Pre-Construction Notification (PCN) Form

For Nationwide Permits and Regional General Permits

(along with corresponding Water Quality Certifications)

January 31, 2018 Ver 2.3

*Please note: fields marked with a red asterisk * below are required. You will not be able to submit the form until all mandatory questions are answered.*

Also, if at any point you wish to print a copy of the E-PCN, all you need to do is right-click on the document and you can print a copy of the form.

Below is a link to the online help file.

https://edocs.deq.nc.gov/WaterResources/0/edoc/624704/PCN%20Help%20File%202018-1-30.pdf

A. Processing Information

County (or Counties) where the project is located:*

Brunswick

New Hanover

Is this project a public transportation project?* (?)

(•) Yes ( ) No

Is this a NCDOT Project?*

(•) Yes ( ) No

(NCDOT only) T.I.P. or state project number:

R-2633D

WBS #

34491.1.12

(for NCDOT use only)

1a. Type(s) of approval sought from the Corps:*

☑ Section 404 Permit (wetlands, streams and waters, Clean Water Act)

☑ Section 10 Permit (navigable waters, tidal waters, Rivers and Harbors Act)

1b. What type(s) of permit(s) do you wish to seek authorization?*

☑ Nationwide Permit (NWP)

☐ Regional General Permit (RGP)

Nationwide Permit (NWP) Number: **12 - Utility Lines**

NWP Number Other:

List all NW numbers you are applying for not on the drop down list.

1c. Type(s) of approval sought from the DWR:*

check all that apply

☑ 401 Water Quality Certification - Regular

☐ 401 Water Quality Certification - Express

☐ Non-404 Jurisdictional General Permit

☐ Riparian Buffer Authorization

1d. Is this notification solely for the record because written approval is not required? *

For the record only for DWR 401 Certification: ◉ Yes ○ No

For the record only for Corps Permit: ○ Yes ◉ No

1e. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts?

If so, attach the acceptance letter from mitigation bank or in-lieu fee program.

○ Yes ◉ No

1f. Is the project located in any of NC's twenty coastal counties? *

◉ Yes ○ No

1g. Is the project located within a NC DCM Area of Environmental Concern (AEC)? *

◉ Yes ○ No ○ Unknown

1h. Is the project located in a designated trout watershed? *

○ Yes ◉ No

Link to trout information: http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout.aspx

B. Applicant Information

1a. Who is the Primary Contact? *

NCDOT

1b. Primary Contact Email: *

crivenbark@ncdot.gov

1c. Primary Contact Phone: *

(xxx)xxx-xxxx

(919)707-6152

1d. Who is applying for the permit?

☑ Owner ☐ Applicant (other than owner) ☐ Agent/Consultant

(Check all that apply)

2. Owner Information

2a. Name(s) on recorded deed:

2b. Deed book and page no.:

2c. Responsible party:

(for Corporations)

2d. Address

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

2e. Telephone Number:

(xxx)xxx-xxxx

2f. Fax Number:

(xxx)xxx-xxxx

2g. Email Address: *

pharris@ncdot.gov

C. Project Information and Prior Project History

1. Project Information

1a. Name of project: *

R-2633D

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town: *

Wilmington

1d. Driving directions *

If it is a new project and can not easily be found in a GPS mapping system. Please provide directions.

34.276981 N, -77.982266 W

2. Project Identification

2a. Property Identification Number:

(tax PIN or parcel ID)

2b. Property size:

(in acres)

2c. Project Address

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

2d. Site coordinates in decimal degrees

Please collect site coordinates in decimal degrees. Use between 4-6 digits (unless you are using a survey-grade GPS device) after the decimal place as appropriate, based on how the location was determined. (For example, most mobile phones with GPS provide locational precision in decimal degrees to map coordinates to 5 or 6 digits after the decimal place.)

Latitude: *

34.276981

ex: 34.208504

Longitude: *

-77.982266

-77.796371

3. Surface Waters

3a. Name of the nearest body of water to proposed project: *

Cape Fear and Northeast Cape Fear Rivers; Toomers Creek; Cartwheel Branch; Alligator Branch

3b. Water Resources Classification of nearest receiving water: *

C; Sw (Cape Fear, Northeast Cape Fear and Alligator Branch), WS-IV (Toomers Creek), and SC;Sw (Cartwheel Branch)

Surface Water Lookup

3c. What river basin(s) is your project located in? *

Cape Fear

River Basin Lookup

4. Project Description

4a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: *

Four-lane interstate facility (I-140) and maintained road shoulders.

4b. Attach an 8 1/2 X 11 excerpt from the most recent version of the USGS topographic map indicating the location of the project site. (for DWR)

Click the upload button or drag and drop files here to attach document

File type must be pdf

4c. Attach an 8 1/2 X 11 excerpt from the most recent version of the published County NRCS Soil Survey map depicting the project site. (for DWR)

Click the upload button or drag and drop files here to attach document

File type must be pdf

4d. List the total estimated acreage of all existing wetlands on the property:

A wetland delineation updated after the construction of R-2633 A,B, and C (I-140, Wilmington Bypass) is not available. All impacts assumed to be in wetlands.

4e. List the total estimated linear feet of all existing streams on the property:

(intermittent and perennial)

A stream delineation updated after the construction of R-2633 A,B, and C (I-140, Wilmington Bypass) is not available. However, there are 8 bridged stream crossings on the project, with an estimated linear footage of 2,000 ft. assuming a 250 ft. ROW width.

4f. Explain the purpose of the proposed project: *

The purpose of the project is to install facilities that support Intelligent Transportation Systems (ITS) along parts of I-140 and I-40, to facilitate safer and more efficient movement along the transportation network

4g. Describe the overall project in detail, including indirect imapacts and the type of equipment to be used: *

ITS infrastructure includes conduit, cable, closed circuit TV, and associated cabinets and junction boxes. Cable will be installed via directional bore along the road corridor, or run through new or existing conduit on the underside of longer bridges (Cape Fear, Northeast Cape Fear). Horizontal directional drilling equipment will be used. Any jurisdictional impacts will result from junction box placement.

4h. Please upload project drawings for the proposed project.

Click the upload button or drag and drop files here to attach document

combined drawings.pdf 13.4MB

File type must be pdf

5. Jurisdictional Determinations

5a. Have the wetlands or streams been delineated on the property or proposed impact areas? *

○ Yes ◉ No ○ Unknown

Comments:

All work will be completed within DOT ROW for I-140; an updated stream and wetland delineation has not been completed since the transportation facility was constructed.

5b. If the Corps made a jurisdictional determination, what type of determination was made? *

○ Preliminary ○ Approved ○ Unknown ◉ N/A

Corps AID Number:

Example: SAW-2017-99999

5c. If 5a is yes, who delineated the jurisdictional areas?

Name (if known):

Agency/Consultant Company:

Other:

5d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.

5d1. Jurisdictional determination upload

Click the upload button or drag and drop files here to attach document

File type must be PDF

6. Project History

6a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past? *

○ Yes ◉ No ○ Unknown

7. Future Project Plans

7a. Is this a phased project? *

○ Yes ◉ No

Are any other NWP(s), regional general permit(s), or individual permits(s) used, or intended to be used, to authorize any part of the proposed project or related activity? This includes other separate and distant crossing for linear projects that require Department of the Army authorization but don't require pre-construction notification.

D. Proposed Impacts Inventory

1. Impacts Summary

1a. Where are the impacts associated with your project? (check all that apply):

☑ Wetlands ☐ Streams-tributaries ☐ Buffers

☐ Open Waters ☐ Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Site # - Reason for impact *	2b. Impact type *	2c. Type of wetland *	2d. Wetland name *	2e. Forested *	2f. Type of Jurisdicition *	2g. Impact area *
R-2633A Section - Fill (Junction Boxes; Sheets 4-16 and 56-58) Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Unknown**	**N/A**	**No**	**Both** (404, 10) or DWR (401, other)	**0.010** (acres)
R-2633B Section - Fill (Junction Boxes; Sheets 17-34) Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Unknown**	**N/A**	**No**	**Both** (404, 10) or DWR (401, other)	**0.010** (acres)

2a. Site # - Reason for impact *	2b. Impact type *	2c. Type of wetland *	2d. Wetland name *	2e. Forested *	2f. Type of Jurisdicition *	2g. Impact area *
R-2633C Section - Fill (Junction Boxes; Sheets 35-55) Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Unknown**	**N/A**	**No**	**Both** (404, 10) or DWR (401, other)	**0.010** (acres)

2g. Total Temporary Wetland Impact

0.000

2g. Total Permanent Wetland Impact

0.030

2g. Total Wetland Impact

0.030

2h. Comments:

E. Impact Justification and Mitigation

1. Avoidance and Minimization

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing the project: *

Smallest footprint possible for junction boxes was used; assumed all impacts from junction boxes are in wetlands (updated delineation not available); conduit for cable crossings of Section 10 resources (Cape Fear, Northeast Cape Fear Rivers) attached to existing bridges will not hang below the low chord elevation.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques: *

Cable will be installed via directional bore throughout the project, or run through conduit attached to the underside of bridges over the Cape Fear and Northeast Cape Fear Rivers.

2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State

2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?

○ Yes ◉ No

2b. If this project DOES NOT require Compensatory Mitigation, explain why:

Wetland impacts are minimal and below established thresholds that require compensatory mitigation.

NC Stream Temperature Classification Maps can be found under the Mitigation Concepts tab on the Wilmington District's RIBITS website.

F. Stormwater Management and Diffuse Flow Plan (required by DWR)

*** Recent changes to the stormwater rules have required updates to this section .***

1. Diffuse Flow Plan

1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?

○ Yes ◉ No

For a list of options to meet the diffuse flow requirements, click here.

If no, explain why:

2. Stormwater Management Plan

2a. Is this a NCDOT project subject to compliance with NCDOT's Individual NPDES permit NCS000250? *

(•) Yes ( ) No

G. Supplementary Information

1. Environmental Documentation

1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? *

(•) Yes ( ) No

1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)? *

(•) Yes ( ) No

1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) *

(•) Yes ( ) No

NEPA or SEPA Final Approval Letter

Click the upload button or drag and drop files here to attach document

FILE TYPE MUST BE PDF

2. Violations (DWR Requirement)

2a. Is the site in violation of DWR Water Quality Certification Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), or DWR Surface Water or Wetland Standards or Riparian Buffer Rules (15A NCAC 2B .0200)? *

( ) Yes (•) No

2b. Is this an after-the-fact permit application? *

( ) Yes (•) No

3. Cumulative Impacts (DWR Requirement)

3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? *

( ) Yes (•) No

3b. If you answered "no," provide a short narrative description.

This project is associated with a transportation facility but will not influence its capacity or use and, as such, will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.

4. Sewage Disposal (DWR Requirement)

4a. Is sewage disposal required by DWR for this project? *

( ) Yes (•) No ( ) N/A

5. Endangered Species and Designated Critical Habitat (Corps Requirement)

5a. Will this project occur in or near an area with federally protected species or habitat? *

( ) Yes (•) No

5b. Have you checked with the USFWS concerning Endangered Species Act impacts? *

( ) Yes (•) No

5d. Is another Federal agency involved? *

○ Yes ◉ No ○ Unknown

5e. Is this a DOT project located within Division's 1-8? *

◉ Yes ○ No

5j. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? *

NCNHP data explorer, USFWS county list

6. Essential Fish Habitat (Corps Requirement)

6a. Will this project occur in or near an area designated as an Essential Fish Habitat? *

○ Yes ◉ No

6b. What data sources did you use to determine whether your site would impact an Essential Fish Habitat? *

NMFS county index; no in-water work is proposed.

7. Historic or Prehistoric Cultural Resources (Corps Requirement)

Link to the State Historic Preservation Office Historic Properties Map (does not include archaeological data: http://gis.ncdcr.gov/hpoweb/

7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)? *

○ Yes ◉ No

7b. What data sources did you use to determine whether your site would impact historic or archeological resources? *

Cultural resources were addressed in the Final EIS for both R-2633C (11/1997) and R-2633A/B (4/2007)

7c. Historic or Prehistoric Information Upload

Click the upload button or drag and drop files here to attach document

File must be PDF

8. Flood Zone Designation (Corps Requirement)

Link to the FEMA Floodplain Maps: https://msc.fema.gov/portal/search

8a. Will this project occur in a FEMA-designated 100-year floodplain? *

◉ Yes ○ No

8b. If yes, explain how project meets FEMA requirements:

NCDOT Hydraulics Unit coordination with FEMA

8c. What source(s) did you use to make the floodplain determination? *

FEMA maps

Miscellaneous

Miscellaneous attachments not previously requested.

Click the upload button or drag and drop files here to attach document

File must be PDF

Signature

*

☑ By checking the box and signing below, I certify that:

- I have given true, accurate, and complete information on this form;
- I agree that submission of this PCN form is a “transaction” subject to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic

Transactions Act");

- I agree to conduct this transaction by electronic means pursuant to Chapter 66, Article 40 of the NC General Statutes (the "Uniform Electronic Transactions Act");
- I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature; AND
- I intend to electronically sign and submit the PCN form.

Full Name: *

Colin Mellor

Signature

Date

2/16/2018

DCM MP-1

APPLICATION for Major Development Permit

(last revised 12/27/06)

North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information

Business Name North Carolina Department Of Transportation (Ncdot)			Project Name (if applicable) R-2633D	
Applicant 1: First Name Philip	MI S		Last Name Harris	
Applicant 2: First Name	MI		Last Name	
If additional applicants, please attach an additional page(s) with names listed.				
Mailing Address 1548 Mail Service Center			PO Box	City Raleigh	State NC
ZIP 27699 1548	Country USA	Phone No. 919 - 707 - 6000 ext.		FAX No. 919 - 212 - 5785	
Street Address *(if different from above)* 1020 Birch Ridge Dr.			City Raleigh	State NC	ZIP 27610- 4328
Email pharris@ncdot.gov					

2. Agent/Contractor Information

Business Name				
Agent/ Contractor 1: First Name	MI	Last Name		
Agent/ Contractor 2: First Name	MI	Last Name		
Mailing Address		PO Box	City	State
ZIP		Phone No. 1 - - ext.	Phone No. 2 - - ext.	
FAX No.	Contractor #			
Street Address *(if different from above)*		City	State	ZIP -
Email				

<Form continues on back>

3. Project Location

County (can be multiple)	Street Address	State Rd. #
Brunswick New Hanover	I-140; I-40	

Subdivision Name	City	State	Zip
N/A	Wilmington	NC	-

Phone No.	Lot No.(s) *(if many, attach additional page with list)*
N/A - - ext.	N/A, , , ,

a. In which NC river basin is the project located?	b. Name of body of water nearest to proposed project
Cape Fear	Cape Fear River, Northeast Cape Fear River
c. Is the water body identified in (b) above, natural or manmade? ☒Natural ☐Manmade ☐Unknown	d. Name the closest major water body to the proposed project site. Cape Fear River, Northeast Cape Fear River
e. Is proposed work within city limits or planning jurisdiction? ☐Yes ☒No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. All work will be completed within NCDOT right-of-way

4. Site Description

a. Total length of shoreline on the tract (ft.)	b. Size of entire tract (sq.ft.)
Northeast Cape Fear River: 1,015 ft. Cape Fear River: 600 ft.	30,360,000 (approximately 700 acres)
c. Size of individual lot(s) N/A, , , *(If many lot sizes, please attach additional page with a list)*	d. Approximate elevation of tract above NHW *(normal high water)* or NWL *(normal water level)* ☐NHW or ☐NWL

e. Vegetation on tract

Maintained grass, ornamental plantings, shrub-scrub.

f. Man-made features and uses now on tract

Transportation facility.

g. Identify and describe the existing land uses adjacent to the proposed project site.

I-140 crosses many different land uses, including undeveloped forest and scrub-shrub areas, tidal and non-tidal wetlands, and industrial, commerical, and residential areas.

h. How does local government zone the tract?	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) ☐Yes ☐No ☒NA
All work will be completed within NCDOT right-of-way or beneath existing bridges.	

j. Is the proposed activity part of an urban waterfront redevelopment proposal?	☐Yes ☒No
k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy.	☒Yes ☐No ☐NA
If yes, by whom?	Cultural resources were addressed in the Final EIS for both R-2633C (11/1997) and R-2633A/B (4/2007)
l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property?	☐Yes ☒No ☐NA

<Form continues on next page>

m. (i) Are there wetlands on the site?	☒Yes ☐No
(ii) Are there coastal wetlands on the site?	☐Yes ☒No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? *(Attach documentation, if available)*	☐Yes ☒No

n. Describe existing wastewater treatment facilities.

None

o. Describe existing drinking water supply source.

None

p. Describe existing storm water management or treatment systems.

Various transportation-related storm water management facilites (grassed swales, bridge deck drainage systems, etc.)

5. Activities and Impacts

a. Will the project be for commercial, public, or private use? ☐Commercial ☒Public/Government ☐Private/Community

b. Give a brief description of purpose, use, and daily operations of the project when complete.

The purpose of the project is to install facilities that support Intelligent Transportation Systems (ITS) along parts of I-140 and I-40, to facilitate safer and more efficient movement along the transportation network. The use and daily operations of the transportation facility will remain unchanged once the project is complete.

c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored.

Cable and associated conduit will be installed via directional bore throughout the project area. Horizontal directional drilling equipment will be used.

d. List all development activities you propose.

Installation of ITS facilities including conduit, cable, cameras, and associated wiring cabinets and junction boxes.

e. Are the proposed activities maintenance of an existing project, new work, or both? New work

f. What is the approximate total disturbed land area resulting from the proposed project? 1,296 ☒Sq.Ft or ☐Acres

g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of? ☐Yes ☒No ☐NA

h. Describe location and type of existing and proposed discharges to waters of the state.

All work will be completed within NCDOT right-of-way. Surface water and wetland impacts directly related to construction of the roadway have been permitted previously (R-2633 A, B, and C; see Section 6g below) However, it is assumed that all land disturbing impacts cited in Section 5f for this project will occur in wetlands, though no new delineation has occurred since the roadway was built. Please see attached impact drawings for locations.

i. Will wastewater or stormwater be discharged into a wetland? ☐Yes ☒No ☐NA

If yes, will this discharged water be of the same salinity as the receiving water? ☐Yes ☐No ☐NA

j. Is there any mitigation proposed? ☐Yes ☒No ☐NA

If yes, attach a mitigation proposal.

<Form continues on back>

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

a. A project narrative.

b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.

c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.

e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name see attached letters

Phone No.

Address

Name

Phone No.

Address

Name

Phone No.

Address

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

R-2633 Sections A&B: Section 404 Individual Permit Modification, issued February 28, 2011 USACE Action ID 1994-03352; Individual Modification 401 Water Quality Certification, issued January 13, 2011 NCDWQ WQC no. 003842; CAMA Consistency Concurrence, issued January 14, 2011 DCM consistency no. CD11-003.

R-2633 Section C: Section 404 Individual Permit, issued September 15, 2000 USACE Action ID 1994-03552; Individual 401 Water Quality Certification, issued August 28, 2000 WQC no. 010963; CAMA Major Development Permit, issued August 25, 2000 permit no. 130-00.

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. *(Must be signed by property owner)*

k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date _____ Print Name _____

Signature _____

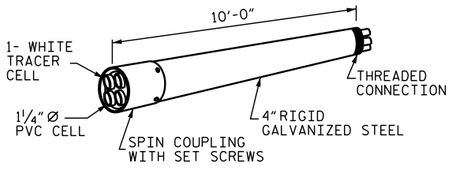
Please indicate application attachments pertaining to your proposed project.

☐DCM MP-2 Excavation and Fill Information

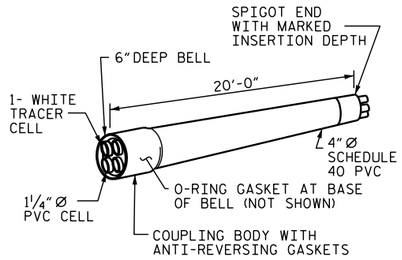
☐DCM MP-3 Upland Development

☐DCM MP-4 Structures Information

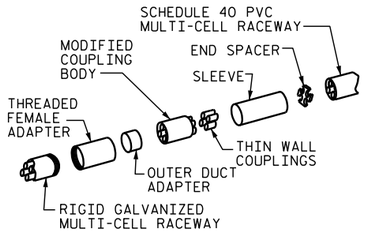
☐DCM MP-5 Bridges and Culverts



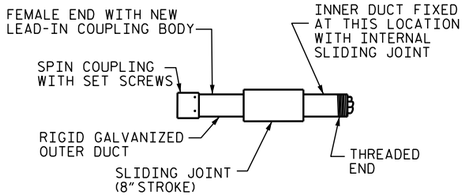
RIGID GALVANIZED (RGC)
MULTI-CELL RACEWAY



SCHEDULE 40 PVC
MULTI-CELL RACEWAY



TRANSITION ADAPTER



EXPANSION JOINT FITTING

DETAIL "D"

4" MULTI-CELL COMPONENTS

NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE TOTAL QUANTITY OF CONDUIT NEEDED TO COMPLETE THE WORK AND THAT THE CONDUIT(S) ARE PLACED AT THE NOTED DIMENSION AND ABOVE THE BOTTOM OF THE GIRDER.

BRIDGE CONDUIT SYSTEM SHALL BE MEASURED AND PAID AS LINEAR FEET. THE PRICE SHALL INCLUDE ALL CONDUIT, HANGERS, STABILIZERS, EXPANSION JOINTS, CONCRETE INSERTS, PVC SLEEVES AND ALL NECESSARY HARDWARE TO COMPLETE THE WORK.

THE CONTRACTOR SHALL FIELD VERIFY THAT THE CONDUIT SYSTEM IS NOT IN CONFLICT WITH THE GUARDRAIL POSTS.

SEE DETAIL "C" FOR HANGER ASSEMBLY INSTALLATION.

PROVIDE TRANSITION ADAPTOR AND EXPANSION JOINT FOR CONDUIT AT END BENT 1 AND END BENT 2.

INSTALL STABILIZER'S MIDWAY BETWEEN DECK EXPANSION JOINTS. STABILIZER CAN NOT BE USED INSTEAD OF A HANGER ASSEMBLY.

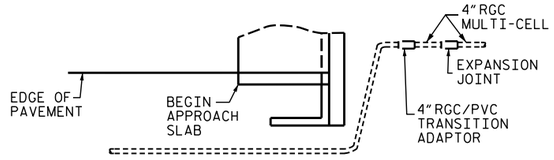
INSTALL EXPANSION JOINTS AT EACH BENT.

THE CONCRETE SCREW INSERT SHALL HAVE A ROD SIZE OF 5/8" AND A PULL FORCE OF 1260 lbs.

FOR BRIDGE CONDUIT SYSTEM, SEE SPECIAL PROVISIONS.

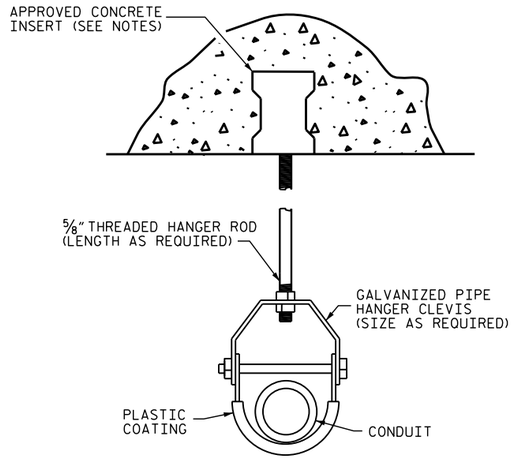
THE CONDUIT WILL BE INSTALLED AT A MINIMUM OF 1 FOOT ABOVE LOW STEEL.

DETAILS SHOWN ARE FOR RGC CONDUIT, CONTRACTOR MAY USE FIBERGLASS REINFORCED EPOXY CONDUIT.



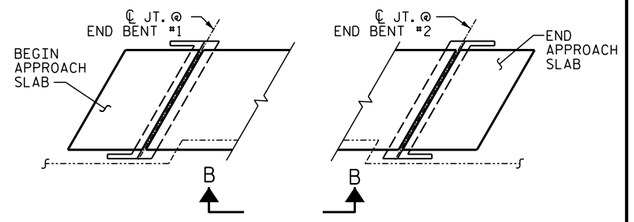
DETAIL "A"

TERMINATION OF CONDUIT AT WING WALL

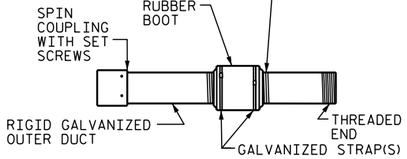


DETAIL "C"

HANGER ASSEMBLY

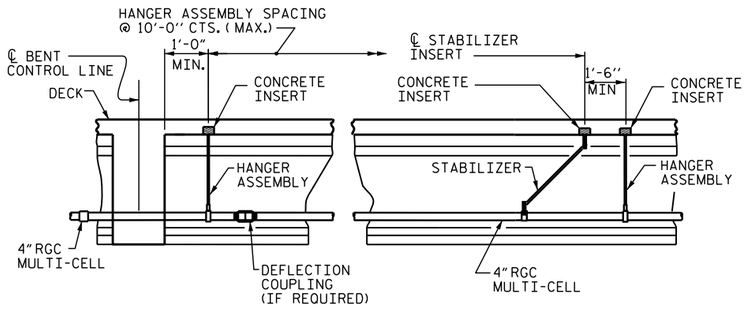


CONDUIT LAYOUT



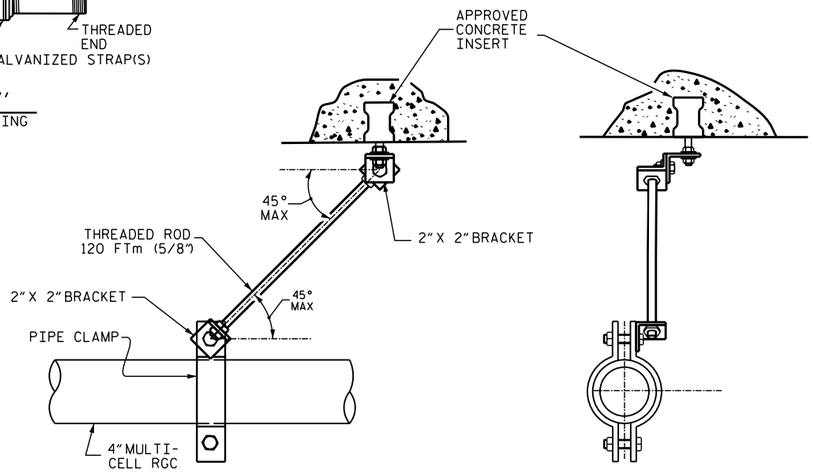
DETAIL "F"

DEFLECTION COUPLING



VIEW B-B

PRESTRESSED GIRDERS
CONTINUOUS FOR LIVE LOAD



DETAIL "E"

STABILIZER

CONDUIT DETAILS

PROJECT NO. R-2633D

BRUNSWICK/NEW HANOVER COUNTY

STATION: -

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE CONDUIT SYSTEM

NORTH CAROLINA PROFESSIONAL SEAL 26936 ENGINEER DAVID S. STUTTS

DocuSigned by: David Stutts
1/31/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

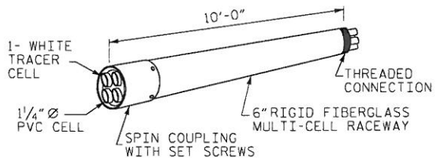
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			1

ASSEMBLED BY : J.P. ADAMS	DATE : 1/2018	
CHECKED BY : D.S. STUTTS	DATE : 1/2018	
DRAWN BY : RWW 2-4-03	REV. 5/1/06	TLA/GM
CHECKED BY : DBM 2-4-03	REV. 10/1/11	MAA/GM

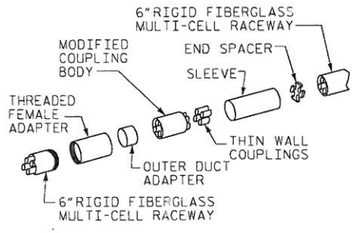
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

February 16, 2018

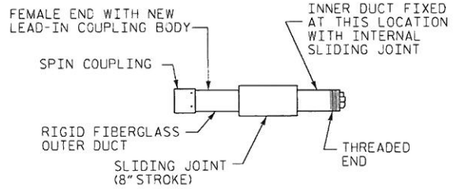
PROJECT REFERENCE NO.	SHEET NO.
R-2633D	ITS-72



RIGID FIBERGLASS
MULTI-CELL RACEWAY

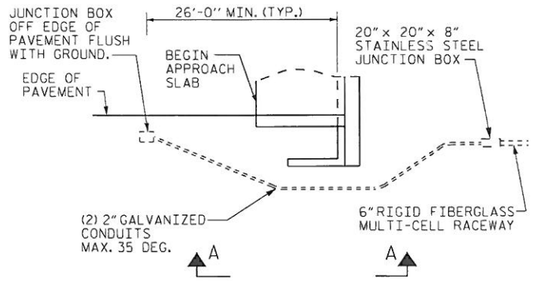


TRANSITION ADAPTER

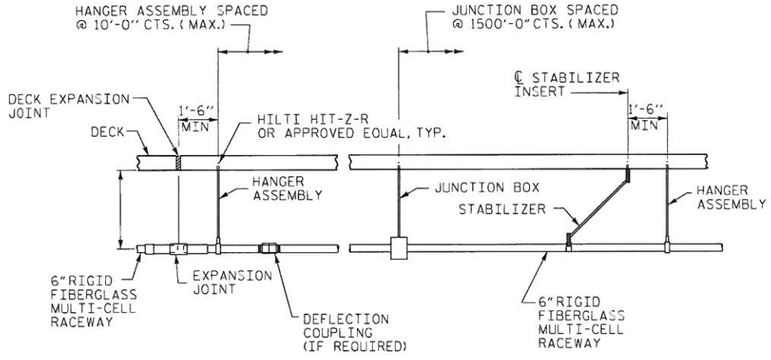


EXPANSION JOINT FITTING

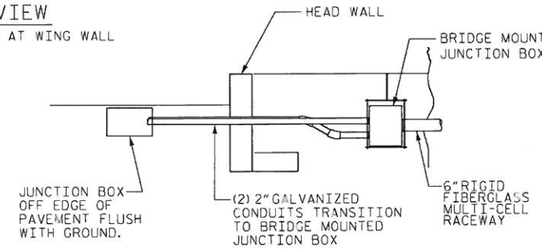
DETAIL "D"
6" MULTI-CELL COMPONENTS



PLAN VIEW
CONDUIT ROUTING AT WING WALL



VIEW "B-B"



DETAIL "A"
CONDUIT ROUTING AT WING WALL

NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE TOTAL QUANTITY OF CONDUIT NEEDED TO COMPLETE THE WORK AND THAT THE CONDUIT(S) ARE PLACED AT THE NOTED DIMENSION AND ABOVE THE BOTTOM OF THE GIRDER.

THE INSTALLATION OF THE CONDUIT SYSTEM SHALL BE PAID FOR PER LIN FOOT. SUM. THE PRICE SHALL INCLUDE ALL CONDUIT, HANGERS, STABILIZERS, EXPANSION JOINTS, CONCRETE INSERTS, FG SLEEVES, AND ALL NECESSARY HARDWARE TO COMPLETE THE WORK.

THE CONTRACTOR SHALL FIELD VERIFY THAT THE CONDUIT SYSTEM IS NOT IN CONFLICT WITH THE GUARDRAIL POSTS.

SEE DETAIL "C" ON TYPICAL SECTION SHEET (S-2) FOR HANGER ASSEMBLY INSTALLATION.

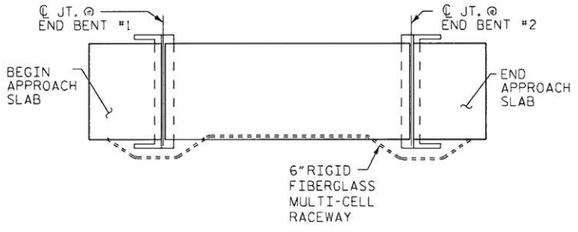
INSTALL SLEEVES PARALLEL TO GIRDERS. SEE VIEW "C" FOR SLEEVE INSTALLATION.

PROVIDE TRANSITION ADAPTOR (AND EXPANSION JOINT) FOR CONDUIT AT END BENT 1 AND END BENT 2.

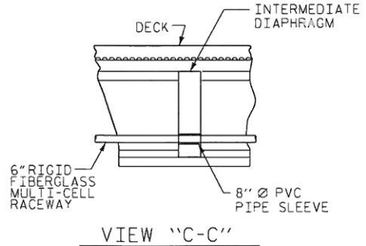
INSTALL STABILIZER'S MIDWAY BETWEEN DECK EXPANSION JOINTS. STABILIZER CAN NOT BE USED INSTEAD OF A HANGER ASSEMBLY.

INSTALL EXPANSION JOINTS AT END BENT #1, BENT #1, BENT #3, BENT #6, BENT #9, BENT#12, BENT#14, BENT#16, BENT#19, BENT#22, BENT#25, BENT#28, BENT#31, BENT#34, BENT#37, BENT#40, BENT#43, BENT#46, BENT#49, BENT#52, BENT#58, AND END BENT #2

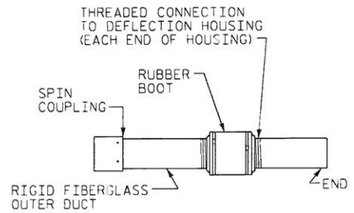
FOR ELECTRICAL CONDUIT SYSTEM FOR SIGNALS, SEE SPECIAL PROVISIONS.



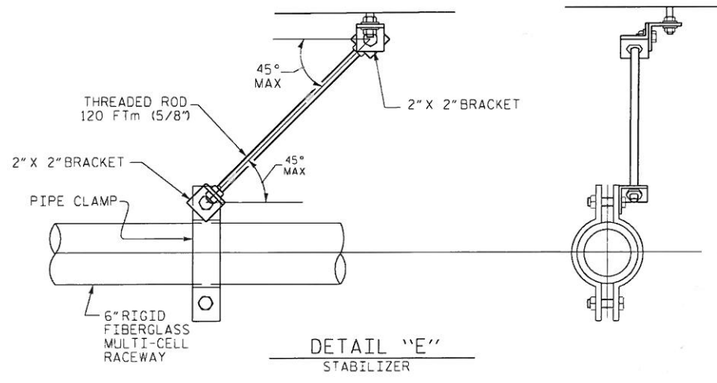
CONDUIT LAYOUT



VIEW "C-C"



DETAIL "F"
DEFLECTION COUPLING



DETAIL "E"
STABILIZER

FIBERGLASS CONDUIT DETAILS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT NO. R-2633D
BRUNSWICK/NEW HANOVER COUNTY
STATION:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

MULTI-CELL RACEWAY
TYPICAL SECTION DETAILS

Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

DRAWN BY : J. B. GEILE DATE : 11/06/17
CHECKED BY : R. F. DECOLA DATE : 11/06/17
DESIGN ENGINEER OF RECORD: R. F. DECOLA DATE : 11/06/17

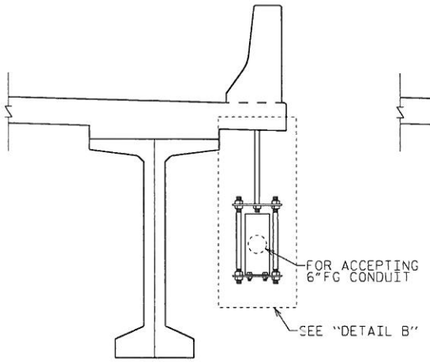
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			2

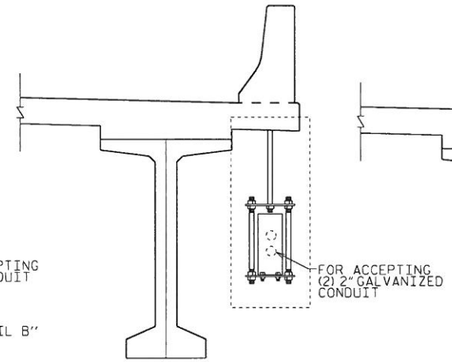
February 16, 2018

February 16, 2018

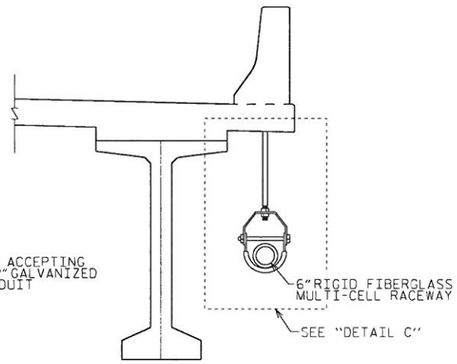
PROJECT REFERENCE NO.	SHEET NO.
R-2633D	ITS-73



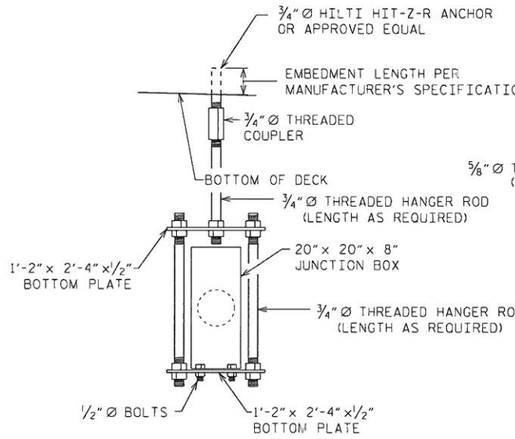
TYPICAL SECTION AT JUNCTION BOX FOR MIDSPAN



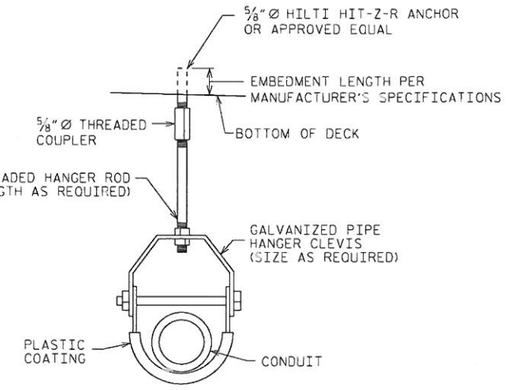
TYPICAL SECTION AT JUNCTION BOX AT HEADWALL BEGIN AND END



TYPICAL SECTION ALONG RACEWAY

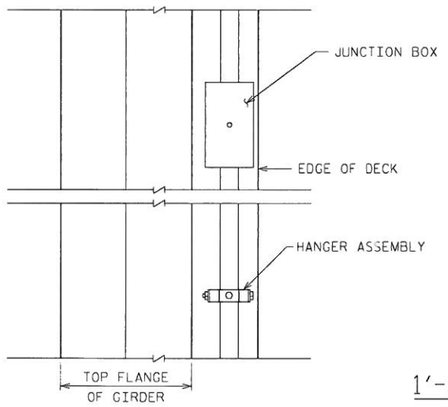


DETAIL "B"
JUNCTION BOX HANGER ASSEMBLY

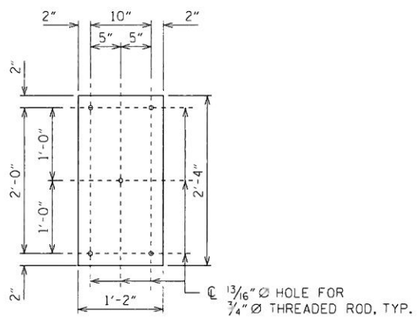


DETAIL "C"
RACEWAY HANGER ASSEMBLY

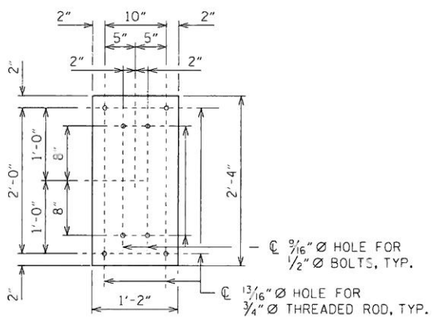
NOTE: THREADED RODS, COUPLERS, WASHERS, AND NUTS SHALL BE STAINLESS STEEL.



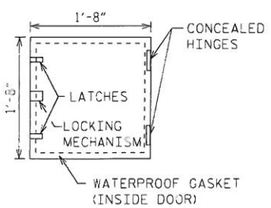
PLAN VIEW
CONCRETE BARRIER NOT SHOWN FOR CLARITY



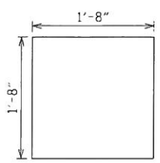
1'-2" x 2'-4" x½" TOP PLATE DETAILS



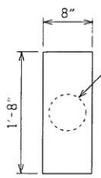
1'-2" x 2'-4" x½" BOTTOM PLATE DETAILS



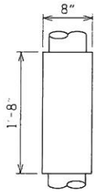
FRONT VIEW



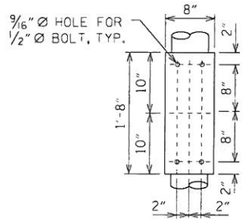
BACK VIEW



SIDE VIEW



TOP VIEW



BOTTOM VIEW

BOX DETAILS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT NO. R-2633D
BRUNSWICK/NEW HANOVER COUNTY
STATION:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION

DETAIL FOR BRIDGE MOUNTED 20"x20"x8" JUNCTION BOX AND HANGING DETAIL

Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

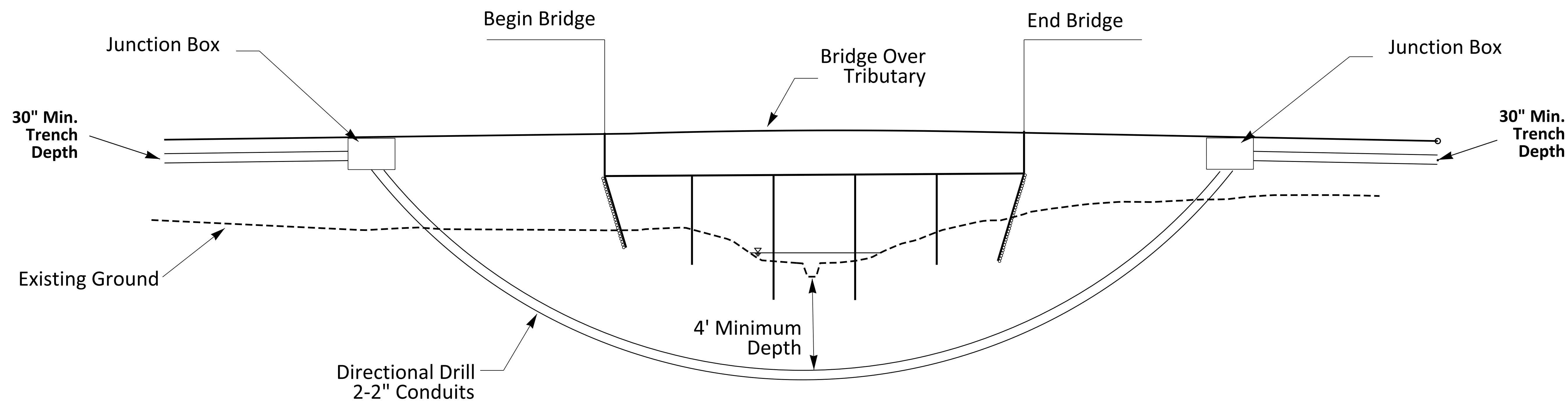
DRAWN BY : J. B. GEILE DATE : 11/06/17
CHECKED BY : R. F. DECOLA DATE : 11/06/17
DESIGN ENGINEER OF RECORD: R. F. DECOLA DATE : 11/06/17

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

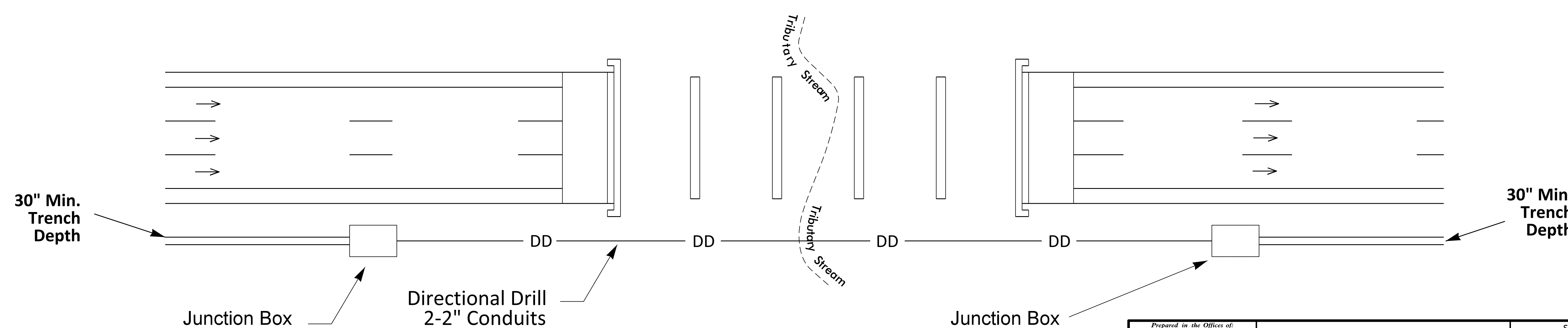
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			2

PROJECT REFERENCE NO.	SHEET NO.
R-2633D	DD-TYP1

TYPICAL DIRECTIONAL DRILL



PROFILE VIEW



PLAN VIEW

February 16, 2018

Prepared in the Offices of:
750 N. Greenfield Pkwy., Garner, NC 27529

DIRECTIONAL DRILL
TYPICAL

DIVISION 3 BRUNSWICK CO.

PLAN DATE:	2/7/18	REVIEWED BY:
PREPARED BY:	L.E. NEAL	REVIEWED BY:

SCALE 0

REVISIONS	INIT.	DATE

SEAL

SIGNATURE DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
R-2633D	ITS-3

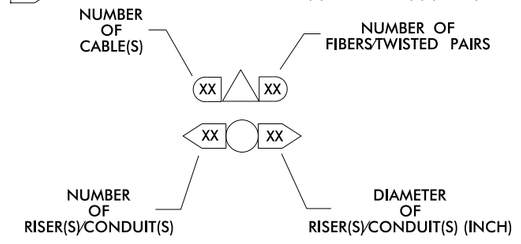
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL REA, PE – 39, (UNDERGROUND) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
4. INSTALL SMFO CABLE
5. INSTALL MMFO CABLE
6. INSTALL FIBER OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. TRENCH
9. INSTALL PVC CONDUIT
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
12A. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
12B. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR–WAY INNERDUCT INSERT
13. INSTALL OUTER–DUCT POLYETHYLENE CONDUIT
14. INSTALL POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. BORE AND JACK CONDUIT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
19. INSTALL CABLE(S) IN EXISTING RISER
20. INSTALL CABLE(S) IN NEW RISER
21. INSTALL CABLE(S) IN EXISTING CONDUIT STUB–OUTS
22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)
24. INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET
25. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
27. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
29. INSTALL UNDERGROUND SPLICE ENCLOSURE
30. INSTALL AERIAL SPLICE ENCLOSURE
31. INSTALL POLE MOUNTED SPLICE CABINET
32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTENDED BASE
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATION CABLE
40. INSTALL OVERSIZED JUNCTION BOX
41. INSTALL BRIDGE MOUNTED JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL REEL END SPLICE
51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET OF COMMUNICATIONS CABLE
54. LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE
55. LASH CABLE(S) TO EXISTING MESSENGER CABLE
56. LASH CABLE(S) TO NEW MESSENGER CABLE
57. MODIFY EXISTING ELECTRICAL SERVICE
58. INSTALL NEW ELECTRICAL SERVICE FOR DMS/CCTV
59. INSTALL NEW BASE MOUNTED CABINET (336)
60. SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND CABINETS WITH MOLDABLE DUCT SEAL
61. INSTALL ETHERNET SWITCH
62. LOCATE EXISTING CONDUIT STUBOUT FOR NEW JUNCTION BOX INSTALLATION
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

LEGEND

- NEW AERIAL FIBER OPTIC COMMUNICATIONS CABLE
- EXISTING COMMUNICATIONS CABLE
- EXISTING FENCE LINE
- EXISTING WATER LINE /WETLANDS
- PROPOSED CONDUIT
- EXISTING CONDUIT
- NEW DIRECTIONAL DRILLED CONDUIT
- NEW BORED AND JACKED CONDUIT
- NEW JUNCTION BOX
- EXISTING JUNCTION BOX
- NEW WOOD POLE
- EXISTING WOOD POLE
- NEW AERIAL SPLICE ENCLOSURE
- NEW METAL SIGNAL POLE
- NEW UNDERGROUND SPLICE CLOSURE
- EXISTING METAL SIGNAL POLE
- EXISTING CCTV CAMERA ASSEMBLY
- NEW STANDARD GUY ASSEMBLY
- NEW STANDARD GUY USING EXISTING ANCHOR
- NEW SIDEWALK GUY ASSEMBLY
- NEW CABLE STORAGE RACKS (SNOW SHOES)
- EXISTING CONTROLLER AND CABINET
- EXISTING SPLICE CABINET
- EXISTING DYNAMIC MESSAGE SIGN (DMS) ON SINGLE STEEL POLE
- SP — SIGNAL POLE
- XXXX–XX — ITS FIELD DEVICES

CONSTRUCTION NOTE SYMBOLOGY KEY

- XX — INDICATES NUMBER OF CABLES, LOOPS, ETC.
- XX — INDICATES NUMBER OF FIBERS PER CABLE, TWISTED PAIRS PER CABLE, ETC.
- XX — INDICATES NUMBER OF RISER(S)/CONDUIT(S)
- XX — INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (INCH)



Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

CONSTRUCTION NOTES

PLAN DATE:	AUGUST 2017	REVIEWED BY:	DEAN HARRIS
PREPARED BY:	J. INGRAM	REVIEWED BY:	BETSY L. WATSON

SCALE: 0 — N/A

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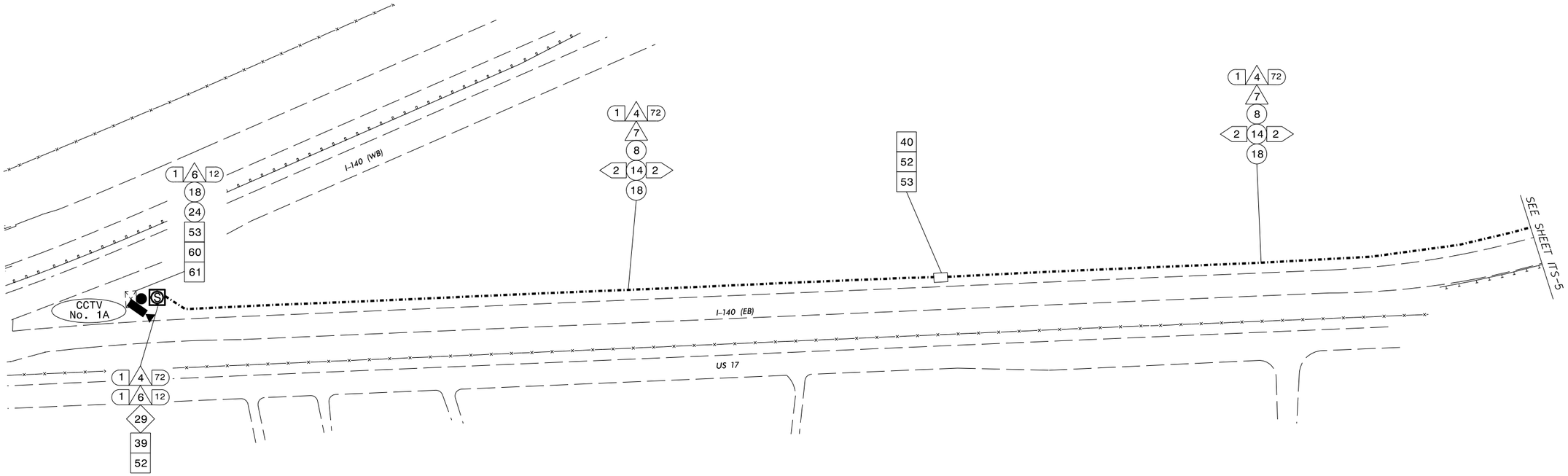

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CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM REVIEWED BY: BETSY L. WATSON

SCALE: NTS

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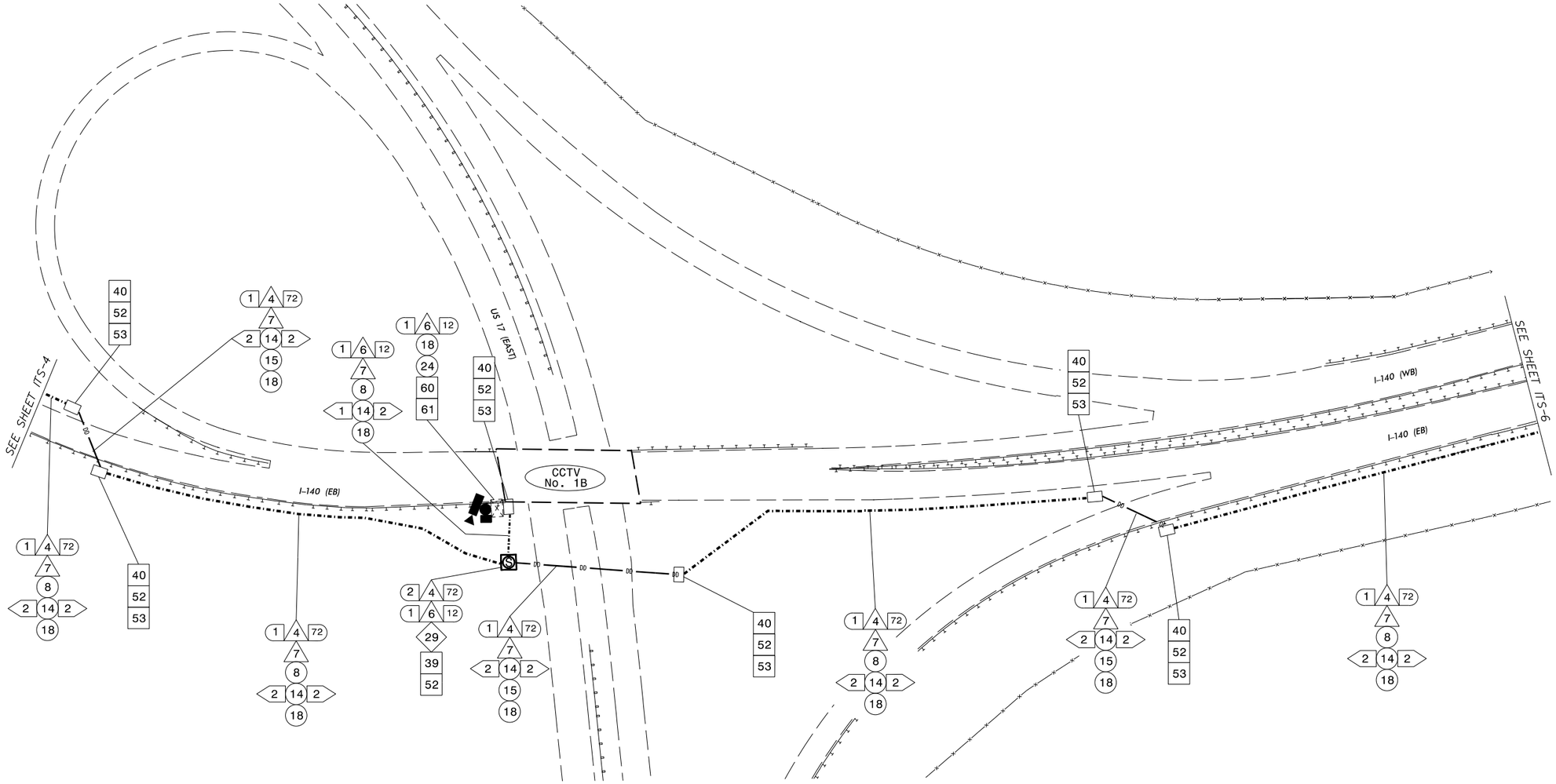

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Prepared for the Offices of:
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 | REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM | REVIEWED BY: BETSY L. WATSON

SCALE: NTS

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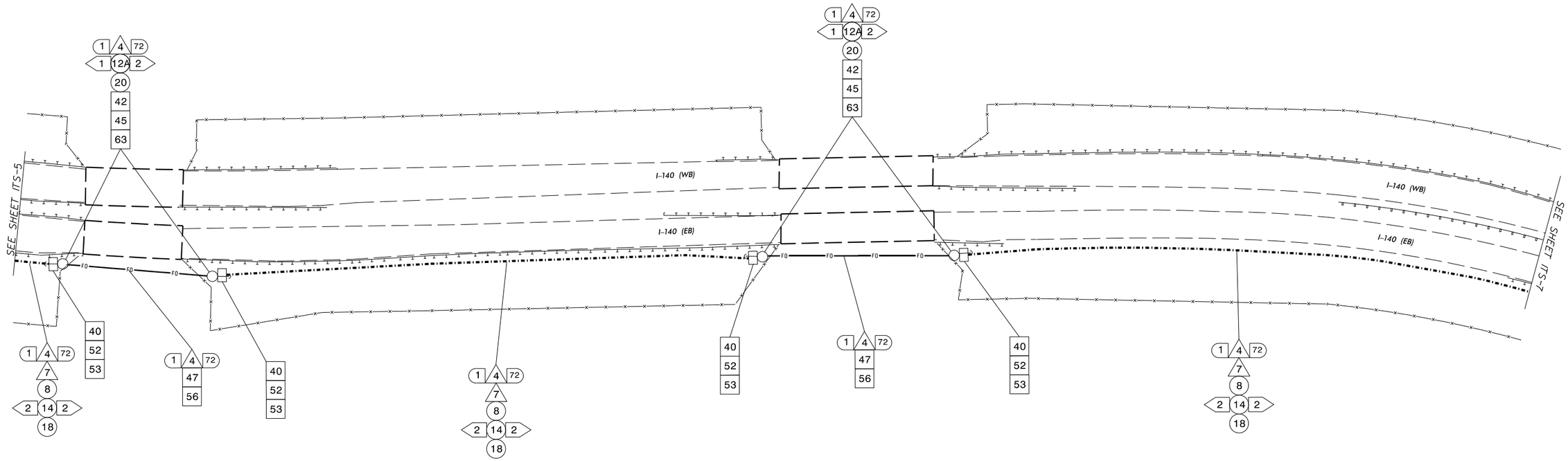

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Leading Transportation Into the Future
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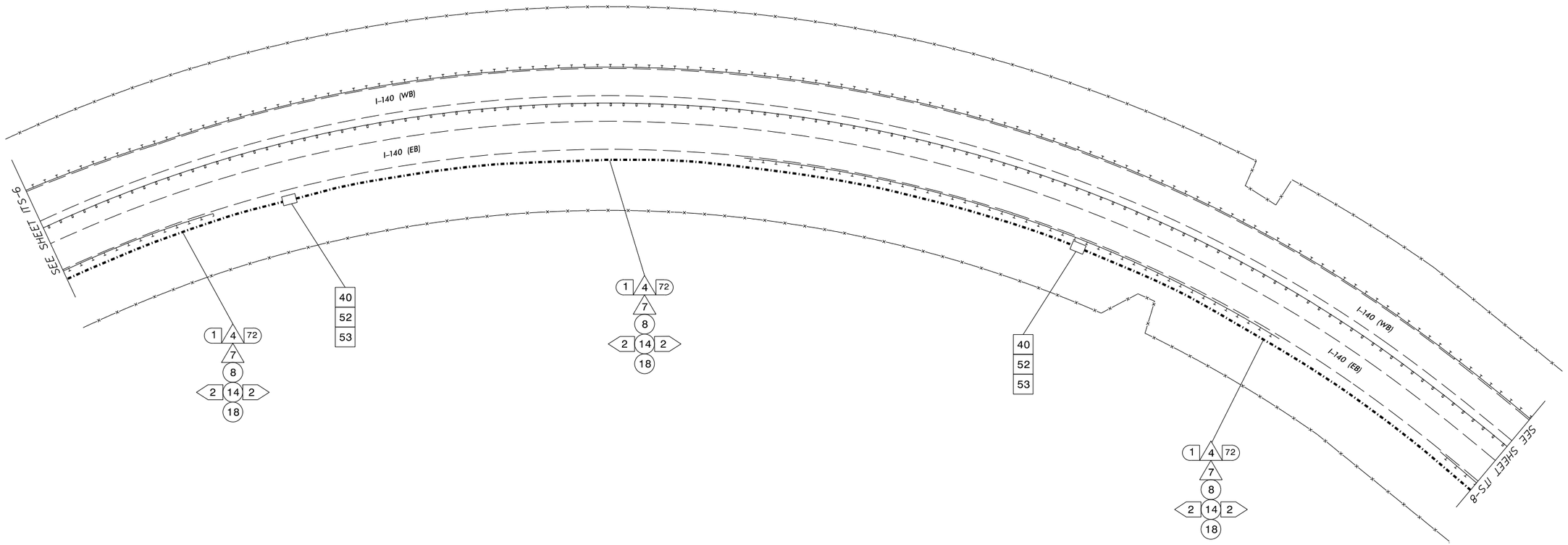

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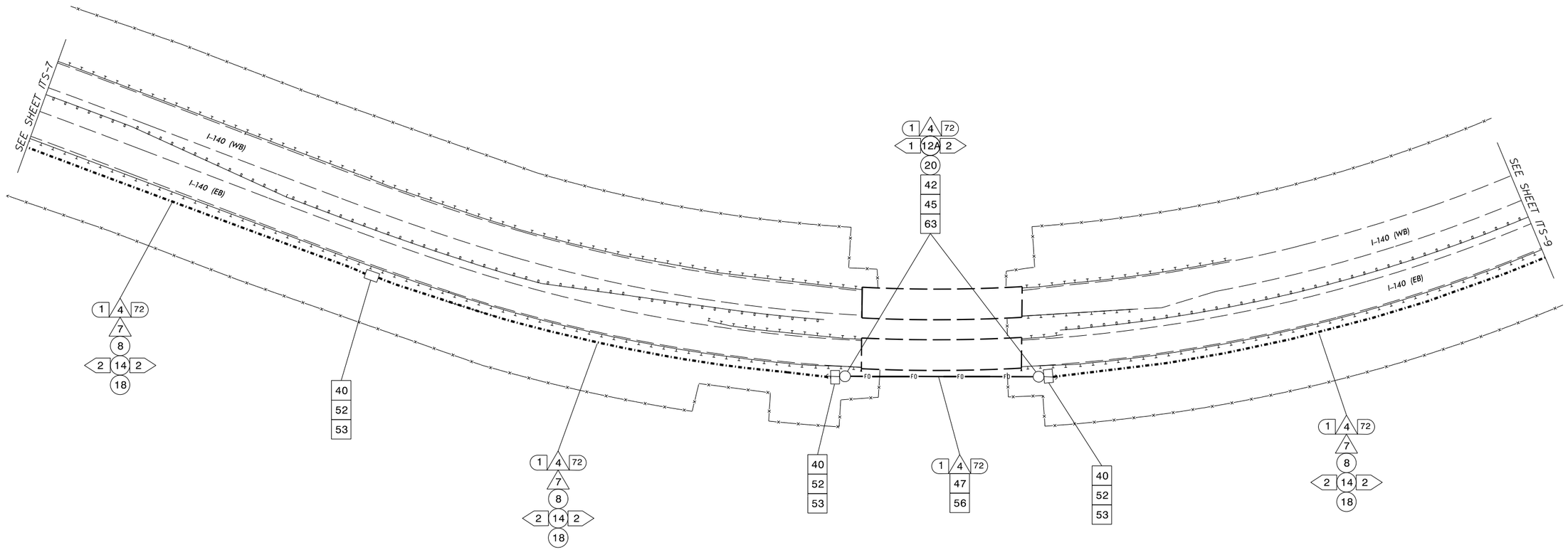

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28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
29 INSTALL UNDERGROUND SPLICE ENCLOSURE
30 INSTALL AERIAL SPLICE ENCLOSURE
31 INSTALL POLE MOUNTED SPLICE CABINET
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PROPOSED CONDUIT
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DD — DD NEW DIRECTIONAL DRILLED CONDUIT
NEW JUNCTION BOX
EXISTING JUNCTION BOX
NEW UNDERGROUND SPLICE CLOSURE

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CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM REVIEWED BY: BETSY L. WATSON

SCALE: NTS

REVISIONS	INIT.	DATE

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CADD FILE NAME

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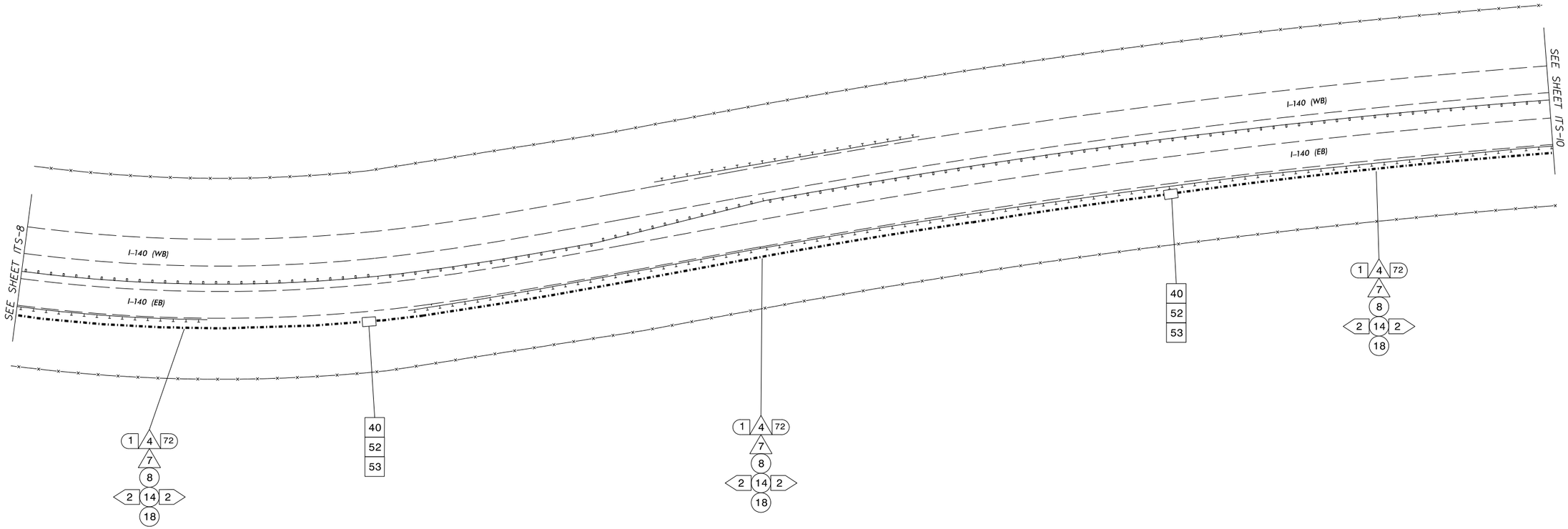
PROJECT REFERENCE NO.	SHEET NO.
R-2633D	ITS-9



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SCALE: NTS

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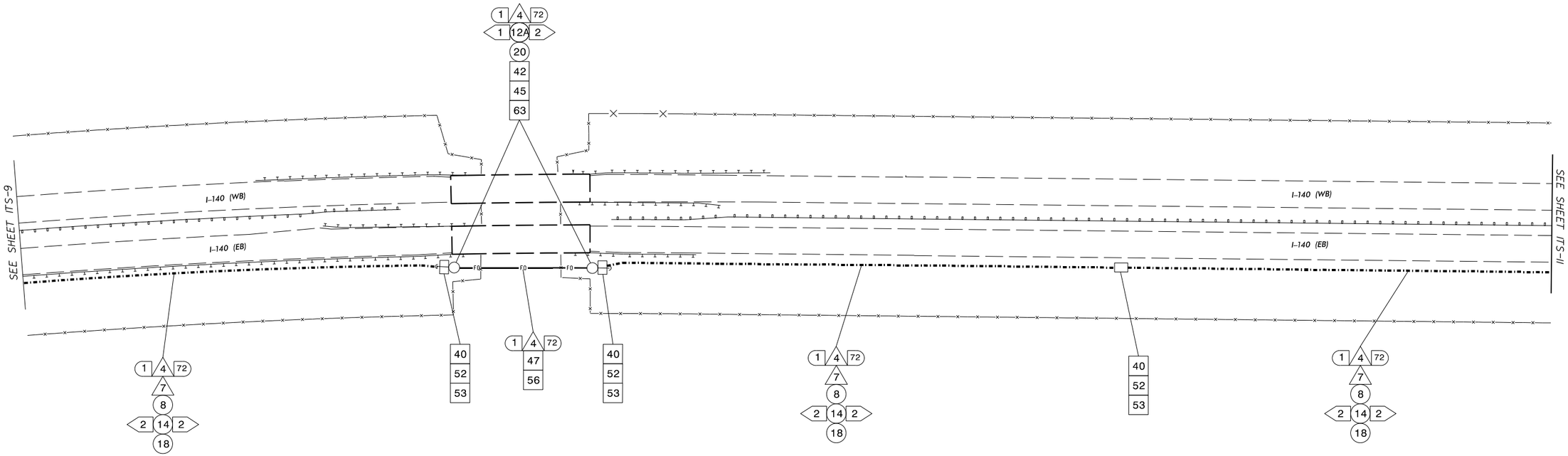

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DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE:	AUGUST 2017	REVIEWED BY:	DEAN HARRIS
PREPARED BY:	J. INGRAM	REVIEWED BY:	BETSY L. WATSON

SCALE: NTS

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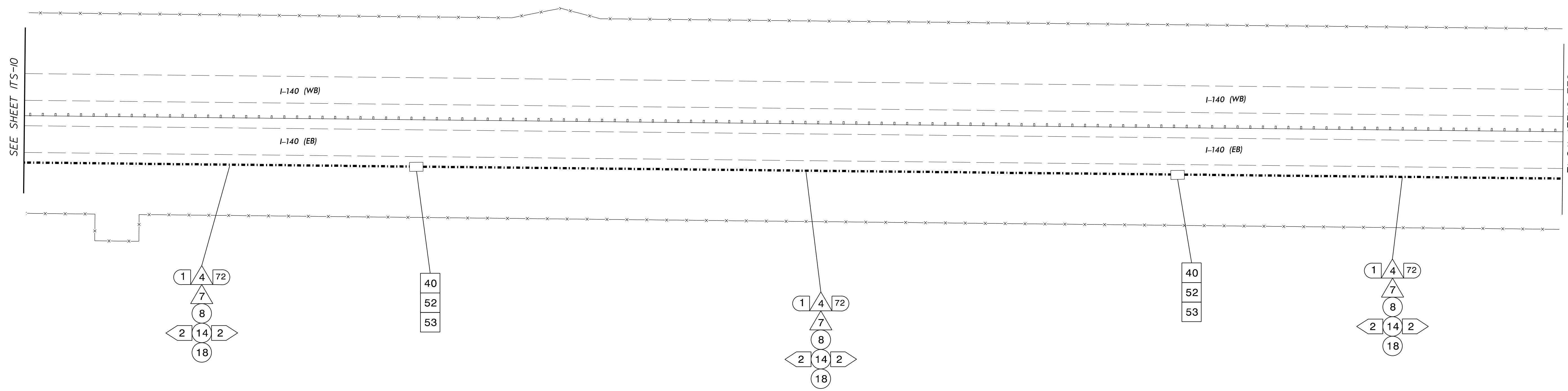

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2	INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	16	BORE AND JACK CONDUIT
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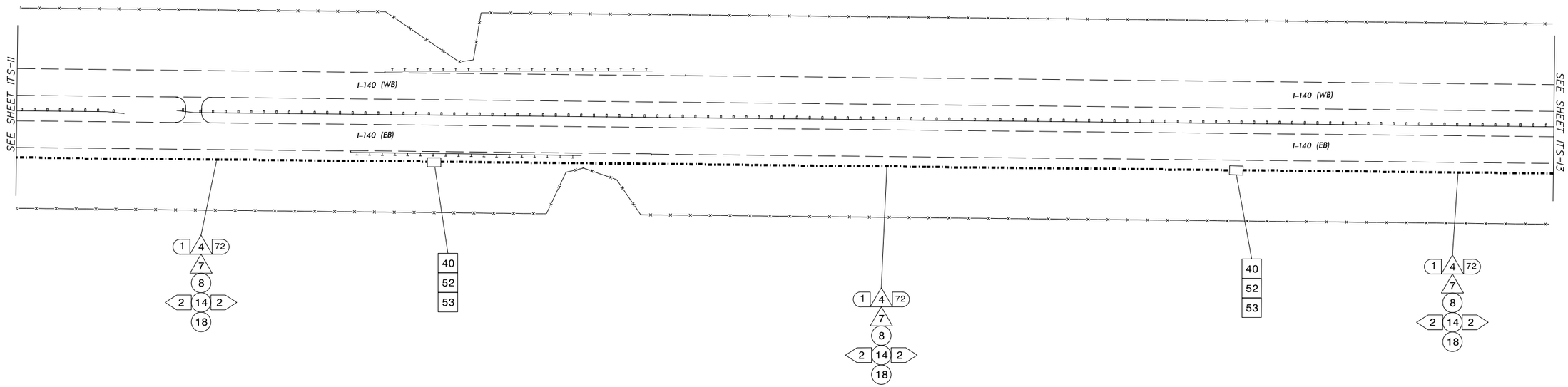

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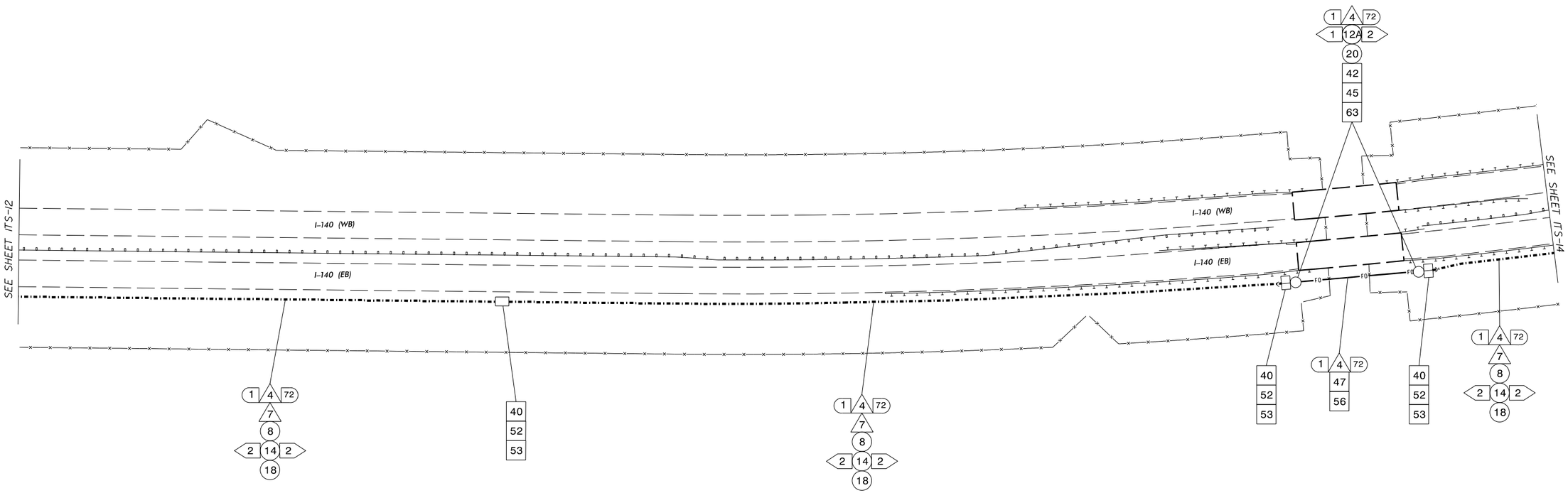

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Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 — REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM — REVIEWED BY: BETSY L. WATSON

SCALE: NTS

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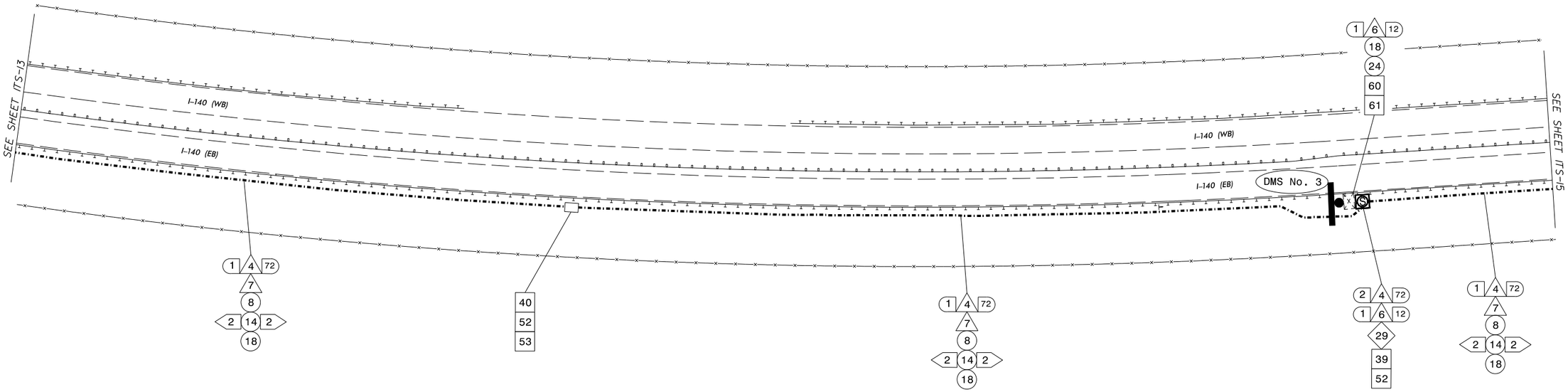

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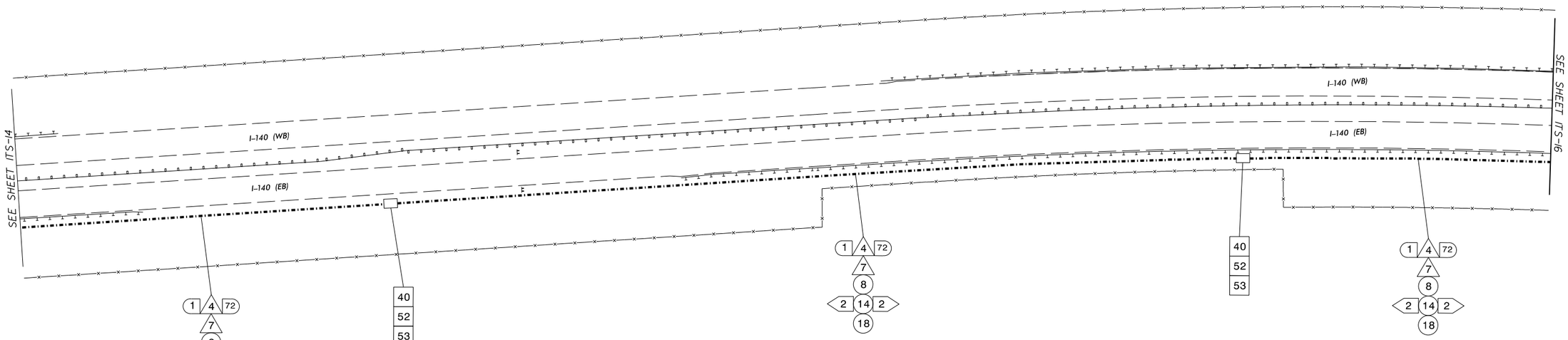

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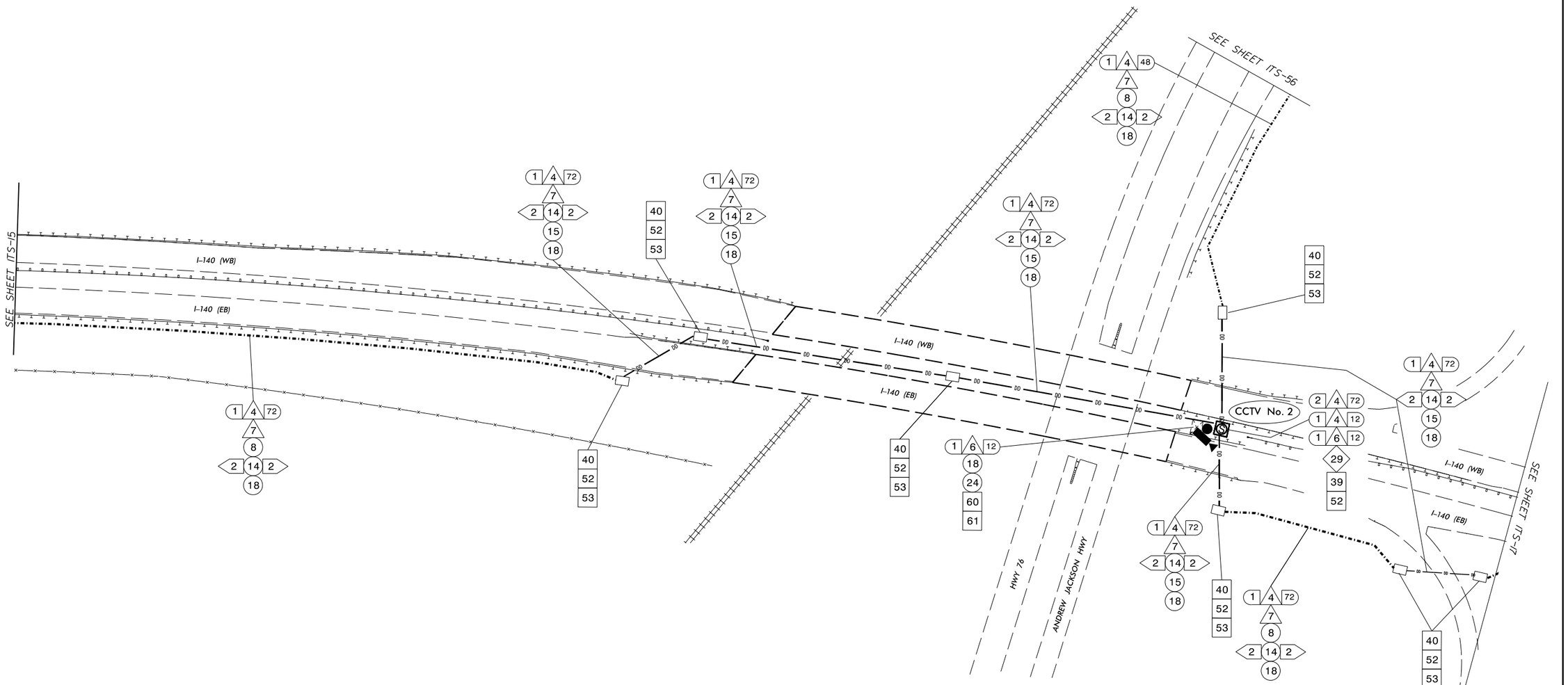

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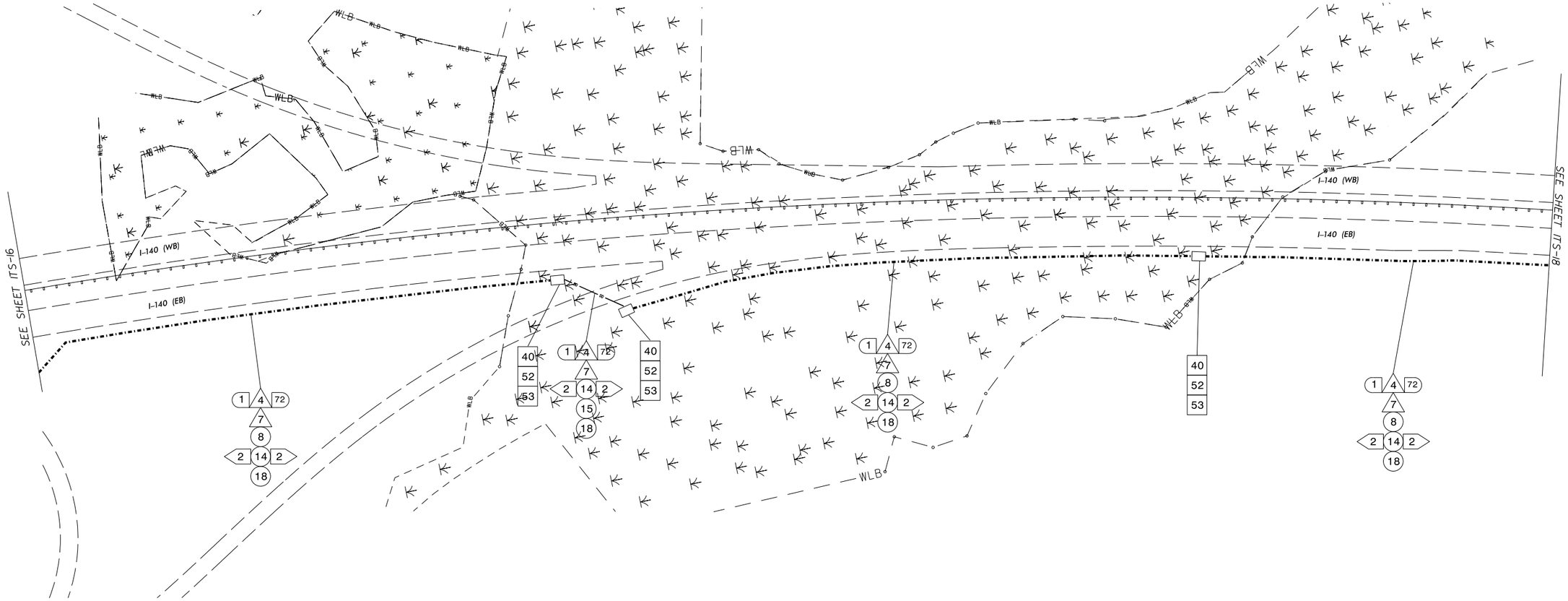

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EXISTING JUNCTION BOX
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CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE:	AUGUST 2017	REVIEWED BY:	DEAN HARRIS
PREPARED BY:	J. INGRAM	REVIEWED BY:	BETSY L. WATSON

SCALE: NTS

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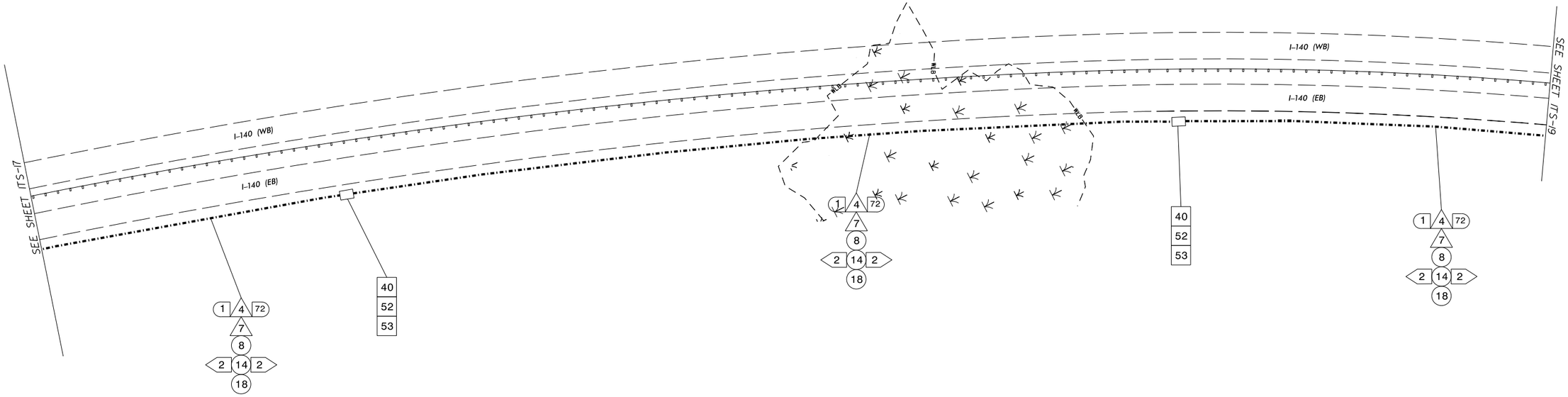

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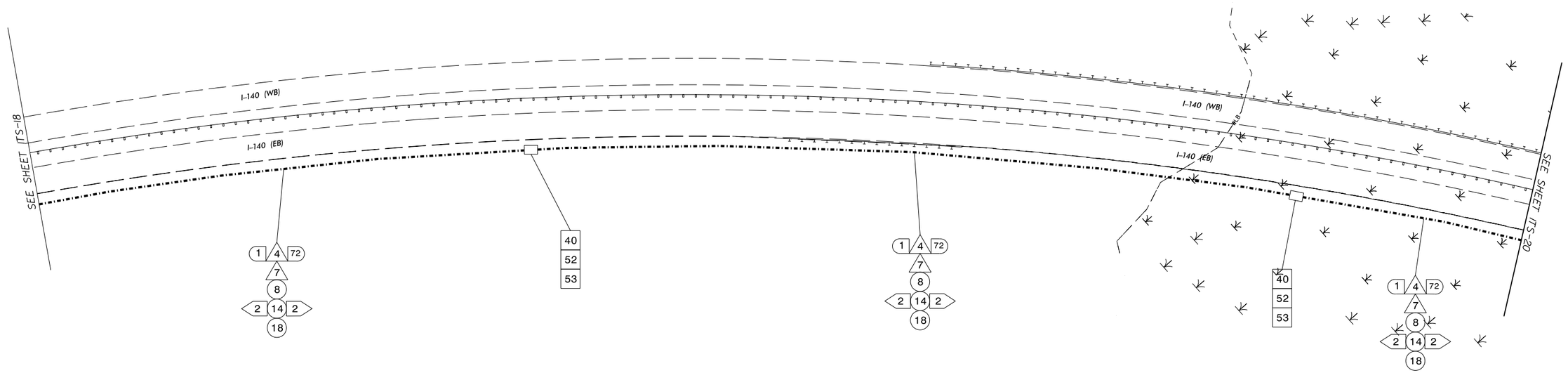

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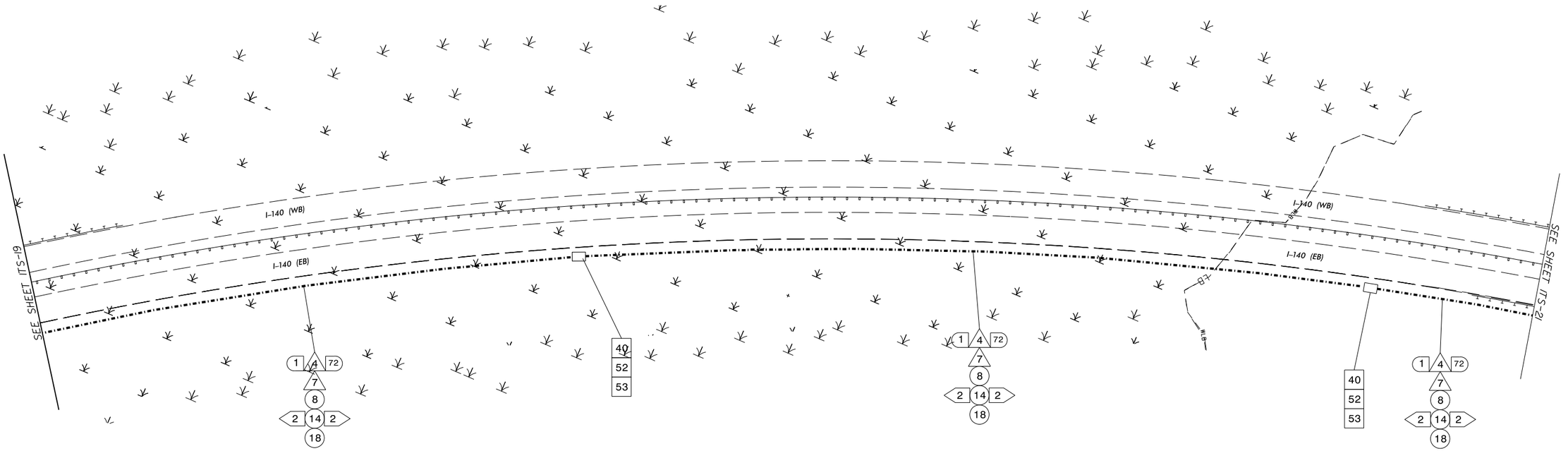

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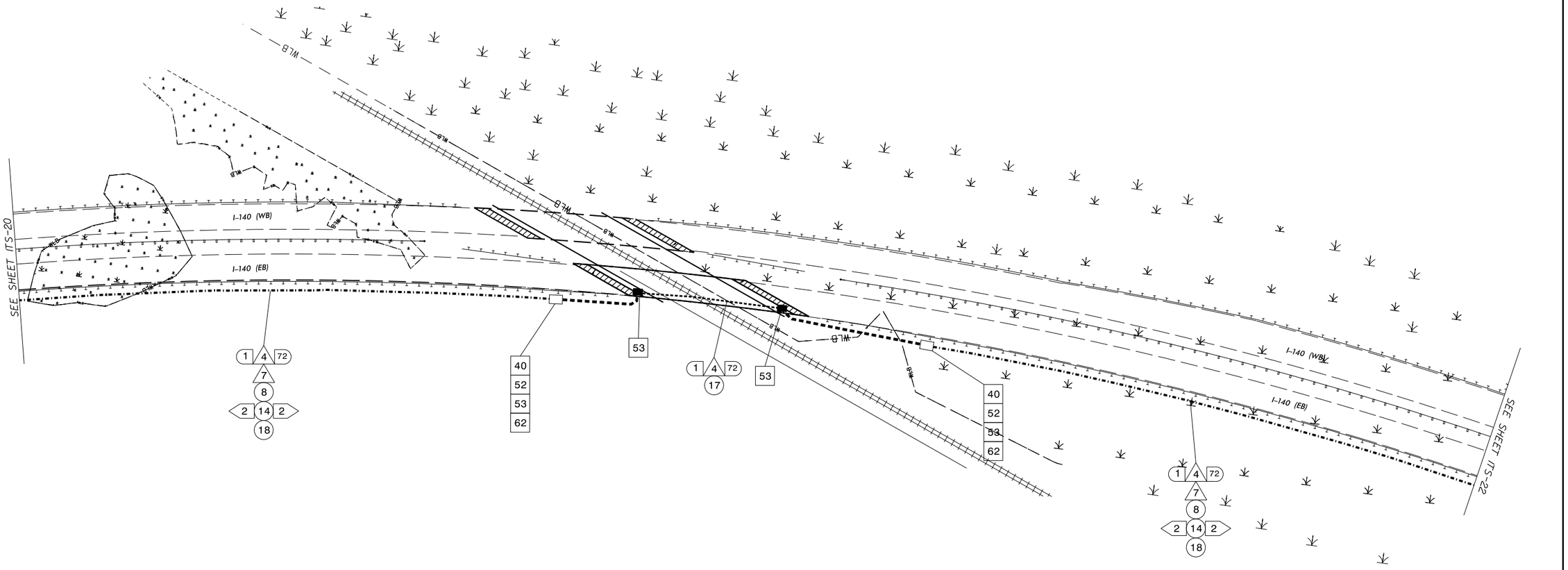

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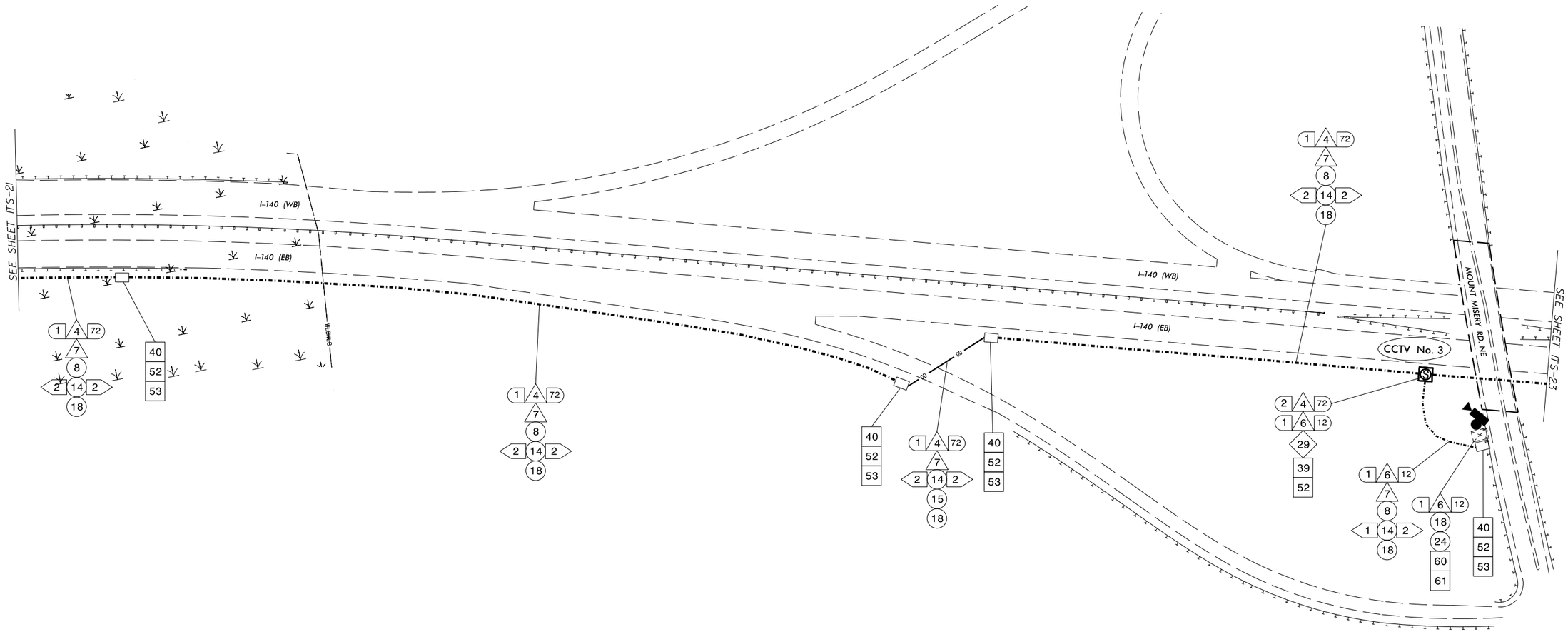

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DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM REVIEWED BY: BETSY L. WATSON

SCALE: NTS

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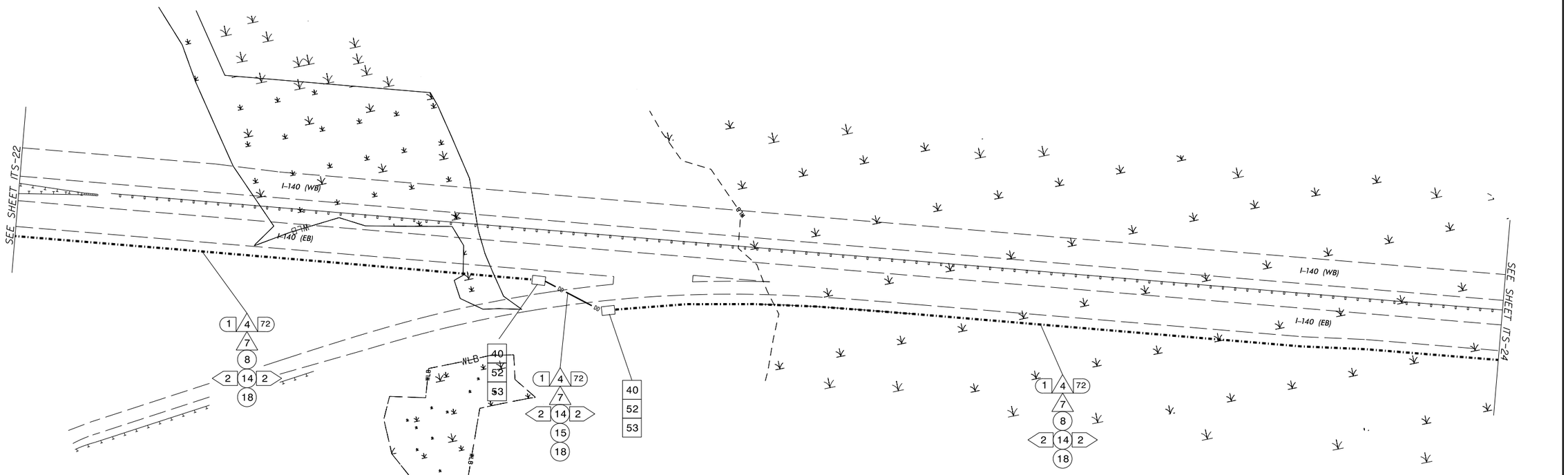

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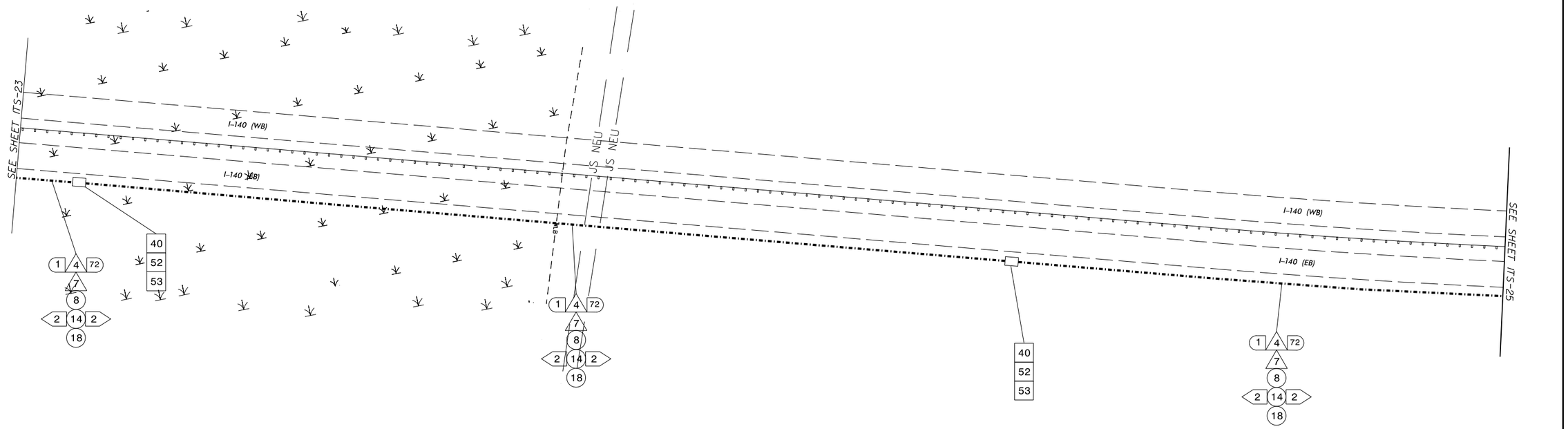

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DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 | REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM | REVIEWED BY: BETSY L. WATSON

SCALE: NTS

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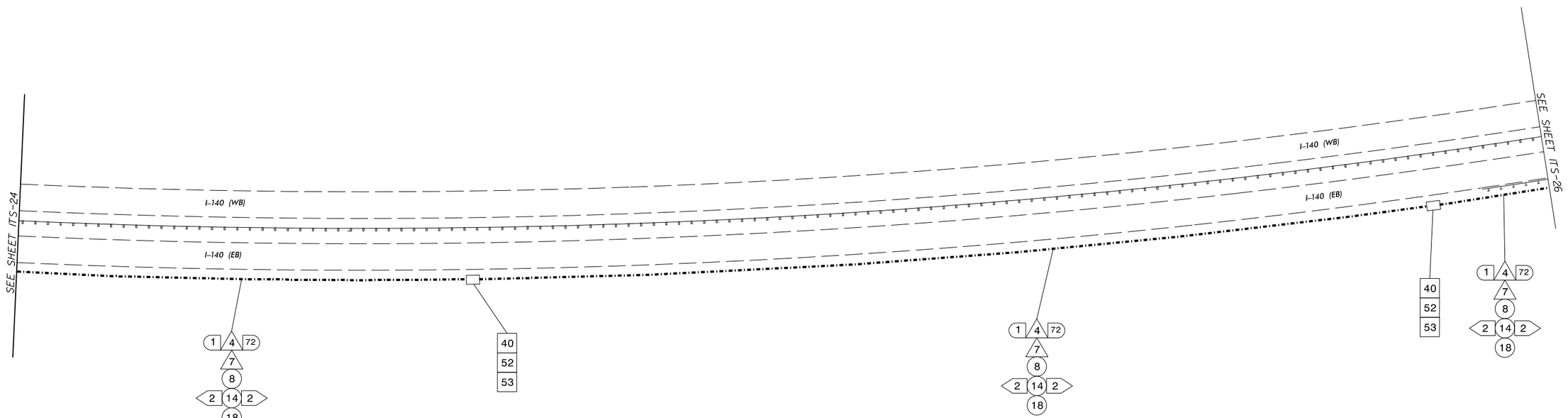

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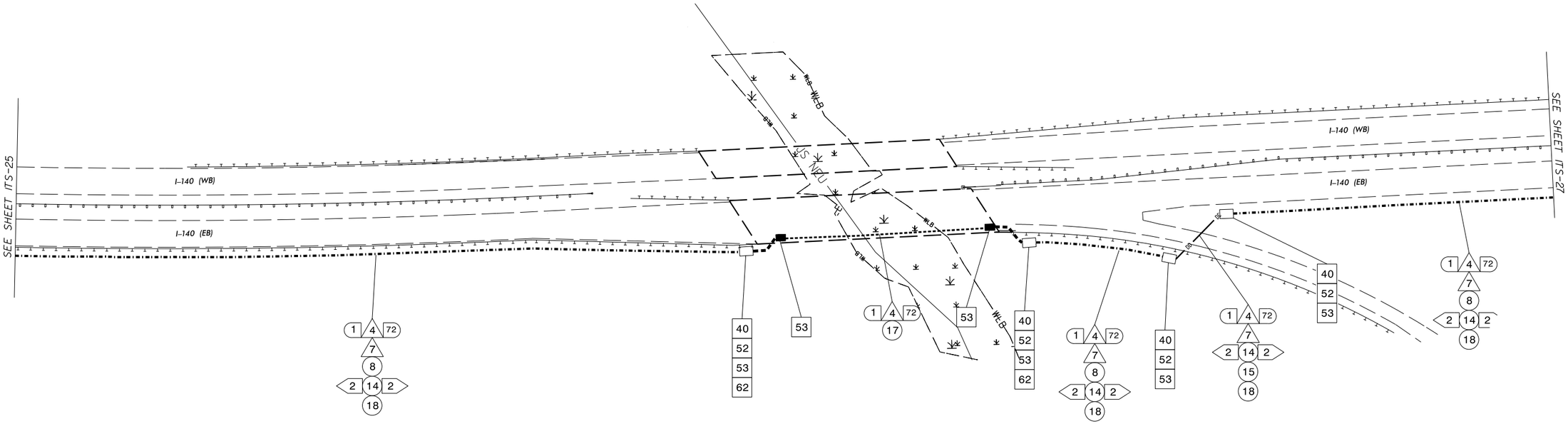

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DD — DD — NEW DIRECTIONAL DRILLED CONDUIT
NEW JUNCTION BOX
EXISTING JUNCTION BOX
NEW UNDERGROUND SPLICE CLOSURE

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Prepared for the Offices of:
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 | REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM | REVIEWED BY: BETSY L. WATSON

SCALE: NTS

REVISIONS	INIT.	DATE

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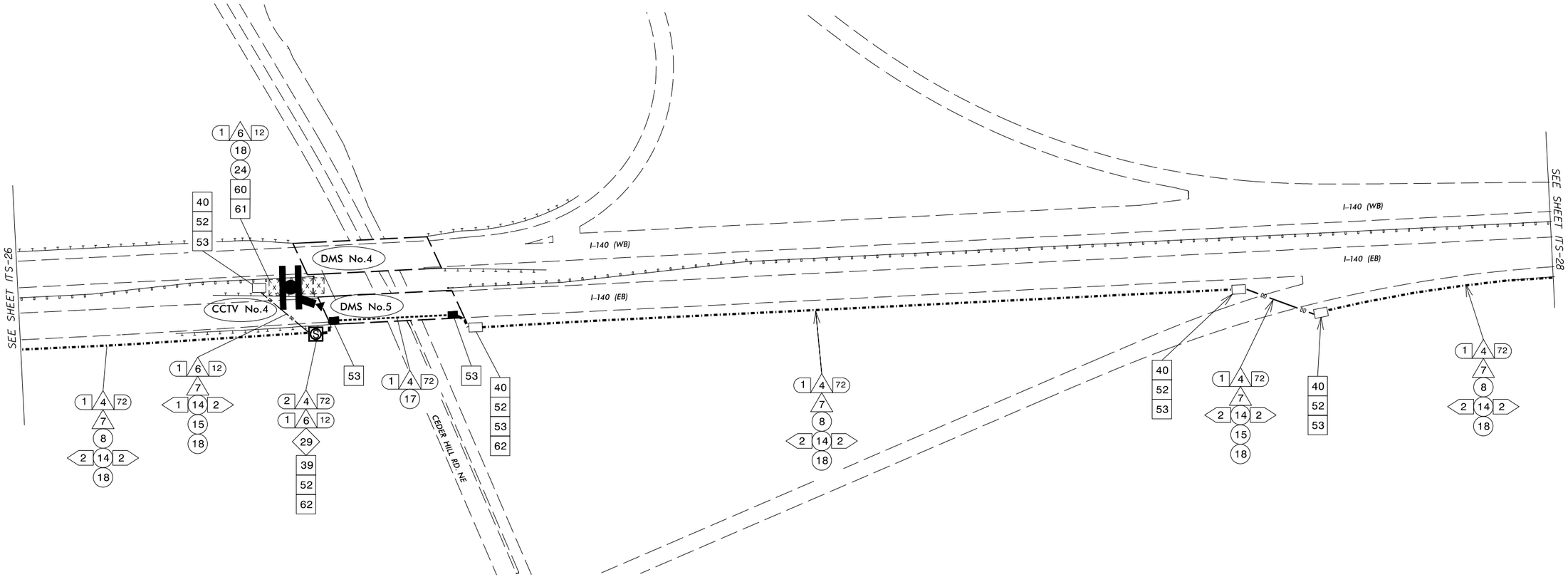
R-2633D	ITS-27



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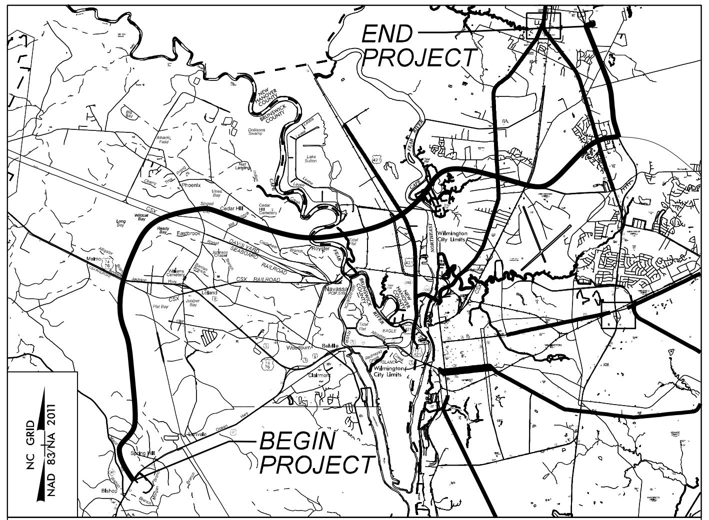
TIP PROJECT: R–2633D

CONTRACT: C204080

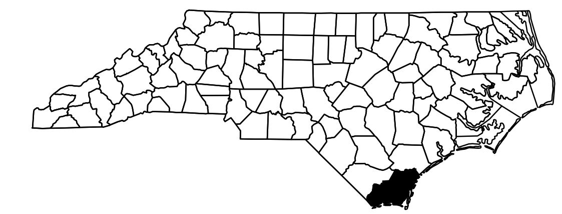
Project No.	Sheet No.
R–2633D	ITS–1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



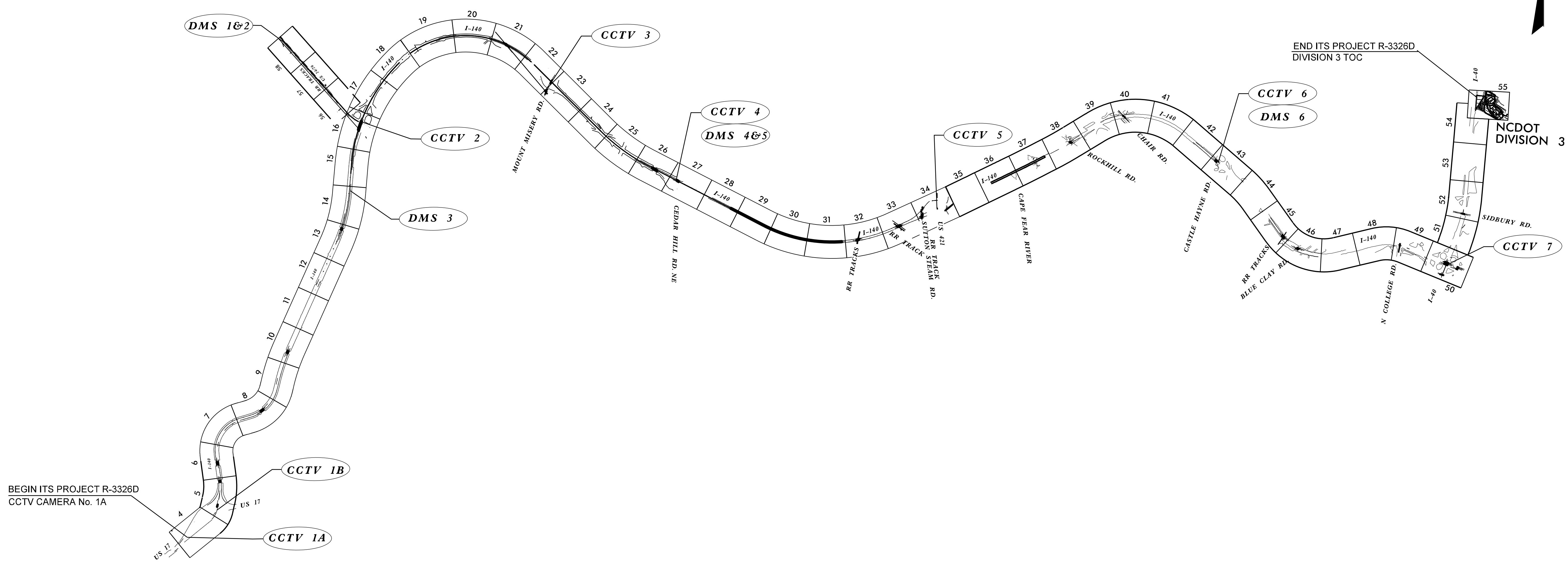
VICINITY MAP

BRUNSWICK AND NEW HANOVER COUNTIES



LOCATION: I–140 FROM SOUTH WEST OF US 17 BUS. TO I–40 NORTH, TO DIVISION 3 TRAFFIC OPERATIONS CENTER (TOC), BARBADOS DRIVE IN CASTLE HAYNE

TYPE OF WORK: BURIED TRUNK FIBER CABLE INSTALLATION, DROP CABLE INSTALLATION, SPLICE CABINETS & FUSION SPLICING



INDEX OF PLANS

SHEET NUMBER	LOCATION / DESCRIPTION
ITS–1	TITLE SHEET
ITS–2	TRAFFIC MANAGEMENT PLAN
ITS–3	SCHEMATIC DIAGRAM
ITS–4	DRAWING FORMAT ITEMS – CONSTRUCTION NOTES, CABLE INSTALLATION NOTES
ITS–5 thru ITS–58	TRUNK FIBER INSTALLATION (I–140 / I–40) FROM BUS US 17 TO DIVISION 3 TOC
ITS–59	CONDUIT AND CABLE ENTRANCE AT TOC
ITS–60 thru ITS–73	FIBER CABLE SPLICING DETAILS AND SPECIAL DETAILS

XXX-X **LEGEND** ITS FIELD DEVICES

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" ROADWAY DESIGN UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C. DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS.

STD. No.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURE
1101.03	TEMPORARY SHOULDER CLOSURE
1710.01	MESSENGER CABLE
1715.01	UNDERGROUND CONDUIT
1716.01	JUNCTION BOXES
1720.01	WOOD POLES
1721.01	GUY ASSEMBLIES
1722.01	RISER ASSEMBLY
1730.01	FIBER OPTIC CABLE

NCDOT CONTACT:
TRANSPORTATION SAFETY AND MOBILITY
INTELLIGENT TRANSPORTATION SYSTEMS SECTION
LEE E. NEAL
ITS / Project Design Engineer

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Betsy L. Watson, PE — Senior Principal
Dean Harris — Senior Transportation Engineer
Jim Ingram — Senior ITS Designer

Plans Prepared for:
DIVISION OF HIGHWAYS

Transportation Mobility and Safety Division · ITS and Signals Unit · State of North Carolina Department of Transportation

750 N. Greenfield Parkway, Garner, NC 27529

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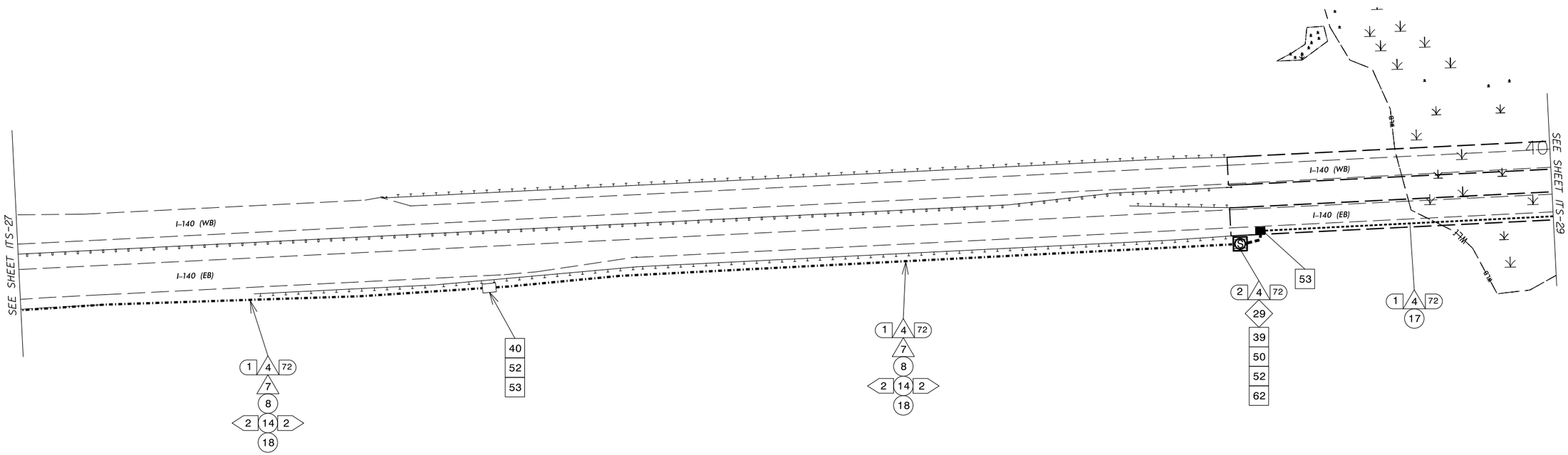

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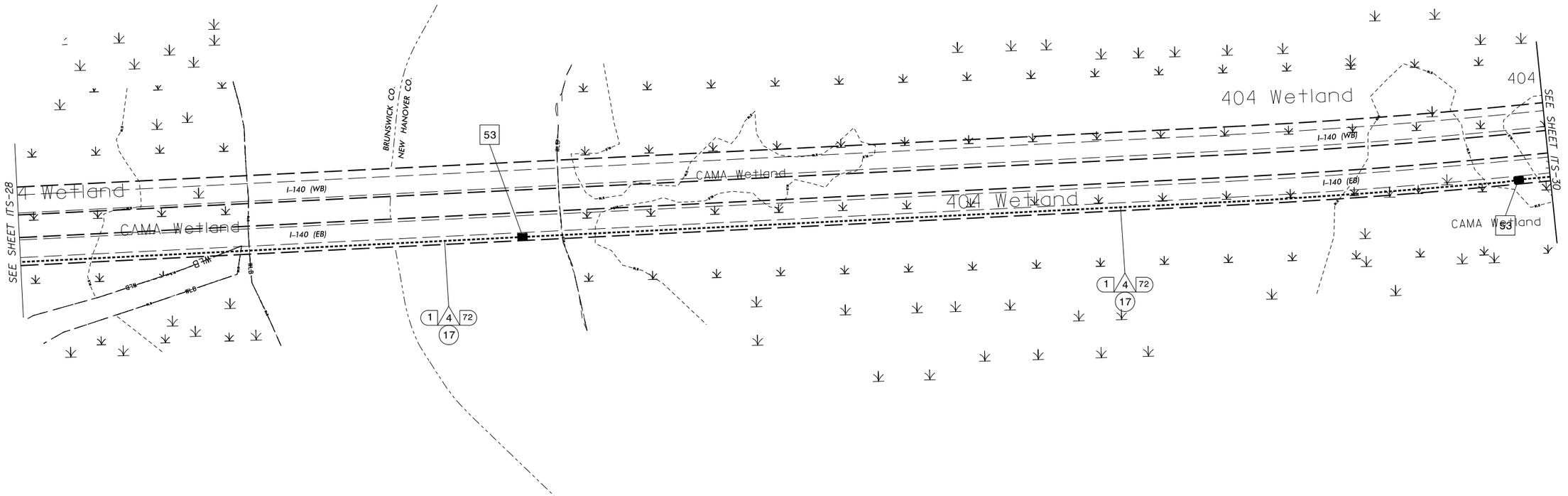

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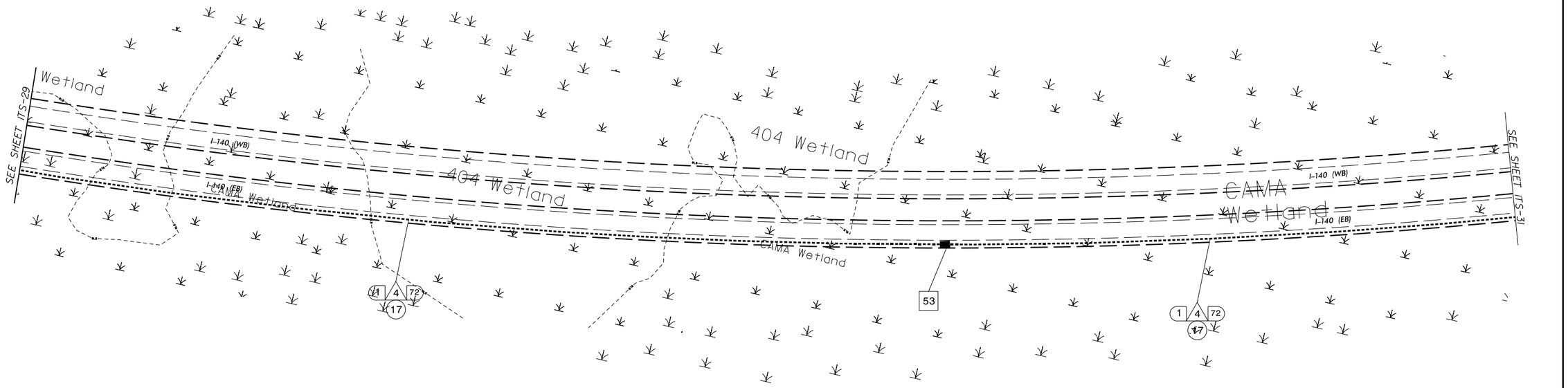

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DD — DD NEW DIRECTIONAL DRILLED CONDUIT
NEW JUNCTION BOX
EXISTING JUNCTION BOX
NEW UNDERGROUND SPLICE CLOSURE

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Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 | REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM | REVIEWED BY: BETSY L. WATSON

SCALE: NTS

REVISIONS	INIT.	DATE

SEAL
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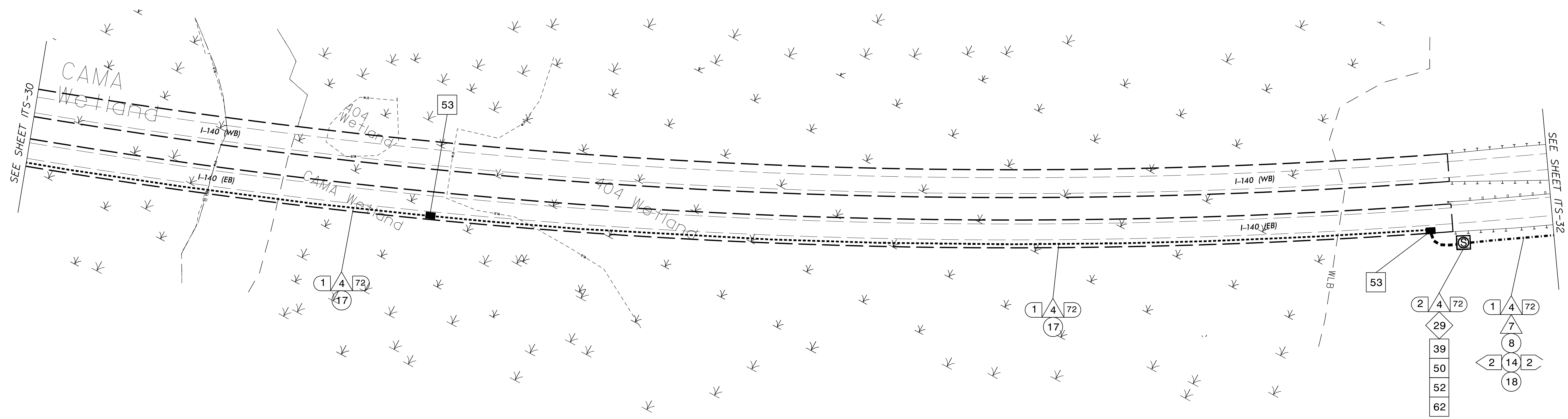

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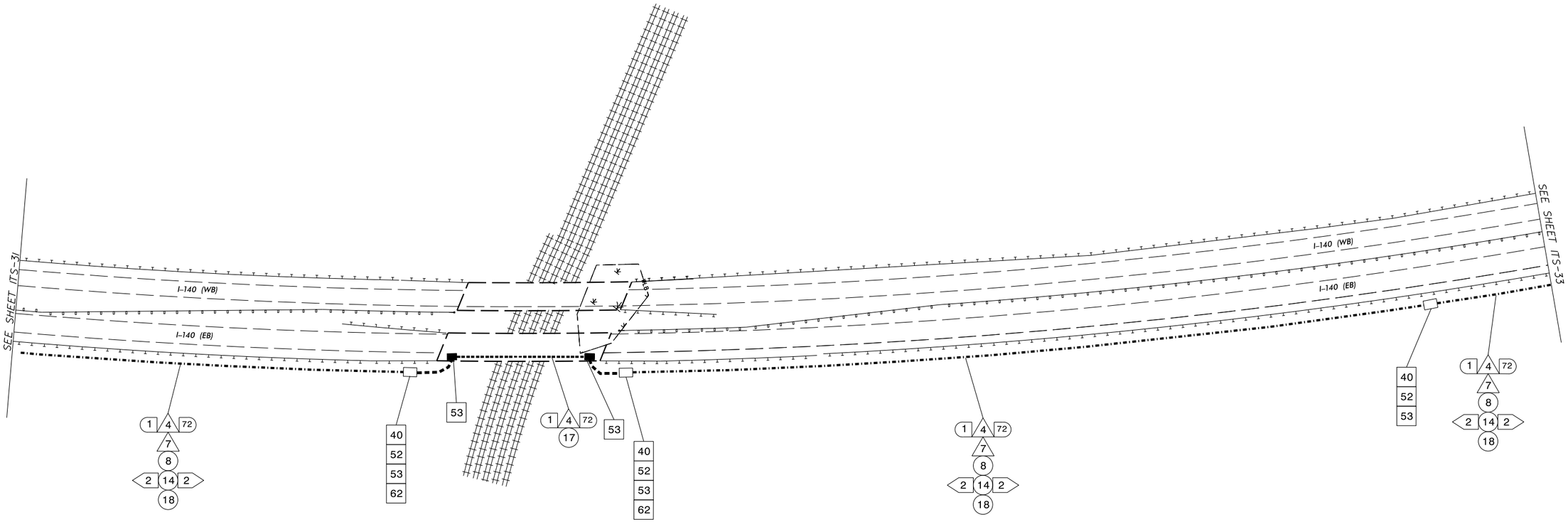

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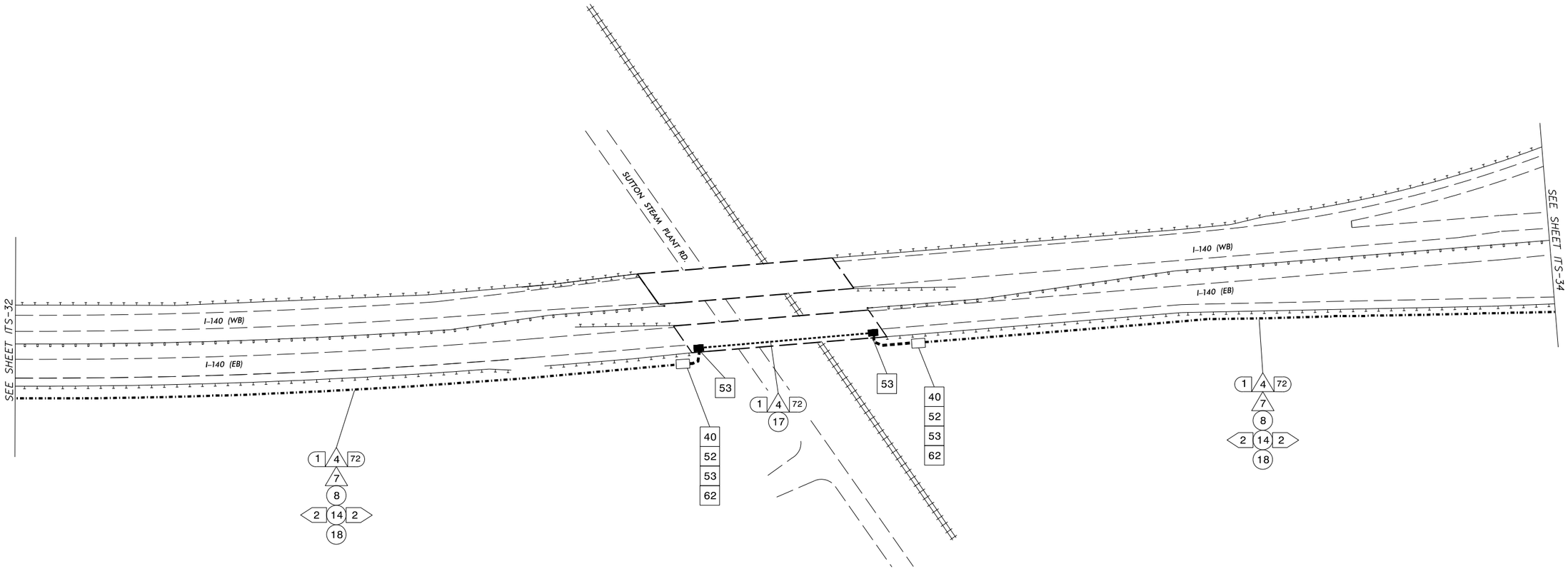

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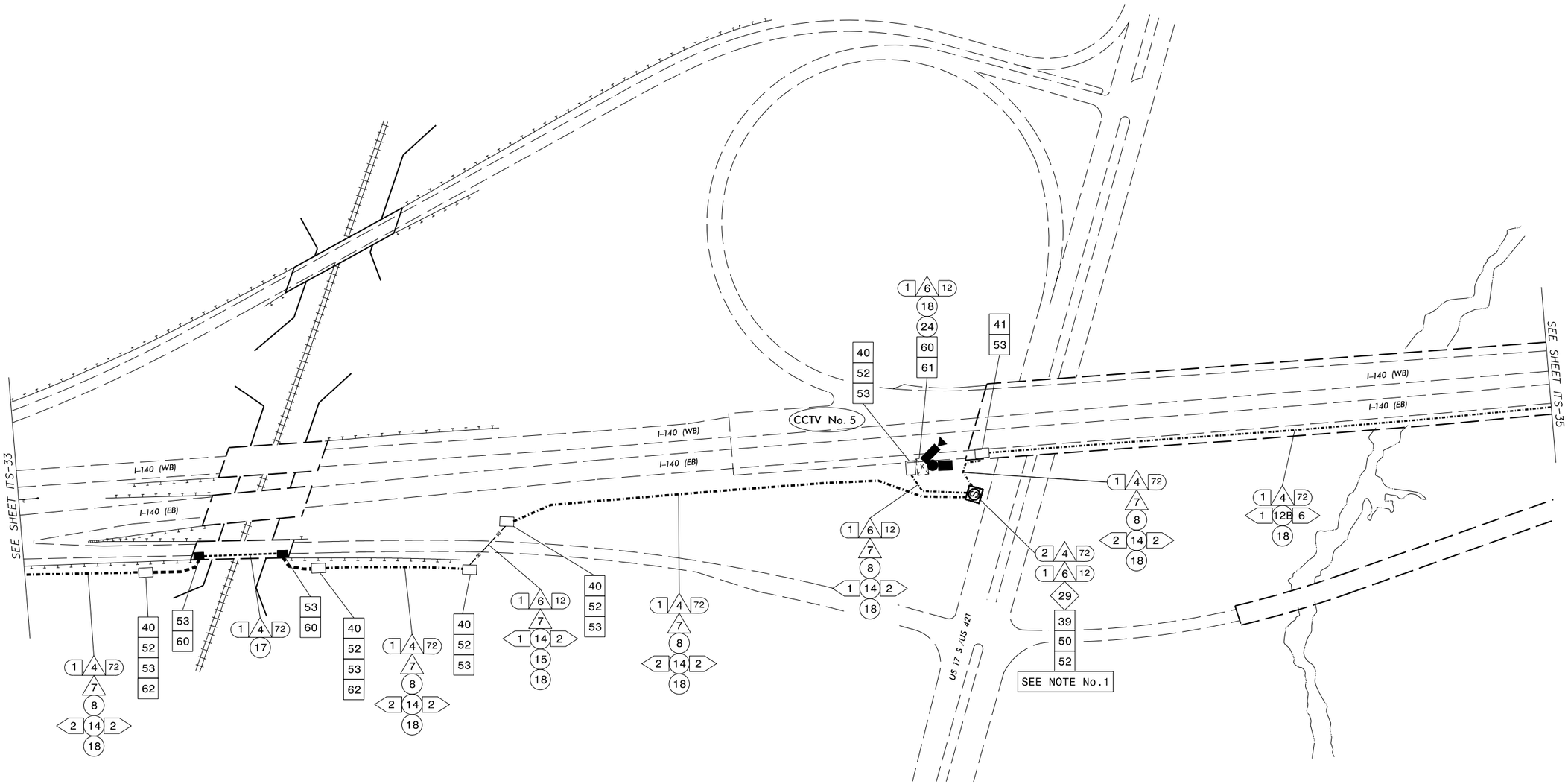

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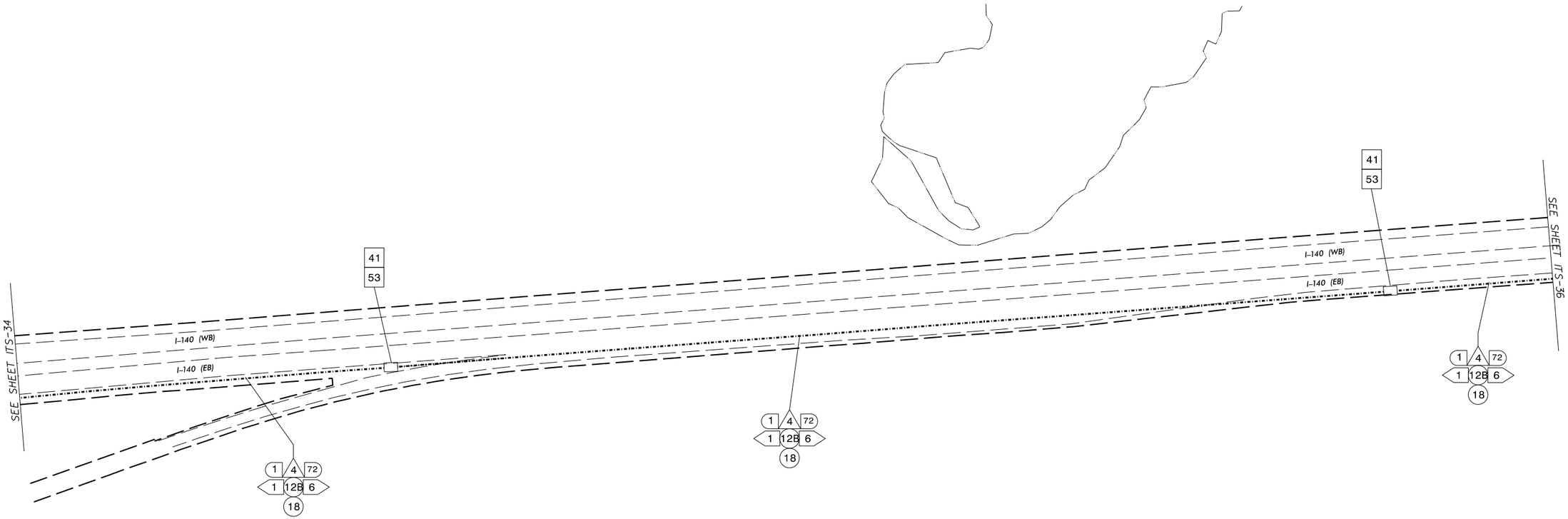

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31. INSTALL POLE MOUNTED SPLICE CABINET
32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
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EXISTING JUNCTION BOX
NEW UNDERGROUND SPLICE CLOSURE

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CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

PLAN DATE:	AUGUST 2017	REVIEWED BY:	DEAN HARRIS
PREPARED BY:	J. INGRAM	REVIEWED BY:	BETSY L. WATSON

SCALE: NTS

REVISIONS	INIT.	DATE

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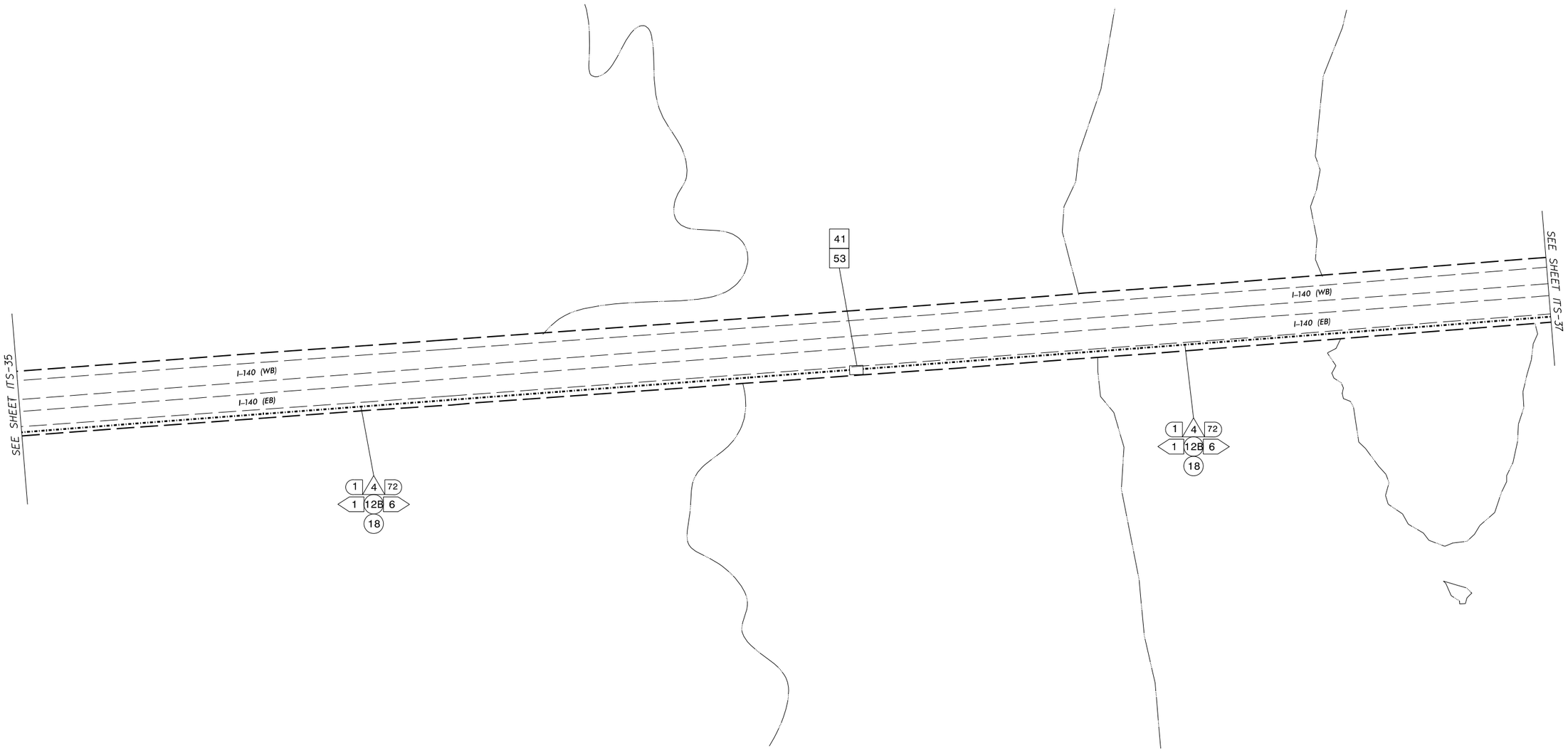
PROJECT REFERENCE NO.	SHEET NO.
R-2633D	ITS-36



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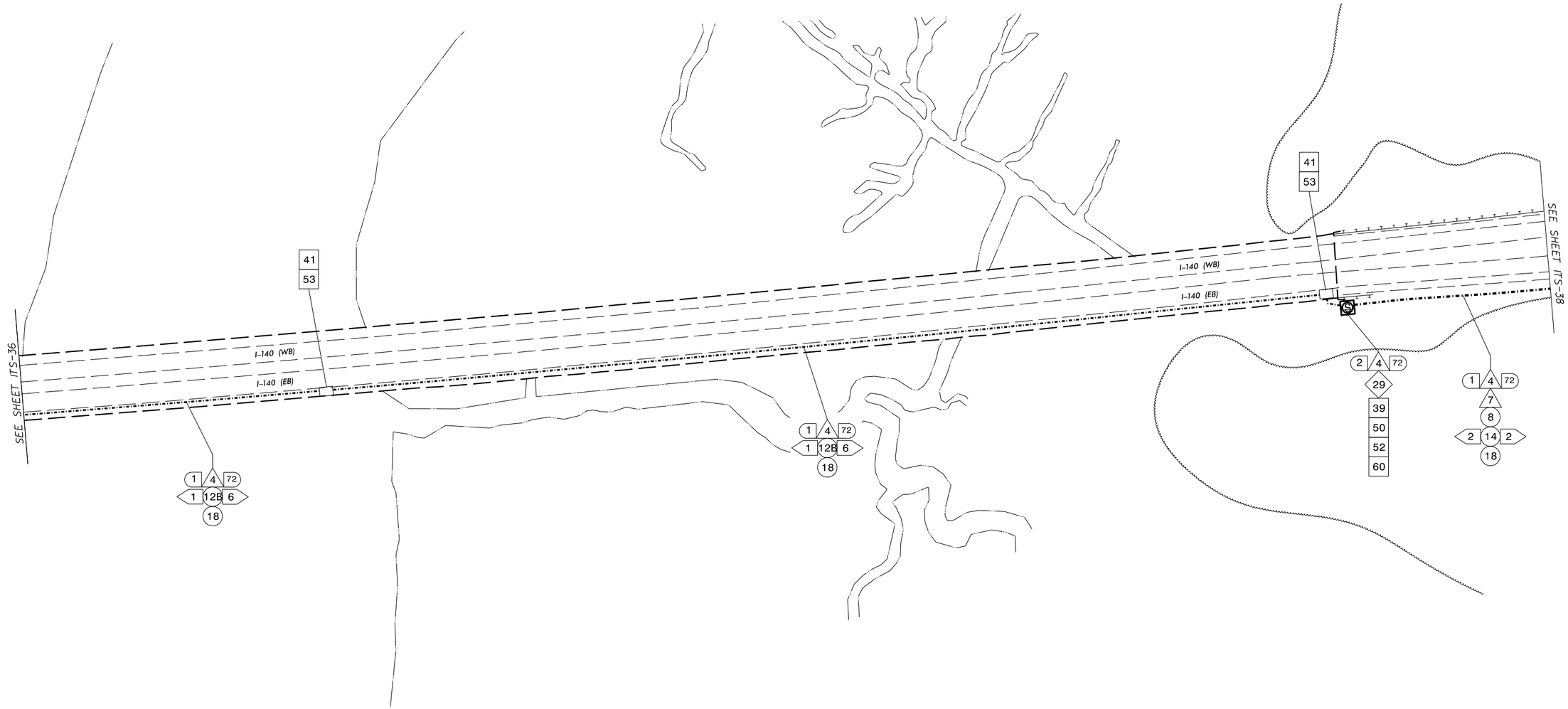

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DIV 3 NEW HANOVER CO. Near WILMINGTON

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PREPARED BY: J. INGRAM | REVIEWED BY: BETSY L. WATSON

SCALE: NTS

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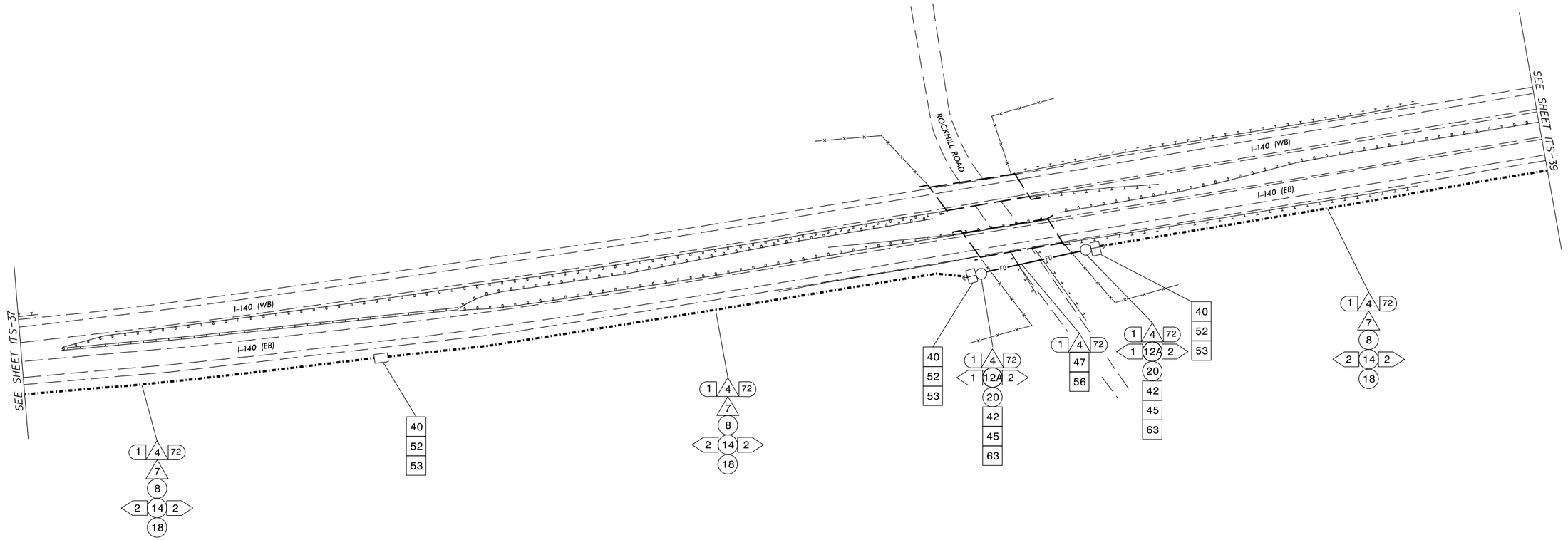

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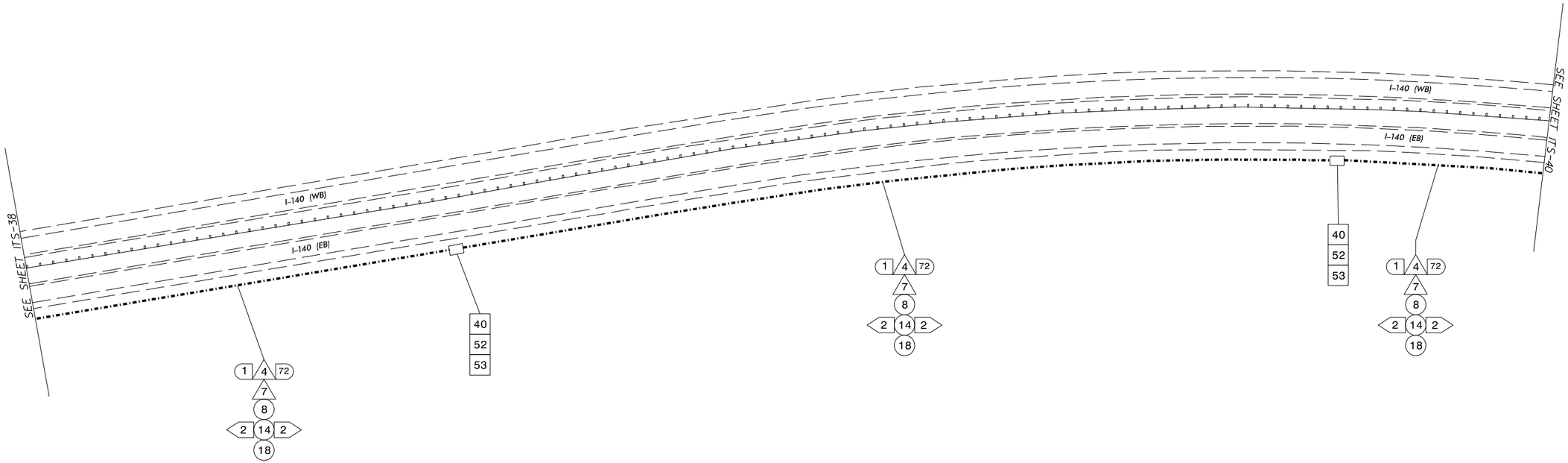

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PREPARED BY: J. INGRAM | REVIEWED BY: BETSY L. WATSON

SCALE: NTS

REVISIONS	INIT.	DATE

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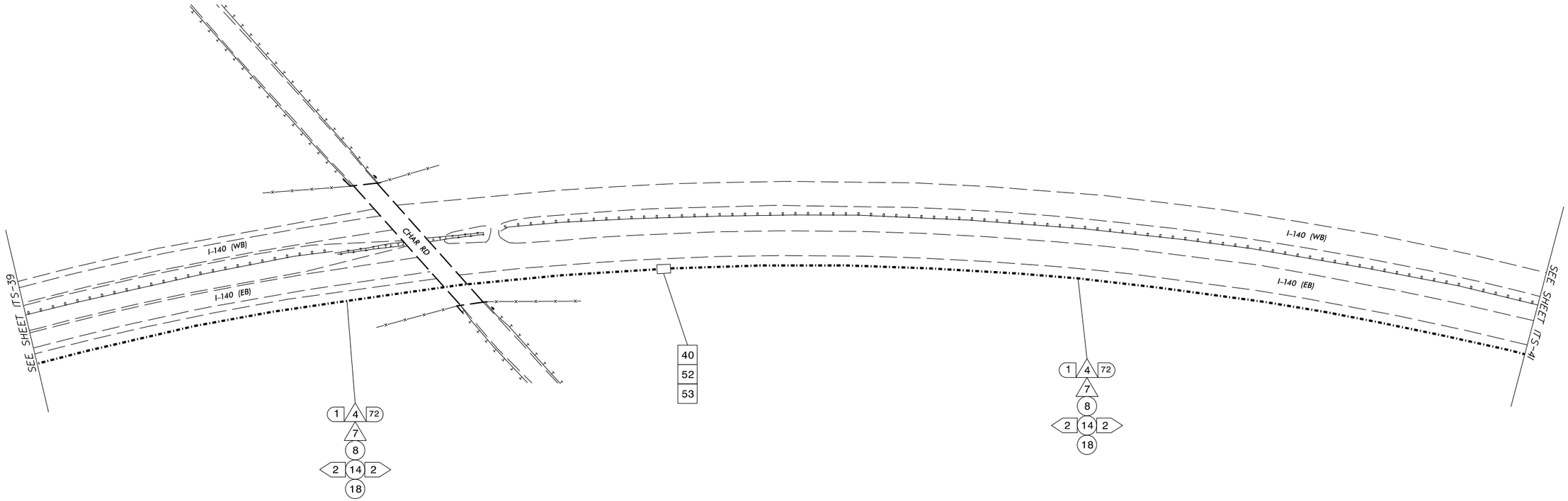
CADD FILE NAME

February 16, 2018

PROJECT REFERENCE NO.	SHEET NO.
R-2633D	ITS-40



1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL 3-CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE
4. INSTALL SMFO CABLE
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PROPOSED CONDUIT
EXISTING CONDUIT
FO FO NEW AERIAL FIBER OPTIC COMMUNICATIONS CABLE
DD DD NEW DIRECTIONAL DRILLED CONDUIT
NEW JUNCTION BOX
EXISTING JUNCTION BOX
NEW UNDERGROUND SPLICE CLOSURE

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Prepared for the Offices of:
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750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

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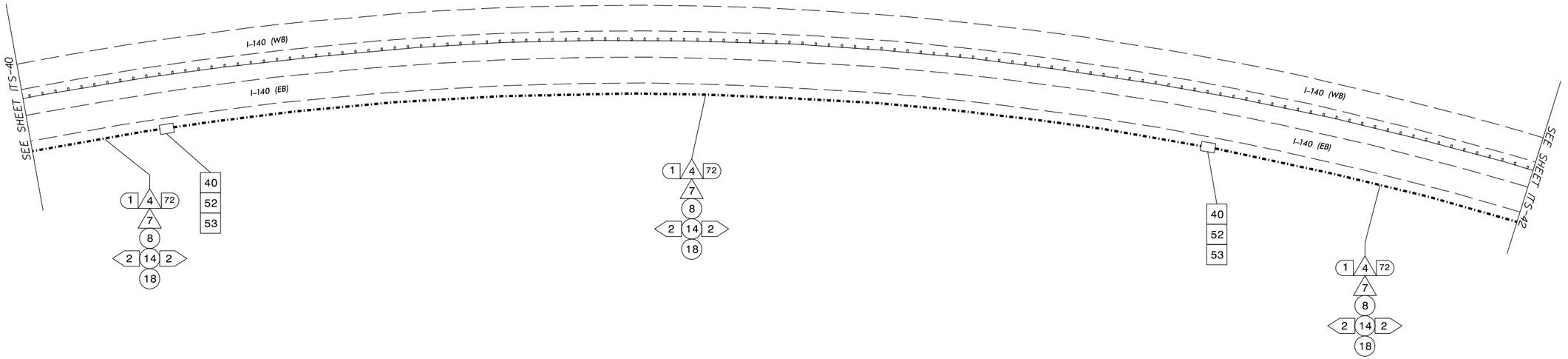

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EXISTING JUNCTION BOX
NEW UNDERGROUND SPLICE CLOSURE

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Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
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CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

PLAN DATE:	AUGUST 2017	REVIEWED BY:	DEAN HARRIS
PREPARED BY:	J. INGRAM	REVIEWED BY:	BETSY L. WATSON

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PROJECT REFERENCE NO.	SHEET NO.
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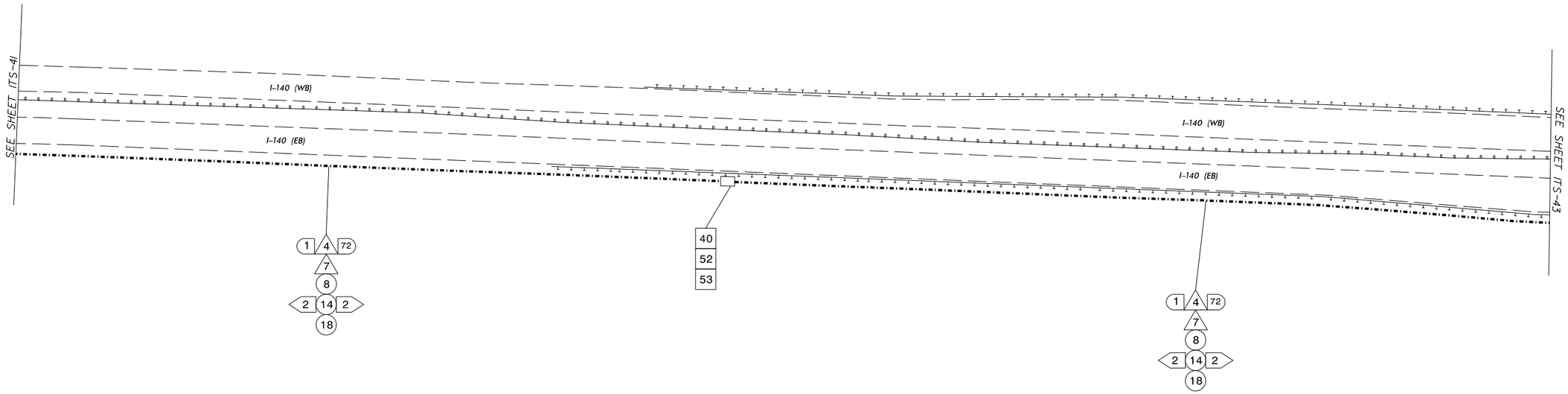

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PROPOSED CONDUIT
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FO — FO — NEW AERIAL FIBER OPTIC COMMUNICATIONS CABLE
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NEW JUNCTION BOX
EXISTING JUNCTION BOX
(S) NEW UNDERGROUND SPLICE CLOSURE

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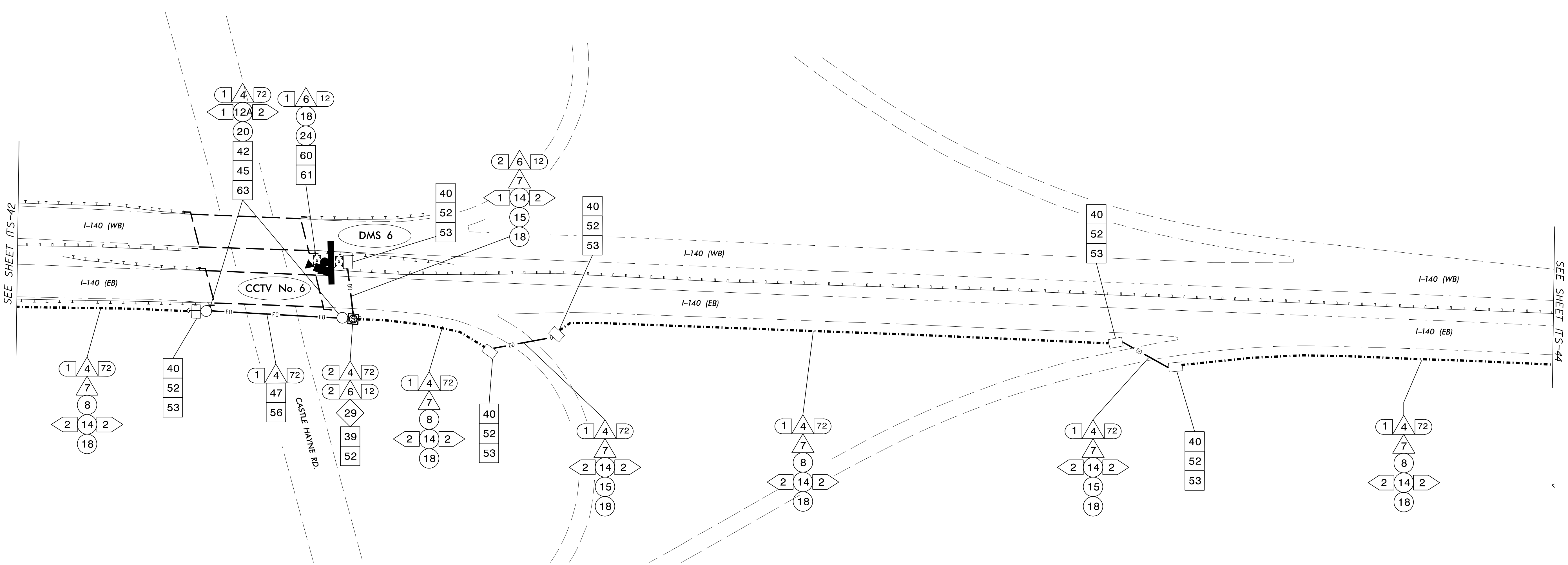

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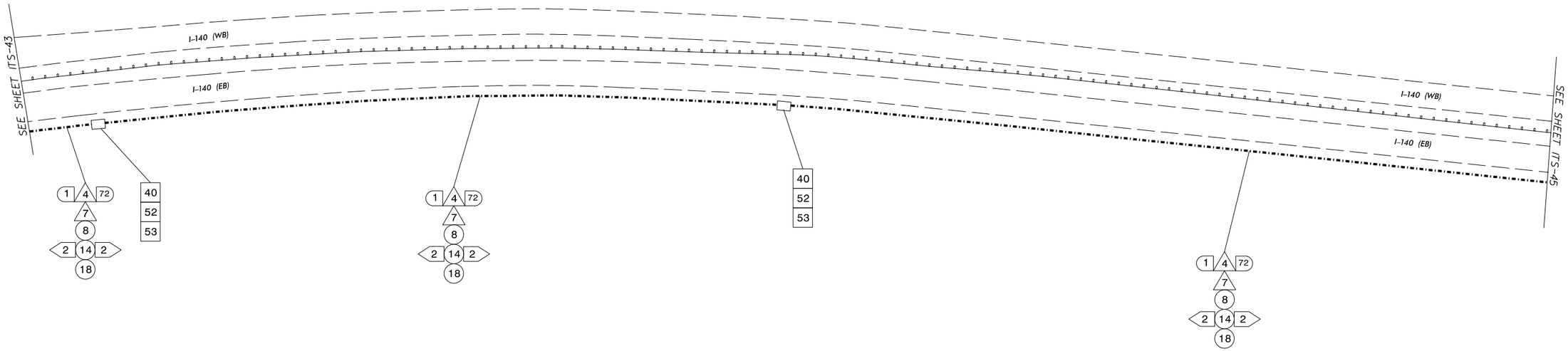

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63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

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DD — DD NEW DIRECTIONAL DRILLED CONDUIT
NEW JUNCTION BOX
EXISTING JUNCTION BOX
NEW UNDERGROUND SPLICE CLOSURE

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CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 | REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM | REVIEWED BY: BETSY L. WATSON

SCALE: NTS

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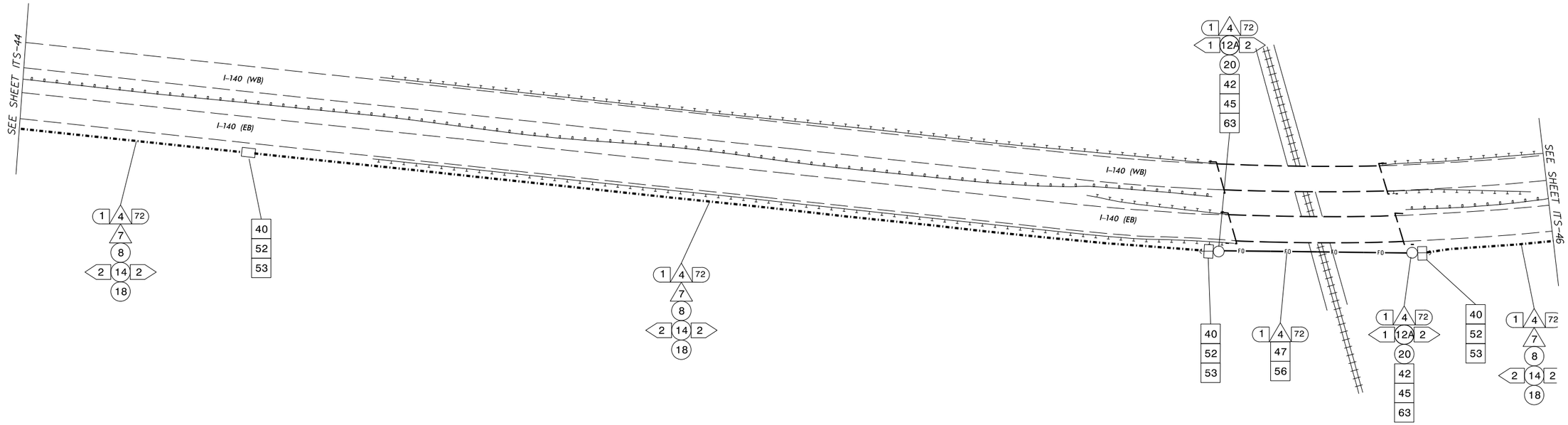

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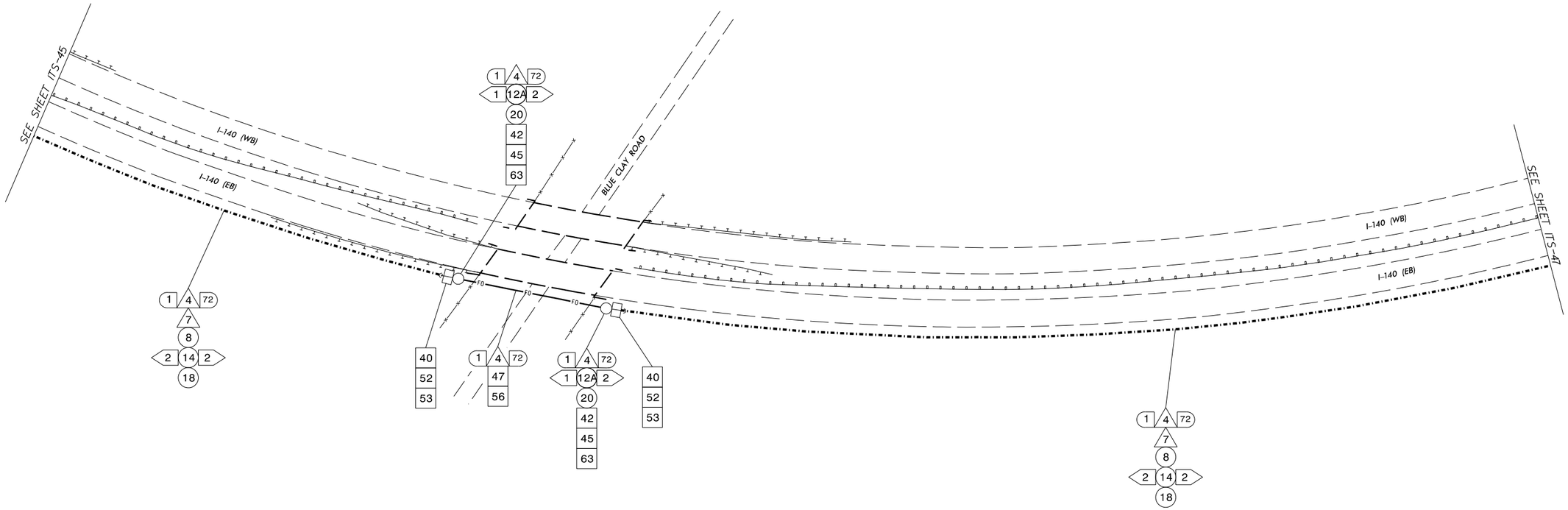

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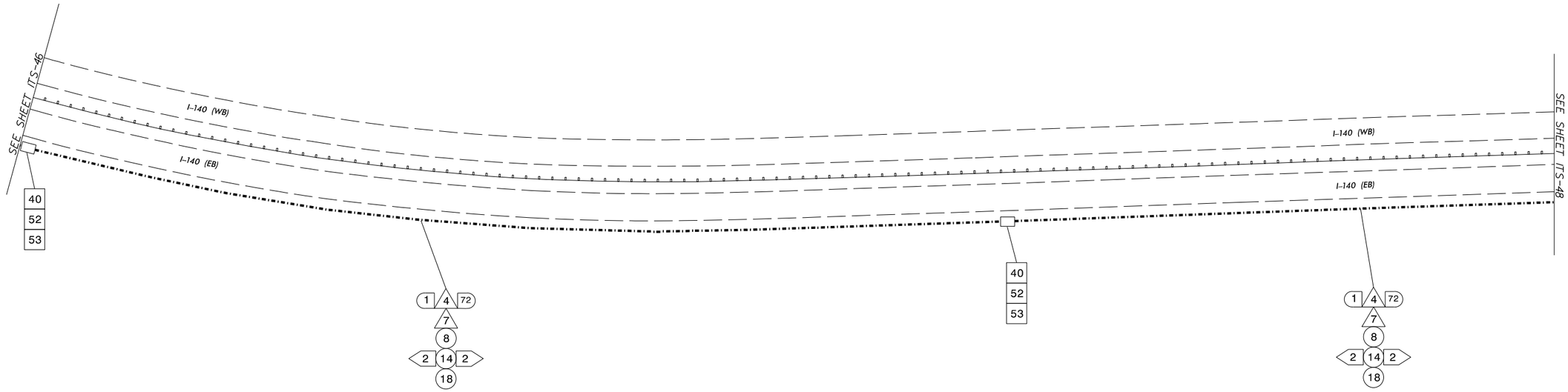

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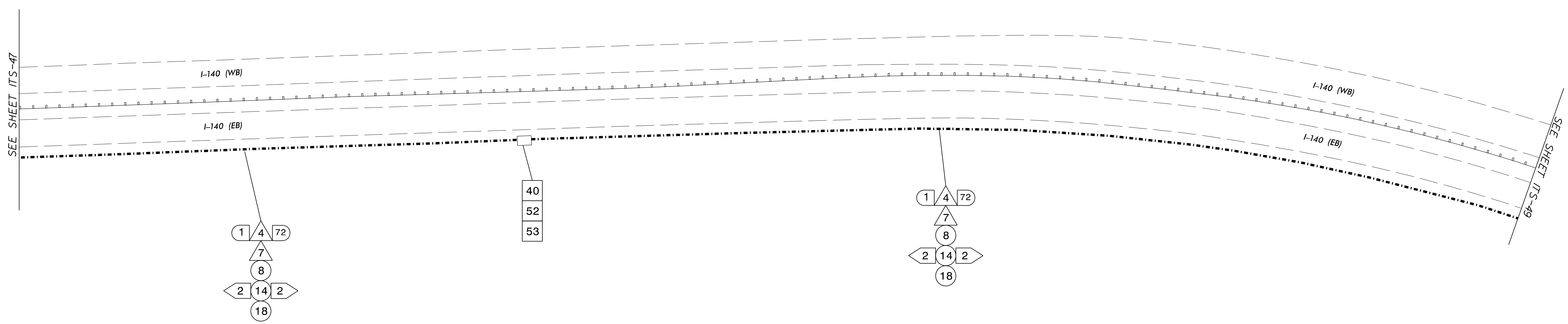

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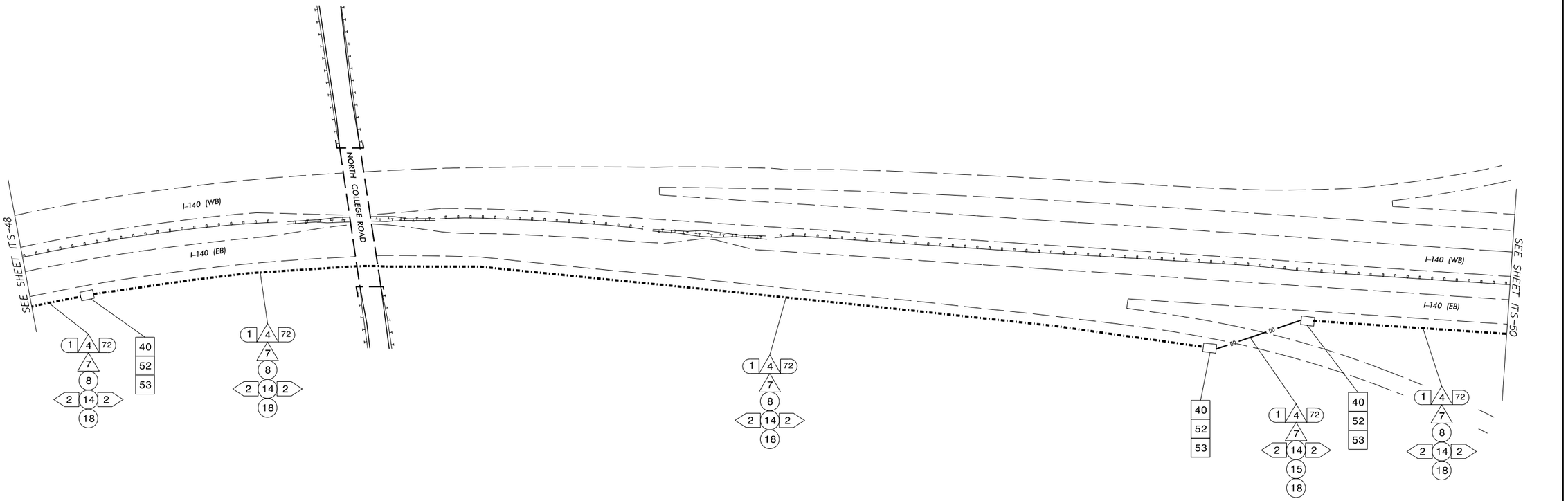

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32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
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EXISTING JUNCTION BOX
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Prepared for the Offices of:

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750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM REVIEWED BY: BETSY L. WATSON

SCALE: NTS

REVISIONS	INIT.	DATE

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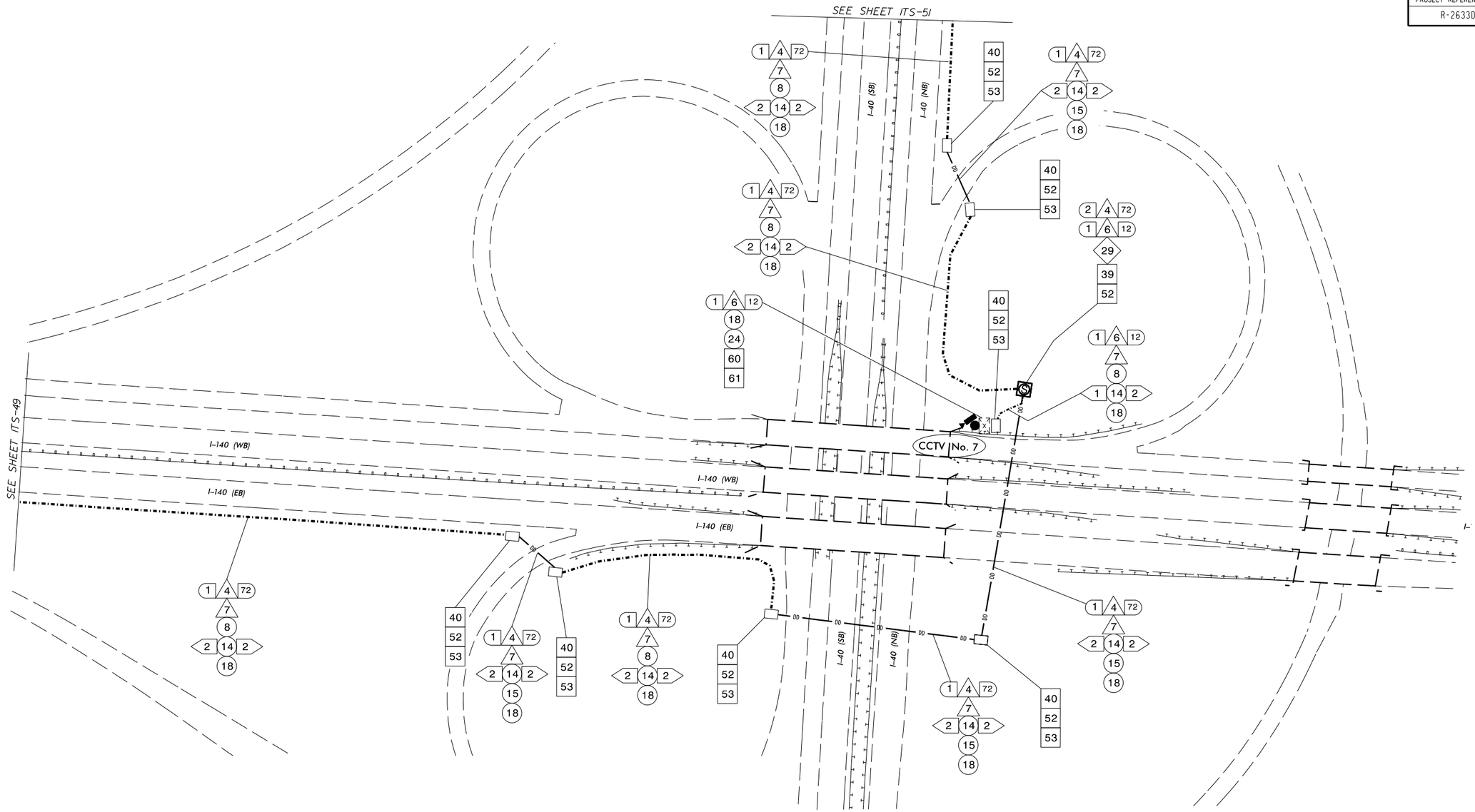

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Intermodal Transportation Systems Section
750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

PLAN DATE:	AUGUST 2017	REVIEWED BY:	DEAN HARRIS
PREPARED BY:	J. INGRAM	REVIEWED BY:	BETSY L. WATSON

REVISIONS	INIT.	DATE

SCALE: NTS

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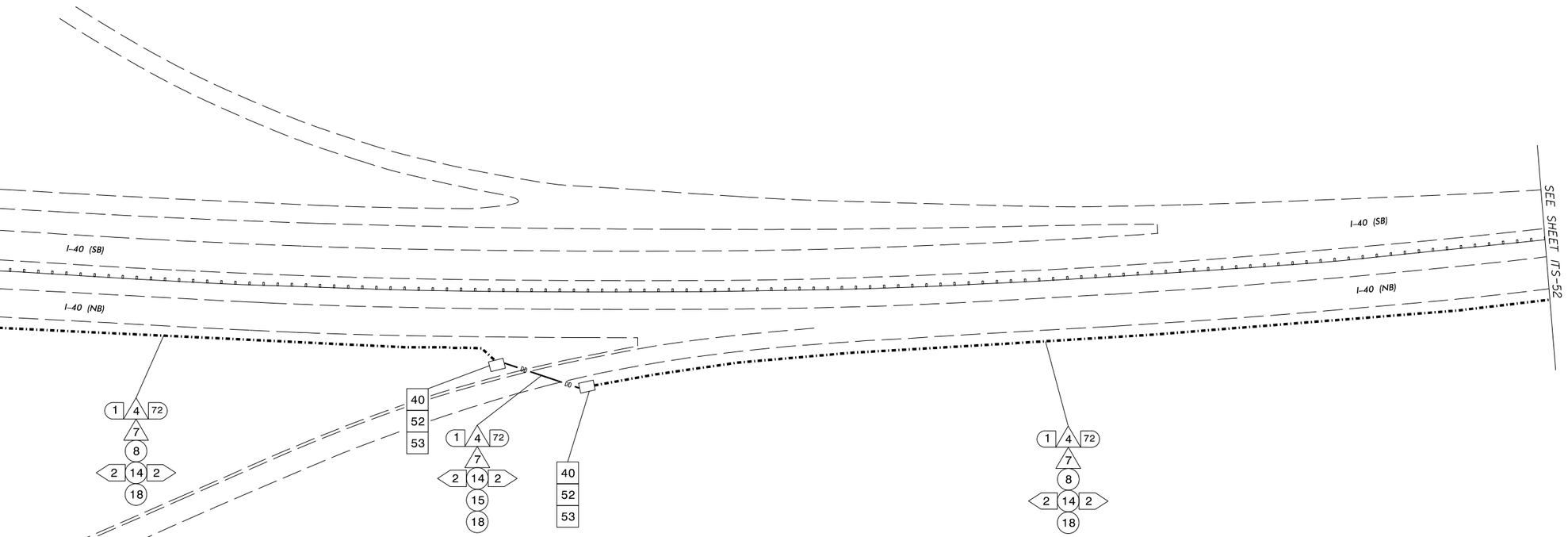

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Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

I–40 ITS FIBER CABLE ROUTE
CABLE ROUTING PLANS
DIV 3 NEW HANOVER CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 | REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM | REVIEWED BY: BETSY L. WATSON

SCALE: NTS

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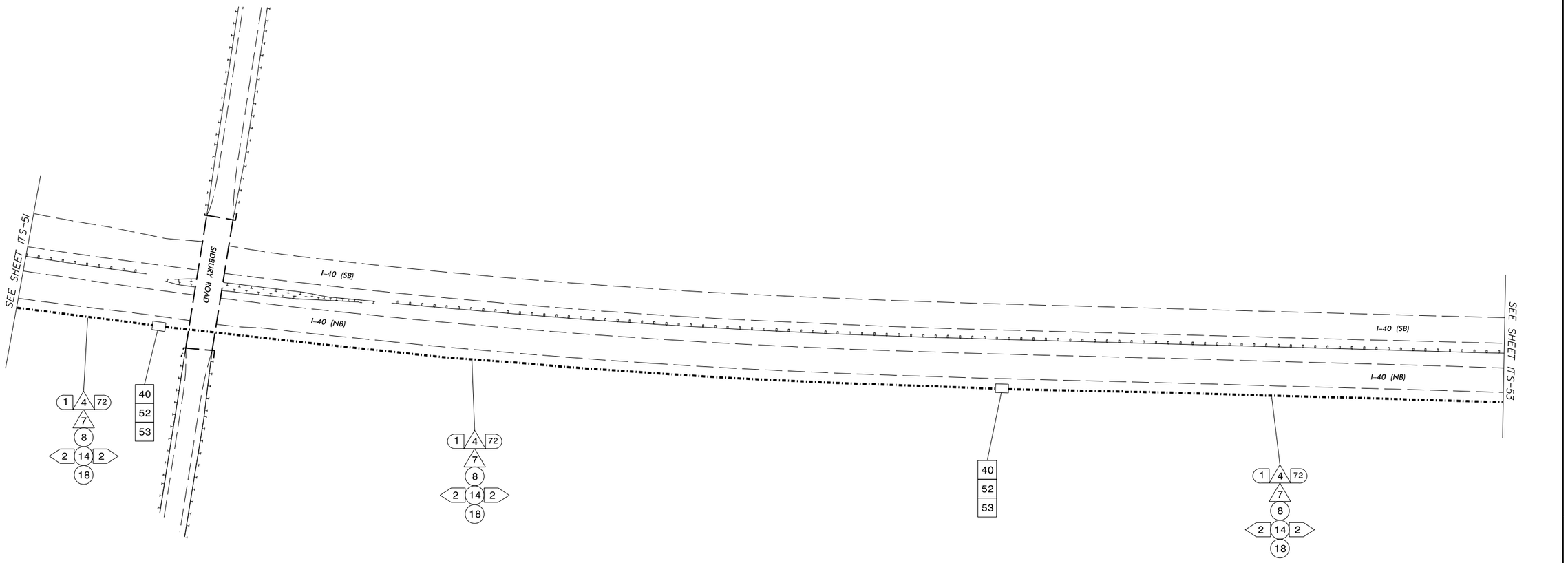

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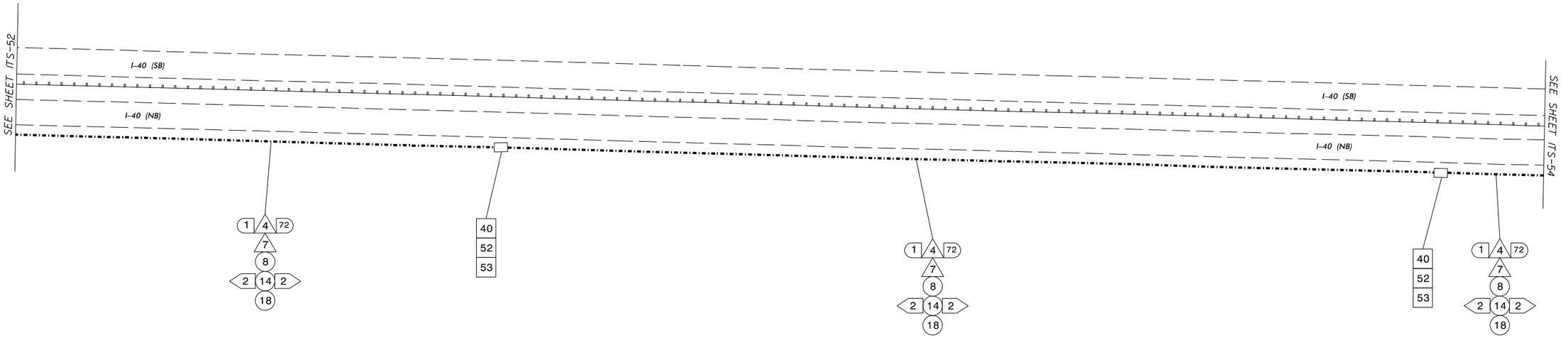

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63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

PROPOSED CONDUIT
EXISTING CONDUIT
FO — FO NEW AERIAL FIBER OPTIC COMMUNICATIONS CABLE
DD — DD NEW DIRECTIONAL DRILLED CONDUIT
NEW JUNCTION BOX
EXISTING JUNCTION BOX
NEW UNDERGROUND SPLICE CLOSURE

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Prepared for the Offices of:
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 | REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM | REVIEWED BY: BETSY L. WATSON

SCALE: NTS

REVISIONS	INIT.	DATE

SEAL
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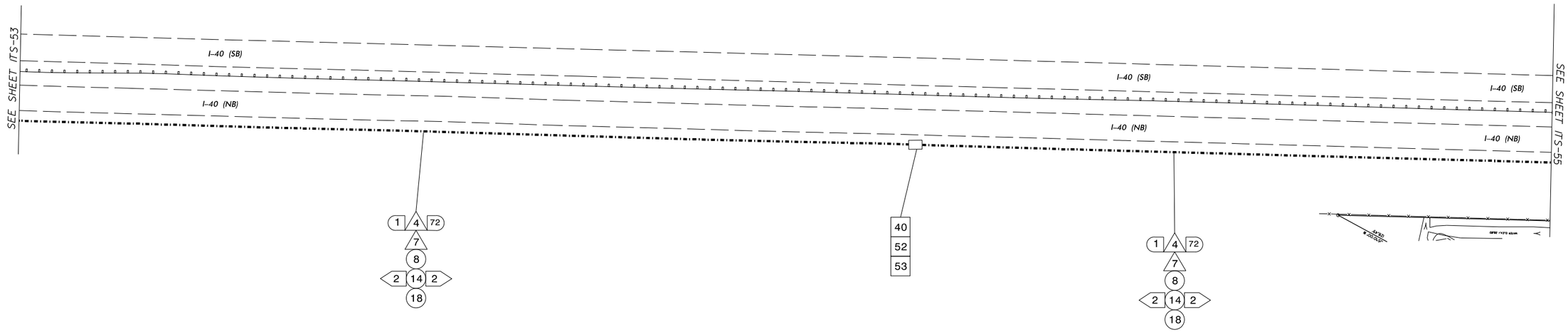
February 16, 2018

PROJECT REFERENCE NO.	SHEET NO.
R-2633D	ITS-54



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2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
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11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
12A. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
12B. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR-WAY INNERDUCT INSERT
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14. INSTALL POLYETHYLENE CONDUIT
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16. BORE AND JACK CONDUIT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
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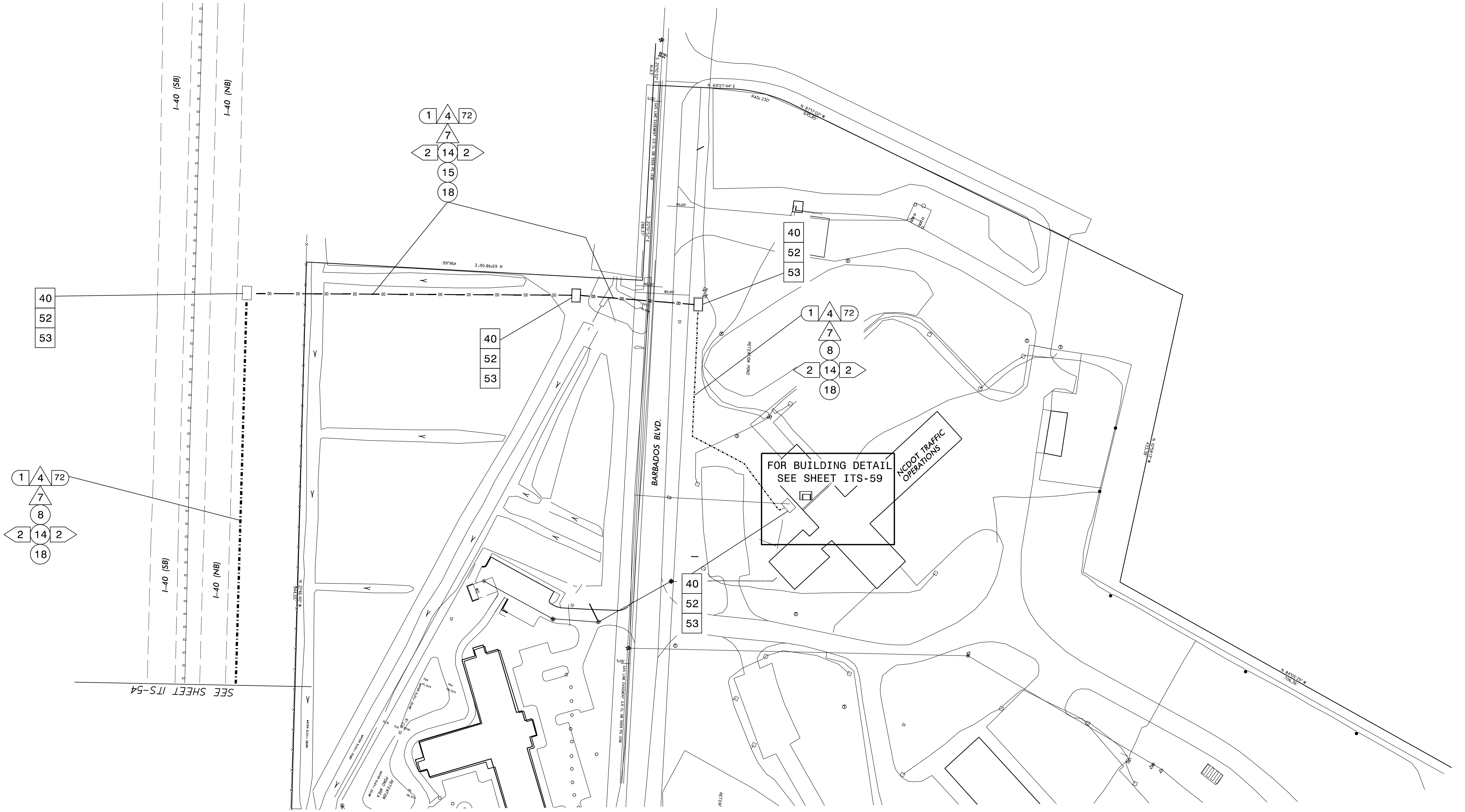

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DIV 3 NEW HANOVER CO. Near WILMINGTON

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SCALE: NTS

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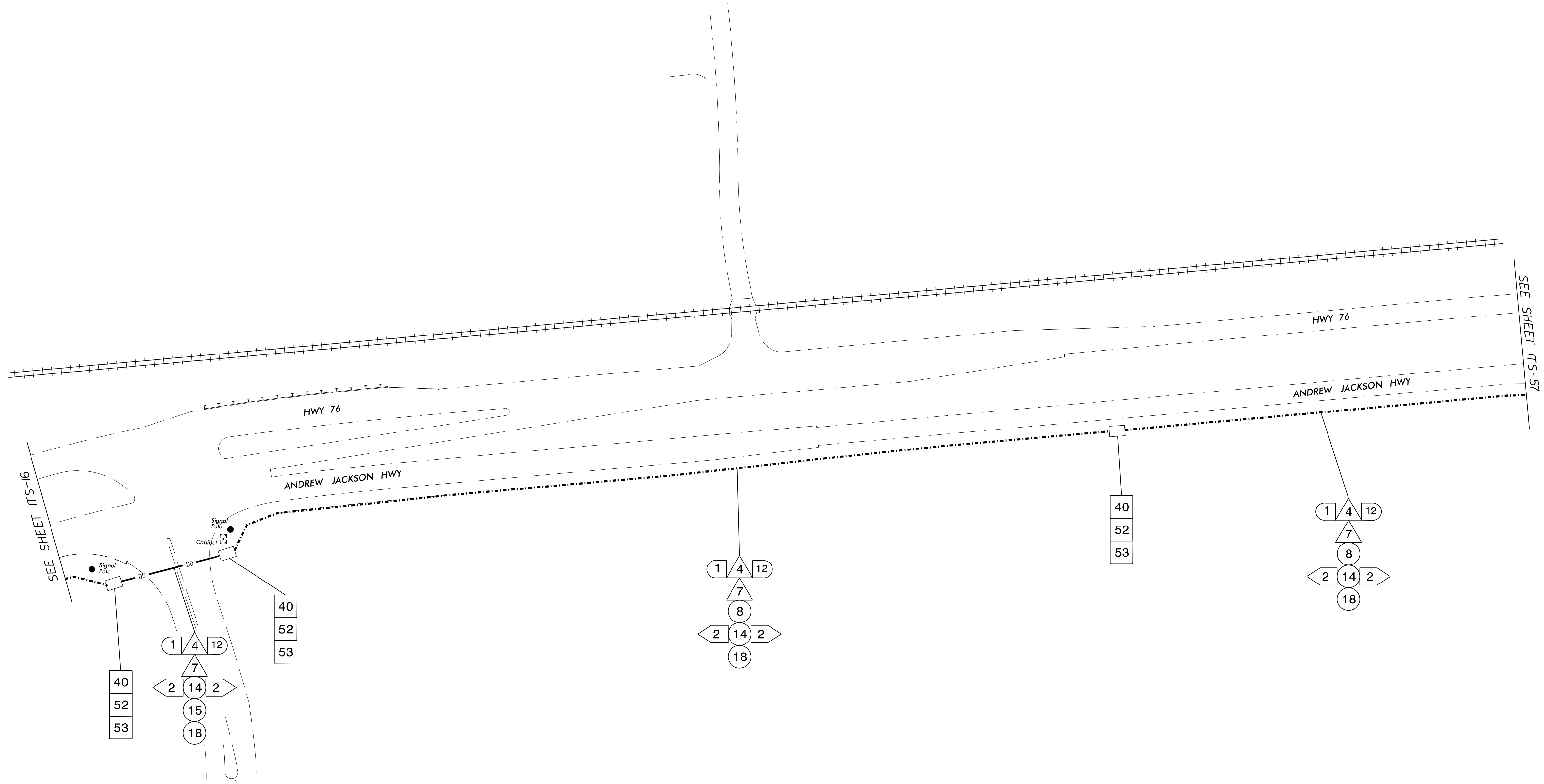

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CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE:	AUGUST 2017	REVIEWED BY:	DEAN HARRIS
PREPARED BY:	J. INGRAM	REVIEWED BY:	BETSY L. WATSON

SCALE: NTS

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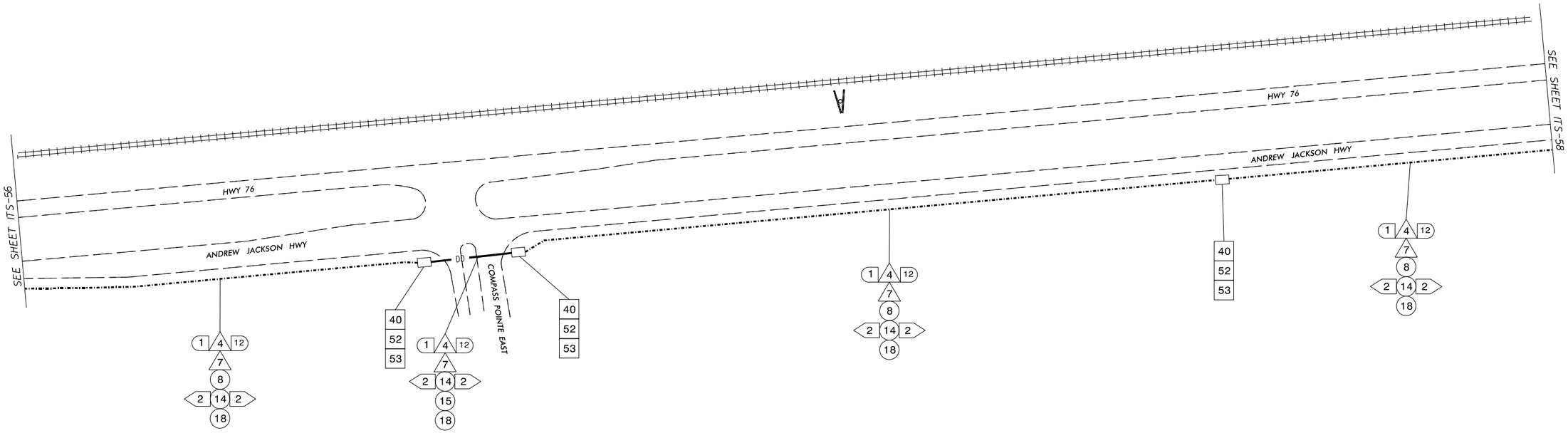

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US 76 ITS FIBER CABLE ROUTE
CABLE ROUTING PLANS
STA 126+00 TO STA 149+00

DIV 3 BRUNSWICK CO. Near WILMINGTON

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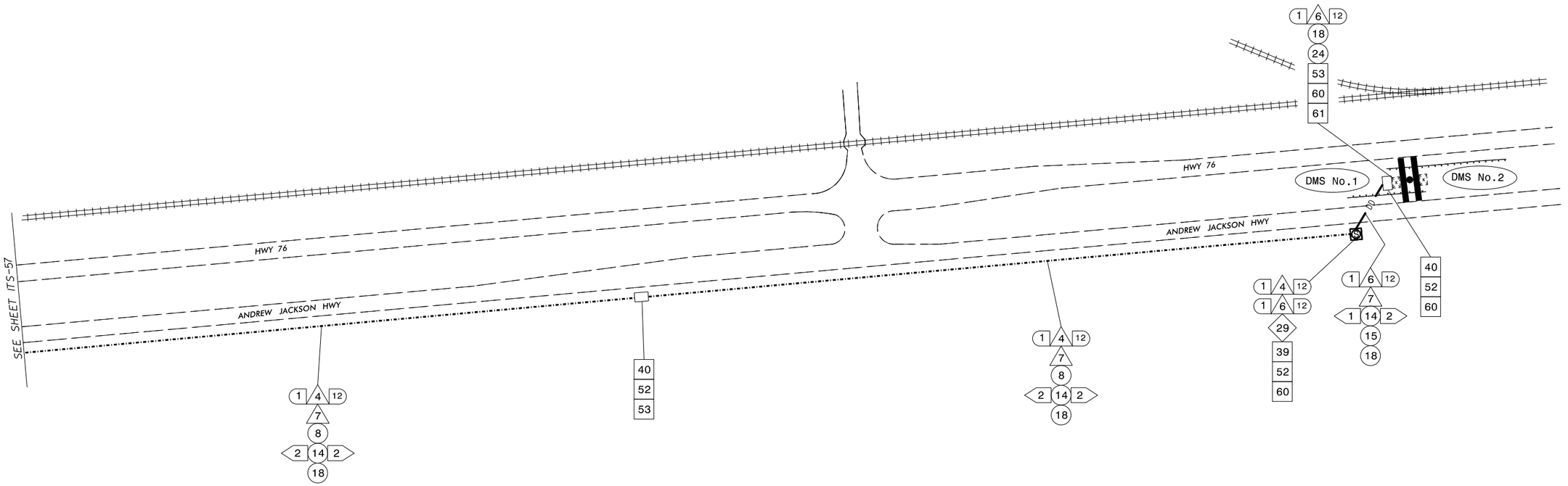

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28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
29. INSTALL UNDERGROUND SPLICE ENCLOSURE
30. INSTALL AERIAL SPLICE ENCLOSURE
31. INSTALL POLE MOUNTED SPLICE CABINET
32. INSTALL BASE MOUNTED SPLICE CABINET (336)
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATIONS CABLE
40. INSTALL OVERSIZED JUNCTION BOX
41. INSTALL BRIDGE MOUNTED JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL REEL END SPLICE
51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET OF COMMUNICATIONS CABLE
54. LASH CABLE(S) TO EXISTING SIGNAL / COMMUNICATIONS CABLE
55. LASH CABLE(S) TO EXISTING MESSENGER CABLE
56. LASH CABLE(S) TO NEW MESSENGER CABLE
57. MODIFY EXISTING ELECTRICAL SERVICE
58. INSTALL NEW ELECTRICAL SERVICE FOR DMS
59. INSTALL NEW BASE MOUNTED CABINET (336)
60. SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND CABINETS WITH MOLDABLE DUCT SEAL
61. INSTALL ETHERNET SWITCH
62. LOCATE EXISTING CONDUIT STUBOUT FOR NEW JUNCTION BOX INSTALLATION
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

PROPOSED CONDUIT
EXISTING CONDUIT
FO — FO NEW AERIAL FIBER OPTIC COMMUNICATIONS CABLE
DD — DD NEW DIRECTIONAL DRILLED CONDUIT
NEW JUNCTION BOX
EXISTING JUNCTION BOX
NEW UNDERGROUND SPLICE CLOSURE

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Prepared for the Offices of:
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

PLAN DATE: AUGUST 2017 REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM REVIEWED BY: BETSY L. WATSON

SCALE: NTS

REVISIONS	INIT.	DATE

SEAL
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
SIGNATURE DATE
CADD FILE NAME

R-2633 Breaks	Page #	JB's	Area (ft^2)	Subtotals	Total (ft^2)
A	4	2	18	450	1296
	5	7	63		
	6	4	36		
	7	2	18		
	8	3	27		
	9	2	18		
	10	3	27		
	11	2	18		
	12	2	18		
	13	3	27		
	14	2	18		
	15	2	18		
	16	7	63		
	56	3	27		
	57	3	27		
	58	3	27		
B	17	4	36	405	
	18	2	18		
	19	2	18		
	20	2	18		
	21	2	18		
	22	4	36		
	23	2	18		
	24	2	18		
	25	2	18		
	26	4	36		
	27	5	45		
	28	2	18		
	29	0	0		
	30	0	0		
	31	1	9		
	32	3	27		
	33	2	18		
	34	6	54		
C	35	0	0	441	
	36	0	0		
	37	1	9		
	38	3	27		
	39	2	18		
	40	1	9		
	41	2	18		
	42	1	9		
	43	7	63		
	44	2	18		
	45	3	27		
	46	2	18		
	47	2	18		
	48	1	9		
	49	3	27		
	50	8	72		
	51	2	18		
	52	2	18		
	53	2	18		
	54	1	9		
	55	4	36		

February 16, 2018