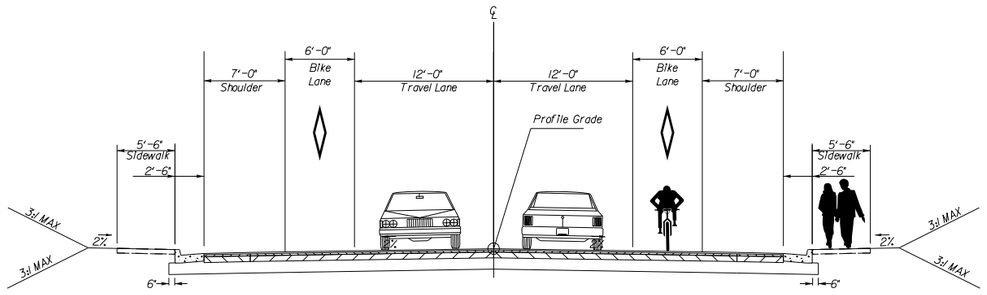
- Sanitary Sewer Manhole — d
- Sanitary Sewer Cleanout — o
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

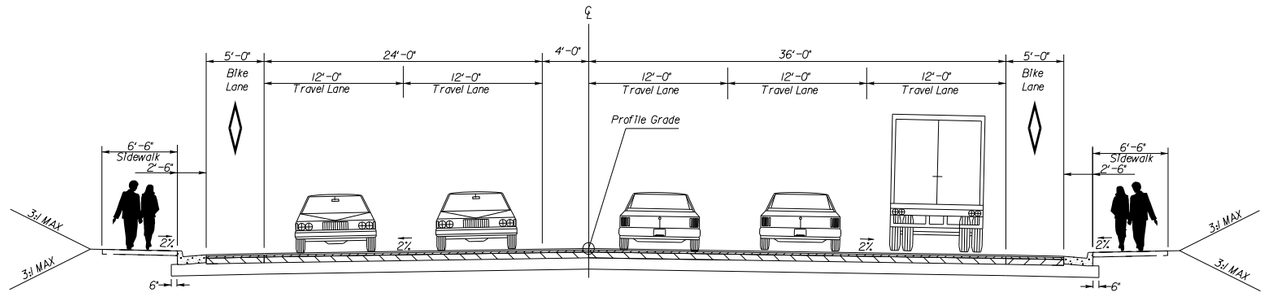
- Utility Pole — O
- Utility Pole with Base — F
- Utility Located Object — S
- Utility Traffic Signal Box — 3
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*) — ?
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_ROY_TYP_02.dgn
1:36:07 PM

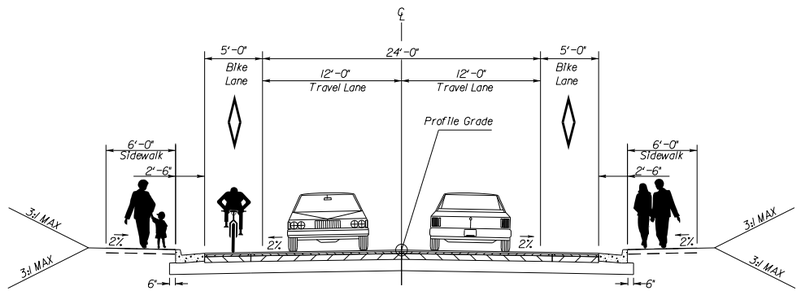
REVISIONS



OAKLAWN
TYPICAL SECTION



LASALLE
TYPICAL SECTION



GRIFFITH
TYPICAL SECTION

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

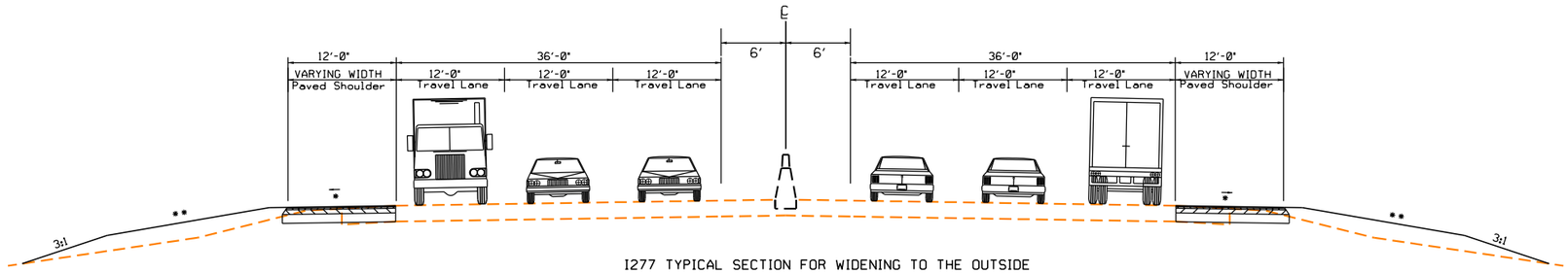
February 2014

SHEET NO. 4

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

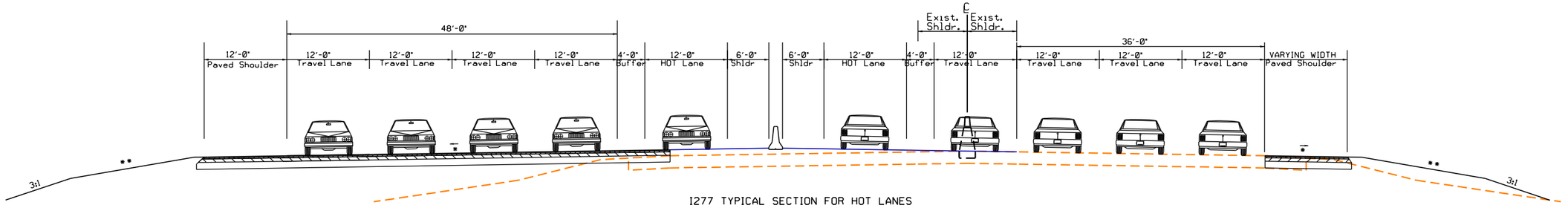
I-77 HOT Lanes Project
Mecklenburg and Iredell Counties
February 2014
SHEET NO. 5

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION



I277 TYPICAL SECTION FOR WIDENING TO THE OUTSIDE

• PROJECT EXISTING CROSS SLOPE FOR WIDENING
•• 4:1 MAX. WITHIN CLEAR ZONE, ELSEWHERE AS PER GEOTECHNICAL RECOMENDATIONS

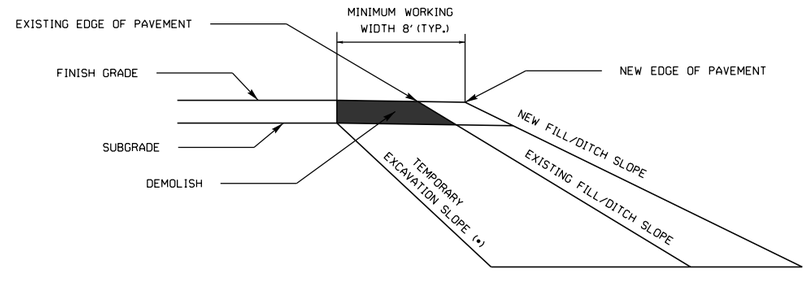


I277 TYPICAL SECTION FOR HOT LANES

• PROJECT EXISTING CROSS SLOPE FOR WIDENING
•• 4:1 MAX. WITHIN CLEAR ZONE, ELSEWHERE AS PER GEOTECHNICAL RECOMENDATIONS

I 277
TYPICAL SECTIONS

METHOD OF CONSTRUCTION WHERE WIDENING LESS THAN MINIMUM WORKING/EQUIPMENT WIDTH



TEMPORARY TRAFFIC BARRIER AND OTHER SAFETY MEASURES NOT SHOWN
(*) BENCH AS REQUIRED BY NCDOT STANDARD SPECIFICATION ITEM 235, SECTION 235-3 (A)

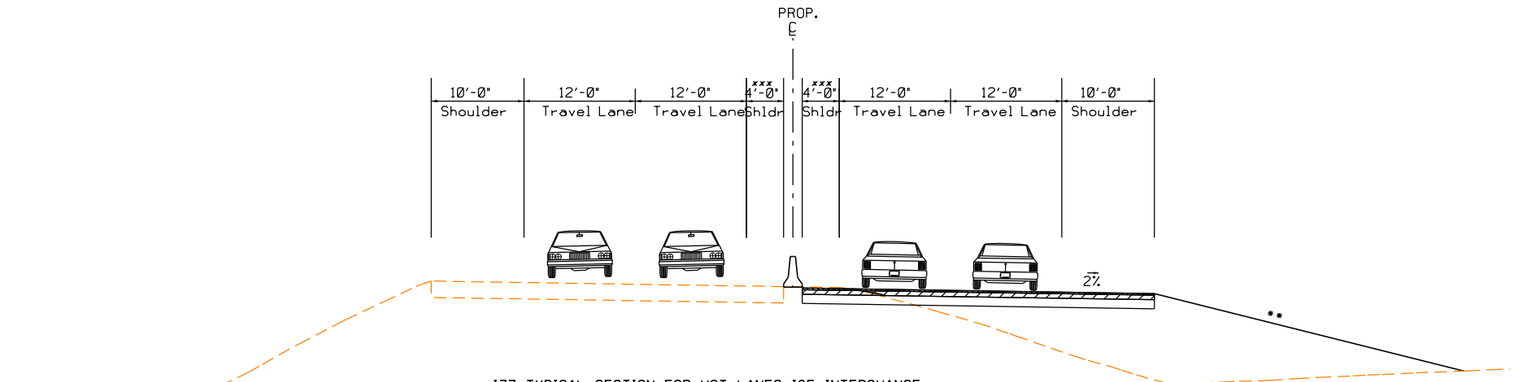
NOTES:
- DEVELOPER NOT REQUIRED TO DEMOLISH OUTSIDE SHOULDER IN ORDER TO BUILD SHOULDER DRAINS AS ALLOWED PER BOOK 2 SECTION 11.3. DEVELOPER PROVIDING SHOULDER DRAINS ON THE OUTSIDE SHOULDER IN AREAS WHERE THE WIDENING EXCEEDS THE WIDTH REQUIRED FOR OUTSIDE SHOULDER WITH AS PER GEOMETRIC REQUIREMENTS.
- AS REQUIRED BY BOOK 2 SECTION 11.4. DEVELOPER NOT REQUIRED TO OVERLAY EXISTING PAVEMENT ON I277. DEVELOPER PERFORMING DIAMOND GRINDING ON EXISTING I277 PAVEMENT.
- SEE SHEET 52 FOR SUPERELEVATION INFORMATION.

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_ROY_TYP_03.dgn
1:36:09 PM

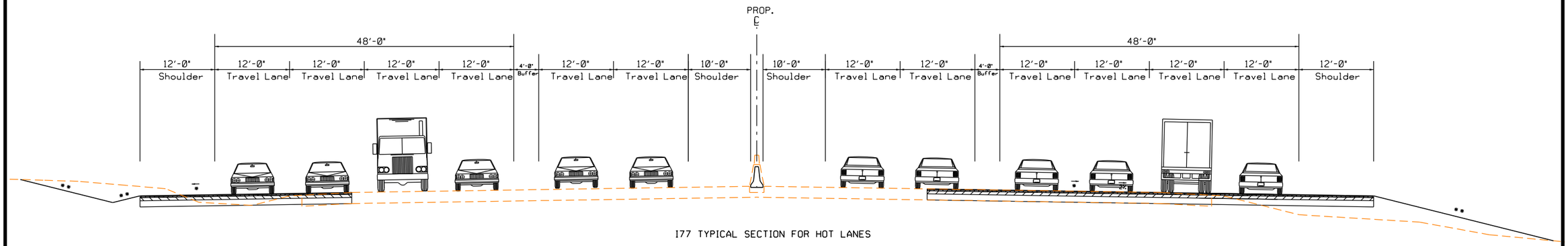
I–77 HOT Lanes Project
Mecklenburg and Iredell Counties
February 2014
SHEET NO. 6

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION



I77 TYPICAL SECTION FOR HOT LANES I85 INTERCHANGE

•• 4:1 MAX. WITHIN CLEAR ZONE, ELSEWHERE AS PER GEOTECHNICAL RECOMENDATIONS
••• WIDER SHOULDER POSITION MAY CHANGE PER APPROVED ATC*1



I77 TYPICAL SECTION FOR HOT LANES

SOUTH SECTION
TYPICAL SECTIONS

• PROJECT EXISTING CROSS SLOPE FOR WIDENING
•• 4:1 MAX. WITHIN CLEAR ZONE, ELSEWHERE AS PER GEOTECHNICAL RECOMENDATIONS

NOTE:
- DEVELOPER NOT REQUIRED TO DEMOLISH OUTSIDE SHOULDER IN ORDER TO BUILD SHOULDER DRAINS AS ALLOWED PER BOOK 2 SECTION 11.3. DEVELOPER PROVIDING SHOULDER DRAINS ON THE OUTSIDE SHOULDER IN AREAS WHERE THE WIDENING EXCEEDS THE WIDTH REQUIRED FOR OUTSIDE SHOULDER WITH AS PER GEOMETRIC REQUIREMENTS.
- SEE SHEET 52 FOR SUPERELEVATION INFORMATION.

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_RDY_TYP_04.dgn
1:36:11 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 53

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. BRIDGE OVER COLLEGE STREET: MIN. VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK 2.
3. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I277WB: 1 MILE EAST STA 125+00.
   - I277WB: 1.2 MILE EAST STA 125+00.
4. MEDIAN SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DE04-277SHLDR:
   - I277 OVER N. COLLEGE ST.
   - I277 OVER RAILROAD.

MATCH LINE STA. 117+30

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

NAD 83

N BREVARD STREET

WEST 11TH STREET

WEST 12TH STREET

COLLEGE STREET

EXIST. ROW

BEGIN PROJECT I277-RI408 STA 107+30.37

POT STA 107+30.37

I277-RI408 STA 110+24.68 BEGIN BRIDGE WIDENING

I277-RI408 STA 112+29.69 END BRIDGE WIDENING BEGIN RET.WALL EBII3

I277-RI408 STA 114+58.49 END RET. WALL EBII3 BEGIN BRIDGE WIDENING

I277-RI408 STA 115+98.36 END BRIDGE WIDENING BEGIN RET.WALL EBII6

110+00

115+00

N 42°12'21.5"W

I277-RI408

POT STA 100+00.00

RMP CLLGE EW

POT STA 114+28.35

POT STA 113+15.58

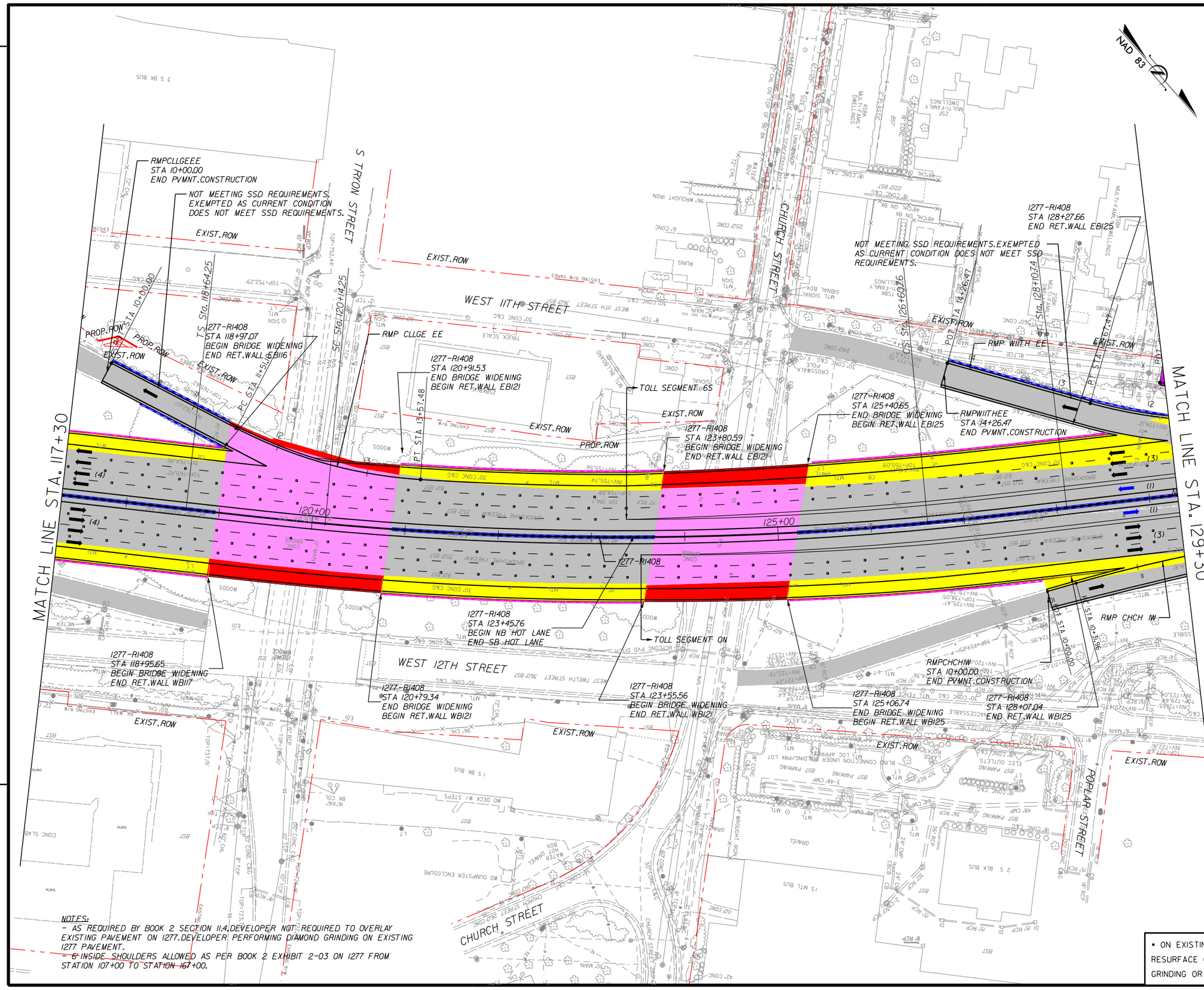
RMPCLLGEEW STA 13+15.58 END PVMNT.CONSTRUCTION

I277-RI408 STA 116+87.67 BEGIN RET.WALL WBII7

NOTES:
- AS REQUIRED BY BOOK 2 SECTION 11.4, DEVELOPER NOT REQUIRED TO OVERLAY EXISTING PAVEMENT ON I277. DEVELOPER PERFORMING DIAMOND GRINDING ON EXISTING I277 PAVEMENT.
- 6' INSIDE SHOULDERS ALLOWED AS PER BOOK 2 EXHIBIT 2-03 ON I277 FROM STATION 107+00 TO STATION 167+00.
- SINCE NO WIDENING IS REQUIRED IN I277 WESTBOUND FROM BEGINNING OF PROJECT TO COLLEGE STREET, OUTSIDE SHOULDER MAY MATCH THE WIDTH OF EXISTING PER BOOK 2, SECTION 10.2.1.

REVISIONS

2/26/2014
P:\007 177 North Carolina\PROJECT FILES\ACTIVE\I277_RDY_PSH_0116.dgn
2:02:11 PM



REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I277_RDY_PSH_0117.dgn
2:02:14 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 54

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. BRIDGE OVER TRYON STREET: 14' MIN. VERTICAL CLEARANCE PER NCDOT ROADWAY DESIGN MANUAL SECTION 6.1 "BRIDGES TO REMAIN IN PLACE" AND AASHTO,SECTION 8.29.
3. BRIDGE OVER CHURCH STREET: 14' MIN. VERTICAL CLEARANCE PER NCDOT ROADWAY DESIGN MANUAL SECTION 6.1 "BRIDGES TO REMAIN IN PLACE" AND AASHTO,SECTION 8.29.
4. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I277WB: STA 125+00.
   - I277EB: STA 125+00.
5. MEDIAN SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEO4-277SHLDR:
   - I277 OVER N. CHURCH ST.
   - I277 OVER N. TRYON ST.

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 55

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. BRIDGE OVER GRAHAM STREET: 14' MINIMUM VERTICAL CLEARANCE PER NCDOT ROADWAY DESIGN MANUAL SECTION 6.1 "BRIDGES TO REMAIN IN PLACE" AND AASHTO GREENBOOK 2011 A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, SECTION 8.29.
3. MEDIAN SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DE04-277SHLDR:
   - I277 OVER N. GRAHAM ST.
4. RADIUS LOOP AT GRAHAM/I277 INTERCHANGE ACCORDING DESIGN EXCEPTION DE02-LOOP.

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

NOTES:
- AS REQUIRED BY BOOK 2 SECTION 11.4.DEVELOPER NOT REQUIRED TO OVERLAY EXISTING PAVEMENT ON I277.DEVELOPER PERFORMING DIAMOND GRINDING ON EXISTING I277 PAVEMENT.
- 6' INSIDE SHOULDERS ALLOWED AS PER BOOK 2 EXHIBIT 2-03 ON I277 FROM STATION 107+00 TO STATION 167+00.

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I277_RDY_PSH_0118.dgn
2:02:17 PM

I-77 HOT Lanes Project

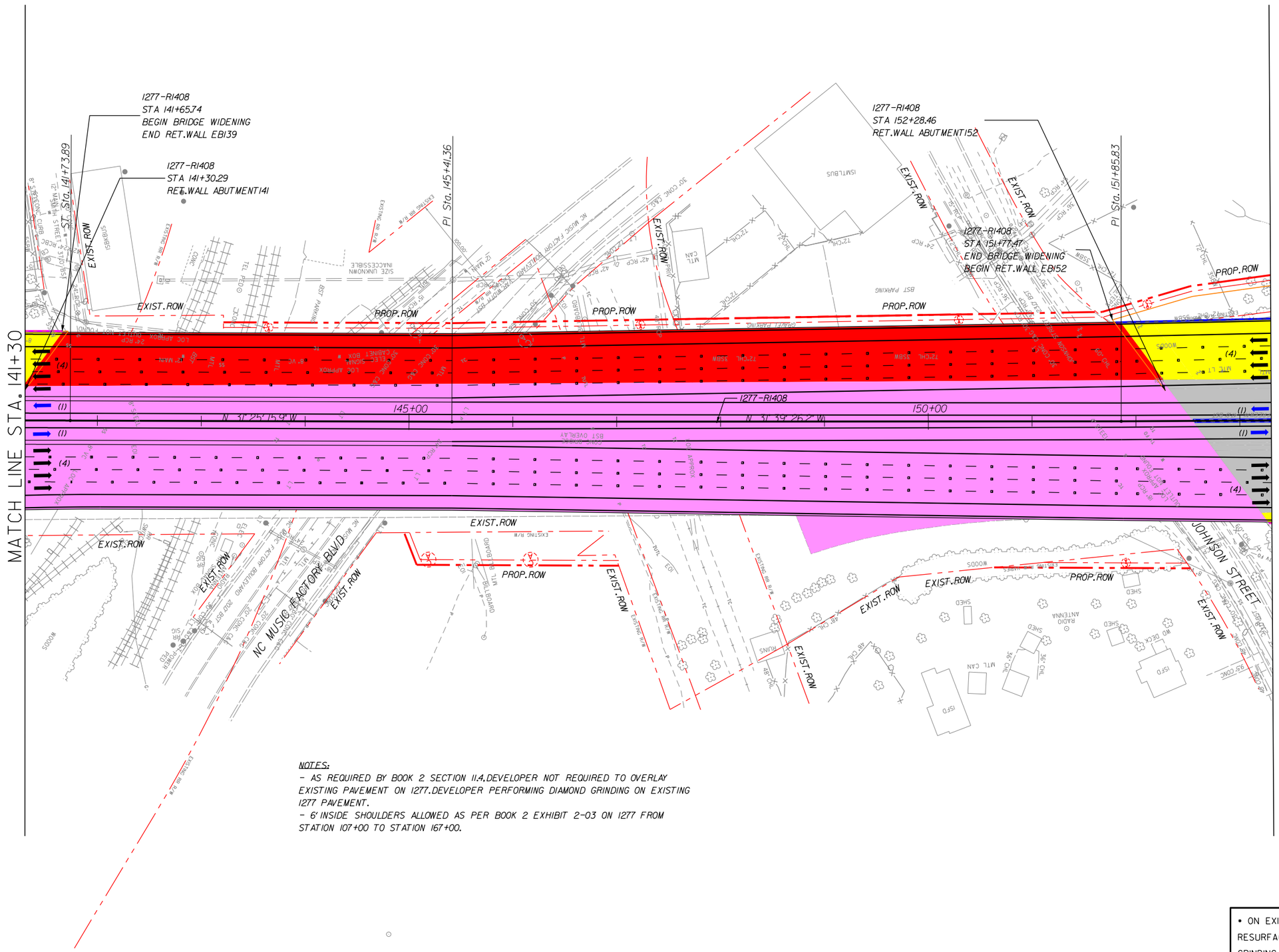
Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 56

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NAD 83



NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. MUSIC FACTORY BOULEVARD OVER RR: MIN. VERTICAL CLEARANCE 23' PER BOOK 2.
3. BRIDGE OVER MUSIC FACTORY BOULEVARD: MIN. VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK 2.
4. MUSIC FACTORY BOULEVARD OVER JOHNSON STREET: MIN. VERTICAL CLEARANCE 14.83' SAME AS EXISTING.
5. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I277EB: STA 151+40.
6. MEDIAN SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEO4-277SHLDR:
   - I277 OVER NC MUSIC FACTORY BLVD.NORFOLK SOUTHERN AND CSXT RAILTOADS.

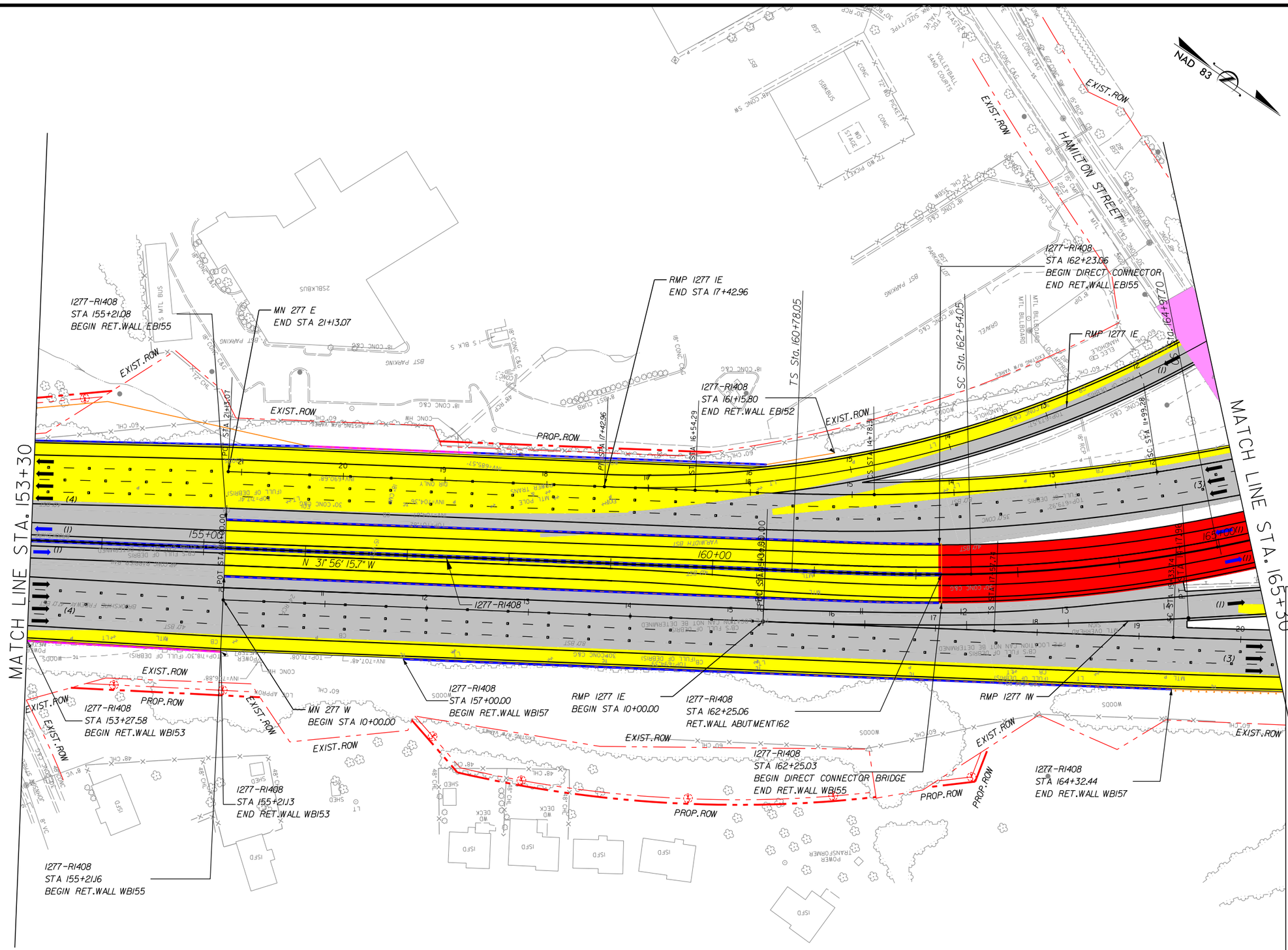
NOTES:
- *AS REQUIRED BY BOOK 2 SECTION 11.4.DEVELOPER NOT REQUIRED TO OVERLAY EXISTING PAVEMENT ON I277.DEVELOPER PERFORMING DIAMOND GRINDING ON EXISTING I277 PAVEMENT.*
- *6' INSIDE SHOULDERS ALLOWED AS PER BOOK 2 EXHIBIT 2-03 ON I277 FROM STATION 107+00 TO STATION 167+00.*

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I277_RDY_PSH_0119.dgn
2:02:21 PM



NOTE:
- AS REQUIRED BY BOOK 2 SECTION 11.4. DEVELOPER NOT REQUIRED TO OVERLAY EXISTING PAVEMENT ON I277. DEVELOPER PERFORMING DIAMOND GRINDING ON EXISTING I277 PAVEMENT.
- 6' INSIDE SHOULDERS ALLOWED AS PER BOOK 2 EXHIBIT 2-03 ON I277 FROM STATION 107+00 TO STATION 167+00.
- 10' AND 4' SHOULDER IN AREAS WHERE HOT LANES PHYSICALLY DETACHED FROM GPLS. AS ALLOWED PER BOOK 2 SECTION 10.2.1.

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I277WB: STA 163+00 TO STA 165+00.

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 57

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I277_RDY_PSH_0120.dgn
2:02:24 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 58

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NAD 83

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. DIRECT CONNECTOR OVER HAMILTON STREET:MIN. VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK 2.
3. DIRECT CONNECTOR OVER CONNECTOR I277WB/I77SB:MIN. VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK 2.
4. DIRECT CONNECTOR OVER GPL I77NB:MIN. VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK 2.
5. DIRECT CONNECTOR OVER GPL I277WB:MIN. VERTICAL CLEARANCE 17'OR SAME AS EXISTING PER BOOK 2.

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

NOTES:
- PER BOOK 2 SECTION 11.DEVELOPER DOES NOT HAVE TO REPLACE EXISTING HAMILTON BRIDGE.
- AS REQUIRED BY BOOK 2 SECTION 11.4.DEVELOPER NOT REQUIRED TO OVERLAY EXISTING PAVEMENT ON I277.DEVELOPER PERFORMING DIAMOND GRINDING ON EXISTING I277 PAVEMENT.
-HORIZONTAL ALIGNMENT FOR MANAGED LANE CONNECTOR BETWEEN I277 AND I77 COMPLIES WITH 50 MPH DESIGN SPEED AS ALLOWED BY BOOK 2 SECTION 10.2.3
- 10' AND 4' SHOULDER IN AREAS WHERE HOT LANES PHYSICALLY DETACHED FROM GPLS,AS ALLOWED PER BOOK 2 SECTION 10.2.J.

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I277_RDY_PSH_0121.dgn
2:02:27 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 59

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I277EB: STA 177+80.
   - I77NB: STA 200+00.
   - I77SB: STA 200+00.
   - I77NB: ½ MILE SOUTH STA 200+00.
   - I77NB: I MILE SOUTH STA 200+00.
3. MINIMUM WIDTH FOR SHOULDER SSD ACCORDING DESIGN EXCEPTION DEO3-SSD:
   - I277 DIRECT CONNECTOR OVER I77.

MATCH LINE STA. 209+18 Ext. -1418.33 (THBOUND)

MATCH LINE STA. 209+18 Ext. -218.33

I277 RAMP (1)

RMPI277ESE
STA 24+73.48
END PVMNT.CONSTRUCTION

RMPI277ESW
STA 21+26.38
END PVMNT.CONSTRUCTION

RMP I277 ESE

RMP I277 ESW

77SBHOTOI
STA 197+91.41
BEGIN CONSTRUCTION

77SBHOTOI

TOLL SEGMENT 5S

I277-RI408
STA 178+79.60
RET.WALL ABUTMENT178

I277-RI408
STA 178+79.64
ENDDIRECT CONNECTOR BRIDGE
BEGIN RET.WALL EBI79

I277-RI408
STA 178+79.56
END DIRECT CONNECTOR BRIDGE
BEGIN RET.WALL WBI79

77NBHOTOI
STA 198+12.40
BEGIN CONSTRUCTION

RMP I77 EWN

77NBHOTOI
STA 203+99.36
BEGIN RET.WALL WB204

I77 (NORTHBOUND)

ANDRILL TERRACE

EXIST. ROW

PROP.ROW

EXIST.ROW

PROP.ROW

EXIST.ROW

PROP.ROW

POT STA 197+99.49

SC Sta. 198+83.24

CS Sta. 199+96.37

ST Sta. 200+83.34

CS Sta. 183+09.02

POC STA 184+93

ST Sta. 184+59.01

POT STA 24+73.48

PT STA 24+53.58

POT STA 21+26.42

PT STA 21+09.51

POC STA 20+44.33

SC Sta. 204+07.41

CS Sta. 200+47.62

ST Sta. 205+62.39

CS Sta. 198+92.62

ST Sta. 198+13.14

POT STA 11+28.42

NOTES:
- 10' AND 4' SHOULDER IN AREAS WHERE HOT LANES PHYSICALLY DETACHED FROM GPLS, AS ALLOWED PER BOOK 2 SECTION 10.2.1.

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_RDY_PSH_01.dgn
1:56:18 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 60

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.

2. OAKLAWN STREET OVER I77: MIN. VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK 2.

3. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
- I77SB: STA 209+00 TO STA 211+00.

4. TOLL GANTRY STRUCTURES WITH MEDIAN SHOULDER WIDTH LESS THAN MINIMUM ACCORDING DESIGN EXCEPTION DEOI-SHLDR.

MATCH LINE STA. 209+18 Ext. -218.33

MATCH LINE STA. 219+00

OAKLAWN AVE
WASHINGTON AVE
ANDRILL TERRACE
OAKLAWN AVENUE
TANNIN AVE
GENESIS PARK PLACE
OAKLAWN STA 11+04.55 BEGIN CONSTRUCTION
OAKLAWN STA 13+02.47 BEGIN BRIDGE
OAKLAWN STA 17+08.32 END BRIDGE
OAKLAWN STA 22+54.74 END CONSTRUCTION
PROP. ROW
EXIST. ROW
PC Sta. 10+00.00
PC Sta. 187+38.17
PT Sta. 188+74.56
PC Sta. 210+15.90
PCC Sta. 211+35.86
PCC Sta. 12+93.85
PT Sta. 190+59.15
PT Sta. 10+00.00
PC Sta. 209+47.96
PCC Sta. 19+99.06
PC Sta. 215+78.61
PRC Sta. 218+43.45
PC Sta. 16+71.81
PRC Sta. 20+51.34
PT Sta. 21+09.15
PT Sta. 213+22.61
PT Sta. 22+54.74
1277-RI408 STA 190+12.12 END RET.WALL EBI79
1277-RI408 END STA 190+59.15
1277-RI408 STA 190+12.18 END RET.WALL WBI79
77SBHOT01 STA 211+99.34 BEGIN RET.WALL SB212
77SBHOT01 STA 218+71.41 END RET.WALL SB212
77NBHOT01 STA 213+75.35 END RET.WALL NB204
TOLL GANTRY 6S
TOLL GANTRY ON
TOLL GANTRY IN
77SBHOT01
77NBHOT01
BL77
TOLL SEGMENT IN
SEE INSET
BM #1 ELEV. 678.49'
I-77 SBL
I-77 NBL
12' BK SOUND BARRIER WALL
10' BK WALL
10' SANITARY SEWER EASEMENT PER PB 009 PG 09
WOODS
ISBKD
ISFD
ISBK

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

3/6/2014
P:\007 177 North Carolina\PROJECT FILES\ACTIVE\177_RDY_PSH_02.dgn
2:47:15 PM

I-77 HOT Lanes Project

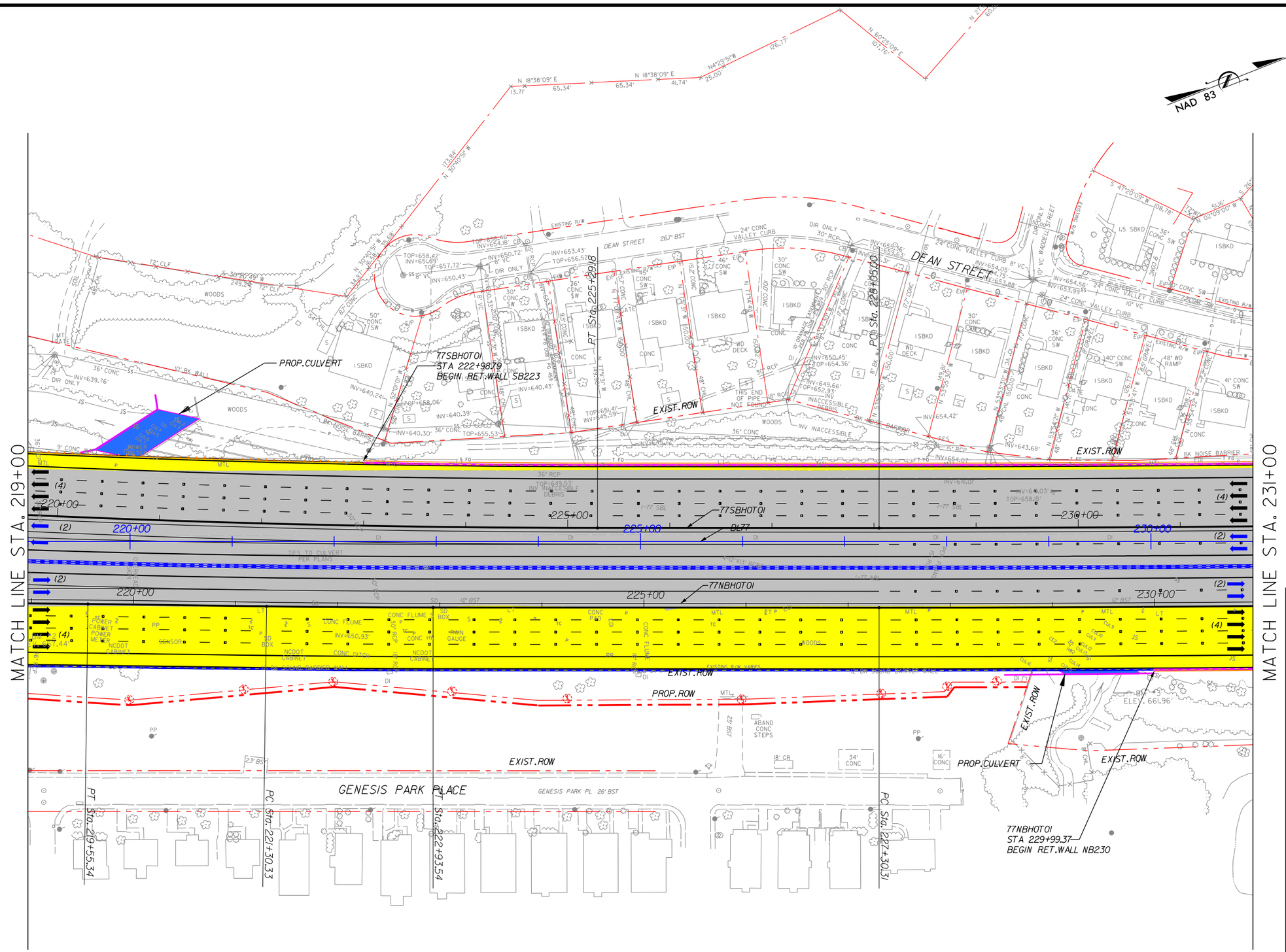
Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 61

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I77NB: STA 221+00 TO STA 223+00.
   - I77SB: STA 226+40.



LEGEND

- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

2/26/2014
P:\007 177 North Carolina\PROJECT FILES\ACTIVE\177_RDY_PSH_03.dgn
1:56:25 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

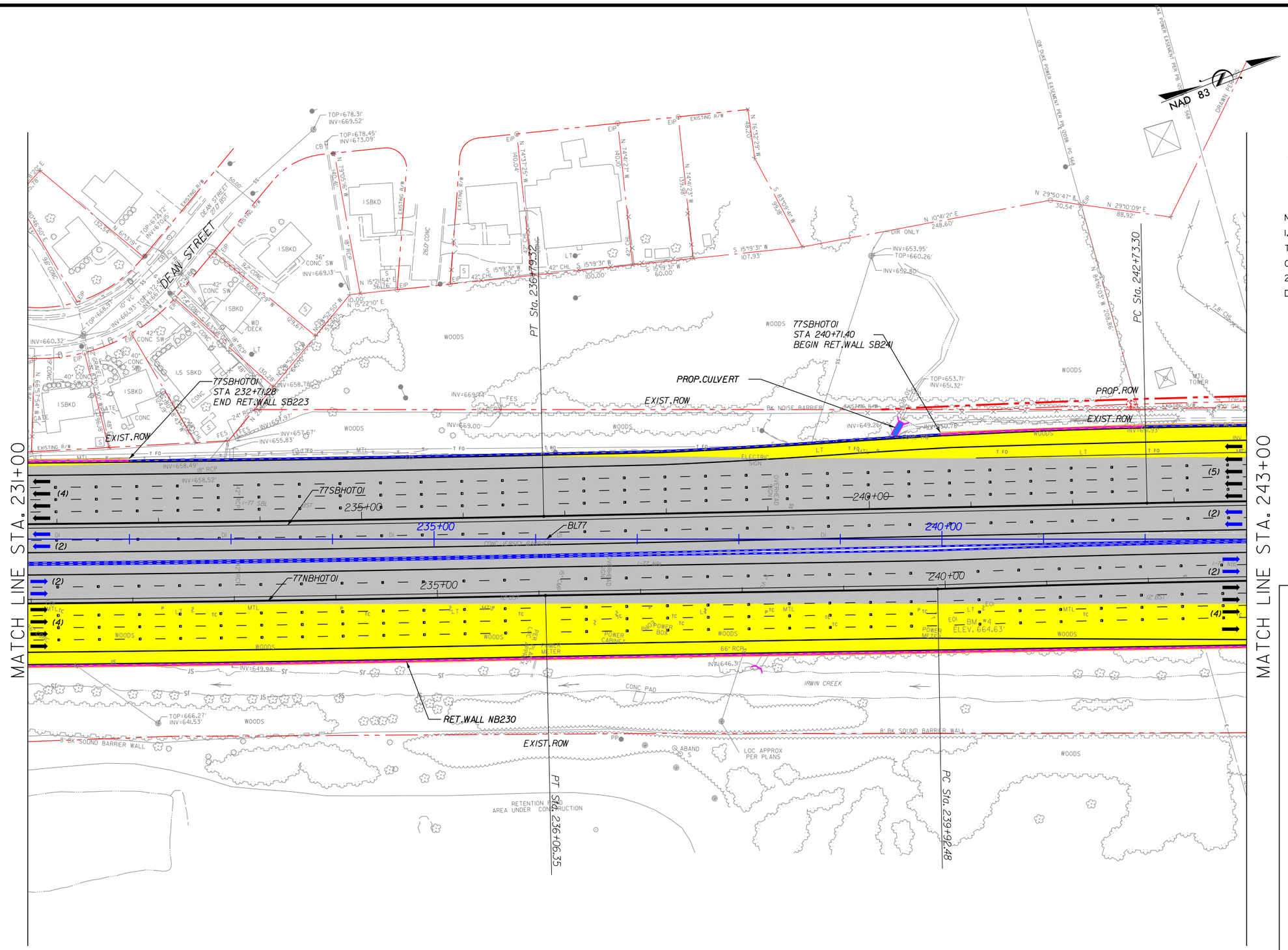
February 2014

SHEET NO. 62

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I77SB: STA 232+00 TO STA 234+00.
   - I77NB: STA 237+00 TO STA 239+00.



LEGEND

- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_RDY_PSH_04.dgn
1:56:28 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 63

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

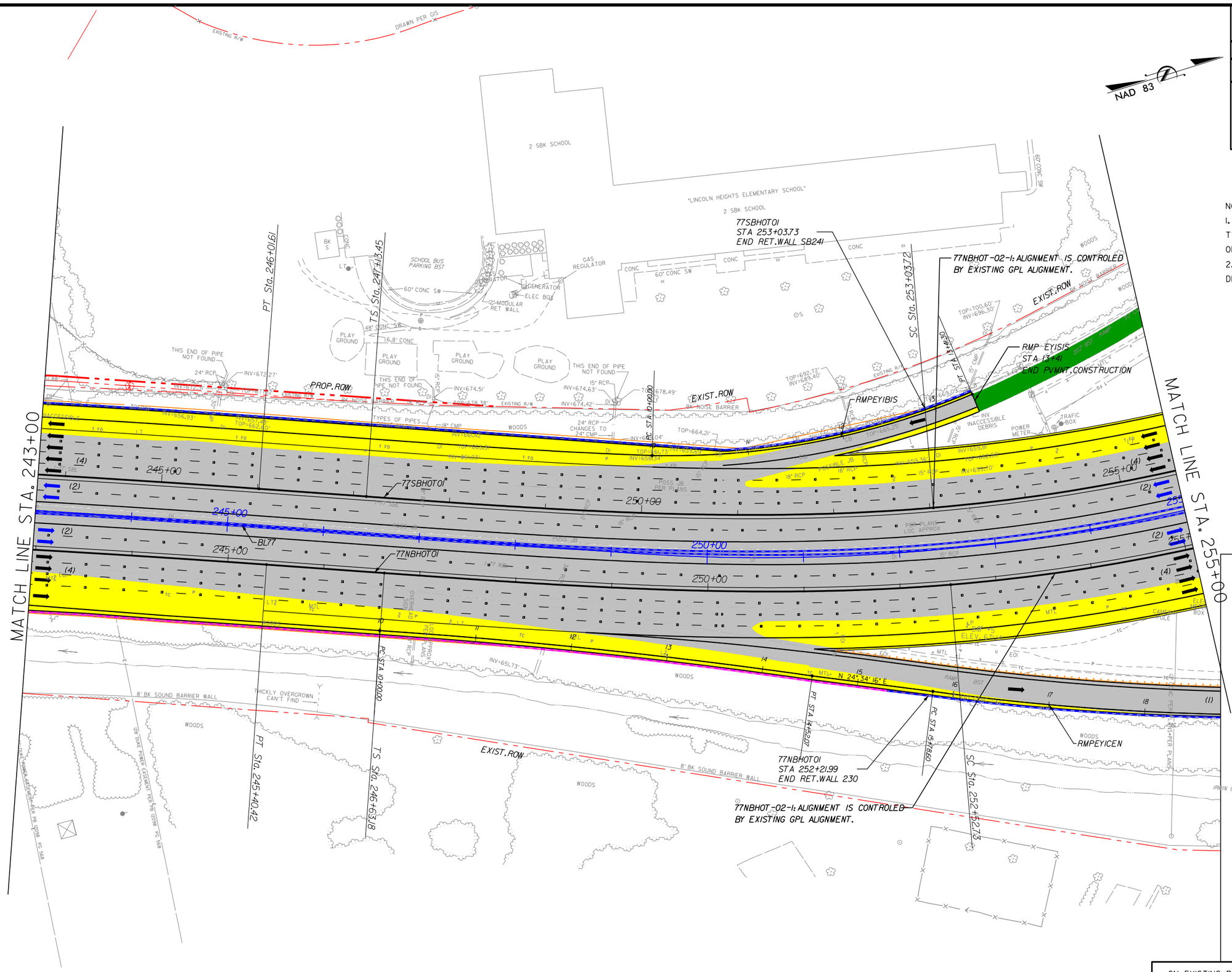
SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I77SB: STA 252+00 TO STA 255+00.
   - I77SB: STA 252+80

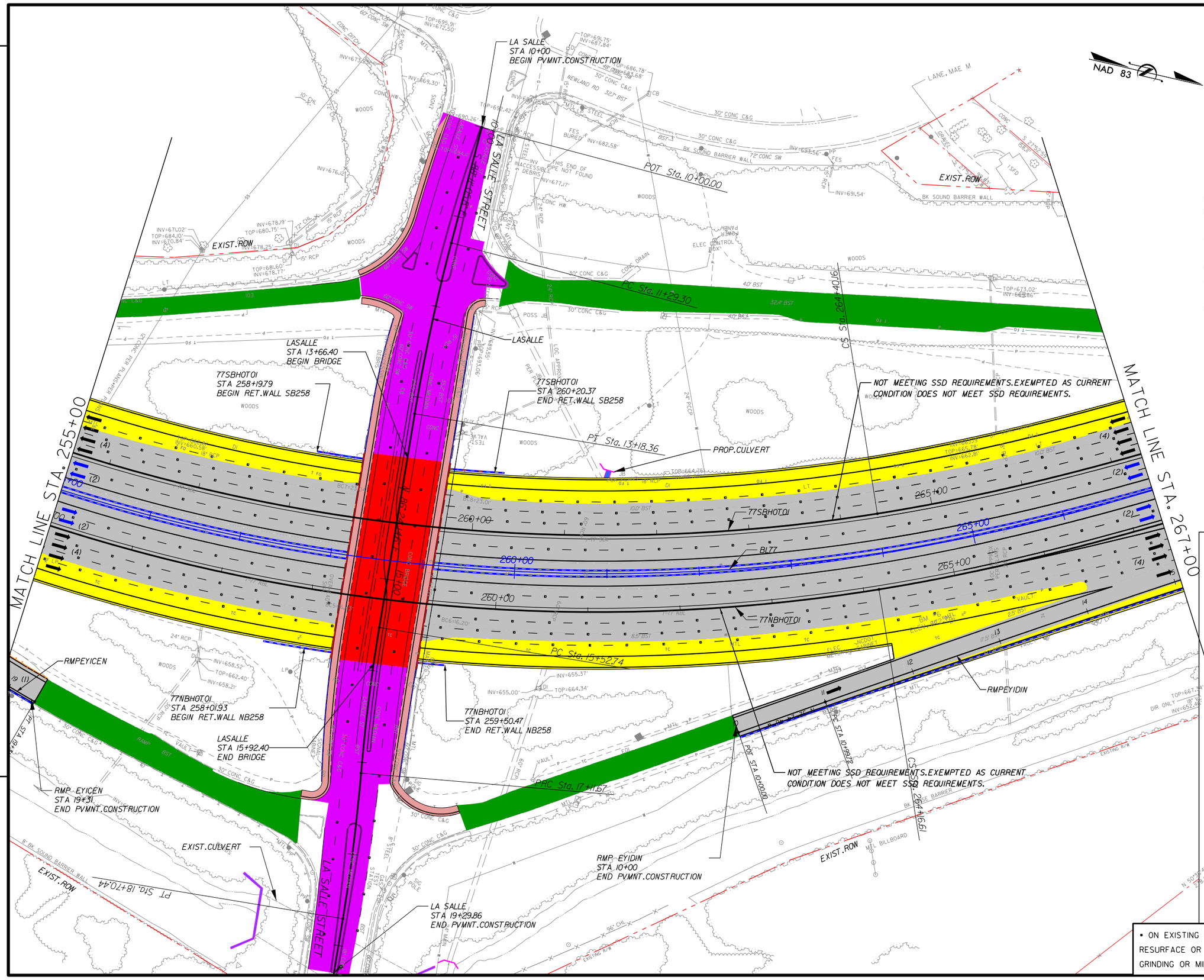
NAD 83

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_RDY_PSH_05.dgn
1:56:31 PM



• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY



I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 64

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. LA SALLE STREET OVER I77: MIN. VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK
3. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
- I77NB: STA 259+00 TO STA 261+00.

LEGEND

- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

2/26/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_ROY_PSH_06.dgn
1:56:34 PM

NOTE.
- ATCI BEING APPLIED BETWEEN STA 270+00 AND STA 340+00 FOLLOWING NCDOT CONCEPT PLAN STATIONING NORTHBOUND AND SOUTHBOUND HOT LANES RUNNING PARALLEL TO EXISTING SOUTHBOUND HOV LANE.

NAD 83

77SBHOT01
STA 269+15
END PVMNT.CONSTRUCTION

77SBGPLI
BEGIN STA 263+59.00

PC Sta. 272+03.00

PT Sta. 266+84.69

PC Sta. 277+92.67

EXIST.ROW

EXIST.CULVERT

CONC PEDESTRIAN OVERPASS

BK NOISE BARRIER

WOODS

MATCH LINE STA. 267+00

MATCH LINE STA. 279+00

77NBHOT01
STA 273+68.44
BEGIN RET.WALL NB274

77NBGPLI
BEGIN STA 272+03.00

PT STA 271+99.40

PC Sta. 270+96.37

TO BE DEMOLISHED

AXLE

I-77 SBL

BL77

77NBHOT01

77NBGPLI

77SBGPLI

77SBHOT01

N 68°40'12" E 178.00'

N 39°59'48" W 554.00'

S 57°30'12" W 16.00'

N 57°30'12" E 3.50'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

3/3/2014
P:\007 177 North Carolina\PROJECT FILES\ACTIVE\177_RDY_PSH_07.dgn
12:18:11 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 65

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTE:
- PER BOOK 2 SECTION 10.2.1 SEVENTH PARAGRAPH, DEVELOPER DOES NOT HAVE TO WIDEN GENERAL PURPOSE LANES.
- ATCI BEING APPLIED BETWEEN STA 270+00 AND STA 340+00 FOLLOWING NCDOT CONCEPT PLAN STATIONING NORTHBOUND AND SOUTHBOUND HOT LANES RUNNING PARALLEL TO EXISTING SOUTHBOUND HOV LANE.

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 66

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. HOT LANES OVER I77NB: MIN VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK 2.
3. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I77SB: STA 285+50 TO STA 287+50.
   - I77NB: STA 285+50 TO STA 287+50.
4. 77NBHOT-02-2 AND 77SBHOT-02-2: SSD OF 50MPH FOR THE NB AND SB HOT LANES FROM STA 270+00 TO STA 340+00 AS PER NCDOT'S APPROVED ATCI SECTION 3.0 DEVIATIONS POINT 5.

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

MATCH LINE STA. 276+00

MATCH LINE STA. 291+00

77SBHOT01

77NBHOT01

77SBGPLI

77SBHOT02 STA 285+20 END PVMNT CONSTRUCTION

77NBHOT02 STA 282+69.56 RET.WALL ABUTMENT 282

77NBHOT02 STA 282+64.41 END RET.WALL NB274 BEGIN I77HOTLANE BRIDGE

77NBHOT02 STA 286+90 END PVMNT CONSTRUCTION

77NBHOT02 STA 290+01.35 RET.WALL ABUTMENT 290

77NBHOT02 STA 290+05.99 END I77HOTLANE BRIDGE BEGIN RET.WALL NB290

77NBHOT-02-1: ALIGNMENT IS CONTROLED BY EXISTING GPL ALIGNMENT.

EXIST.CULVERT

EXIST.ROW

BASELINE SHIFT END 77SBHOT01 & 77NBHOT01 BEGIN 77SBHOT02 & 77NBHOT02

39' SHIFT

TS Sta. 272+93.64

POT Sta. 281+59.98

POT Sta. 281+21.10

PC Sta. 281+23.12

TS Sta. 276+29.64

TS Sta. 294+17.87

NAD 83

REVISIONS

3/3/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_RDY_PSH_08.dgn
12:18:14 PM

NOTE:
- PER BOOK 2 SECTION 10.2J SEVENTH PARAGRAPH, DEVELOPER DOES NOT HAVE TO WIDEN GENERAL PURPOSE LANES.
- ATCI BEING APPLIED BETWEEN STA 270+00 AND STA 340+00 FOLLOWING NCDOT CONCEPT PLAN STATIONING NORTHBOUND AND SOUTHBOUND HOT LANES RUNNING PARALLEL TO EXISTING SOUTHBOUND HOV LANE.

MATCH LINE STA. 291+00

MATCH LINE STA. 303+00

EXIST. ROW

77NBGPLI

77SBGPLI

77SBGPL2
STA 295+30.94
END PVMNT.CONSTRUCTION

77NBHOT-02-1: ALIGNMENT IS CONTROLED BY EXISTING GPL ALIGNMENT.

77NBHOT02
STA 302+94.98
END RET.WALL NB290

77NBHOT-02
77SBHOT02

EXIST.CULVERT

CS Sta. 289+43.98

ST Sta. 294+79.94

TS Sta. 295+03.73

CS Sta. 300+29.53

ST Sta. 301+11.80

TS Sta. 302+06.36

BL77

285+00 290+00 295+00 300+00 305+00

NAD 83

REVISIONS

3/3/2014
P:\007 177 North Carolina\PROJECT FILES\ACTIVE\177_RDY_PSH_09.dgn
12:18:17 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 67

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I77SB: STA 295+50 TO STA 297+50.
3. 77NBHOT-02-2 AND 77SBHOT-02-2: SSD OF 50MPH FOR THE NB AND SB HOT LANES FROM STA 270+00 TO STA 340+00 AS PER NCDOT'S APPROVED ATCI SECTION 3.0 DEVIATIONS POINT 5.

LEGEND

- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

NOTE:
- PER BOOK 2 SECTION 10.2.1 SEVENTH PARAGRAPH, DEVELOPER DOES NOT HAVE TO WIDEN GENERAL PURPOSE LANES.
- ATCI BEING APPLIED BETWEEN STA 270+00 AND STA 340+00 FOLLOWING NCDOT CONCEPT PLAN STATIONING NORTHBOUND AND SOUTHBOUND HOT LANES RUNNING PARALLEL TO EXISTING SOUTHBOUND HOV LANE.

77NBGPL2
STA 313+91.29
END PVMNT.CONSTRUCTION

77NBGPLI

77NBGPL2
STA 312+40.50
END PVMNT.CONSTRUCTION

77SBGPL2
STA 307+36.16
END PVMNT.CONSTRUCTION

BL77

77SBGPLI

77SBHOT02
STA 305+64.77
BEGIN BRIDGE WIDENING

77SBHOT02
STA 308+11.11
ENDN BRIDGE WIDENING

77NBHOT02
77SBHOT02

77NBHOT02
STA 305+68.74
BEGIN NEW BRIDGE

77NBHOT02
STA 308+17.09
END NEW BRIDGE

77NBHOT02
STA 314+74.54
BEGIN RET.WALL NB315

MATCH LINE STA. 303+00

MATCH LINE STA. 315+00

185 (NORTHBOUND)

185 (SOUTHBOUND)

SC Sta. 298+39.73

CS Sta. 306+69.77

CS Sta. 314+18.14

PC Sta. 315+42.96

ST Sta. 315+90.63

TS Sta. 316+42.96

REVISIONS

3/3/2014
P:\007 177 North Carolina\PROJECT FILES\ACTIVE\177_RDY_PSH_010.dgn
12:18:20 PM

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 68

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. HOT LANES OVER I85: MIN. VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK 2.
3. I77NB OVER I85: MIN. VERTICAL CLEARANCE 15.75' ACCORDING DE05-VC.
4. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DE01-SHLDR:
   - I77NB: STA 310+00 TO STA 312+00.
5. MINIMUM WIDTH FOR SHOULDER SSD ACCORDING DESIGN EXCEPTION DE03-SSD:
   - I77SB HOV OVER I85.
   - I77NB HOV OVER I85.
6. 77NBHOT-02-2 AND 77SBHOT-02-2: SSD OF 50MPH FOR THE NB AND SB HOT LANES FROM STA 270+00 TO STA 340+00 AS PER NCDOT'S APPROVED ATCI SECTION 3.0 DEVIATIONS POINT 5.

LEGEND

- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

NOTE:
- ATCI BEING APPLIED BETWEEN STA 270+00 AND STA 340+00 FOLLOWING NCDOT CONCEPT PLAN STATIONING NORTHBOUND AND SOUTHBOUND HOT LANES RUNNING PARALLEL TO EXISTING SOUTHBOUND HOV LANE.

NAD 83

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 69

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. HOT LANES UNDER I77NB: MIN. VERTICAL CLEARANCE 17' OR SAME AS EXISTING PER BOOK 2.
3. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DEOI-SHLDR:
   - I77SB: STA 323+50 TO STA 325+50.

REVISIONS

3/3/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_RDY_PSH_011.dgn
1:51:26 PM

MATCH LINE STA. 315+00

MATCH LINE STA. 327+00

77NBGPLI

77SBGPLI

77SBGPL2
STA 318+37.15
END PVMNT.CONSTRUCTION

77NBHOT02
STA 315+44.99
RET.WALL ABUTMENT 315

77NBHOT02
STA 315+70.72
BEGIN I77HOTLANE BRIDGE WIDENING

77NBHOT02
STA 315+97.18
END RET.WALL NB315

77NBHOT02
STA 316+28.48
RET.WALL ABUTMENT 316

77NBHOT02
STA 316+86.15
END BRIDGE WIDENING
BEGIN RET.WALL NB317

PROP. CULVERT

77NBHOT02
STA 319+85.28
END RET.WALL NB317

77NBHOT02
STA 320+90.00
BEGIN RET.WALL NB321

77NBHOT02
STA 321+63.98
BEGIN NBI77 BRIDGE EXTENSION

77NBHOT02
STA 323+51.43
END NBI77 BRIDGE EXTENSION

77NBHOT02
77SBHOT02

LEGEND

- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

NOTE:
- ATC BEING APPLIED BETWEEN STA 270+00 AND STA 340+00 FOLLOWING NCDOT CONCEPT PLAN STATIONING NORTHBOUND AND SOUTHBOUND HOT LANES RUNNING PARALLEL TO EXISTING SOUTHBOUND HOV LANE.

NAD 83

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 70

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.

MATCH LINE STA. 327+00

MATCH LINE STA. 339+00

EXIST.ROW

77SBGPLI
END STA 328+50.50

BASELINE SHIFT
END 77SBHOT02
BEGIN 77SBHOT03

EXIST.CULVERT

77SBHOT02

77SBHOT03

77NBHOT02
STA 332+85.00
END RET.WALL NB321

DIRECTIONAL ENFORCEMENT AREA
SEE DETAIL

BL77

77NBHOT01

77NBGPLI

77NBGPLI
STA 333+61.32
END PVMNT.CONSTRUCTION

EXIST.CULVERT

EXIST.ROW

LEGEND

- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

3/3/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_RDY_PSH_012.dgn
12:18:26 PM

NOTE:
- ATCI BEING APPLIED BETWEEN STA 270+00 AND STA 340+00 FOLLOWING NCDOT CONCEPT PLAN STATIONING NORTHBOUND AND SOUTHBOUND HOT LANES RUNNING PARALLEL TO EXISTING SOUTHBOUND HOV LANE.

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 71

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. CINDY LANE OVER I77: MIN. VERTICAL CLEARANCE 15.91' ACCORDING DE05-VC.
3. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DE01-SHLDR:
- I77SB: STA 349+00 TO STA 351+00.

MATCH LINE STA. 339+00

MATCH LINE STA. 351+00

EXIST. NAD 83

EXIST. ROW

PC Sta. 344+10.93

PT Sta. 346+84.41

POT Sta. 342+59.55

77SBHOT03

77NBHOT02

77NBHOT03

77NBGPLI
END STA 344+81.65

PROP. CULVERT

EXIST. CULVERT

DIRECTIONAL ENFORCEMENT AREA
SEE DETAIL

BASELINE SHIFT
END 77NBHOT02
BEGIN 77NBHOT03

CINDY LANE

SLATER RD

JUNIPER DRIVE

CONC MEDIAN

WOODS

ISBLK BUS

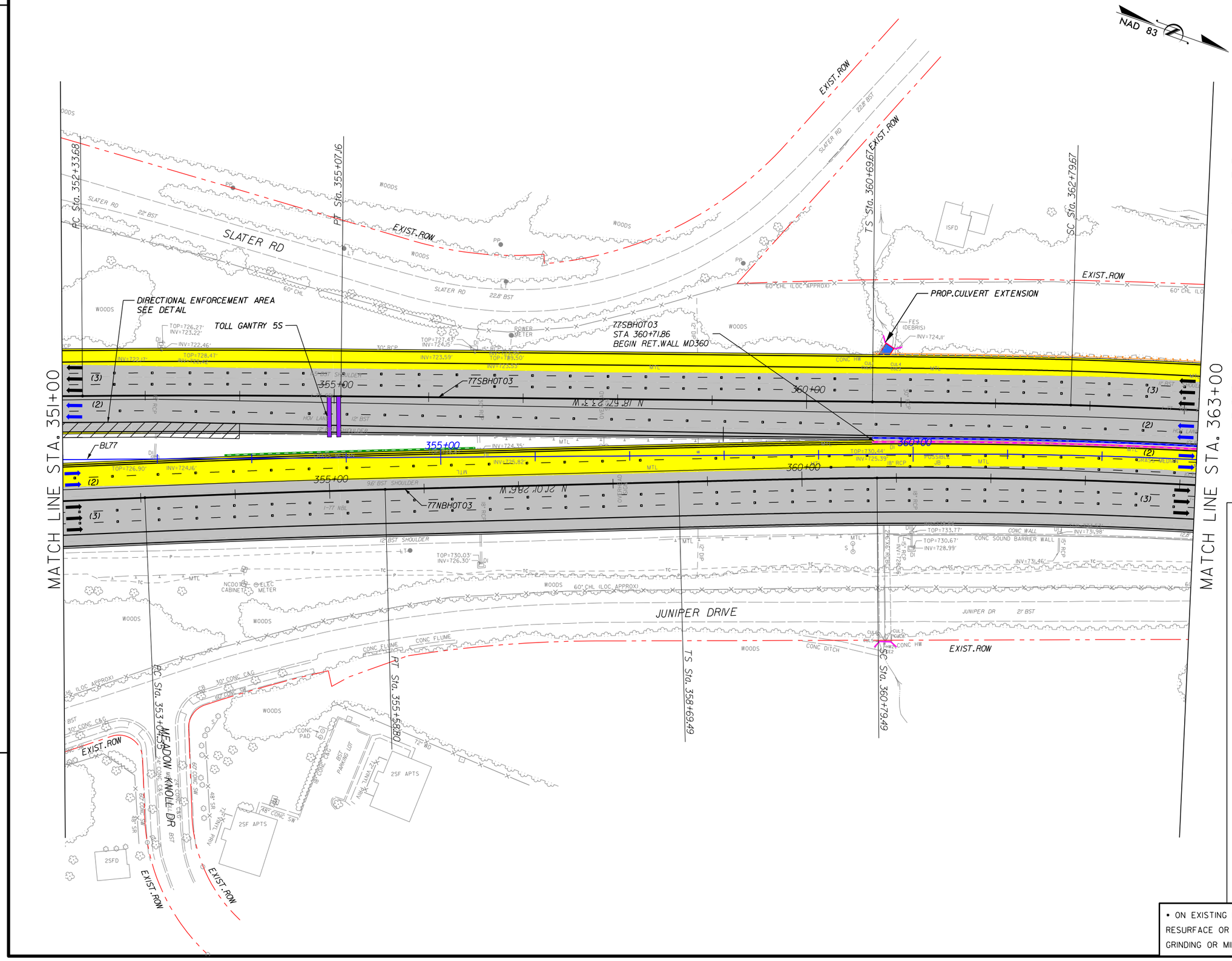
LEGEND

- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

3/3/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77_RDY_PSH_013.dgn
12:18:29 PM



I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 72

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

SCALE: 1"=100'

NOTES:
1. ALL RETAINING WALL ARE MSE TYPE, UNLESS OTHERWISE NOTED ON PLANS.
2. SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DE01-SHLDR:
   - I77SB: STA 361+00 TO STA 363+00.
   - I77NB: STA 359+00 TO STA 361+00.
3. MEDIAN SHOULDER WIDTH ACCORDING DESIGN EXCEPTION DE06-INGRESS:
   - I77SB: STA 361+00 TO STA 418+00.
4. TOLL GANTRY STRUCTURE WITH MEDIAN SHOULDER WIDTH LESS THAN MINIMUM ACCORDING DESIGN EXCEPTION DE01-SHLDR.

LEGEND
- WIDENING/NEW PAVEMENT
- EXISTING PAVEMENT•
- RAMP RESURFACING
- CROSS STREET
- EXISTING STRUCTURE
- BRIDGE/WIDENING
- BRIDGE EXTENSION
- SIDEWALK & CURB
- DRIVEWAYS
- TOLL GANTRY
- ENFORCEMENT AREA
- EXISTING ROW
- PROPOSED ROW
- PROP. CONTROL OF ACCESS
- PROPOSED RET. WALL
- RAIL BARRIER W/M. SLAB
- TRAFFIC RAIL TY T
- TRAFFIC RAIL TY T2
- GUARDRAIL
- HOT LANE TRAFFIC LANE
- CULVERT EXTENSION

• ON EXISTING PAVEMENT SCOPE OF WORK INCLUDES RESURFACE OR MILL & REHABILITATION & DIAMOND GRINDING OR MILL & OVERLAY

REVISIONS

2/26/2014
P:\007 177 North Carolina\PROJECT FILES\ACTIVE\177_RDY_PSH_014.dgn
1:56:58 PM

0 25 50 100(H)
0 2.5 5 10 (V)

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 173

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

REVISIONS

2/14/2014
P:\007177 North Carolina\PROJECT FILES\ACTIVE\177*RDY*PRF*0904.dgn
6:28:25 PM

760
750
740
730
720
710
700
690
680
670
660

PI = 158+81.19
EL = 696.45'
VC = 1,051'
K = 96

(-)6.0000%
(+)4.7089%

W. BROOKSHIRE FREEWAY (I277)

NOTES:
- DIRECT CONNECTOR AT:
  HAMILTON STREET
  I277 WESTBOUND AND I77 SOUTHBOUND
  I77 NORTHBOUND GENERAL PURPOSE LANES
  I277 WESTBOUND GENERAL PURPOSE LANES
  HAVE A MINIMUM VERTICAL CLEARANCE OF 17 FEET, PER BOOK 2.

- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.

- VERTICAL ALIGNMENT FOR MANAGED LANE CONNECTOR BETWEEN I277 AND I77, GRADE 1% STEEPER THAN THE ROLLING TERRAIN 50MPH. VALUE SHOWN AT TABLE 8.1 IN AASHTO'S 2011 A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS PER URBAN AND AREAS WITH RIGHT OF WAY CONSTRAINTS.

150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00 162+00 163+00

0 25 50 100(H)
0 2.5 5 10 (V)

I-77 HOT Lanes Project

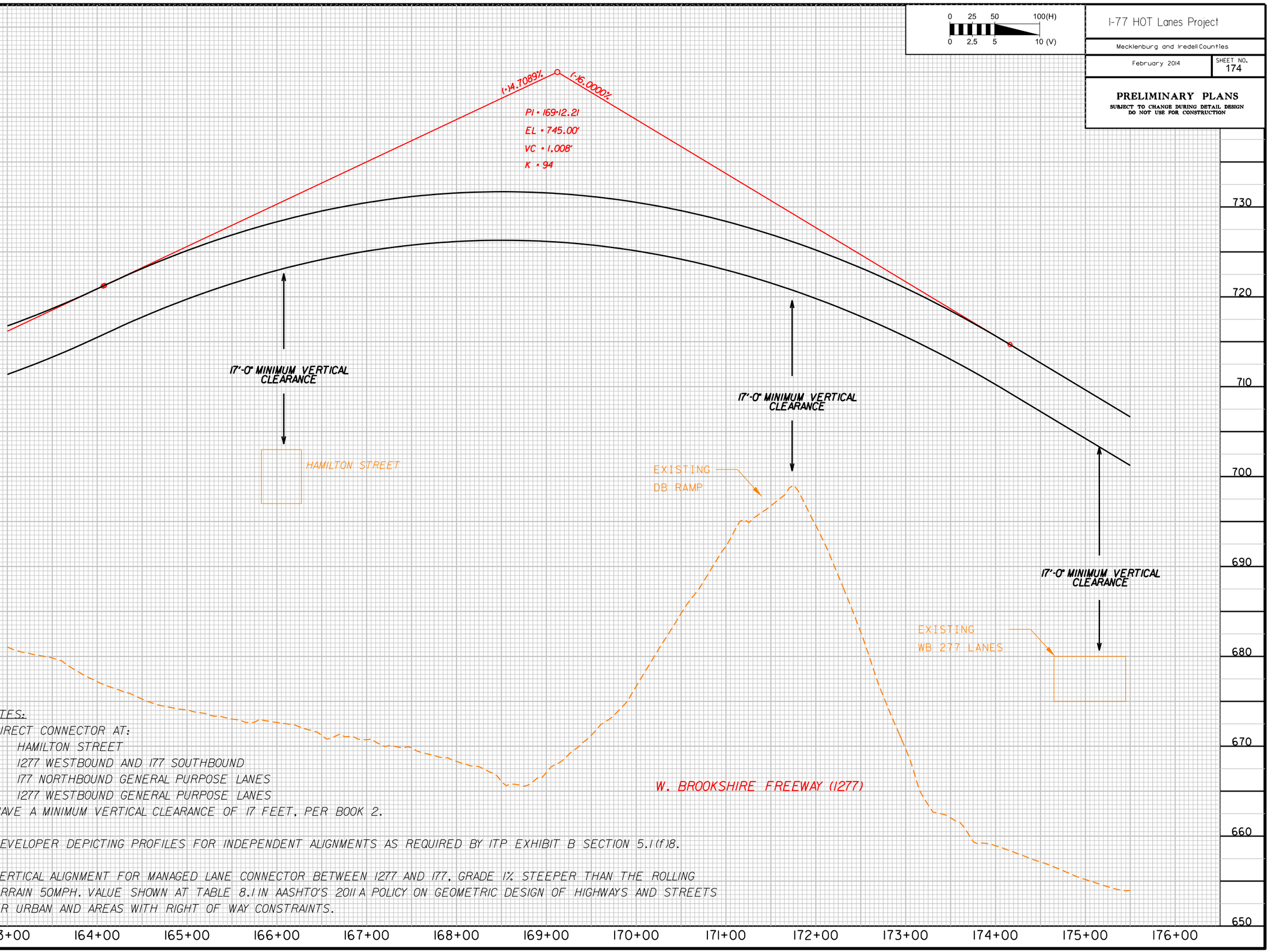
Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 174

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

REVISIONS

2/14/2014
P:\007177 North Carolina\PROJECT FILES\ACTIVE\177*RDY*PRF*0905.dgn
6:28:27 PM



NOTES:

- DIRECT CONNECTOR AT:
  - HAMILTON STREET
  - I277 WESTBOUND AND I77 SOUTHBOUND
  - I77 NORTHBOUND GENERAL PURPOSE LANES
  - I277 WESTBOUND GENERAL PURPOSE LANES

  HAVE A MINIMUM VERTICAL CLEARANCE OF 17 FEET, PER BOOK 2.

- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.

- VERTICAL ALIGNMENT FOR MANAGED LANE CONNECTOR BETWEEN I277 AND I77, GRADE 1% STEEPER THAN THE ROLLING TERRAIN 50MPH. VALUE SHOWN AT TABLE 8.1 IN AASHTO'S 2011 A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS PER URBAN AND AREAS WITH RIGHT OF WAY CONSTRAINTS.

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

REVISIONS

2/14/2014
P:\007 I77 North Carolina\PROJECT FILES\ACTIVE\I77+RDY+PRF+0906.dgn
6:28:29 PM

PROPOSED
OAKLAWN BRIDGE

17'-0" MINIMUM VERTICAL CLEARANCE

PI = 183+63.48
EL = 657.72'
VC = 596'
K = 96

I-15.0000%

I+10.1962%

MATCHLINE STA 189+00

710
700
690
680
670
660
650
640
630
620

176+00 177+00 178+00 179+00 180+00 181+00 182+00 183+00 184+00 185+00 186+00 187+00 188+00 189+00

W. BROOKSHIRE FREEWAY (I277)

659.08

MATCHLINE STA 189+00

189+00 190+00 191+00

NOTES:

- DIRECT CONNECTOR AT:
  HAMILTON STREET
  I277 WESTBOUND AND I77 SOUTHBOUND
  I77 NORTHBOUND GENERAL PURPOSE LANES
  I277 WESTBOUND GENERAL PURPOSE LANES
  HAVE A MINIMUM VERTICAL CLEARANCE OF 17 FEET, PER BOOK 2.

- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.

- VERTICAL ALIGNMENT FOR MANAGED LANE CONNECTOR BETWEEN I277 AND I77, GRADE 1% STEEPER THAN THE ROLLING TERRAIN 50MPH. VALUE SHOWN AT TABLE 8.1 IN AASHTO'S 2011 A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS PER URBAN AND AREAS WITH RIGHT OF WAY CONSTRAINTS.

NOTES:
- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.
- DELOPER NOT REPROFILING THE EXISTING HIGHWAY IN ORDER TO MEET THE DESIGN SPEED SPECIFIED IN BOOK 2 ON LOCATIONS WHERE THE MANAGED LANES DON'T HAVE INDEPENDENT ALIGNMENTS AS ALLOWED BY BOOK 2 SECTION 10.2.3. ON THIS LOCATION, THE DESIGNER DOES NOT HAVE TO UPGRADE THE EXISITNG FACILITY VERTICAL PROFILE SLOPE NOR K VALUES IN ORDER TO MEET EITHER 60 MPH OR 70 MPH (SECTIONS CENTRAL AND NORTH).

0 25 50 100(H)
0 2.5 5 10 (V)

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 176

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

REVISIONS

2/14/2014
P:\007177 North Carolina\PROJECT FILES\ACTIVE\I77*RDY*PRF*0130.dgn
6:27:44 PM

710
700
690
680
670

269+00
SOUTHBOUND LANES
270+00 271+00 272+00 273+00 274+00 275+00 276+00 277+00 278+00 279+00 280+00 281+00

PI = 275+54.74
EL = 679.70'
VC = 355'
K = 206
(-)11.0801%
(+)12.8029%

PI = 279+50.05
EL = 690.78'
VC = 163'
K = 136
(-)12.8029%
(+)4.0034%

690
680
670

269+00
NORTHBOUND LANES
270+00 271+00 272+00 273+00 274+00 275+00 276+00 277+00 278+00 279+00 280+00 281+00

PI = 274+28.06
EL = 675.46'
VC = 516'
K = 206
(-)10.3977%
(+)12.9001%

PI = 279+50.30
EL = 690.61'
VC = 150'
K = 136
(+)12.9001%
(+)4.0035%

2/14/2014
P:\007177 North Carolina\PROJECT FILES\ACTIVE\177*RDY*PRF*0131.dgn
6:27:46 PM

REVISIONS

0 25 50 100(H)
0 2.5 5 10 (V)

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 177

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

PI = 283+80.26
EL = 709.48'
VC = 396'
K = 151

STA 281+21.10
ALIGNMENT SHIFT
697.63

(-)4.2716%
(+)1.6493%

17'-0" MINIMUM VERTICAL CLEARANCE

NOTES:
- HOT LANES OVER I77 NORTHBOUND LANES HAVE A MINIMUM 17 FOOT VERTICAL CLEARANCE, PER BOOK 2.
- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.
- DELOPER NOT REPROFILING THE EXISTING HIGHWAY IN ORDER TO MEET THE DESIGN SPEED SPECIFIED IN BOOK 2 ON LOCATIONS WHERE THE MANAGED LANES DON'T HAVE INDEPENDENT ALIGNMENTS AS ALLOWED BY BOOK 2 SECTION 10.2.3. ON THIS LOCATION, THE DESIGNER DOES NOT HAVE TO UPGRADE THE EXISITNG FACILITY VERTICAL PROFILE SLOPE NOR K VALUES IN ORDER TO MEET EITHER 60 MPH OR 70 MPH (SECTIONS CENTRAL AND NORTH).

720 710 700 690 680

281+00 282+00 283+00 284+00 285+00 286+00 287+00 288+00 289+00 290+00 291+00 292+00 293+00

SOUTHBOUND LANES

PI = 284+14.07
EL = 709.96'
VC = 355'
K = 151

STA 281+21.10
ALIGNMENT SHIFT
697.45
698.23

(-)4.0035%
(+)1.6493%

17'-0" MINIMUM VERTICAL CLEARANCE

720 710 700 690 680

281+00 282+00 283+00 284+00 285+00 286+00 287+00 288+00 289+00 290+00 291+00 292+00 293+00

NORTHBOUND LANES

2/14/2014
P:\007177 North Carolina\PROJECT FILES\ACTIVE\177*RDY*PRF*0132.dgn
6:27:48 PM

REVISIONS

0 25 50 100(H)
0 2.5 5 10 (V)

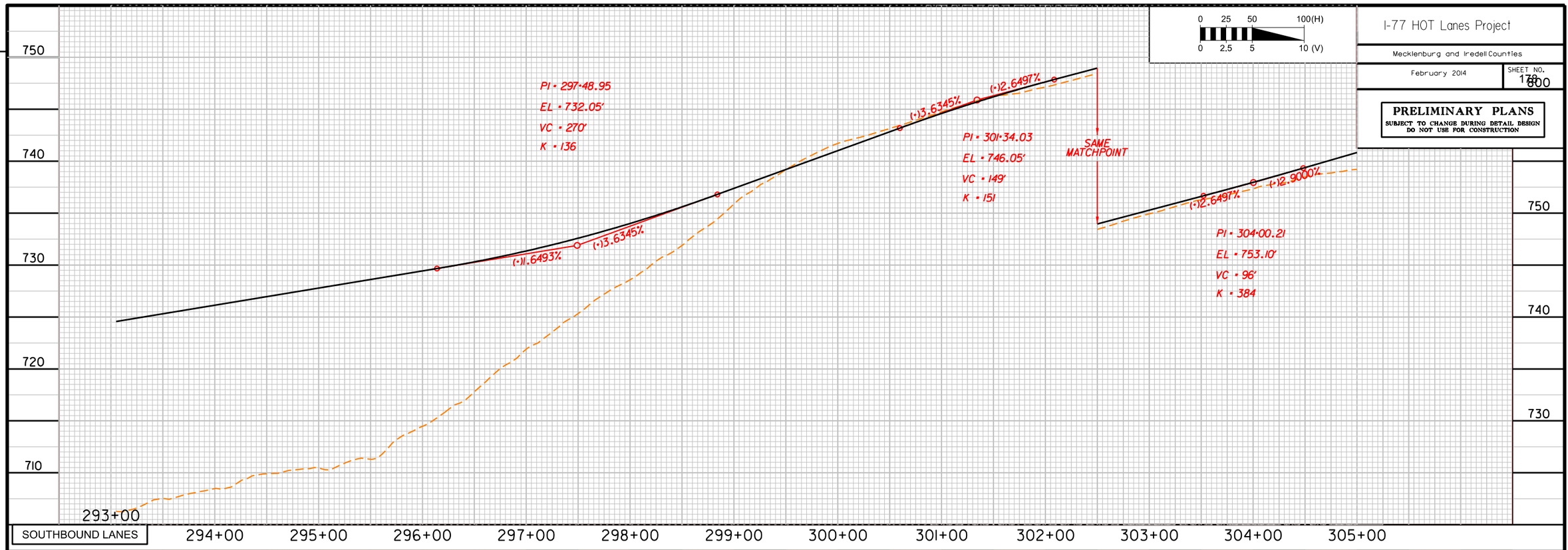
I-77 HOT Lanes Project

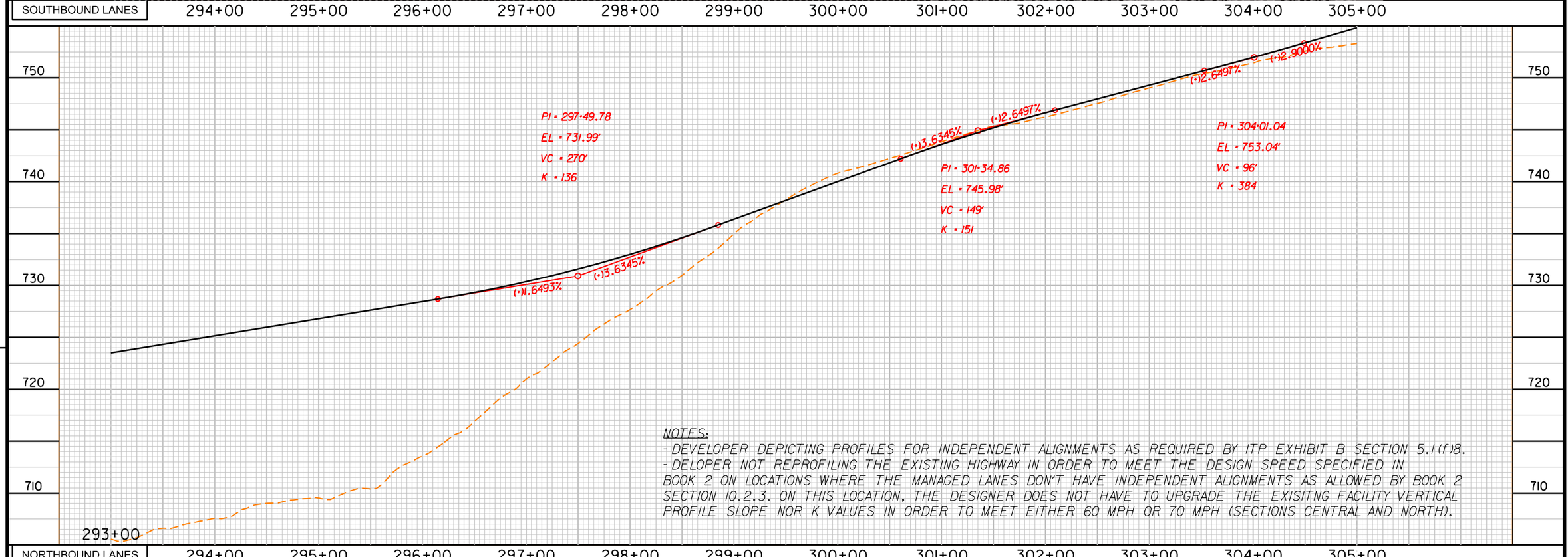
Mecklenburg and Iredell Counties

February 2014

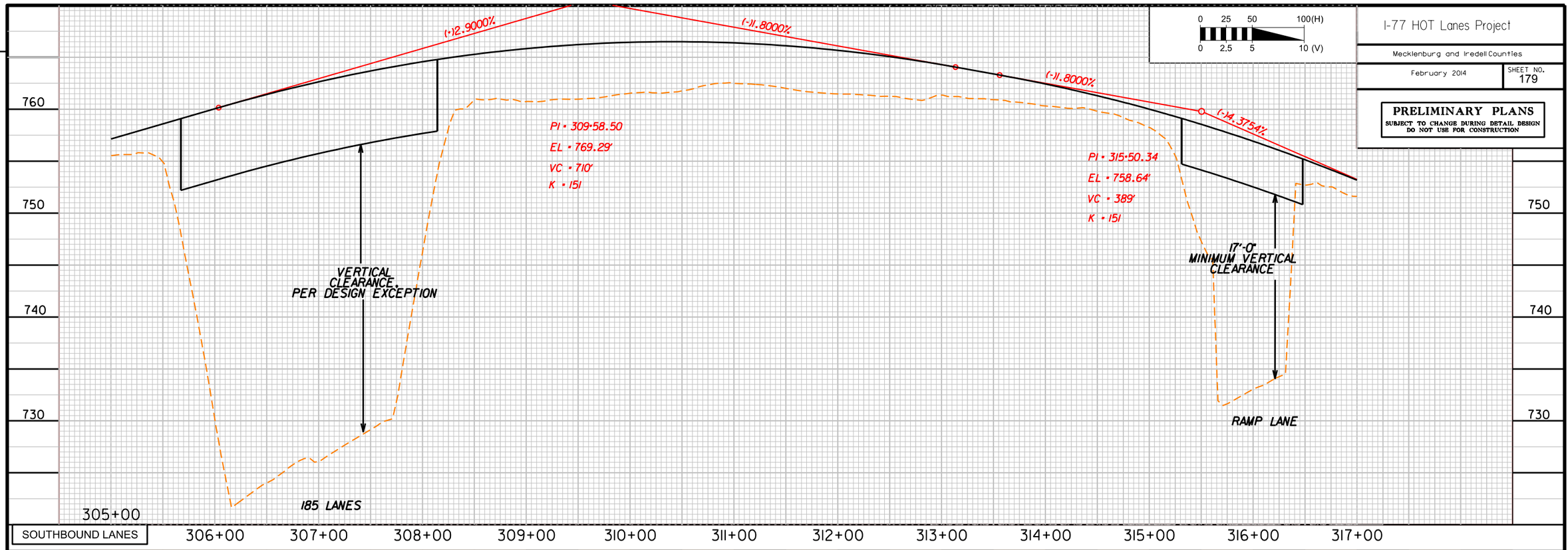
SHEET NO. 178

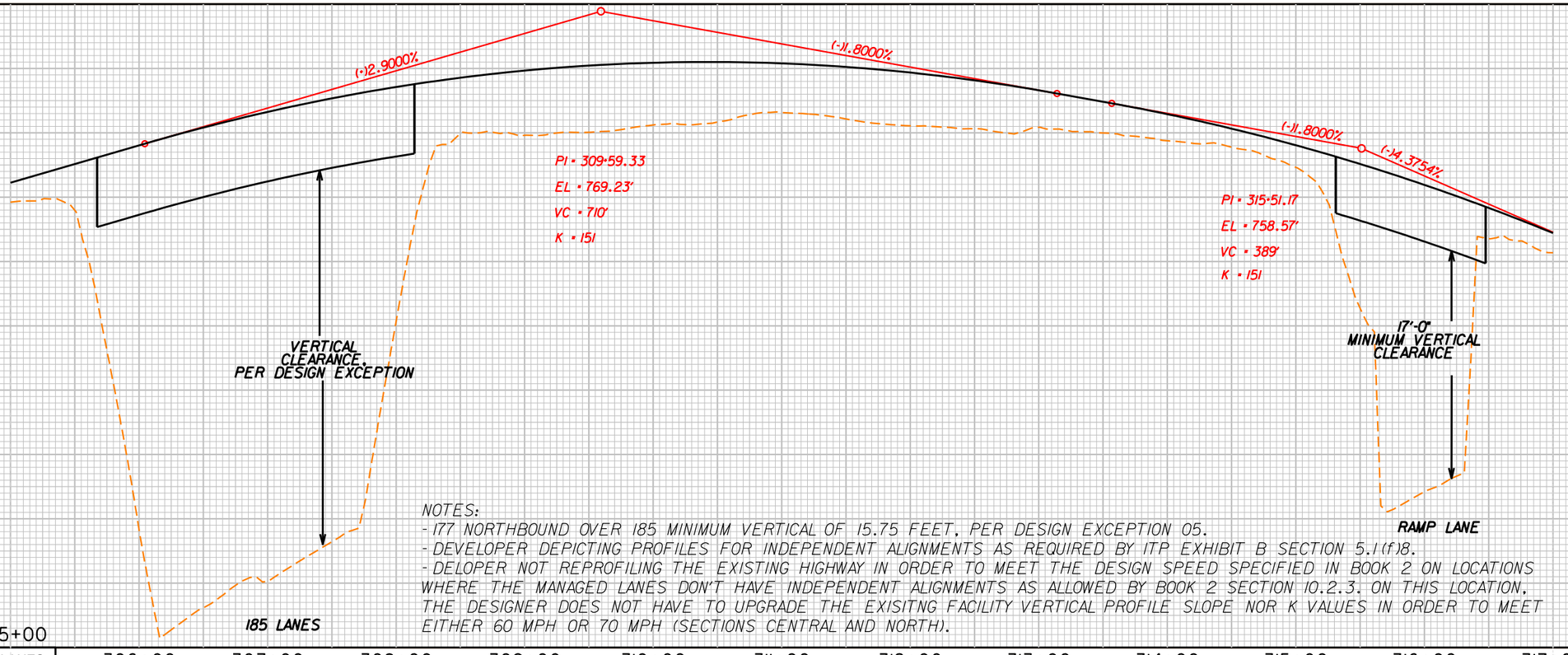
PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION





NOTES:
- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.
- DELOPER NOT REPROFILING THE EXISTING HIGHWAY IN ORDER TO MEET THE DESIGN SPEED SPECIFIED IN BOOK 2 ON LOCATIONS WHERE THE MANAGED LANES DON'T HAVE INDEPENDENT ALIGNMENTS AS ALLOWED BY BOOK 2 SECTION 10.2.3. ON THIS LOCATION, THE DESIGNER DOES NOT HAVE TO UPGRADE THE EXISITNG FACILITY VERTICAL PROFILE SLOPE NOR K VALUES IN ORDER TO MEET EITHER 60 MPH OR 70 MPH (SECTIONS CENTRAL AND NORTH).





NOTES:
- I77 NORTHBOUND OVER I85 MINIMUM VERTICAL OF 15.75 FEET, PER DESIGN EXCEPTION 05.
- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.
- DELOPER NOT REPROFILING THE EXISTING HIGHWAY IN ORDER TO MEET THE DESIGN SPEED SPECIFIED IN BOOK 2 ON LOCATIONS WHERE THE MANAGED LANES DON'T HAVE INDEPENDENT ALIGNMENTS AS ALLOWED BY BOOK 2 SECTION 10.2.3. ON THIS LOCATION, THE DESIGNER DOES NOT HAVE TO UPGRADE THE EXISITNG FACILITY VERTICAL PROFILE SLOPE NOR K VALUES IN ORDER TO MEET EITHER 60 MPH OR 70 MPH (SECTIONS CENTRAL AND NORTH).

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 179

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

REVISIONS

2/14/2014
P:\007177 North Carolina\PROJECT FILES\ACTIVE\177+RDY+PRF+0133.dgn
6:27:50 PM

NOTES:
- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.
- DELOPER NOT REPROFILING THE EXISTING HIGHWAY IN ORDER TO MEET THE DESIGN SPEED SPECIFIED IN BOOK 2 ON LOCATIONS WHERE THE MANAGED LANES DON'T HAVE INDEPENDENT ALIGNMENTS AS ALLOWED BY BOOK 2 SECTION 10.2.3. ON THIS LOCATION, THE DESIGNER DOES NOT HAVE TO UPGRADE THE EXISITNG FACILITY VERTICAL PROFILE SLOPE NOR K VALUES IN ORDER TO MEET EITHER 60 MPH OR 70 MPH (SECTIONS CENTRAL AND NORTH).

0 25 50 100(H)
0 2.5 5 10 (V)

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 180

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

REVISIONS

2/14/2014
P:\007177 North Carolina\PROJECT FILES\ACTIVE\I77*RDY*PRF*0134.dgn
6:27:53 PM

I77 NB

760
750
740
730

PI = 321+23.15
EL = 733.58'
VC = 681'
K = 136

17'-0" MINIMUM VERTICAL CLEARANCE

PI = 327+60.86
EL = 737.59'

(-)4.3754%
(+)0.6294%
(+)0.6294%
(+)0.6861%

317+00
SOUTHBOUND LANES
318+00 319+00 320+00 321+00 322+00 323+00 324+00 325+00 326+00 327+00 328+00 329+00

I77 NB

760
750
740
730

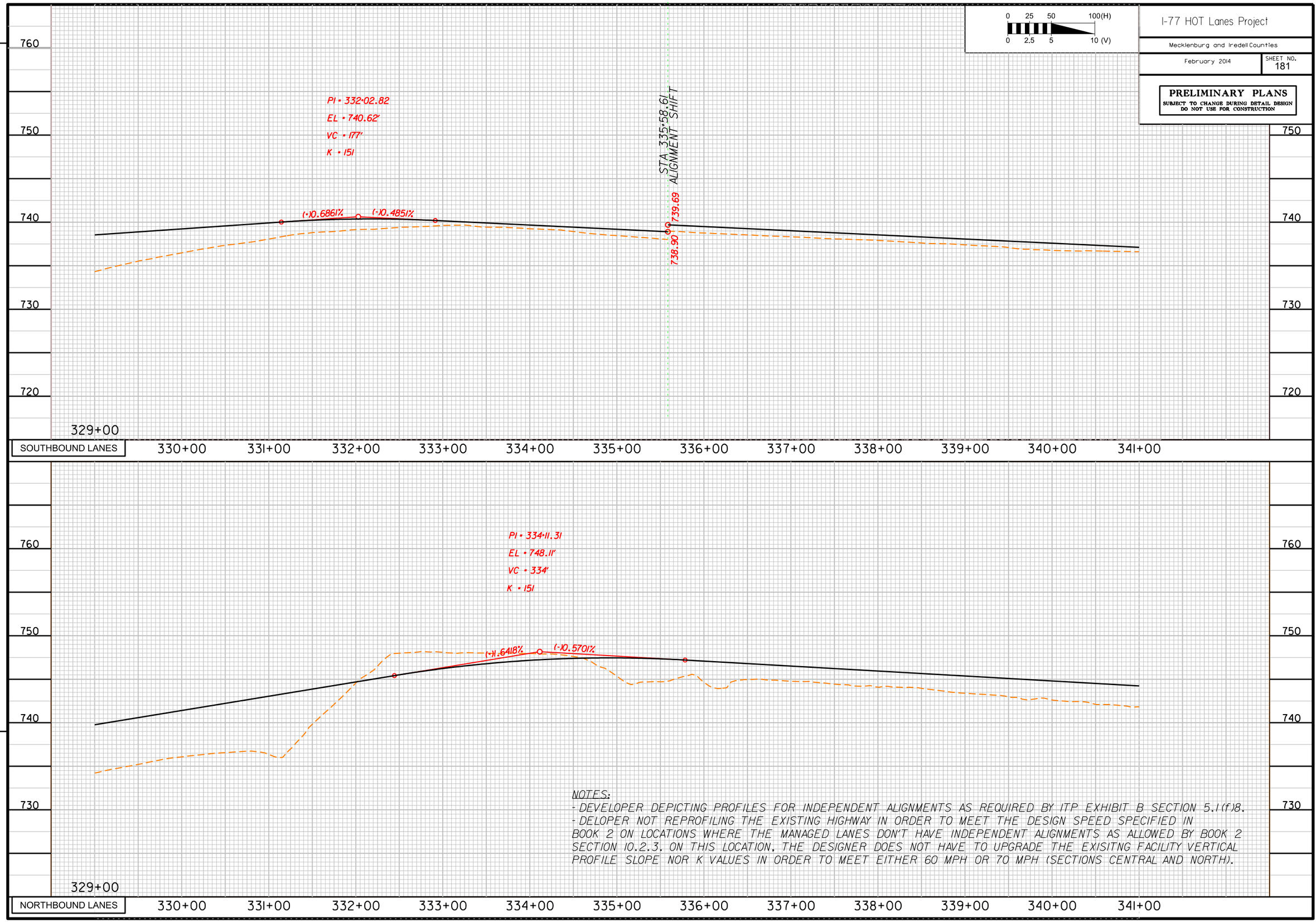
PI = 321+23.98
EL = 733.51'
VC = 680'
K = 136

17'-0" MINIMUM VERTICAL CLEARANCE

PI = 327+66.82
EL = 737.53'
VC = 138'
K = 136

(-)4.3754%
(+)0.6244%
(+)0.6244%
(+)1.6418%

317+00
NORTHBOUND LANES
318+00 319+00 320+00 321+00 322+00 323+00 324+00 325+00 326+00 327+00 328+00 329+00



REVISIONS

2/14/2014
P:\007177 North Carolina\PROJECT FILES\ACTIVE\177*RDY*PRF*0135.dgn
6:27:55 PM

NOTES:

- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.
- DELOPER NOT REPROFILING THE EXISTING HIGHWAY IN ORDER TO MEET THE DESIGN SPEED SPECIFIED IN BOOK 2 ON LOCATIONS WHERE THE MANAGED LANES DON'T HAVE INDEPENDENT ALIGNMENTS AS ALLOWED BY BOOK 2 SECTION 10.2.3. ON THIS LOCATION, THE DESIGNER DOES NOT HAVE TO UPGRADE THE EXISITNG FACILITY VERTICAL PROFILE SLOPE NOR K VALUES IN ORDER TO MEET EITHER 60 MPH OR 70 MPH (SECTIONS CENTRAL AND NORTH).

0 25 50 100(H)
0 2.5 5 10 (V)

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 182

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

REVISIONS

2/14/2014
P:\007177 North Carolina\PROJECT FILES\ACTIVE\I77*RDY*PRF*0136.dgn
6:27:57 PM

CINDY LANE

PI = 345+39.26
EL = 735.03'

PI = 348+03.10
EL = 733.09'

PI = 350+46.55
EL = 732.23'

VERTICAL CLEARANCE PER DESIGN EXCEPTION

(-)0.4753%
(-)0.7337%
(-)0.7337%
(-)0.3542%
(-)0.3542%
(-)0.4961%

770 760 750 740 730

341+00 342+00 343+00 344+00 345+00 346+00 347+00 348+00 349+00 350+00 351+00 352+00 353+00

SOUTHBOUND LANES

CINDY LANE

STA 281+21.10
ALIGNMENT SHIFT

743.27'
742.97'

PI = 344+21.89
EL = 742.04'
VC = 325'
K = 859

VERTICAL CLEARANCE PER DESIGN EXCEPTION

(-)0.5701%
(-)0.9483%

770 760 750 740 730

341+00 342+00 343+00 344+00 345+00 346+00 347+00 348+00 349+00 350+00 351+00 352+00 353+00

NORTHBOUND LANES

NOTES:
- OAKLAWN AVENUE BRIDGE HAS A MINIMUM VERTICAL CLEARANCE OF 17 FEET, PER BOOK 2.
- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.

0 25 50 100(H)
0 2.5 5 10 (V)

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014

SHEET NO. 192

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION

PI = 15+34.63
EL = 689.91'
VC = 533'
K = 61

PI = 19+13.38
EL = 678.98'
K = 79
VC = 167'

PI = 12+19.33
EL = 671.44'

670.33

678.20

(+)15.8579%
(-)12.8840%
(+)15.9664%
(+)15.8579%
(-)12.8840%
(-)10.7732%

17'-0" MINIMUM VERTICAL CLEARANCE

690
680
670
660
650
640

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

OAKLAWN AVENUE

REVISIONS

3/6/2014
P:\007 177 North Carolina\PROJECT FILES\ACTIVE\177_RDY_PRF_0901.dgn
2:46:03 PM

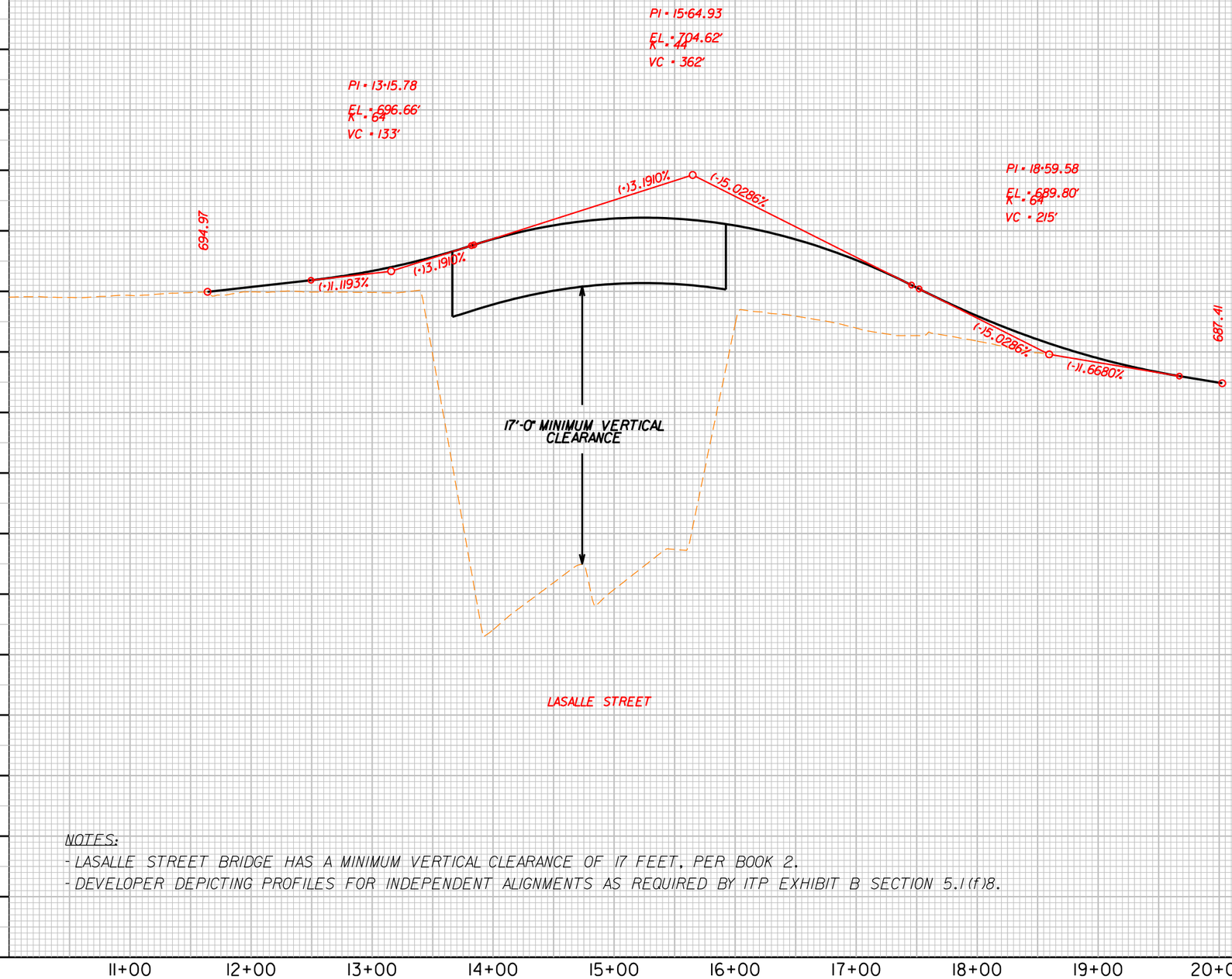
0 25 50 100(H)
0 2.5 5 10 (V)

I-77 HOT Lanes Project

Mecklenburg and Iredell Counties

February 2014 | SHEET NO. 193

PRELIMINARY PLANS
SUBJECT TO CHANGE DURING DETAIL DESIGN
DO NOT USE FOR CONSTRUCTION



NOTES:
- LASALLE STREET BRIDGE HAS A MINIMUM VERTICAL CLEARANCE OF 17 FEET, PER BOOK 2.
- DEVELOPER DEPICTING PROFILES FOR INDEPENDENT ALIGNMENTS AS REQUIRED BY ITP EXHIBIT B SECTION 5.1(f)8.

REVISIONS

2/14/2014
P:\007 177 North Carolina\PROJECT FILES\ACTIVE\177*RDY*PRF*0902.dgn
6:28:20 PM