



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

January 23, 2015

Mr. Brad Shaver
U.S. Army Corps of Engineers
Regulatory Field Office
69 Darlington Ave.
Wilmington, NC 28402-1890

Mr. Stephen Lane
N.C. Dept. of Environment and Natural Resources
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

Subject: **Modification Request for the Individual Section 404 and Section 10 Permits, Section 401 Water Quality Certification and CAMA Major Development Permit** for the Wilmington Bypass from north of US 74/76 in Brunswick County to US 421 in New Hanover County. Federal Aid Project Nos. NHF-0017 (96) and STM-0017 (97), Division 3, TIP No. R-2633B. Debit \$475 from WBS Element 34491.1.2

References: Section 404 Individual Permit, issued January 13, 2011 and modified July 9 and August 23, 2013, August 28, 2014, USACE Action ID SAW-1994-03352.
Section 401 Water Quality Certification No. 003842, issued January 13, 2011 and modified May 31, August 19, 2013, March 26, 2014 and August 15, 2014.
CAMA Consistency Concurrence – CD11-003, issued January 14, 2011 and CAMA Major Development Permit, 76-13, issued June 28, 2013 and modified August 22, 2013 and October 3, 2014.
Permit modification application dated January 7, 2015 to Section 10, 404, 401 and CAMA Major Development Permit.

Dear Sirs:

As you are aware, the North Carolina Department of Transportation (NCDOT) is currently constructing a fully controlled access freeway on new alignment from north of US 74/76 in Brunswick County to US 421 in New Hanover County approximately 7.6 miles. The purpose of this letter is to request modifications of the Section 404 Individual Permit, Section 10 Permit, Section 401 Water Quality Certification and CAMA Major Development Permit due to the need for mechanized clearing within hand clearing areas and changes to impacts at Site 7 for the installation of the bridge.

R-2633BA

Mechanized clearing

The project could not practicably be built with only hand clearing beyond the toe of fill. As the project construction progressed, it became apparent that fill and mechanized clearing had occurred and were apt to continue to occur beyond the toe of fill and within the hand clearing areas. In working toward resolution of this situation with the agencies, it was agreed that NCDOT would revise the permit drawings to reflect five feet of mechanized clearing beyond toe of fill. This will only occur on Section BA, from US 74/76 east of Malmo to SR 1430, Cedar Hill Road. See Revised Permit Drawings. For changes in riparian and non-riparian wetland impacts see table below.

Site 7

Site 7 was revised to include mechanized clearing and work at the railroad track bridge on Section BA is going to require significant work and storage areas on both sides of the railroad tracks. There is a 256 foot long center span girder of which will have to be spliced together. Also, the NCDOT Geotechnical Unit has advised that the bridge approach fill in this area will have to be placed and allowed to settle prior to the installation of piles for end bents and drilled shafts for interior bents. This means that the contractor will have to operate from existing ground outside of the permanent fill area as the top area of the approach fills would be too high and set too far away from where the piles and drilled shafts need to be installed. NCDOT proposes an area of temporary fill abutting the permanent fill in order to facilitate the necessary staging and working of materials, equipment, and labor in order to properly achieve the bridge construction in this area. The area for temporary fill would be cleared in manner consistent with hand clearing and then fabric would be placed on the existing ground. Approximately 3 feet of soil material would be placed on top of the fabric. Equipment, materials, and personnel would be staged and worked in the temporary fill area in order to construct the bridge. The temporary fill and fabric would be removed and the area would be restored as much as possible to preconstruction conditions at the appropriate time.

Permanent non-riparian wetland impacts at Site 7 will increase by 0.52 acre. Temporary non-riparian wetland impacts will increase by 0.92 acre. Hand clearing will be decreased by 0.56 acre.

Site 19, Detour Drawing

Site 19, detour drawing, Sheet 2L was revised from the original drawing. The original profile on this drawing showed the temporary pipes buried 3 feet. This was later questioned and the consultant collected more recent data. The drawing was changed but the temporary pipes on the profile now appear to be sitting on top of the streambed. See enclosed screen snapshot drawing showing the pipes will be buried one foot. Permit Drawing Sheets 64 and 65 of 73 have been revised and included in this application. No changes have been made to jurisdictional impacts.

Non-riparian Impacts

Site No.	Old Wetland Impact (acres)	Revised Wetland Impact (acres)	Additional Wetland Impact
3	7.54	7.83	0.29
5	1.04	1.09	0.05
6	9.72	10.29	0.57
6B	0.41	0.43	0.02
7	10.57	11.09	0.52
9	1.04	1.09	0.05
11	8.72	9.19	0.47
Total			1.97

Riparian Impacts

Site No.	Old Wetland Impact (acres)	Revised Wetland Impact (acres)	Additional Wetland Impact
19	0	0.01	0.01
Total			0.01

This revision has increased the riparian impacts by 0.01 acre and non-riparian impacts by 1.97 acres.

Overall in Section B, hand clearing in wetlands has been reduced by 2.01 acres and temporary non-riparian wetland impacts have increased by 0.92 acre.

These revised wetland impacts will not occur in any CAMA AECs.

Mitigation

Mitigation is proposed for the additional 0.01 acres of riparian wetlands and 1.97 acres of non-riparian wetlands. See the attached EEP acceptance letter.

New total wetland impacts requiring mitigation for the entire R-2633 A&B project are 7.29 acres of riparian wetlands and 58.33 acres of non-riparian wetlands.

REGULATORY APPROVALS

Section 404

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

Section 401

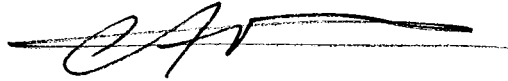
Application is hereby made for a modification to the Section 401 Water Quality Certification from the N. C. Division of Water Quality.

CAMA: Application is hereby made for a modification to the Coastal Area Management Act Major Development Permit. Authorization to debit the \$475 Permit Application Fee from WBS Element 34491.1.2 is hereby given.

This project was let in September 2013 and is currently under construction. We respectfully request that this modification be processed as soon as possible.

A copy of this permit modification request will be posted on the DOT website at: <https://connect.ncdot.gov/resources/Environmental/Pages>. If you have any questions or need additional information, please contact Rachelle Beauregard at rbeauregard@ncdot.gov or (919) 707-6105.

Sincerely,



for

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

cc:

NCDOT Permit Application Standard Distribution List.



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Ecosystem Enhancement Program

Donald R. van der Vaart
Secretary

January 22, 2015

Mr. Richard W. Hancock, P.E.
Manager, Project Development & 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:

R-2633A and B, US 17 (Wilmington Bypass) from NC 87 South of Bishop to West of US 421 North of Wilmington, Brunswick and New Hanover Counties

References: USACE 404 Individual Permit issued February 28, 2011 (USACE Action ID 1994-03552) and 404 Individual Permit Modifications issued on July 9, 2013 and August 28, 2014

NCDWR 401 Water Quality Certification issued January 13, 2011 (NCDWQ Project ID 2010-0867) and 401 Water Quality Certification modification issued on May 31, 2013

NCDCM Permit issued on June 28, 2013 (NCDCM Project ID 76-13)

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the additional stream and wetland mitigation for the subject project. Based on the information supplied by you on October 8, 2014 and January 22, 2015, the additional stream and wetland impacts are located in CU 03030005 of the Cape Fear River Basin in the Southern Outer Coastal Plain (SOCP) Eco-Region, and are as follows:

Table 1 – Additional Impacts (feet / acres)

Cape Fear 03030005 SOCP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1 (3:1)	Zone 2 (1.5:1)
Impacts (feet/acres)	0	0	27.0	0.01	2.08	0	0	0

These impacts and associated mitigation needs were not projected by the NCDOT in the 2014 impact data. EEP is currently providing stream and wetland (riparian and non-riparian) mitigation for the impacts associated with this project located in cataloging unit 03030005 of the Cape Fear River basin as required by the 404 and 401 permits that were issued in 2011, 2013 and 2014 and NCDCM CAMA Major permit issued in 2013, as shown in the below table (in mitigation credits):

Mr. Hancock
TIP R-2633A and B Additional
January 22, 2015
Page Two

Table 2 – Current Permitted Impacts and Mitigation Requirements (based on 2011, 2013 and 2014 permits) and Revised Anticipated Impacts (based on mitigation request)

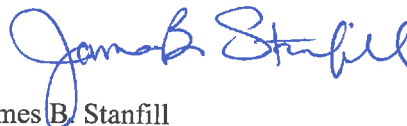
Impact Type	Total Permitted Impacts (feet / acre)	Mitigation Provided by EEP per Issued Permits (Credits)	Additional Impact (for approval)	Revised Total Impacts*
Stream	509.0	1,018.0	27.0	536.0
Riparian Wetland	7.28	14.56	0.01	7.29
Non-Rip Wetland	56.25	112.50	2.08	58.33

*Some of the stream and wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details. EEP will provide the amount of mitigation as determined by the regulatory agencies.

This mitigation acceptance letter replaces the mitigation acceptance letters issued on October 20, 2009, October 12, 2010, January 21, 2011, April 23, 2013, May 30, 2013, July 30, 2014, and October 14, 2014. EEP has previously made debits for the stream and wetland mitigation requirements to mitigation sites available in the cataloging unit based on the amounts required in the 404 and 401 permits issued in 2011, 2013 and 2014 and the CAMA Major permit issued in 2013. Upon issuance of the permit modifications for the project, EEP will make appropriate adjustments to the existing mitigation debits. At this time, no additional stream or riparian wetland mitigation is anticipated to be needed.

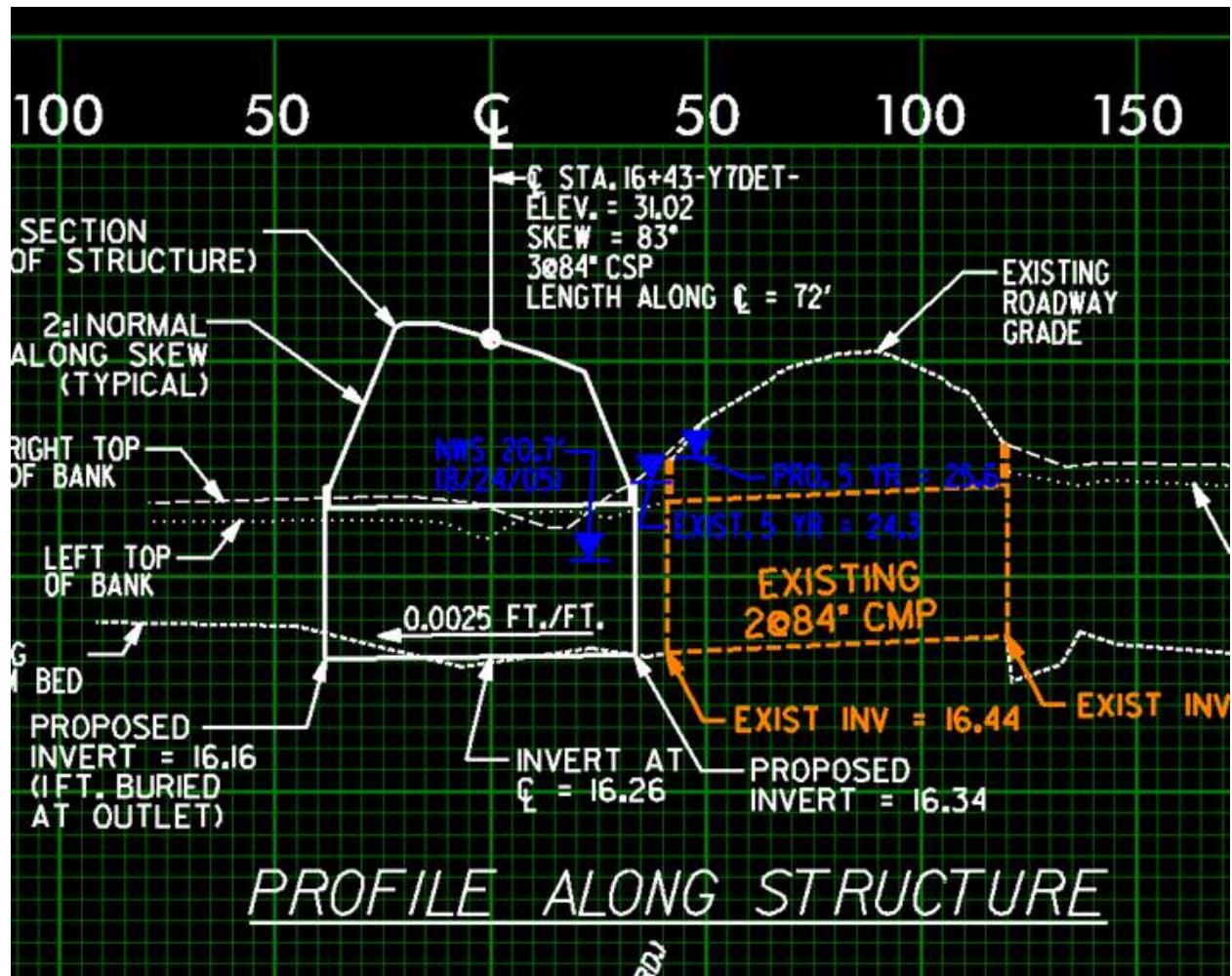
If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,



James B. Stanfill
EEP Asset Management Supervisor

Cc: Mr. Brad Shaver, USACE – Wilmington Regulatory Field Office
Mr. Mason Herndon, NC Division of Water Quality
Mr. Steve Sollod, NC Division of Coastal Management
File: R-2633A and B Revised 5



LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

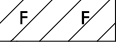
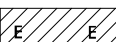
PERMIT DRAWING
SHEET 2 OF 73
REVISED: 1/20/2015

PROJECT REFERENCE NO.	SHEET NO.
R-2633B	06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NAD 83/95

Q10 = 42 cfs
V10 = 1.46 fps

Q10 = 2.3 cfs
V10 = 0.76 fps

- 350
-  DENOTES FILL IN WETLAND
 -  DENOTES HAND CLEARING
 -  DENOTES MECHANIZED CLEARING
 -  DENOTES EXCAVATION IN WETLAND

REVISIONS

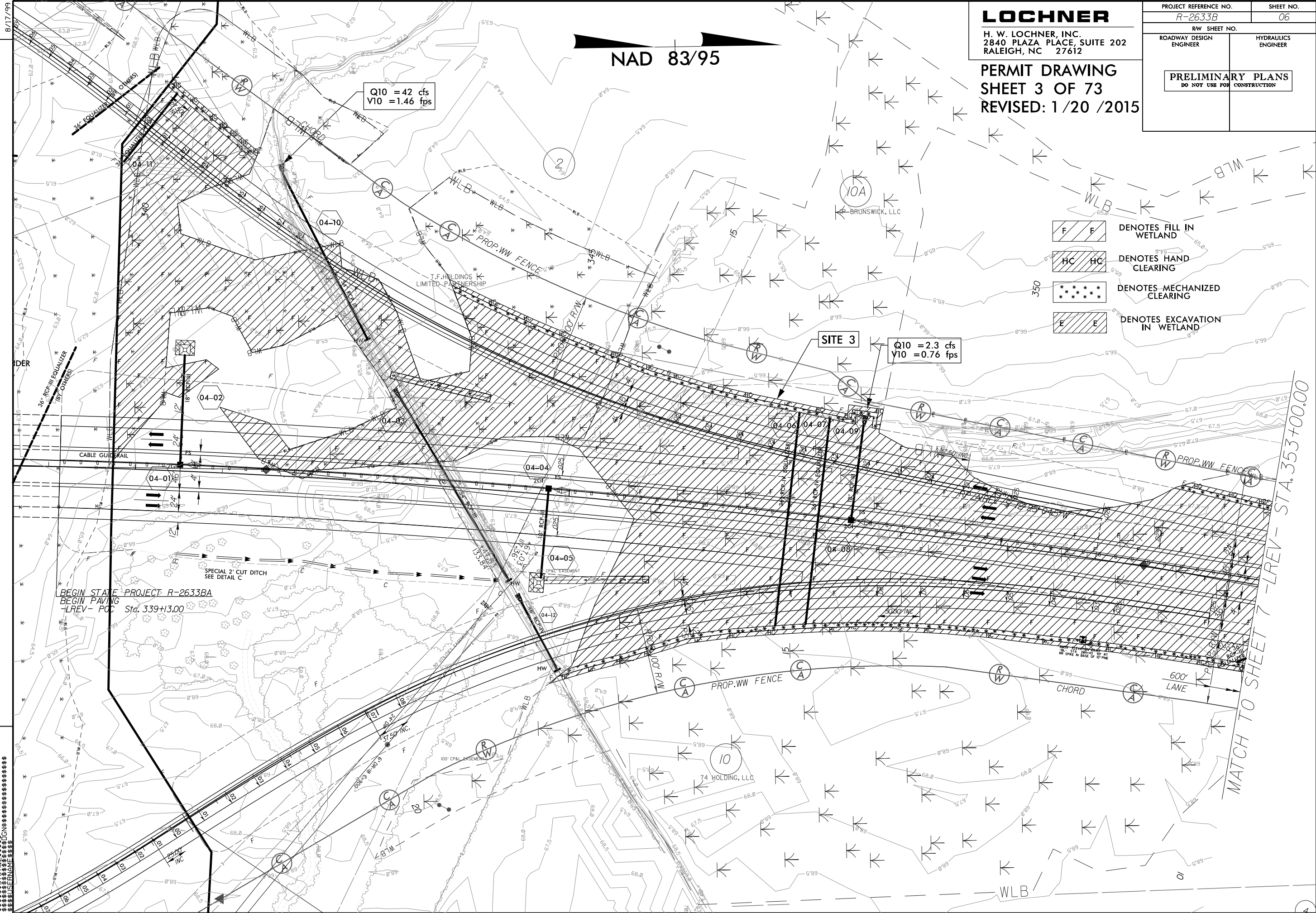
BEGIN STATE PROJECT R-2633BA
BEGIN PAVING
-LREV- POC Sta. 339+3.00

MATCH TO SHEET 7 -LREV- STA. 353+00.00

8/17/99

REVISIONS

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$USDRW\$\$\$\$\$



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RALEIGH, NC 27612

PERMIT DRAWING
SHEET 3 OF 73
REVISED: 1/20 /2015

PROJECT REFERENCE NO. R-2633B		SHEET NO. 06	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING
- DENOTES EXCAVATION IN WETLAND

BEGIN STATE PROJECT R-2633BA
BEGIN PAVING
-LREV- POC Sta. 339+3.00

SPECIAL 2' CUT DITCH
SEE DETAIL C

Q10 = 42 cfs
V10 = 1.46 fps

Q10 = 2.3 cfs
V10 = 0.76 fps

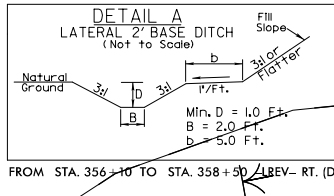
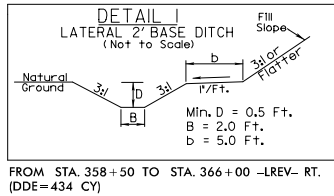
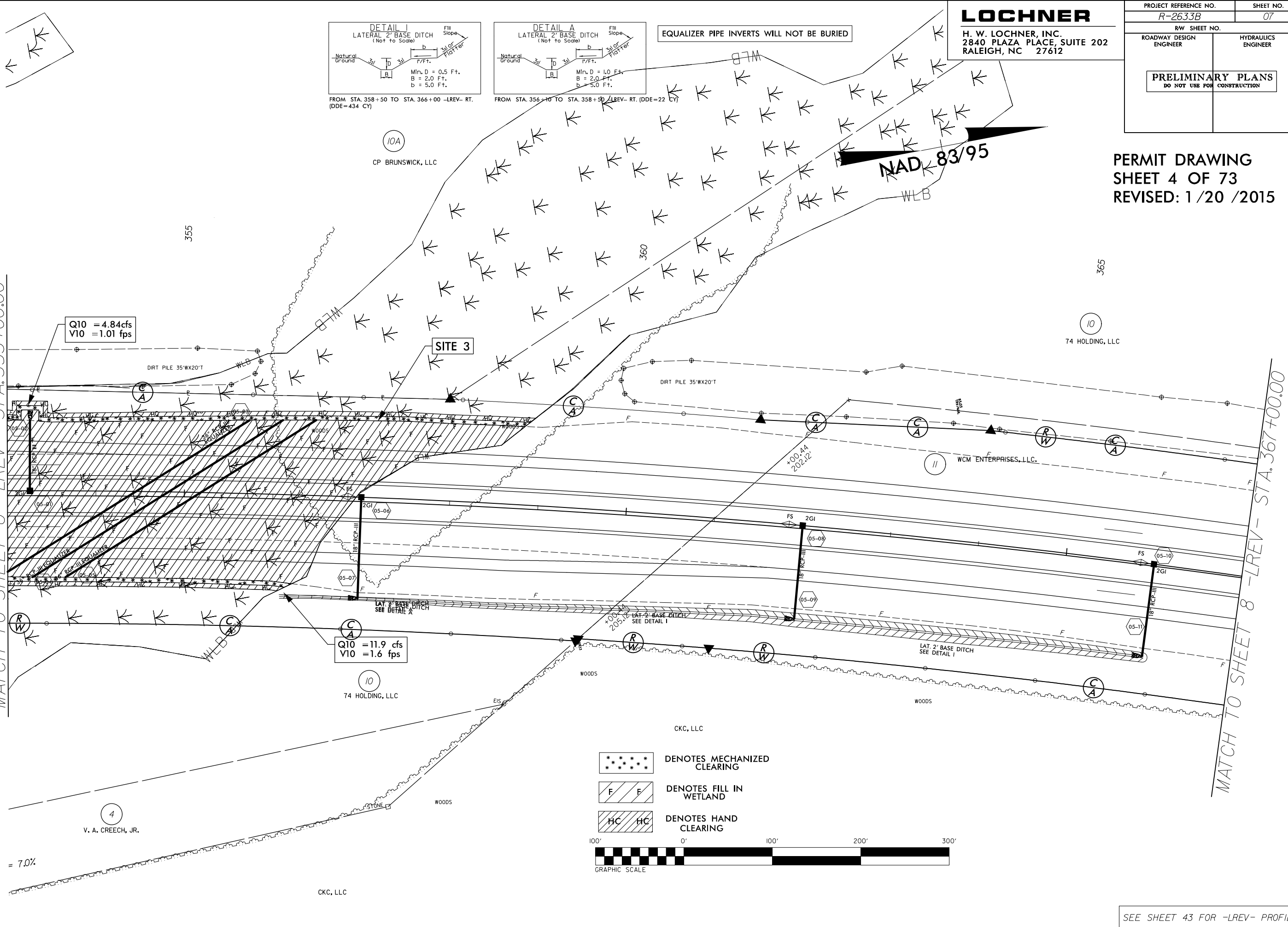
MATCH TO SHEET 7 - LREV - STA. 353+00.00

8/17/99

REVISIONS
R/W REVISION: 10/ /09 - NAME AND DEED CHANGE PARCEL 10. PROPERTY OWNER NAME CHANGE FROM WCM ENTERPRISES, LLC TO CKC, LLC
R/W REVISION: 1/ /09 - ADJUSTED MONUMENT ON PARCEL 10A. MOVED PROPERTY OWNER NAME ON PARCEL 11.

UNCLASSIFIED
FOR OFFICIAL USE ONLY
CLASSIFICATION
AUTHORITY
DATE
BY

MATCH TO SHEET 6 -LREV- STA. 353+00.00



EQUALIZER PIPE INVERTS WILL NOT BE BURIED

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2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO. R-2633B	SHEET NO. 07
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 4 OF 73
REVISED: 1/20 /2015

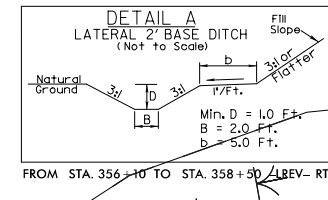
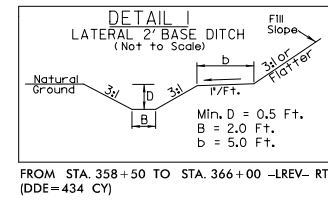
SEE SHEET 43 FOR -LREV- PROFILE

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

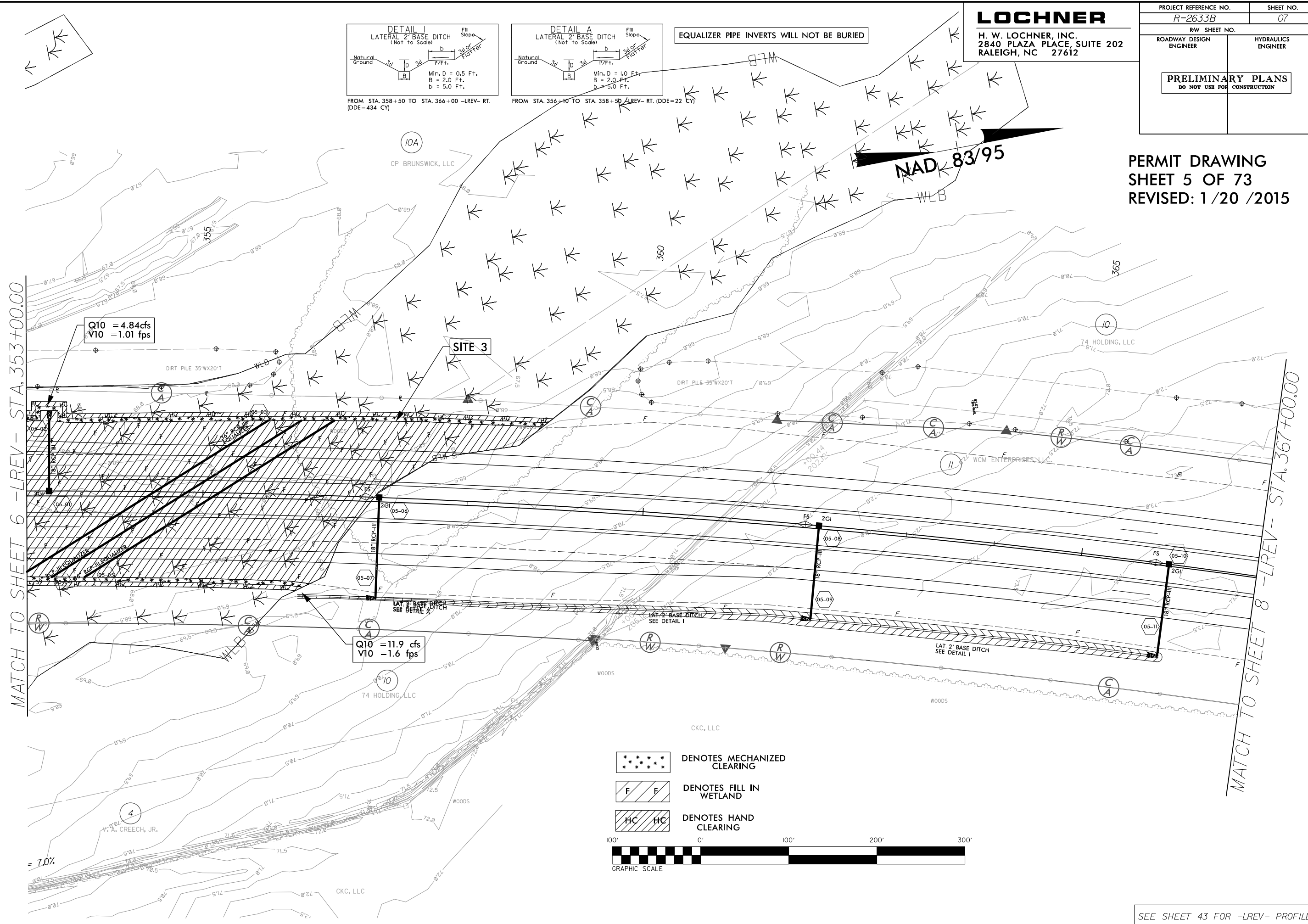
PROJECT REFERENCE NO.	SHEET NO.
R-2633B	07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 5 OF 73
REVISED: 1 /20 /2015

NAD 83/95



EQUALIZER PIPE INVERTS WILL NOT BE BURIED



SEE SHEET 43 FOR -LREV- PROFILE

REVISIONS

R/W REVISION: 01/	/09 - NAME AND DEED CHANGE PARCEL 10. PROPERTY OWNER NAME CHANGE FROM WCM ENTERPRISES, LLC TO CXG, LLC
R/W REVISION: 1/	/09 - ADJUSTED MONUMENT ON PARCEL 10A. MOVED PROPERTY OWNER NAME ON PARCEL 11.

REVISIONS

SYSTEM\$DGN\$\$\$\$\$

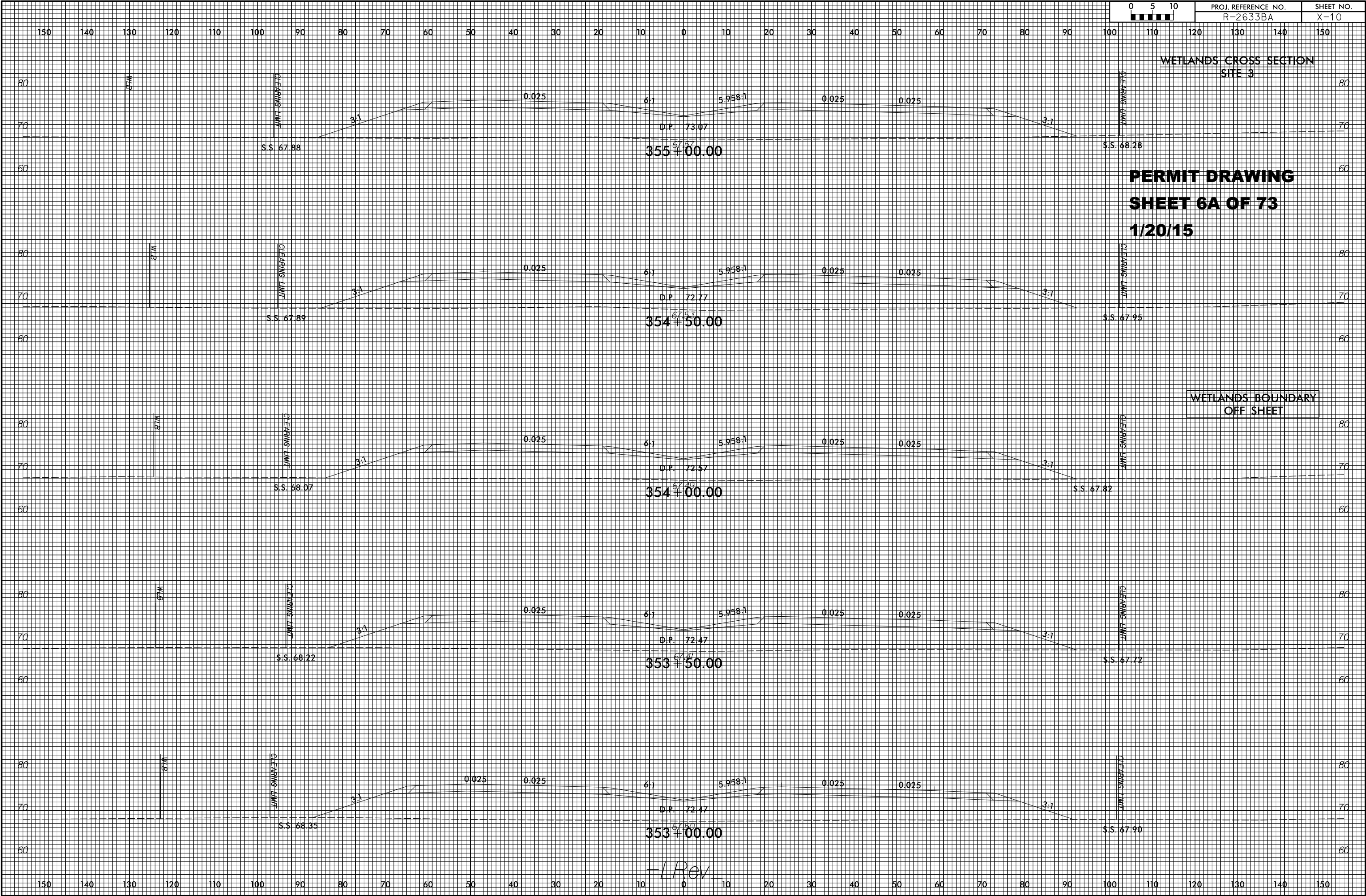
8/23/99

0510	PROJ. REFERENCE NO.	SHEET NO.
	R-2633BA	X-10

WETLANDS CROSS SECTION
SITE 3

PERMIT DRAWING
SHEET 6A OF 73
1/20/15

WETLANDS BOUNDARY
OFF SHEET



-LRev

8/17/99

REVISIONS

R/W REVISION: 10/ /09 - NAME AND DEED CHANGE PARCEL 10.
R/W REVISION: 11/ /11 - MOVED OWNERS NAME ON PARCEL 11.

SYTIME
DESIGN
USER NAME

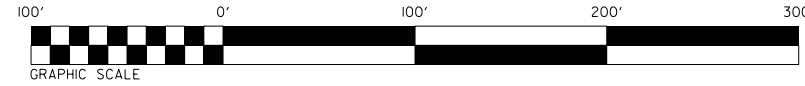
LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO.		SHEET NO.
R-2633B		08
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

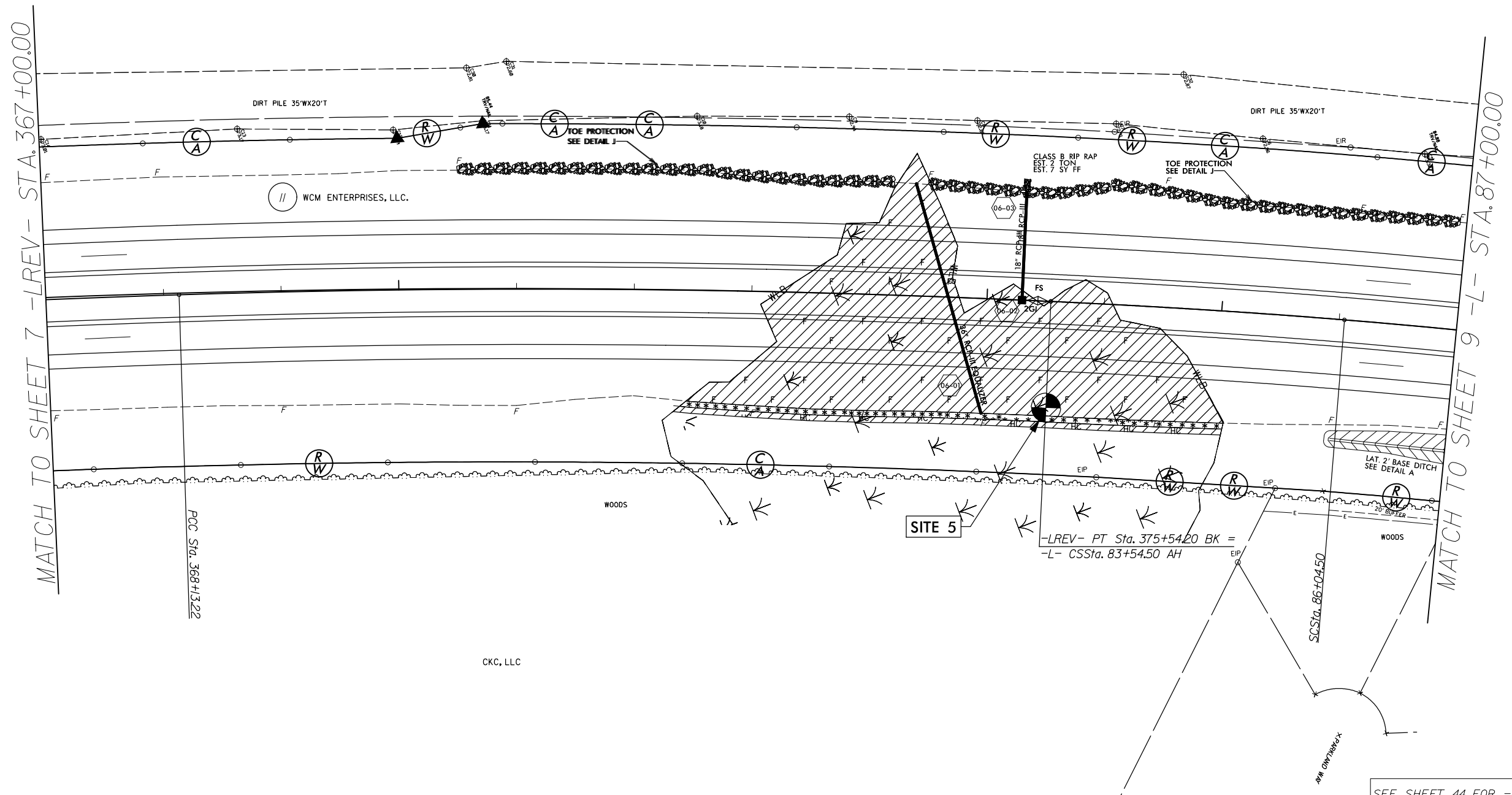
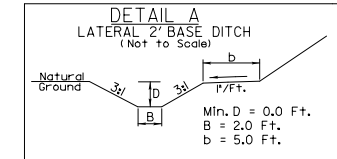
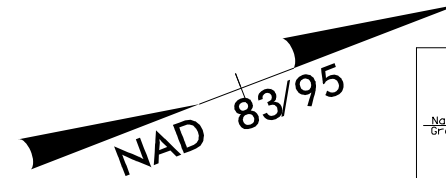
PERMIT DRAWING
SHEET 9 OF 73
REVISED: 1/20 /2015

EQUALIZER PIPE INVERTS WILL NOT BE BURIED



- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING

74 HOLDING, LLC



SEE SHEET 44 FOR -LREV- PROFILE

8/17/99

REVISIONS

R/W REVISION: 10/ /09 - NAME AND DEED CHANGE PARCEL 10.
R/W REVISION: 11/ /11 - MOVED OWNERS NAME ON PARCEL 11.

SYTIME
DESIGN
USER NAME

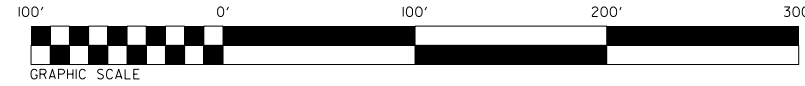
LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

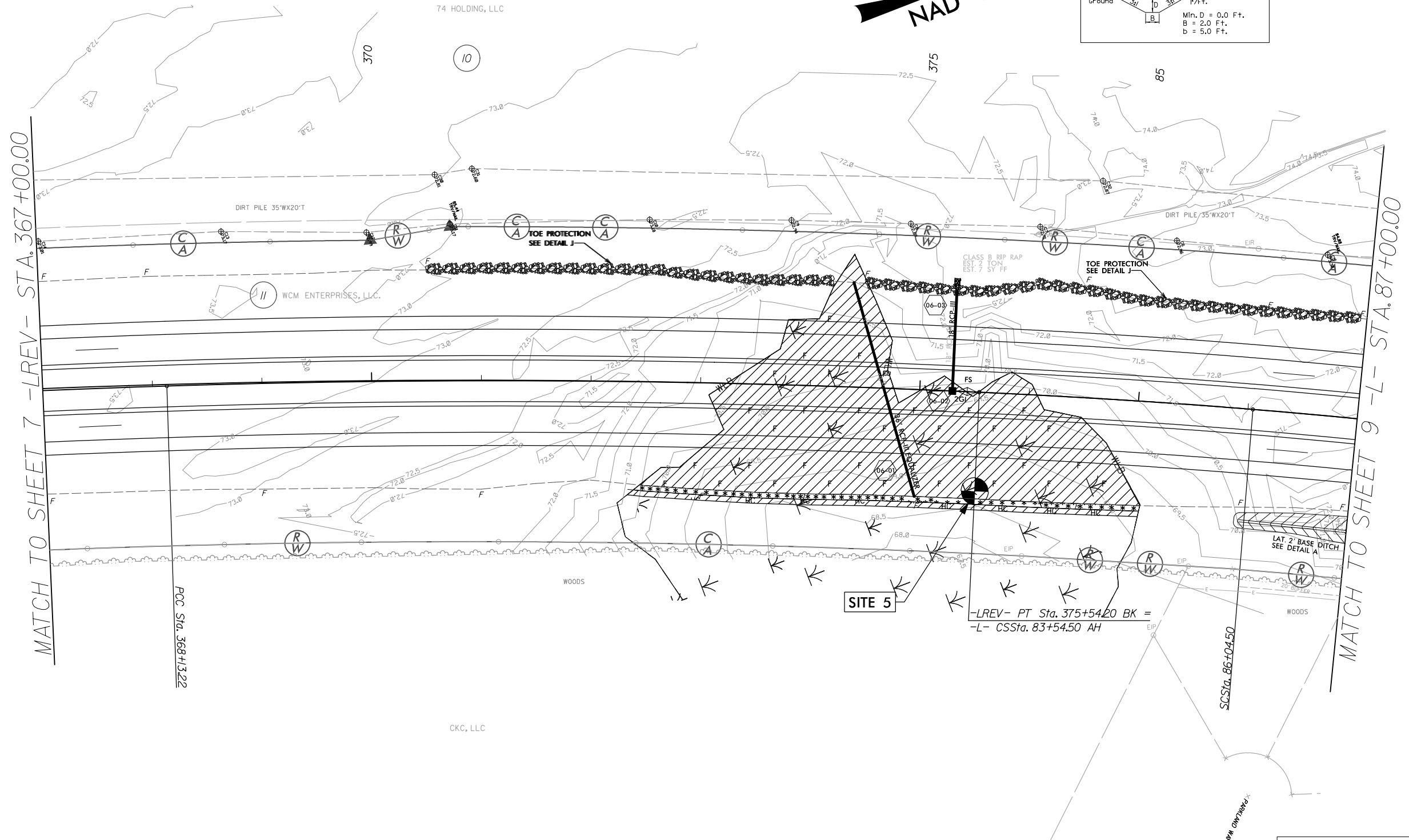
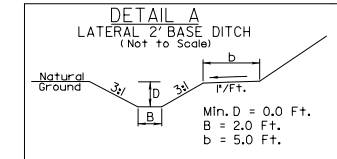
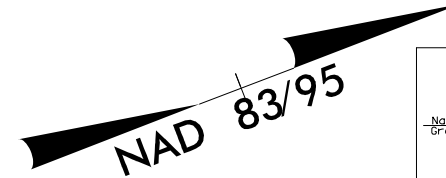
PROJECT REFERENCE NO.		SHEET NO.
R-2633B		08
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

PERMIT DRAWING
SHEET 10 OF 73
REVISED: 1 /20 /2015

EQUALIZER PIPE INVERTS WILL NOT BE BURIED



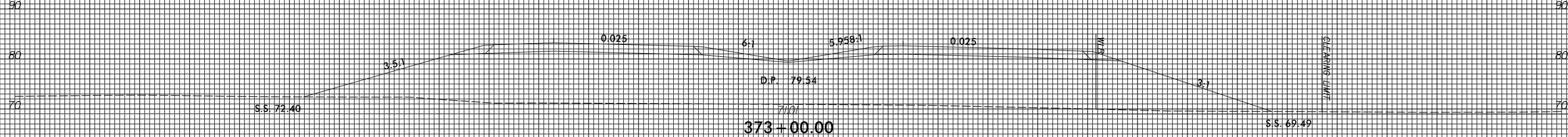
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING



SEE SHEET 44 FOR -LREV- PROFILE

8/23/99

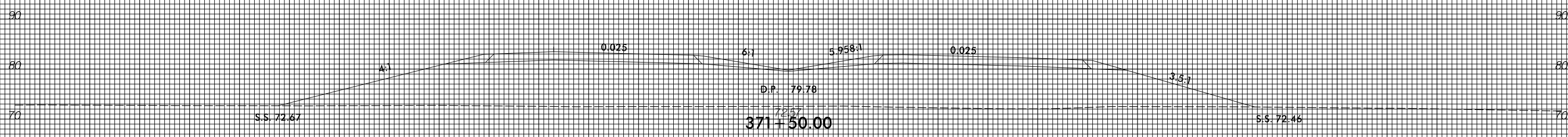
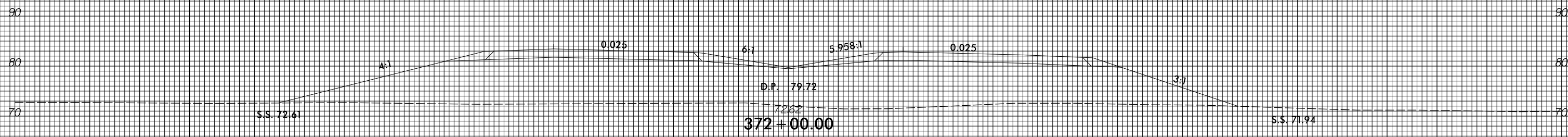
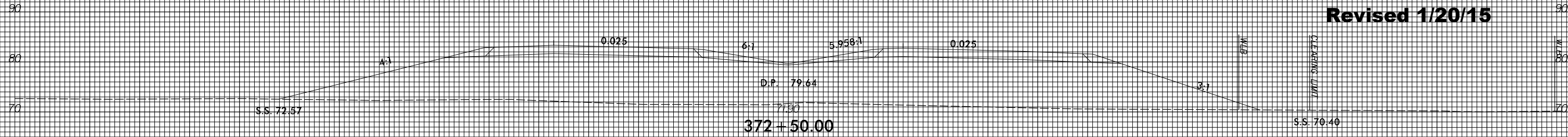
WETLANDS CROSS SECTION
SITE 5



PERMIT DRAWING

SHEET 11 OF 73

Revised 1/20/15



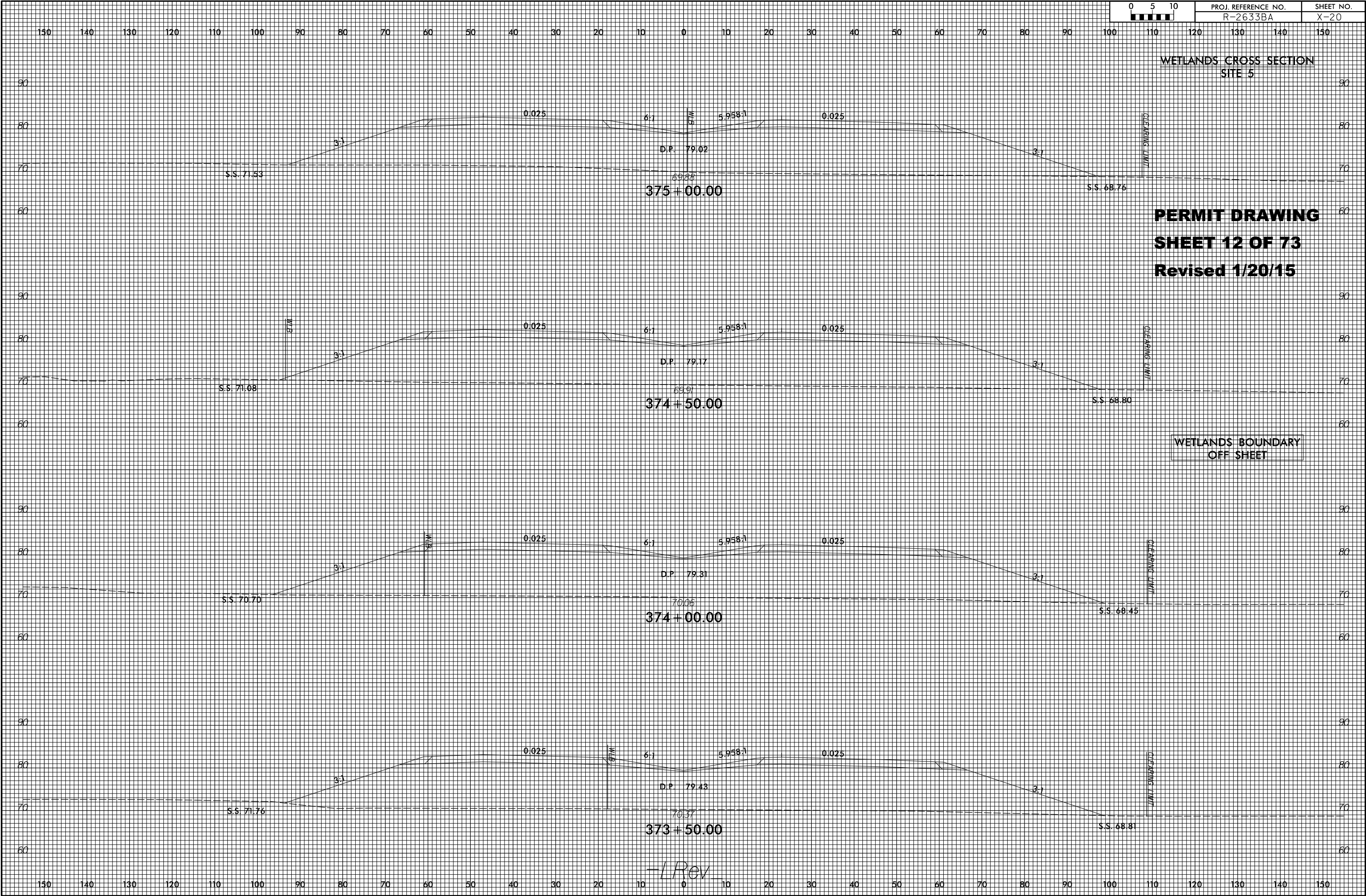
-L Rev

8/23/99

WETLANDS CROSS SECTION
SITE 5

PERMIT DRAWING
SHEET 12 OF 73
Revised 1/20/15

WETLANDS BOUNDARY
OFF SHEET



-L Rev

8/17/99

REVISIONS

8/17/99

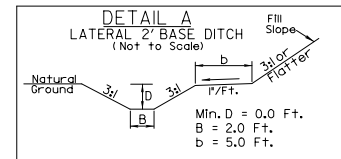
LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

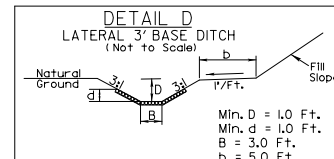
EQUALIZER PIPE INVERTS WILL NOT BE BURIED

PROJECT REFERENCE NO.	SHEET NO.
R-2633B	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

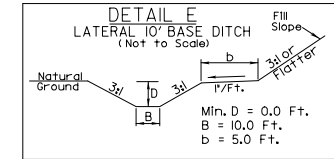
PERMIT DRAWING
SHEET 14 OF 73
REVISED: 1/20 /2015



FROM STA. 100+00 TO STA. 103+00 -L- LT.(DDE=260CY)
FROM STA. 100+00 TO STA. 107+00 -L- RT.(DDE=632CY)



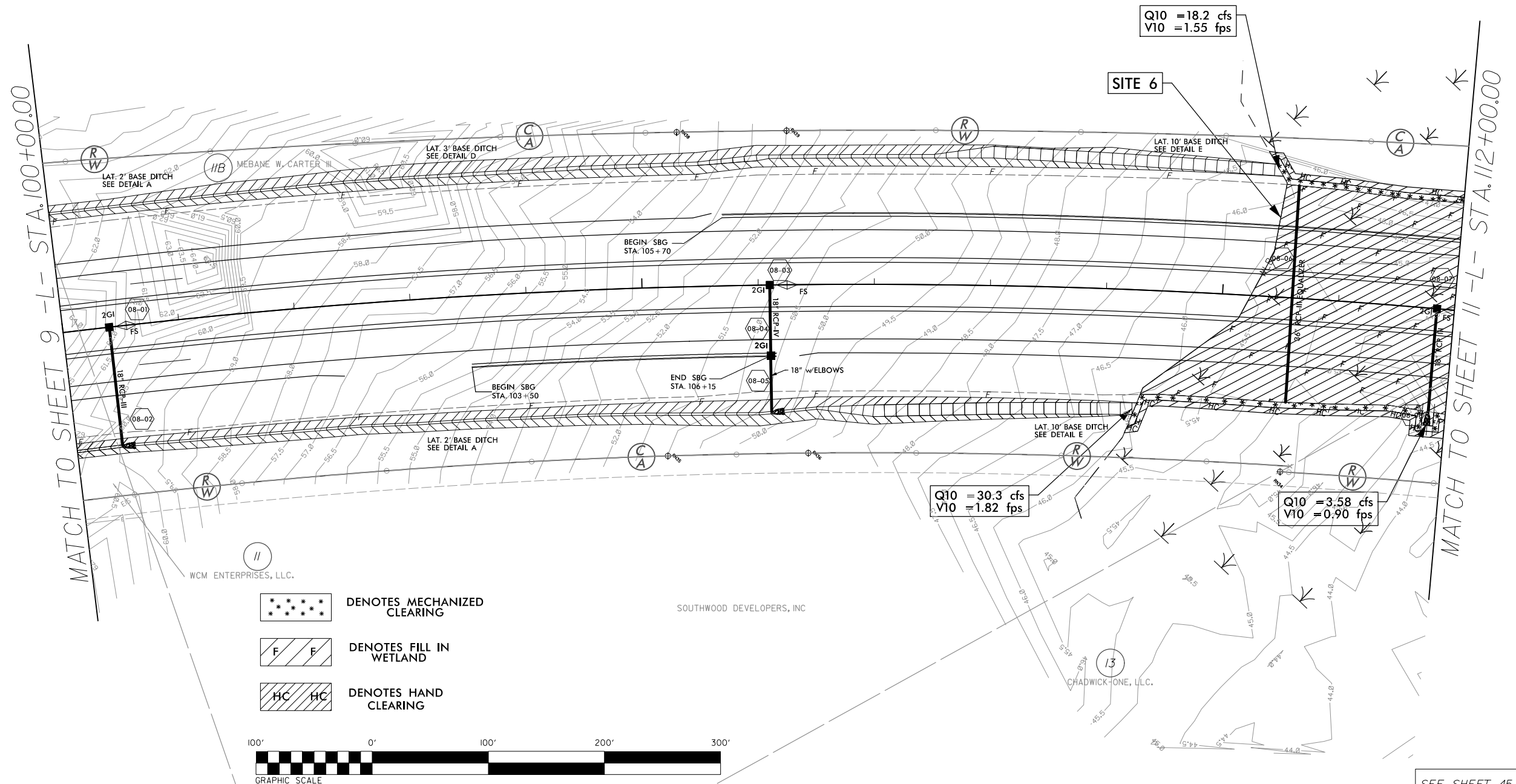
Type of Liner= PSRM
FROM STA. 103+00 TO STA. 108+00 -L- LT.(DDE=587CY)



FROM STA. 108+00 TO STA. 110+38 -L- LT. (DDE=189CY)
FROM STA. 107+00 TO STA. 109+25 -L- RT. (DDE=175CY)

10 74 HOLDING, LLC

NAD 83/95



WCM ENTERPRISES, LLC.



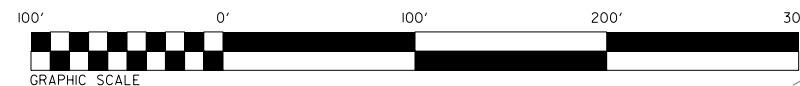
DENOTES MECHANIZED
CLEARING



DENOTES FILL IN
WETLAND



DENOTES HAND
CLEARING



SEE SHEET 45 FOR -L- PROFILE

8/17/99

REVISIONS

CONSTRUCTION

EQUALIZER PIPE INVERTS WILL NOT BE BURIED

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO. SHEET NO.

R-2633B II

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

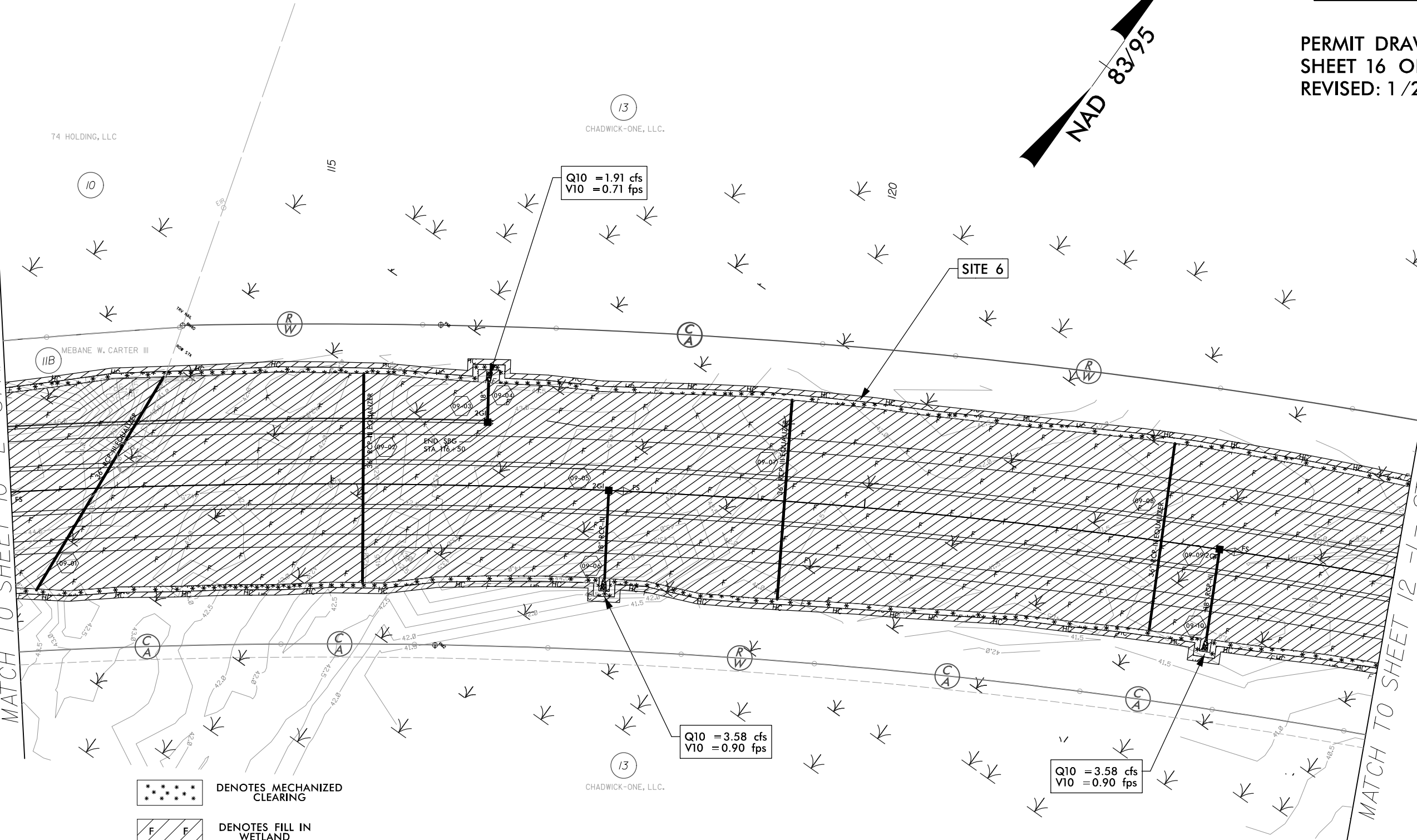
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 16 OF 73
REVISED: 1/20/2015

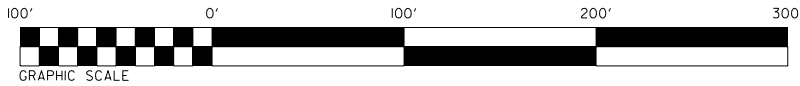
NAD 83/95

MATCH TO SHEET 10 -L- STA.112+00.00

MATCH TO SHEET 12 -L- STA.125+00.00

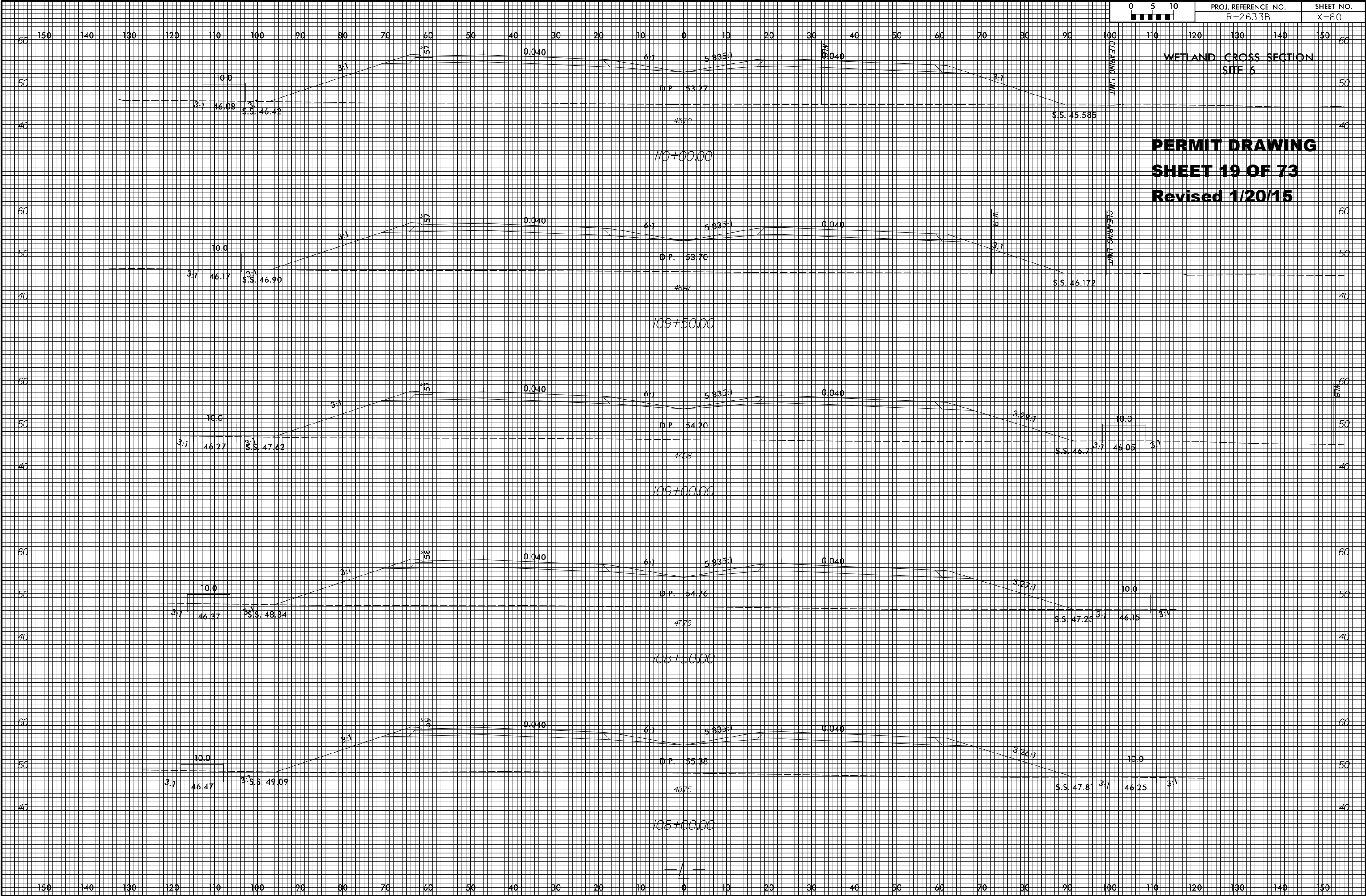


- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING

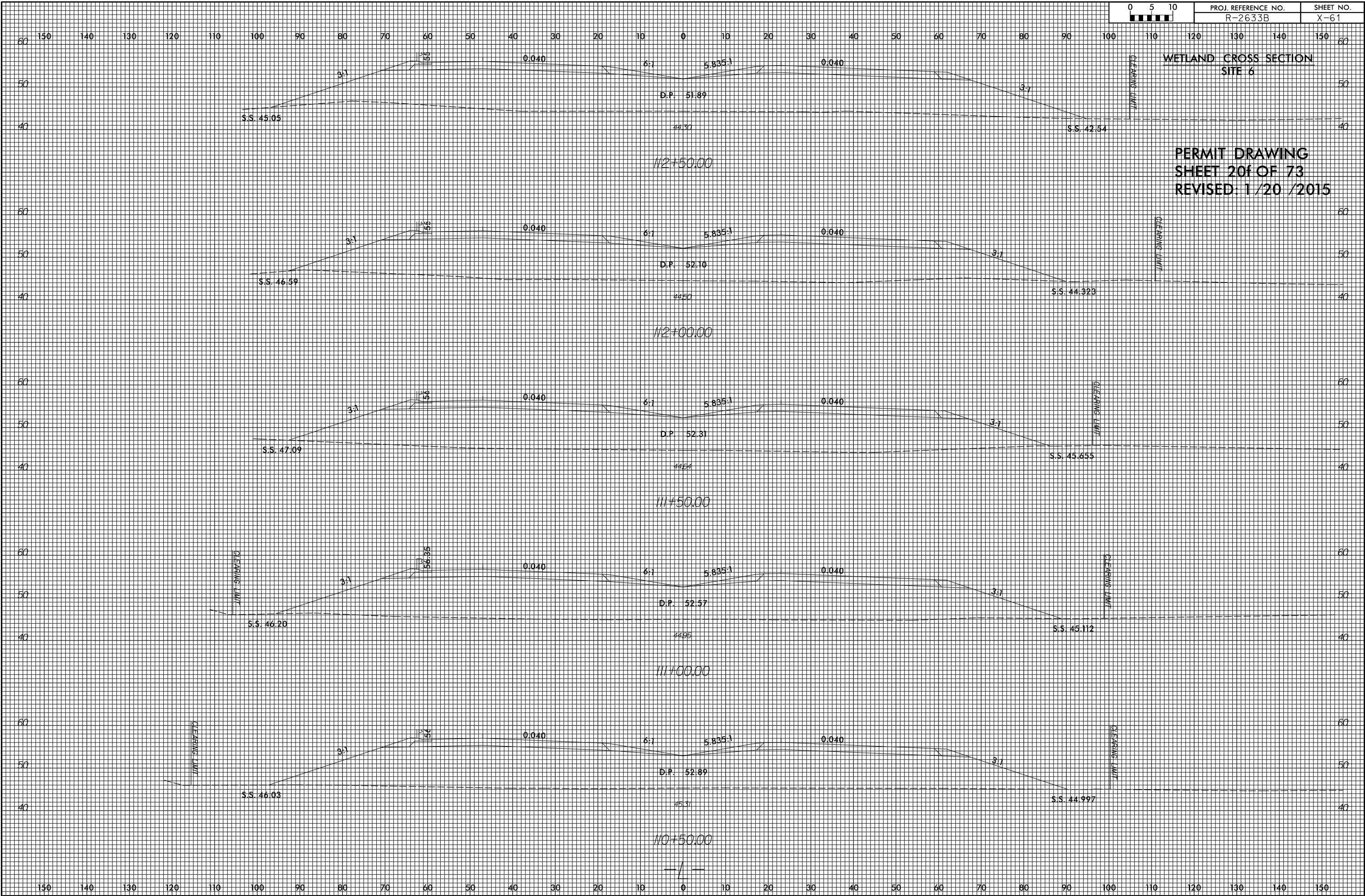


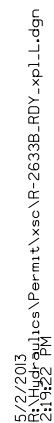
SEE SHEET 45 FOR -L- PROFILE

8/23/99



8/23/99

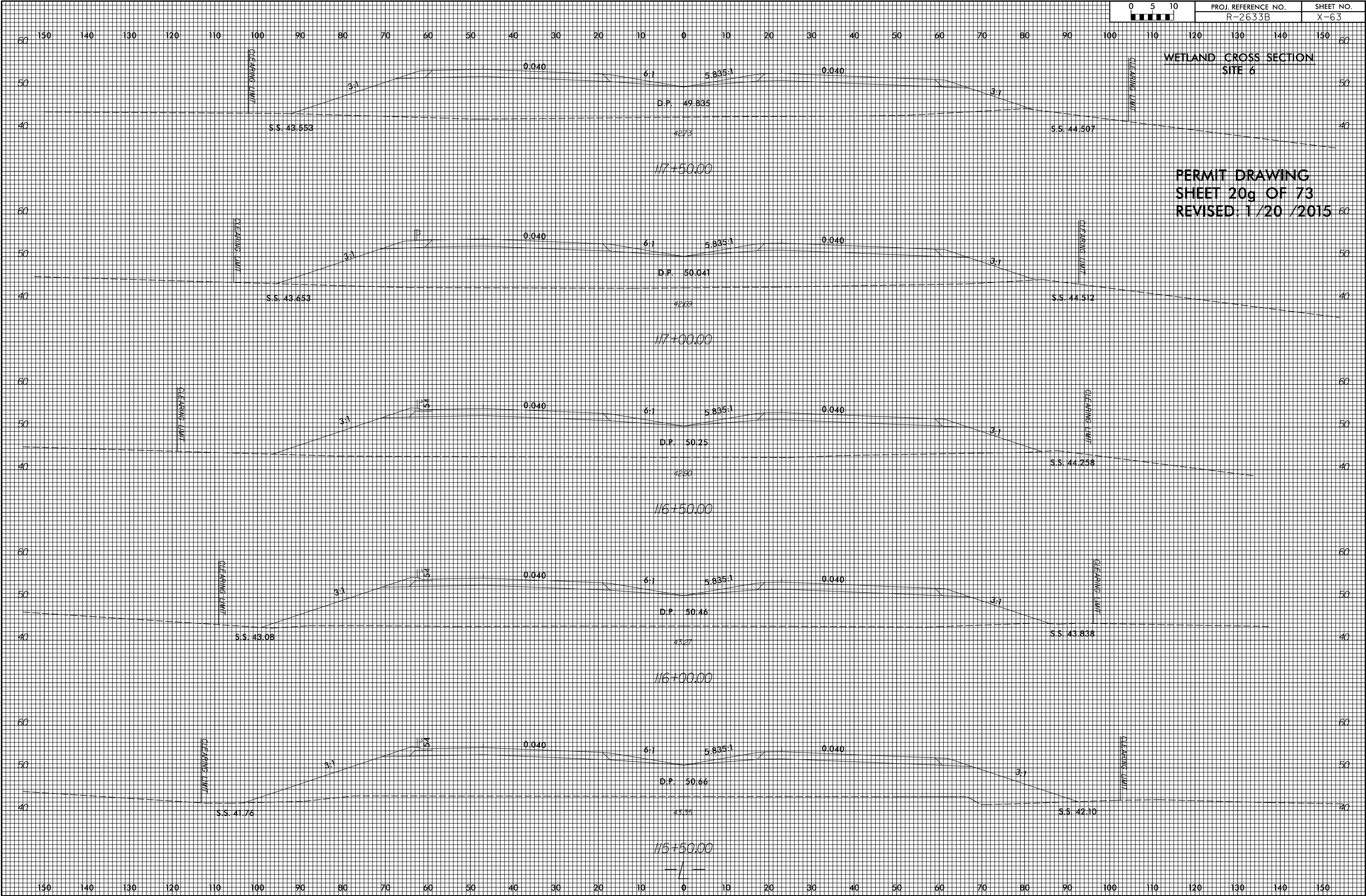




8/23/99

WETLAND CROSS SECTION
SITE 6

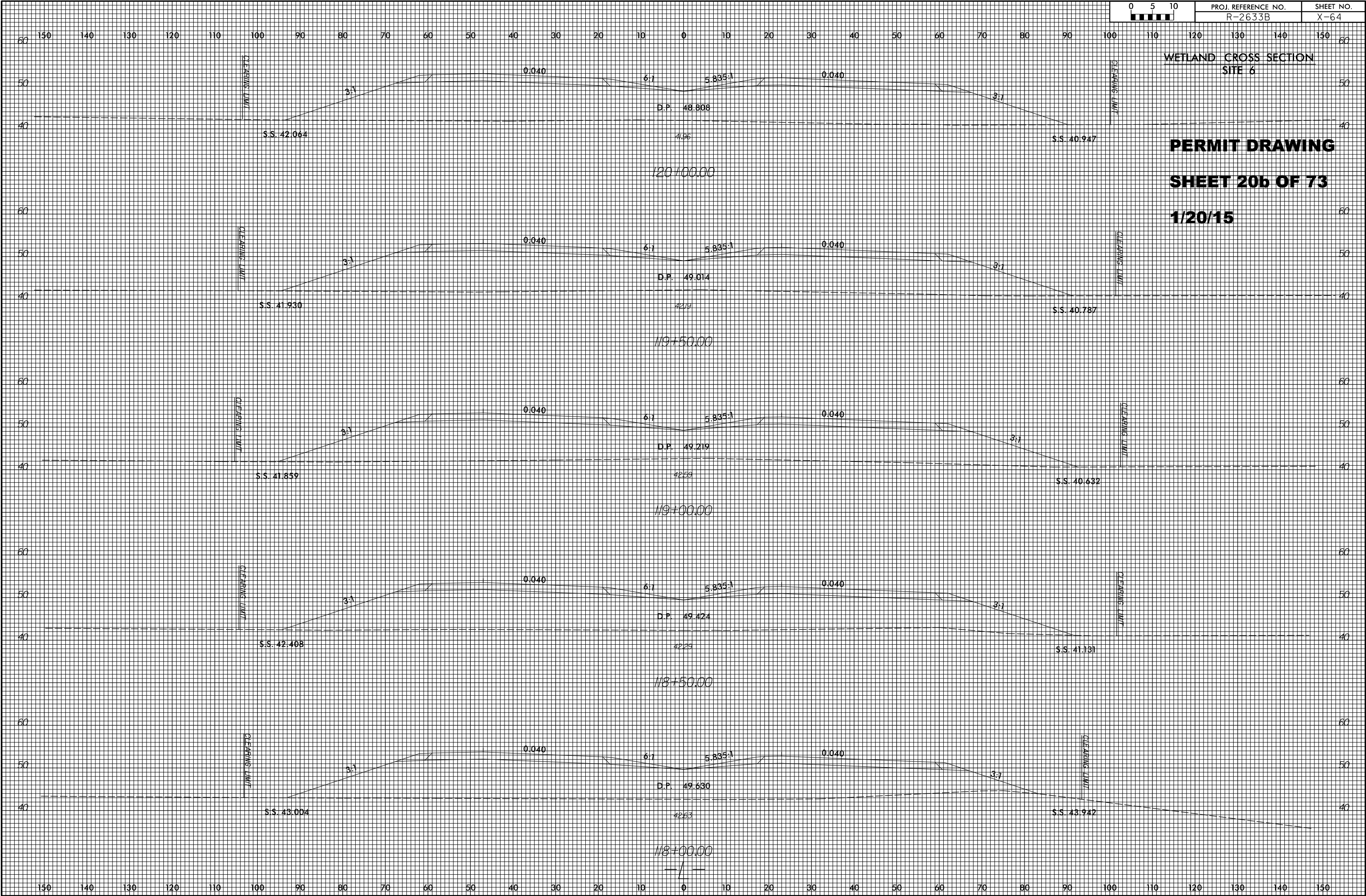
PERMIT DRAWING
SHEET 20g OF 73
REVISED: 1/20 /2015



8/23/99

WETLAND CROSS SECTION
SITE 6

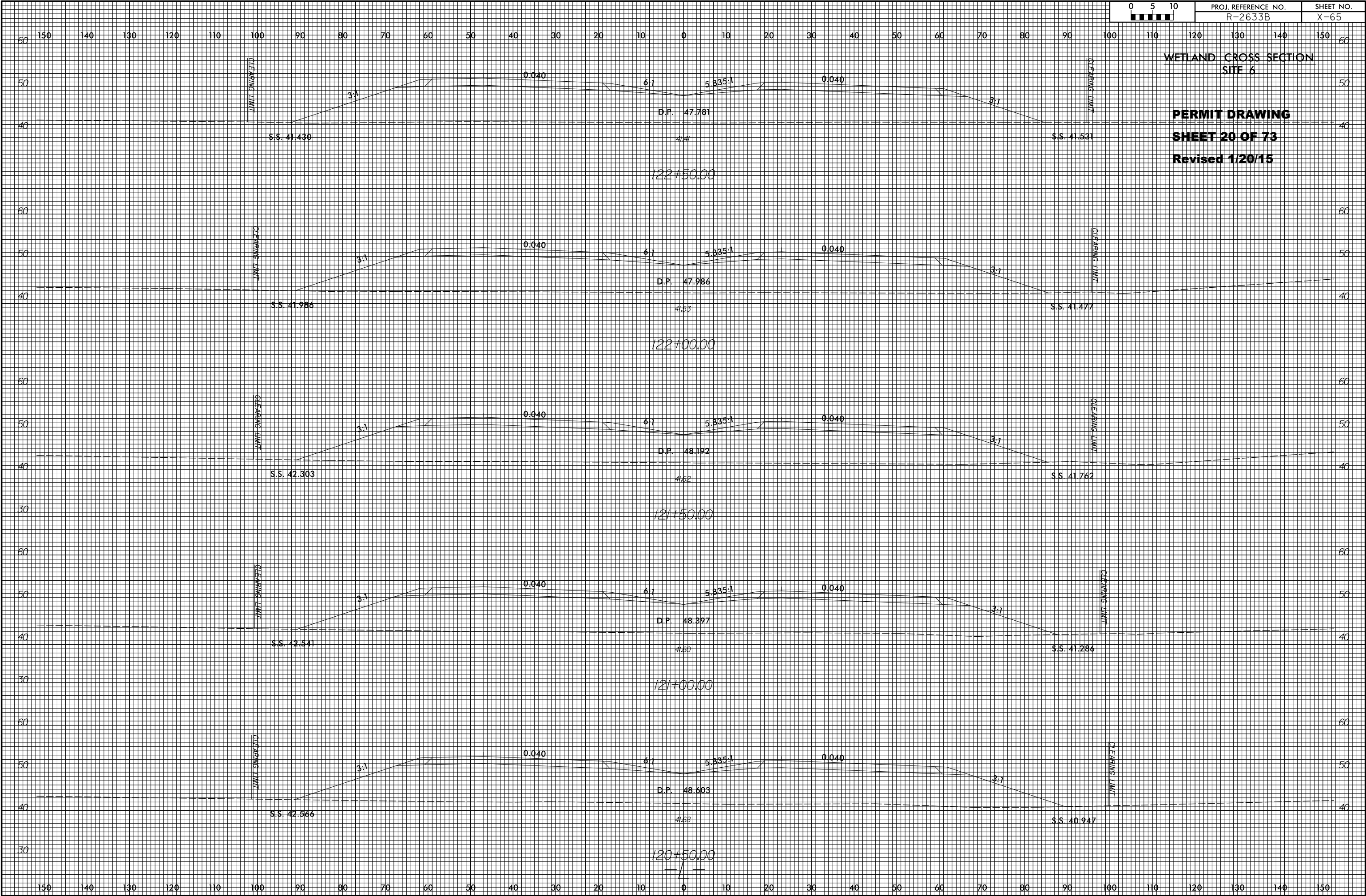
PERMIT DRAWING
SHEET 20b OF 73
1/20/15



8/23/99

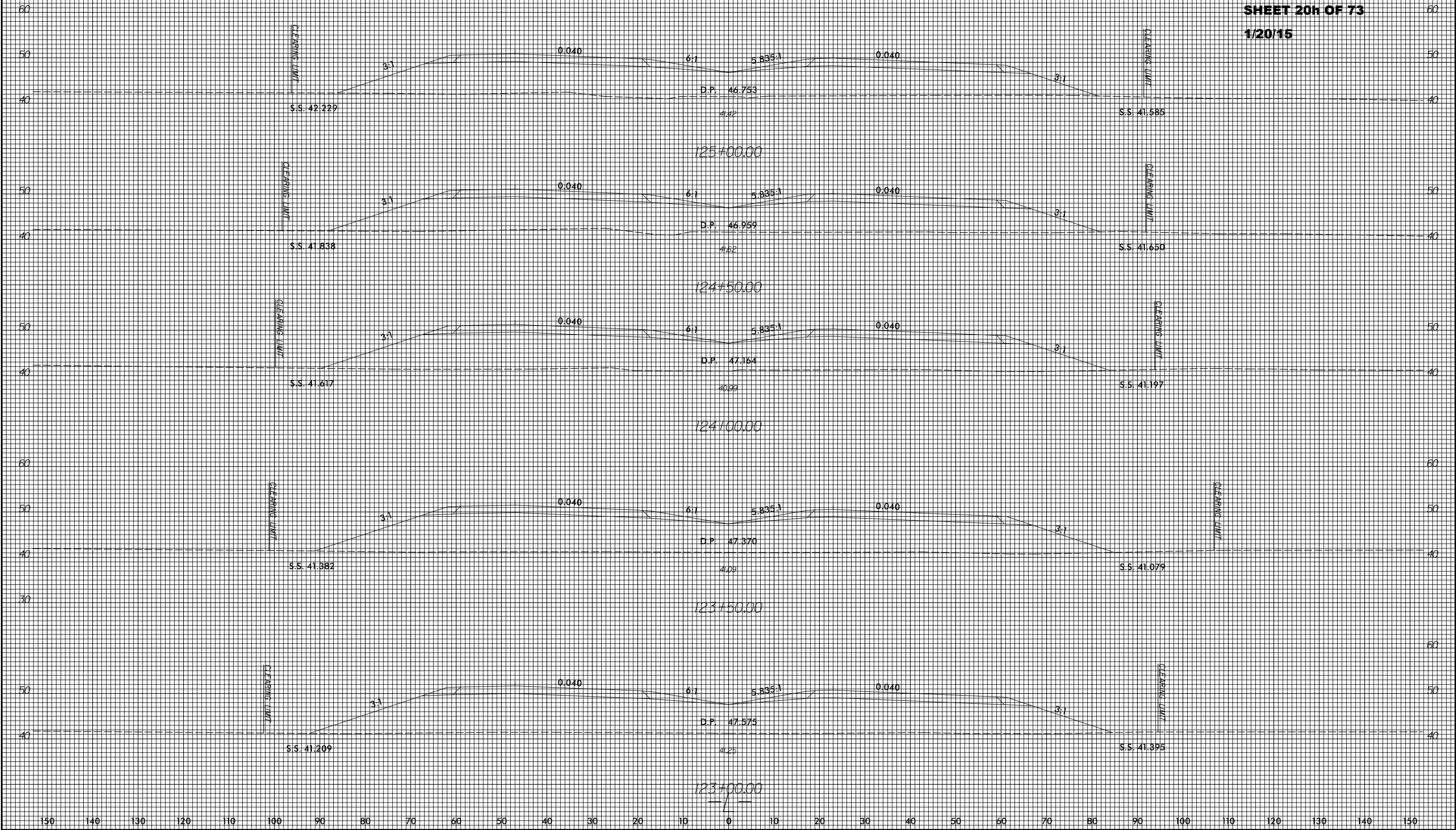
WETLAND CROSS SECTION
SITE 6

PERMIT DRAWING
SHEET 20 OF 73
Revised 1/20/15



WETLAND CROSS SECTION SITE 6

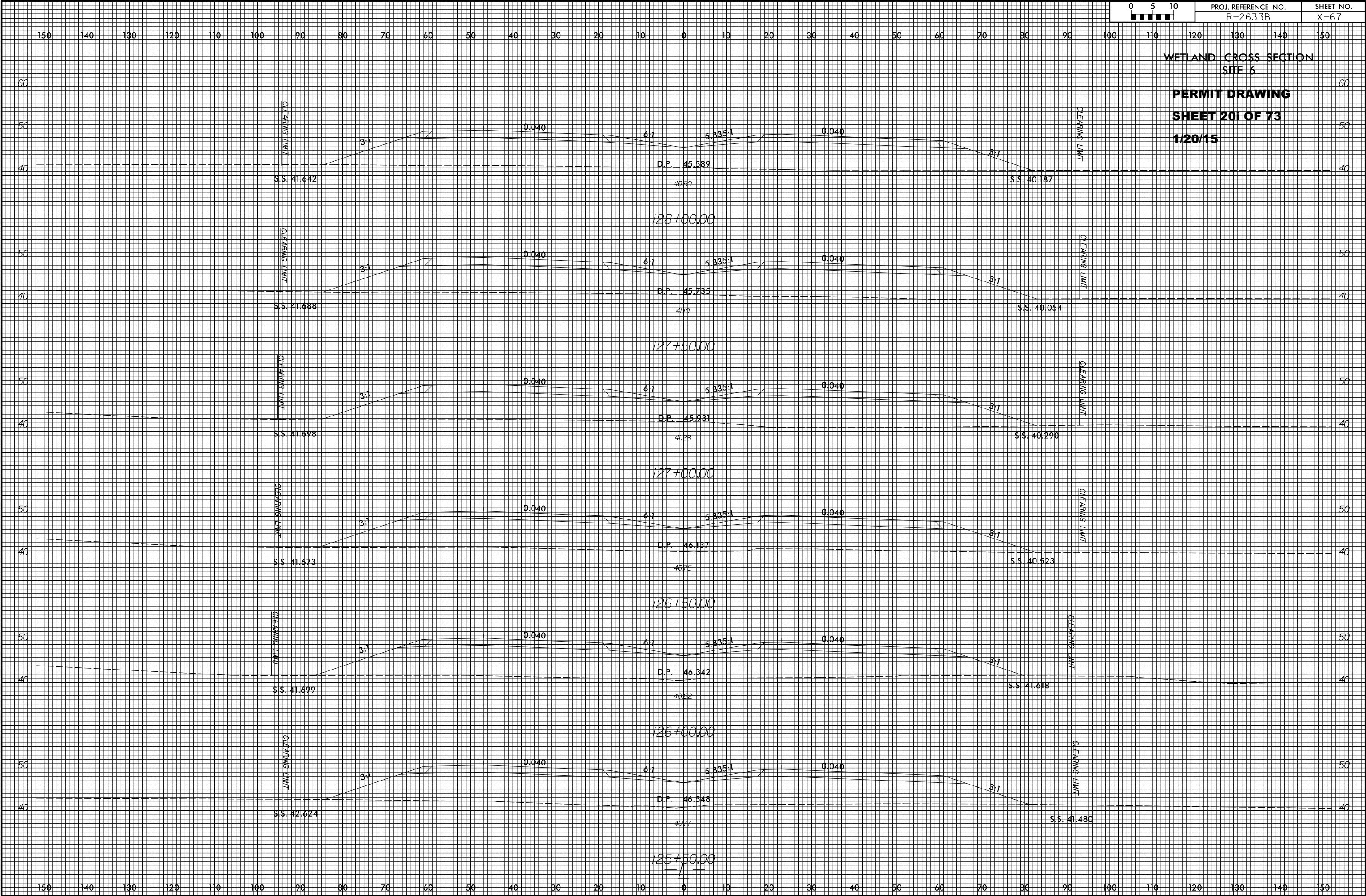
PERMIT DRAWING
SHEET 20h OF 73
1/20/15



8/23/99

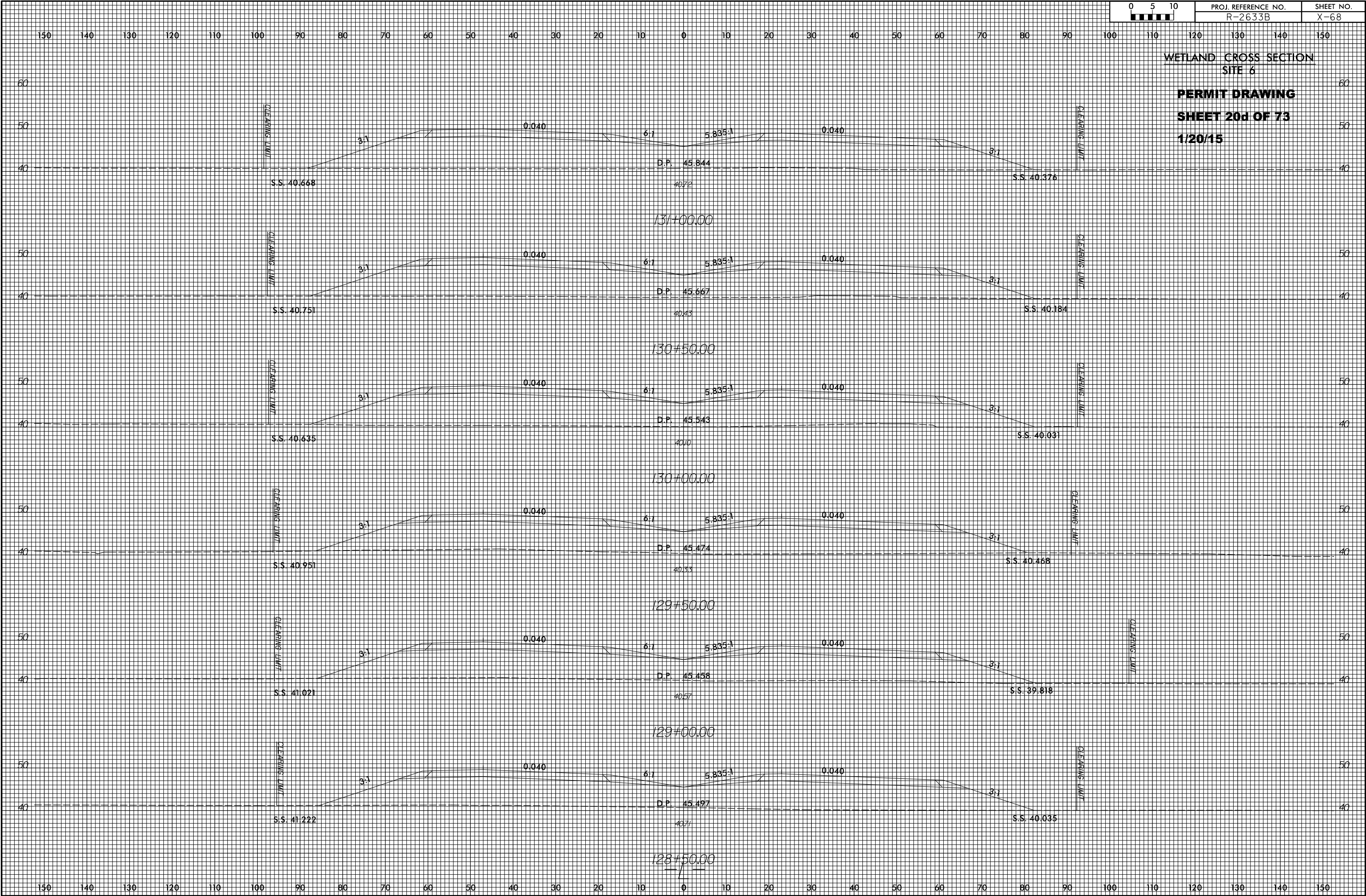
WETLAND CROSS SECTION
SITE 6

PERMIT DRAWING
SHEET 20i OF 73
1/20/15



8/23/99

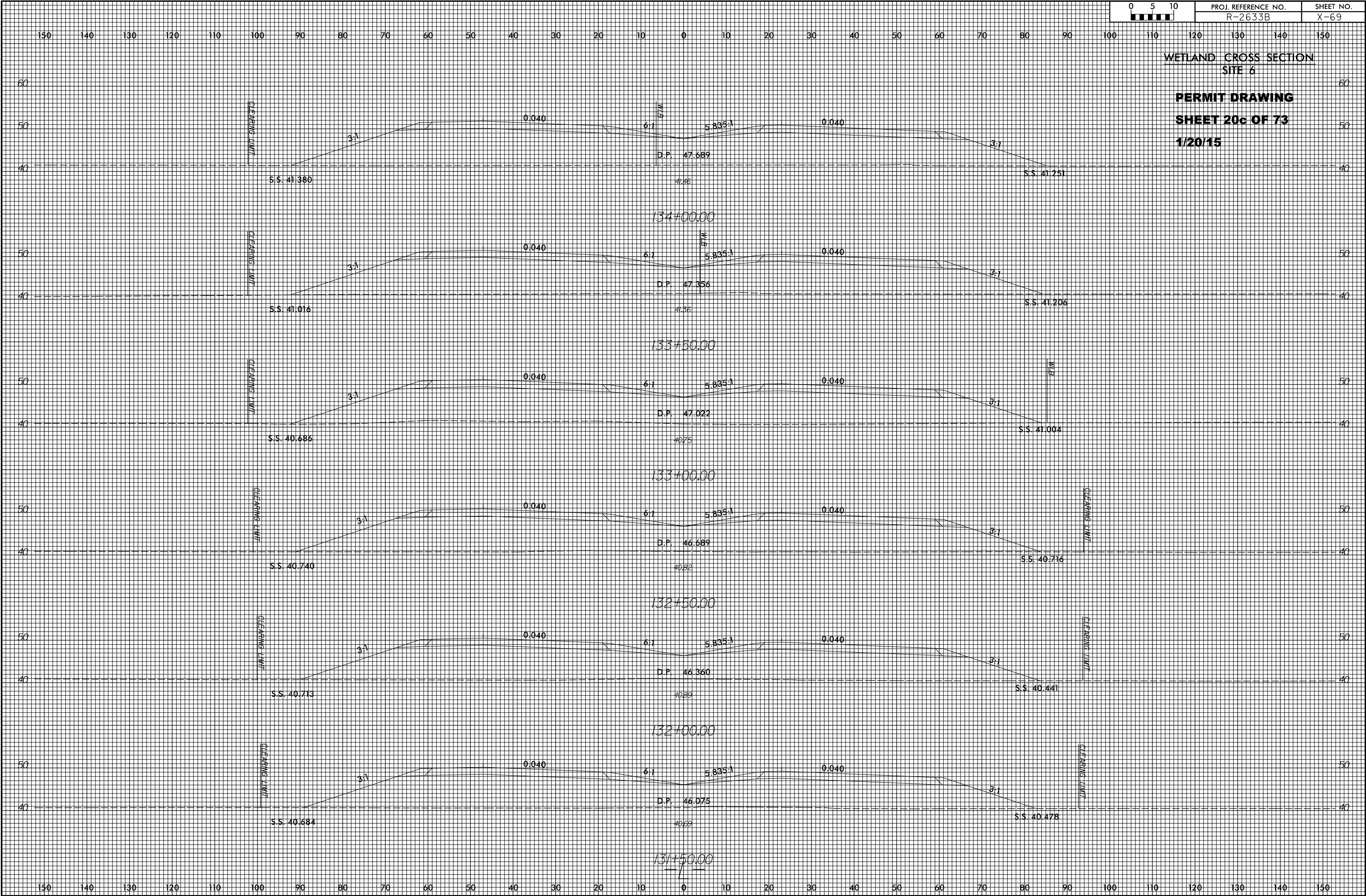
WETLAND CROSS SECTION
SITE 6
PERMIT DRAWING
SHEET 20d OF 73
1/20/15



8/23/99

WETLAND CROSS SECTION
SITE 6

PERMIT DRAWING
SHEET 20c OF 73
1/20/15

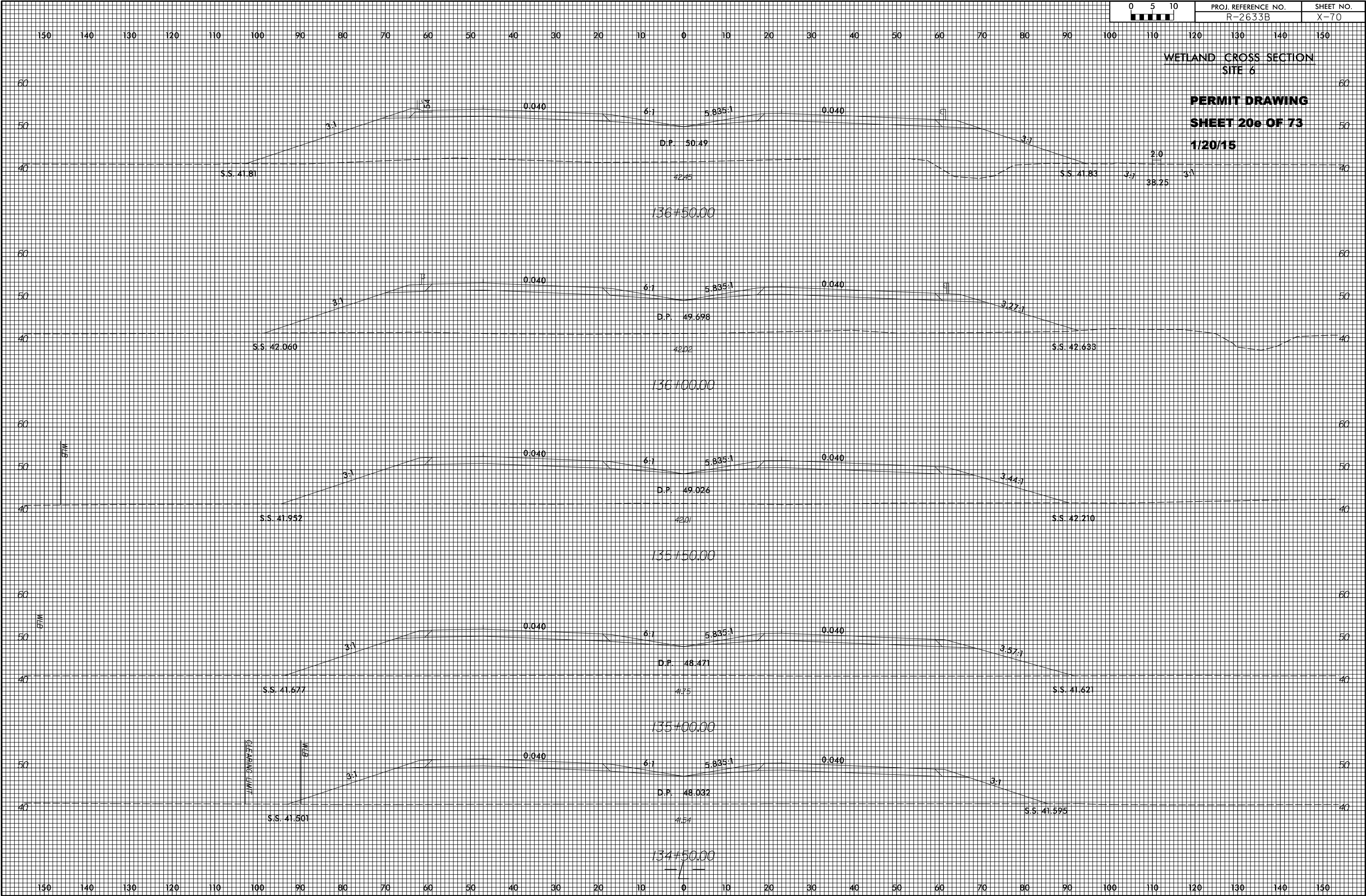


8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2633B	X-70

WETLAND CROSS SECTION
SITE 6

PERMIT DRAWING
SHEET 20e OF 73
1/20/15



8/17/99

10/ /09 - CHANGED PARCEL #11 TO IIA. COMBINED PARCEL 13 AND 14 AND ELIMINATED 14. CORRECTED PROPERTY LINES AND RAILROAD R/W LINE ON PARCEL 15.
1/ /11 - CHANGED PARCEL #13 TO 13A. ADDED CA AND FENCE TO RAILROAD R/W. CHANGED STATION ON MONUMENT TO 142+319.17.

REVISIONS

SYTIME
C:\PROJECTS\2015\20150817\20150817.DWG
USER:NAME

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO.		SHEET NO.	
R-2633B		13	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

PERMIT DRAWING
SHEET 21 OF 73
REVISED: 1/20/2015

Q10 = 2.03 cfs
V10 = 1.02 fps

NOTE: A RAILROAD CROSSING AGREEMENT WILL BE NEEDED AT THIS LOCATION (-L- Sta.147+38.89).

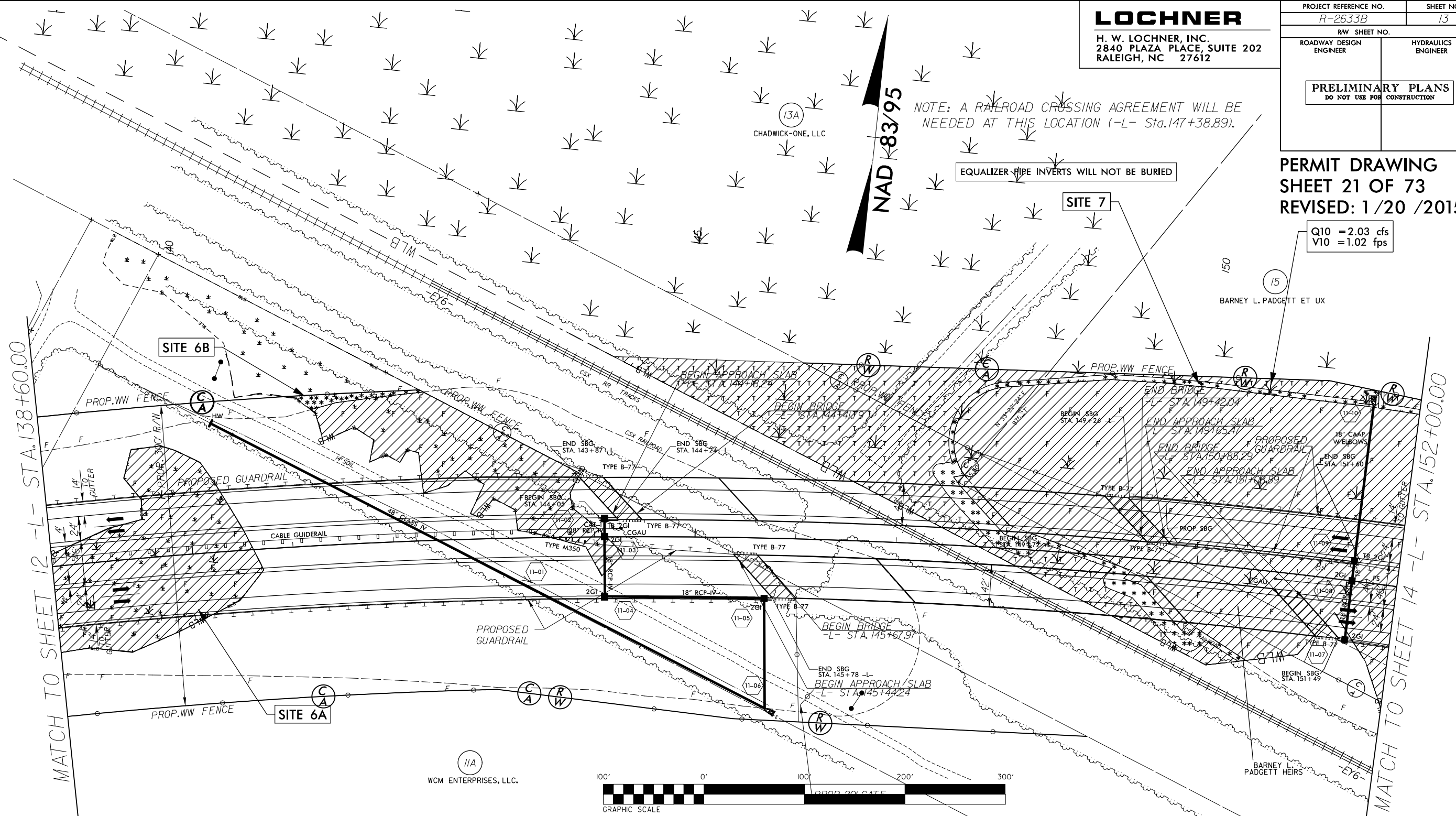
EQUALIZER PIPE INVERTS WILL NOT BE BURIED

SITE 7

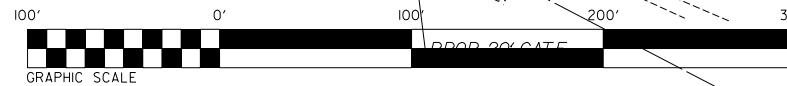
150
15
BARNEY L. PADGETT ET UX

MATCH TO SHEET 12 -L- STA.138+60.00

MATCH TO SHEET 14 -L- STA.152+00.00



WCM ENTERPRISES, LLC.



WCM ENTERPRISES, LLC.

- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING

SEE SHEET 46 FOR -L- PROFILE

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO.	SHEET NO.
R-2633B	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 22 OF 73
REVISED: 1 /20 /2015

Q10	= 2.03	cfs
V10	= 1.02	fps

NOTE: A RAILROAD CROSSING AGREEMENT WILL BE
NEEDED AT THIS LOCATION (-L- Sta. 147+38.89).

EQUALIZER PIPE INVERTS WILL NOT BE BURIED

SITE 7

BARNEY L. PADGETT ET UX

--- 10 --- STA. 138+60.00

[illegible]

WCM ENTERPRISES, LLC.

 DENOTES TEMPORARY
FILL IN WETLAND

 DENOTES FILL IN WETLAND

 HC HC DENOTES HAND CLEARING



DENOTES MECHANIZED
CLEARING

SEE SHEET 46 FOR -L- PROFILE

REVISIONS	
10/	/09 - CHANGED PARCEL #11 TO 11A. COMBINED PARCEL 13 AND 14 AND ELIMINATED 14. CORRECTED PROPERTY LINES AND RAILROAD R/W LINE ON PARCEL 15.
11/	/11 - CHANGED PARCEL #13 TO 13A. ADDED CA AND FENCE TO RAILROAD RW. CHANGED STATION ON MONUMENT TO 142+3.19 LT.

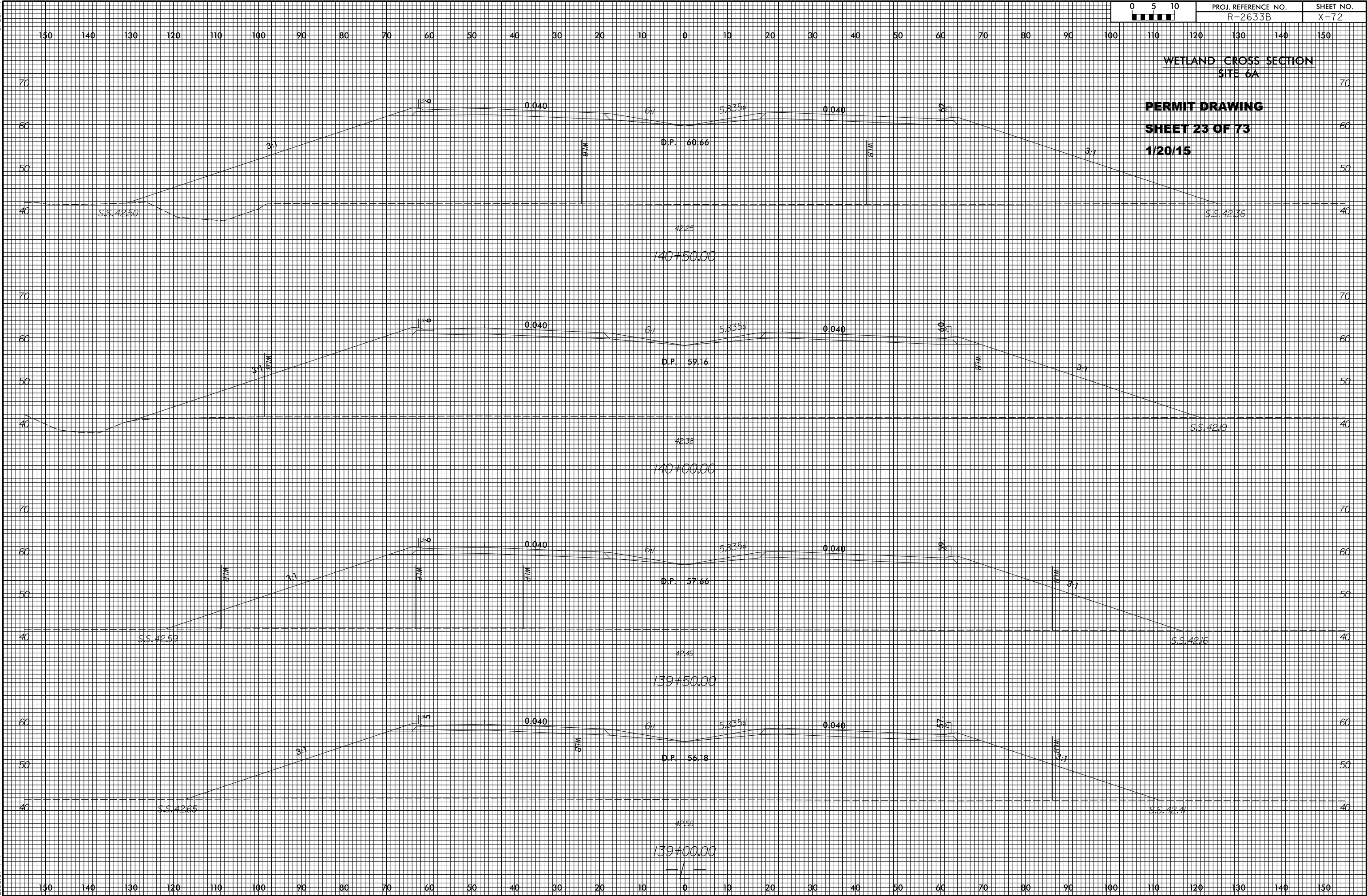
REVISIONS

\$\$\$\$SYTIME\$\$\$\$
 \$\$\$\$DGN\$\$\$\$
 \$\$\$\$USERNAME\$\$\$

8/23/99

WETLAND CROSS SECTION
SITE 6A

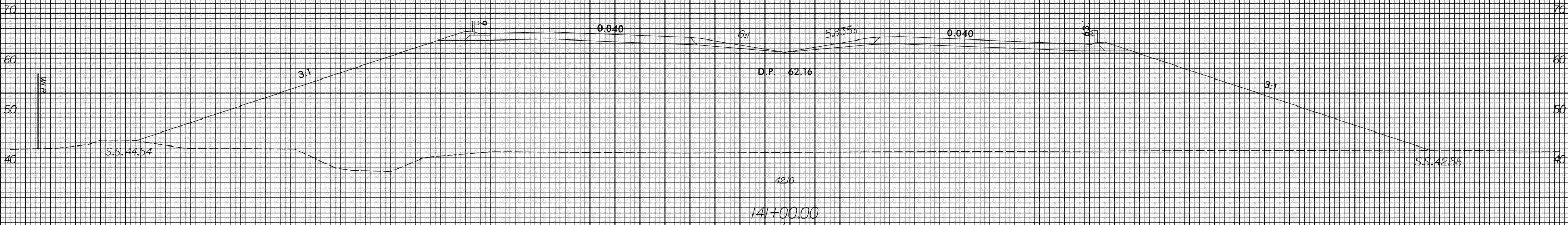
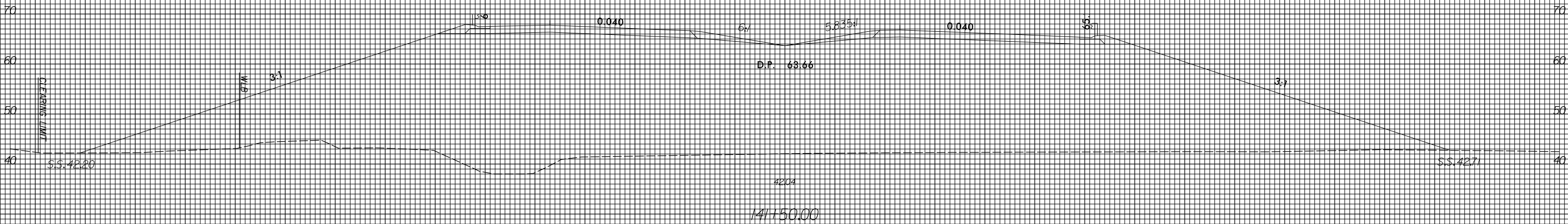
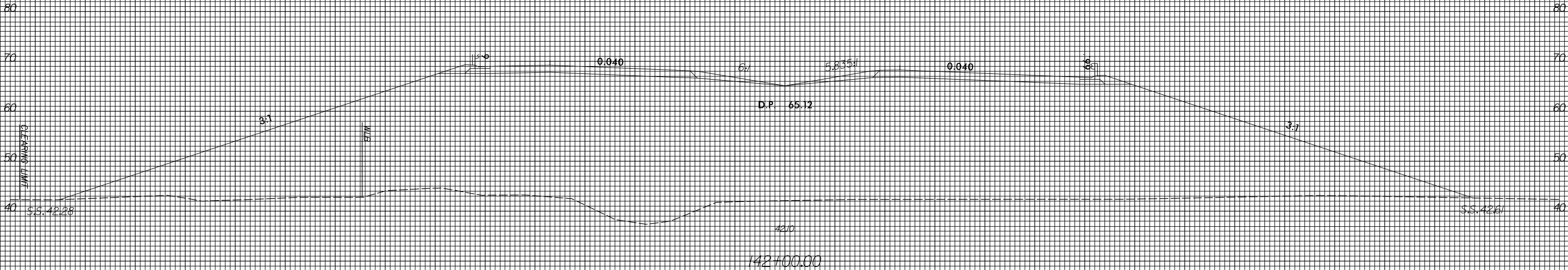
PERMIT DRAWING
SHEET 23 OF 73
1/20/15



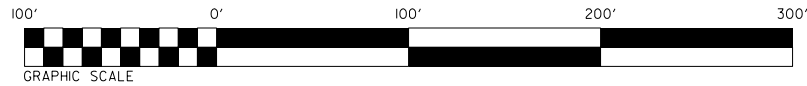
8/23/99

WETLAND CROSS SECTION
SITE 6B

PERMIT DRAWING
SHEET 24 OF 73
revised 1/20/15



8/17/99



- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING

EQUALIZER PIPE INVERTS WILL NOT BE BURIED

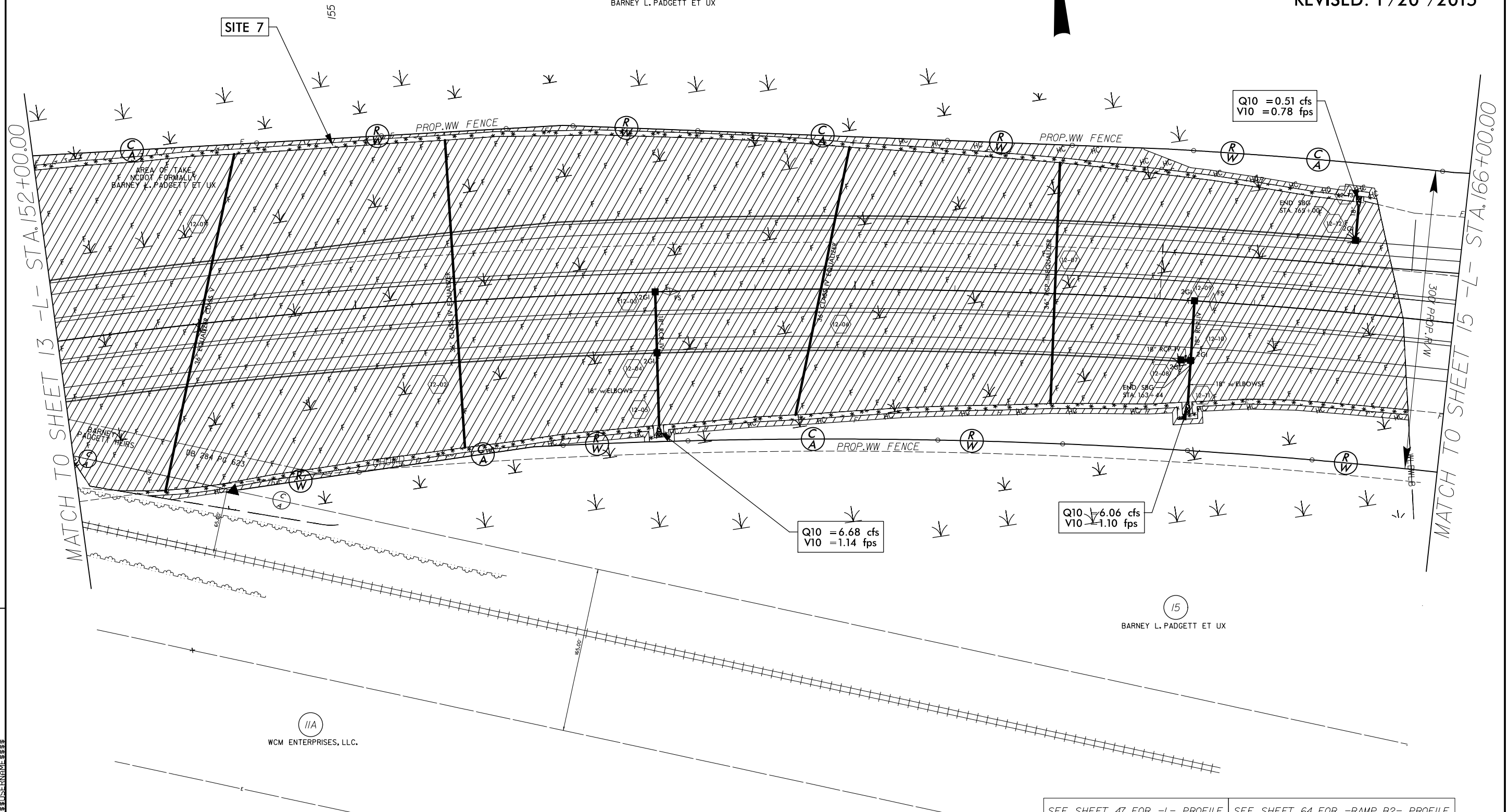
LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO.		SHEET NO.	
R-2633B		14	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

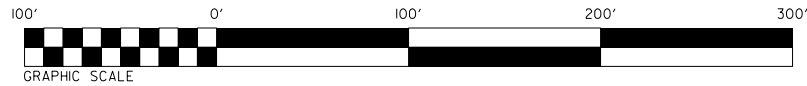
PERMIT DRAWING
SHEET 25 OF 73
REVISED: 1/20 /2015

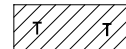
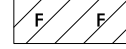
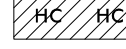
NAD 83/95



SEE SHEET 47 FOR -L- PROFILE SEE SHEET 64 FOR -RAMP_B2- PROFILE

8/17/99



-  DENOTES TEMPORARY FILL IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING
-  DENOTES MECHANIZED CLEARING

EQUALIZER PIPE INVERTS WILL NOT BE BURIED

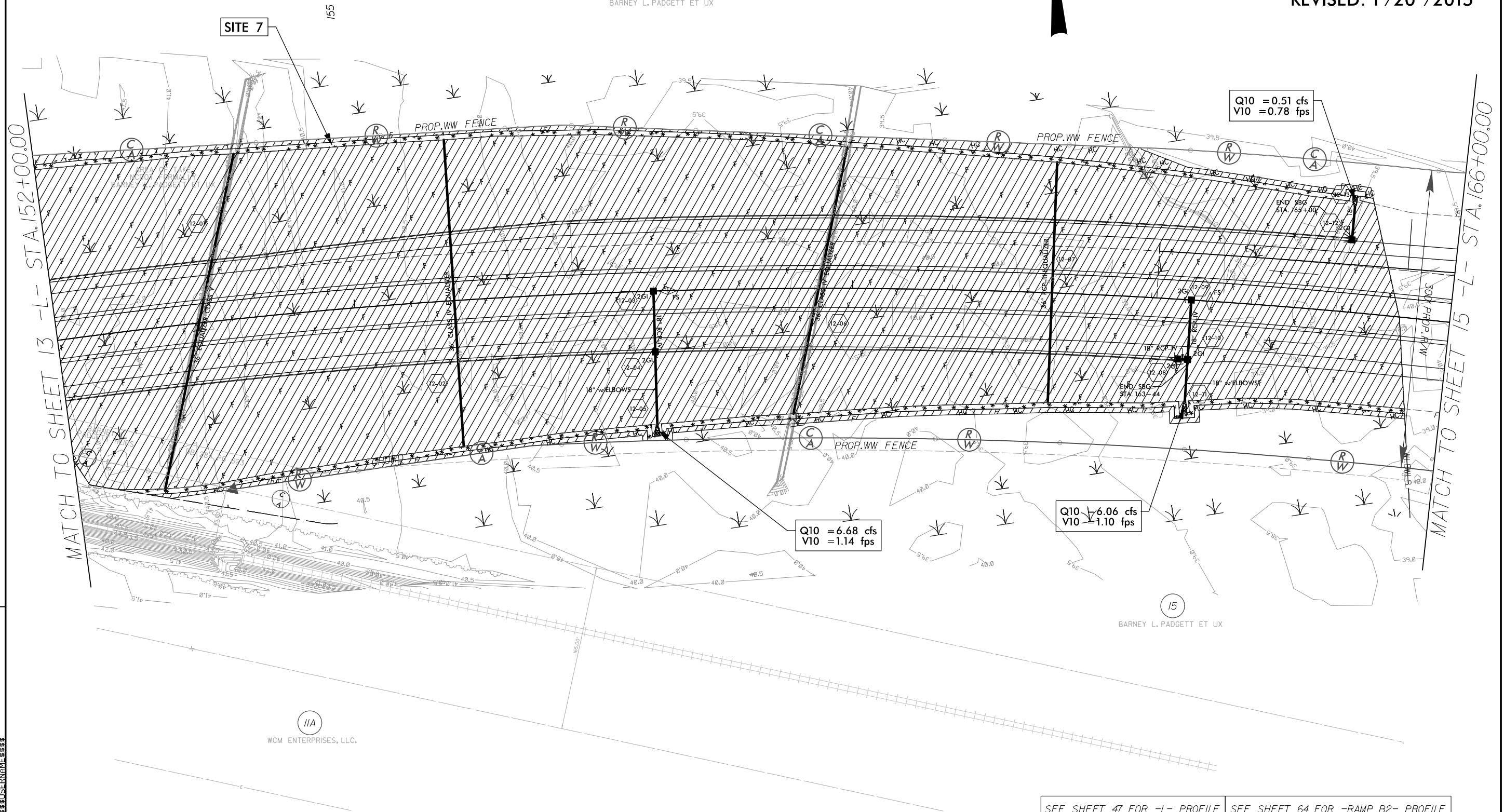
LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO.		SHEET NO.
R-2633B		14
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

PERMIT DRAWING
SHEET 26 OF 73
REVISED: 1 /20 /2015

NAD 83/95



SEE SHEET 47 FOR -L- PROFILE SEE SHEET 64 FOR -RAMP_B2- PROFILE

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2633B	X-83

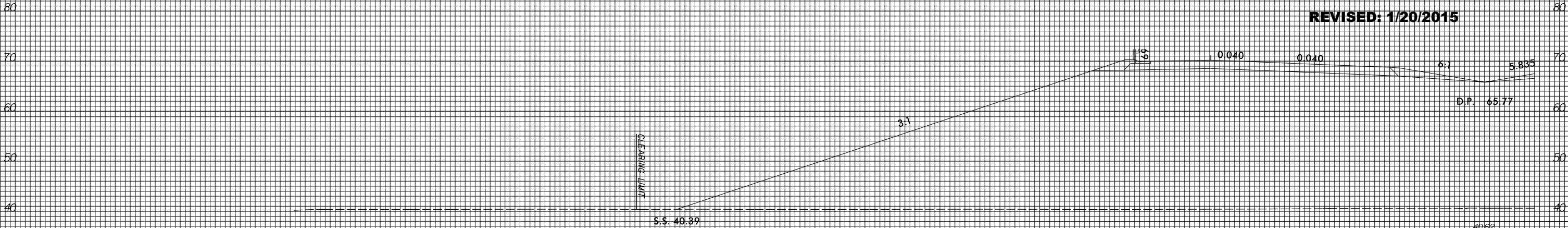
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

WETLAND CROSS SECTION
SITE 7

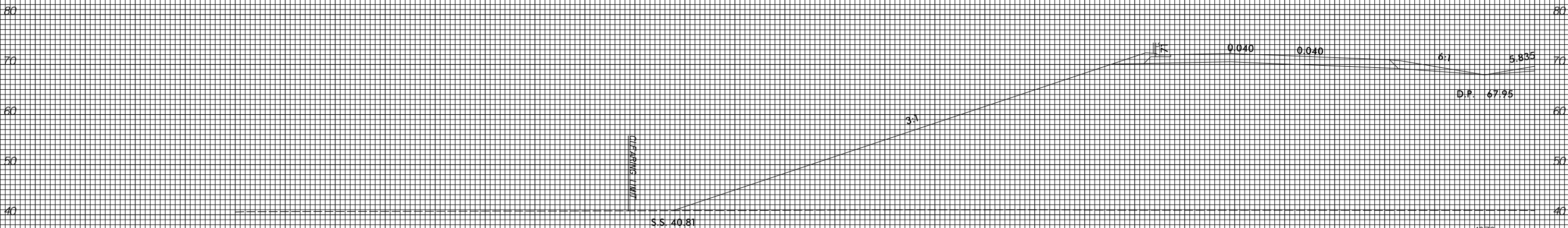
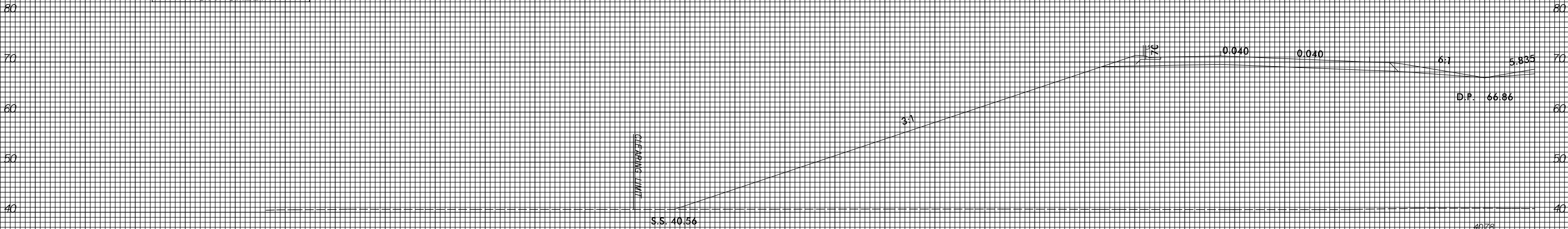
PERMIT DRAWING

SHEET 27 OF 73

REVISED: 1/20/2015



WETLAND BOUNDARIES
OFF SHEET



290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

8/23/99

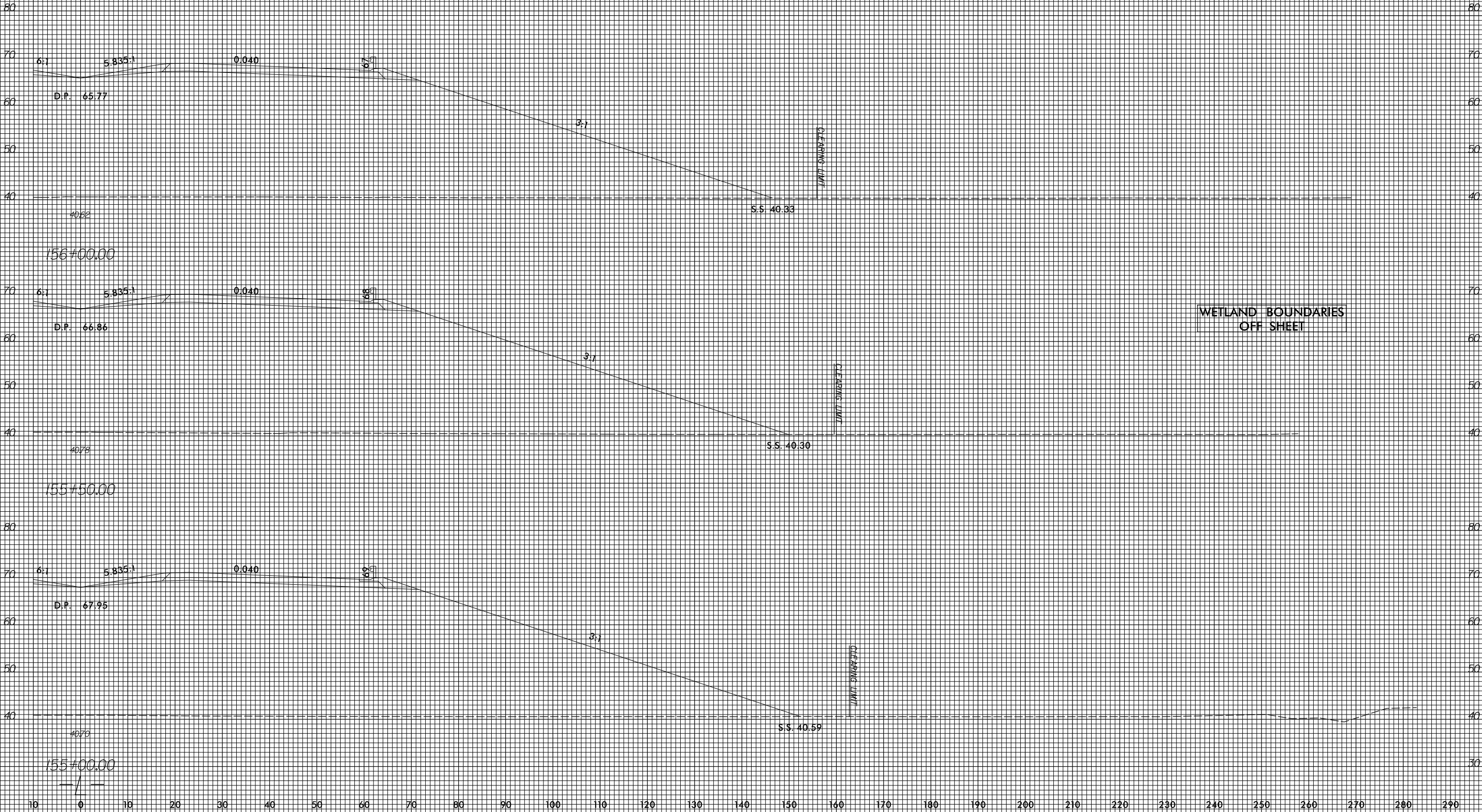
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2633B	X-108

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

WETLAND CROSS SECTION
SITE 7

PERMIT DRAWING
SHEET 28 OF 73
REVISED: 1/20/2015



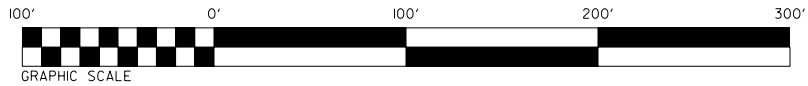
8/17/99

REVISIONS

*****SYTIME*****
*****US*****

-L- STA.181+00.00

MATCH TO SHEET 16 -L- STA.194+00.00



LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

INFORMATION PROVIDED ON
THIS PLAN SHEET IS FROM
INTERCHANGE PLAN SHEET 15

PROJECT REFERENCE NO.	SHEET NO.
R-2633B	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 29 OF 73
REVISED: 1 /20 /2015

NAD 83.95

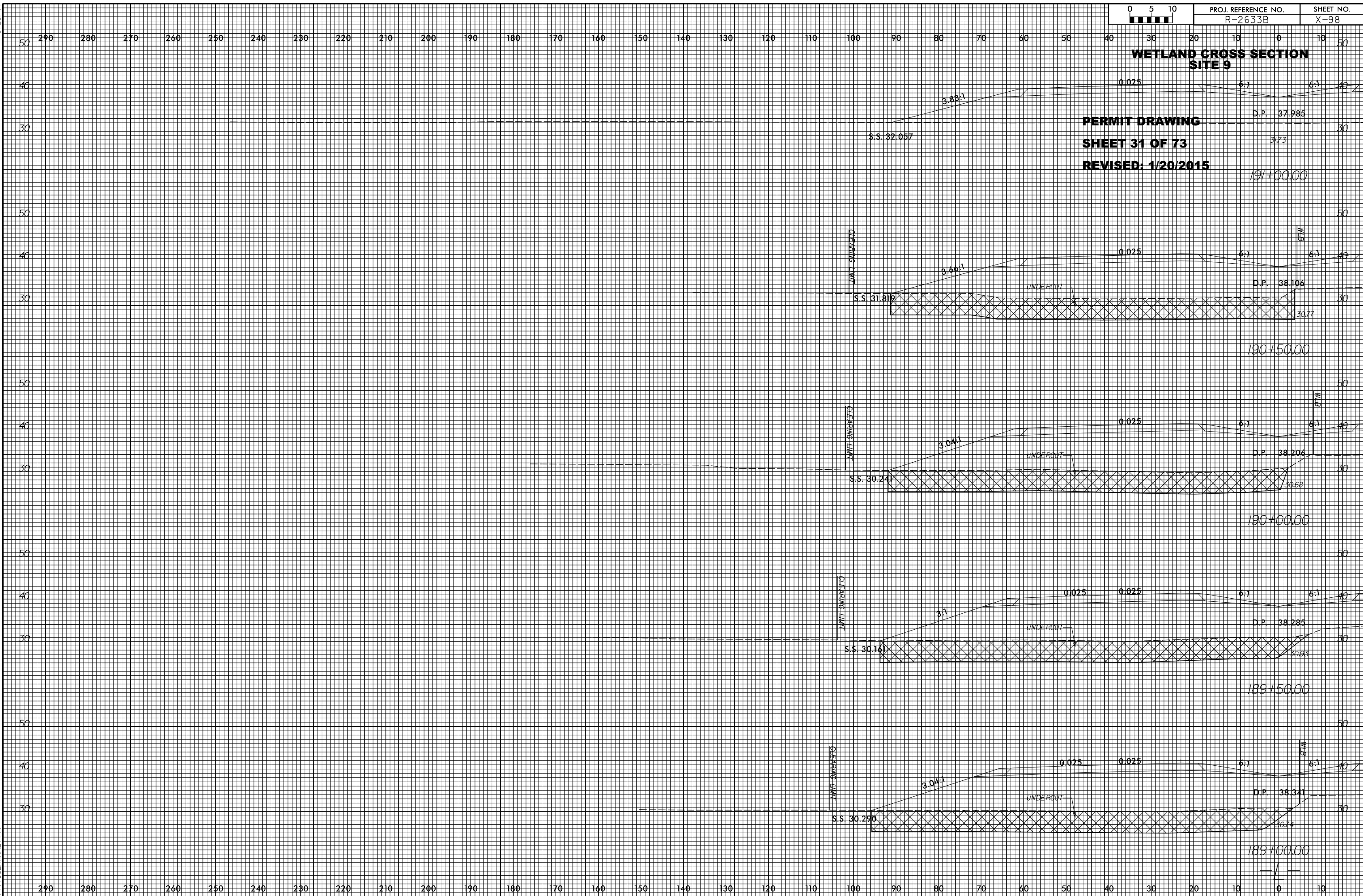
- F F DENOTES FILL IN WETLAND
- HC HC DENOTES HAND CLEARING
- * * * * * DENOTES MECHANIZED CLEARING

Q10 = 16.0 cfs
V10 = 1.34 fps

Q10 = 5.6 cfs
V10 = 1.77 fps

JULIAN A. ALTABELLIS ET UX

EQUALIZER PIPE INVERTS WILL NOT BE BURIED



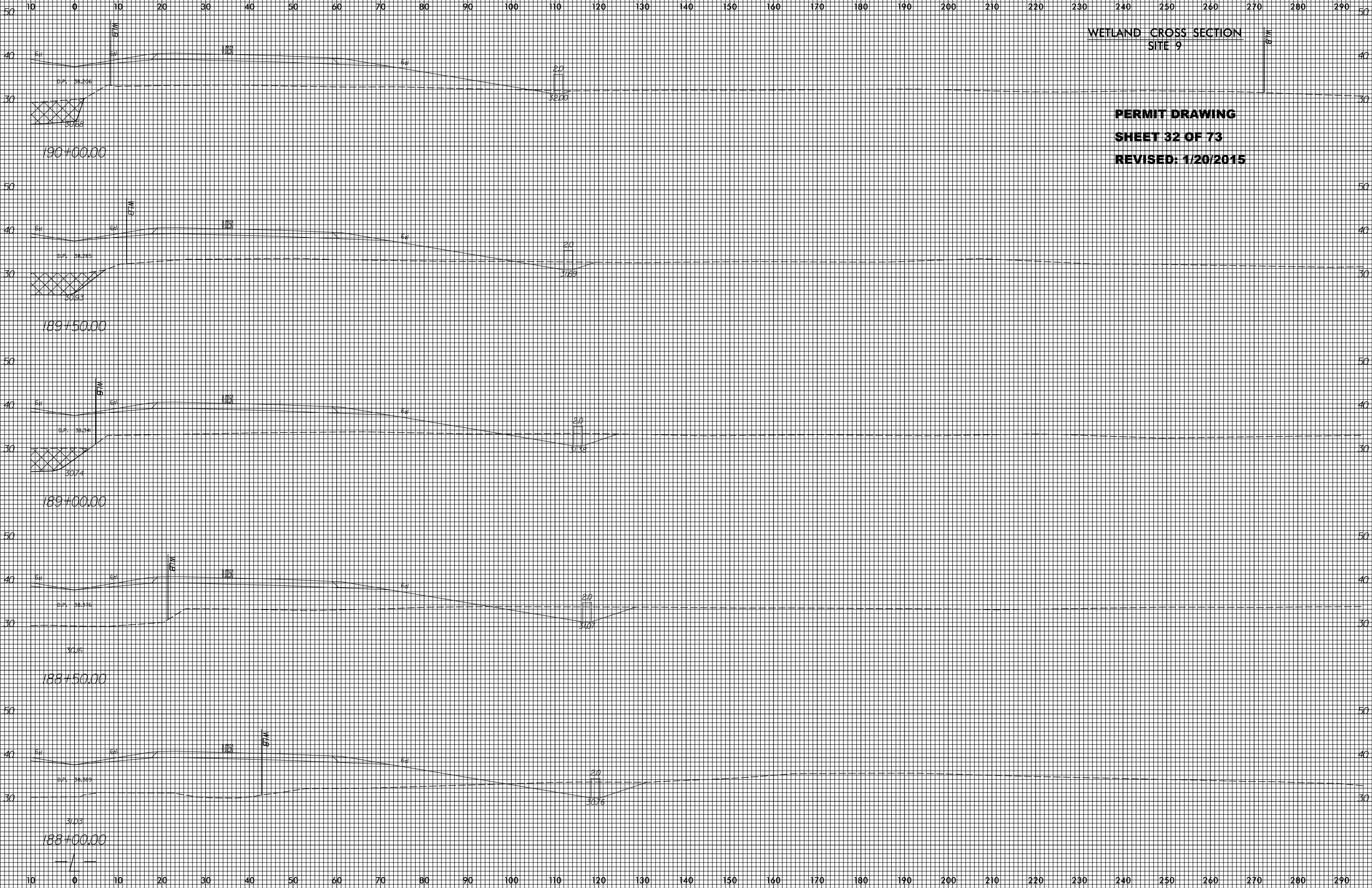
8/23/99

WETLAND CROSS SECTION
SITE 9

PERMIT DRAWING

SHEET 32 OF 73

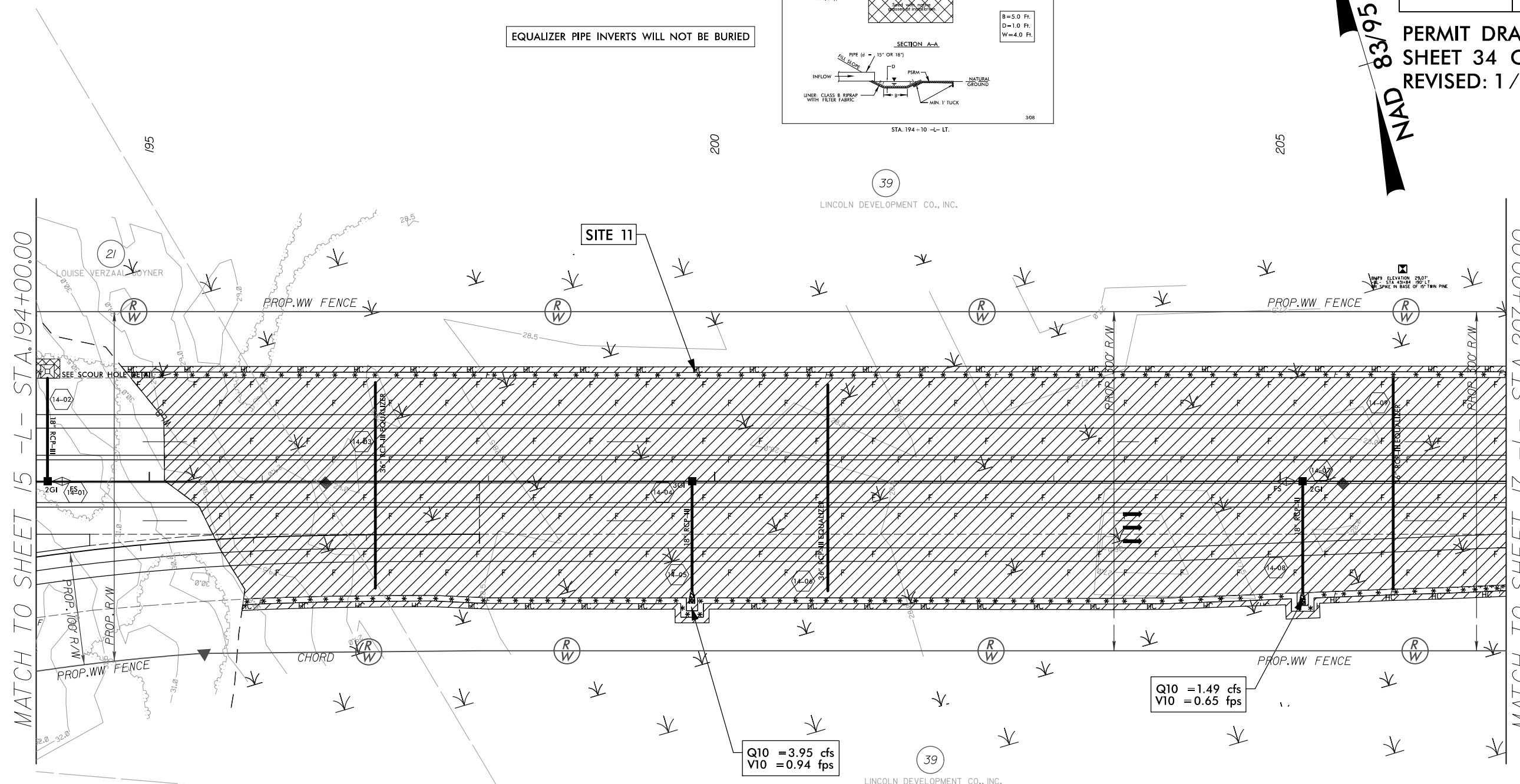
REVISED: 1/20/2015



REVISIONS

\$\$\$SYTIME\$\$\$\$\$DGN\$\$\$\$\$

PERMIT DRAWING
SHEET 34 OF 73
REVISED: 1 /20 /2015



100' 0' 100' 200' 300'

GRAPHIC SCALE

SEE SHEET 48 FOR -L- PROFILE
SEE SHEET 66 FOR -RAMP_D2- PROFILE

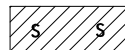
8/17/99

REVISIONS

MATCH TO SHEET 16 -L- STA. 207+00.00



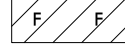
DENOTES MECHANIZED
CLEARING



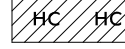
DENOTES IMPACTS IN
SURFACE WATER



DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



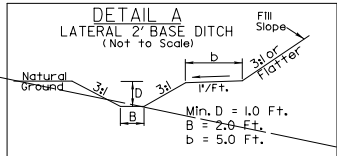
DENOTES FILL IN
WETLAND



DENOTES HAND
CLEARING



GRAPHIC SCALE



FROM STA. 216+10 TO STA. 221+00 -L- LT.(DDE=616CY)
FROM STA. 216+00 TO STA. 221+00 -L- RT.(DDE=598CY)

EQUALIZER PIPE INVERTS WILL NOT BE BURIED

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO.

R-2633B

SHEET NO.

17

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 35 OF 73
REVISED: 1 /20 /2015

NAD 83/95

LINCOLN DEVELOPMENT CO., INC.

SITE 11

RAIFORD G. TRASK, JR. TRUSTEE, ET AL

SITE 11

LAT. 2' BASE DITCH
SEE DETAIL A

LAT. 2' BASE DITCH
SEE DETAIL A

RAIFORD G. TRASK, JR. TRUSTEE, ET AL

LINCOLN DEVELOPMENT CO., INC.

SEE SHEET 49 FOR -L- PROFILE

MATCH TO SHEET 18 -L- STA. 221+00.00

8/17/99

REVISIONS

CONSTRUCTION DESIGN SURNAME

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO.		SHEET NO.
R-2633B		17
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

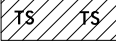
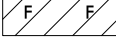
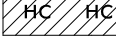
PERMIT DRAWING
SHEET 36 OF 73
REVISED: 1 /20 /2015

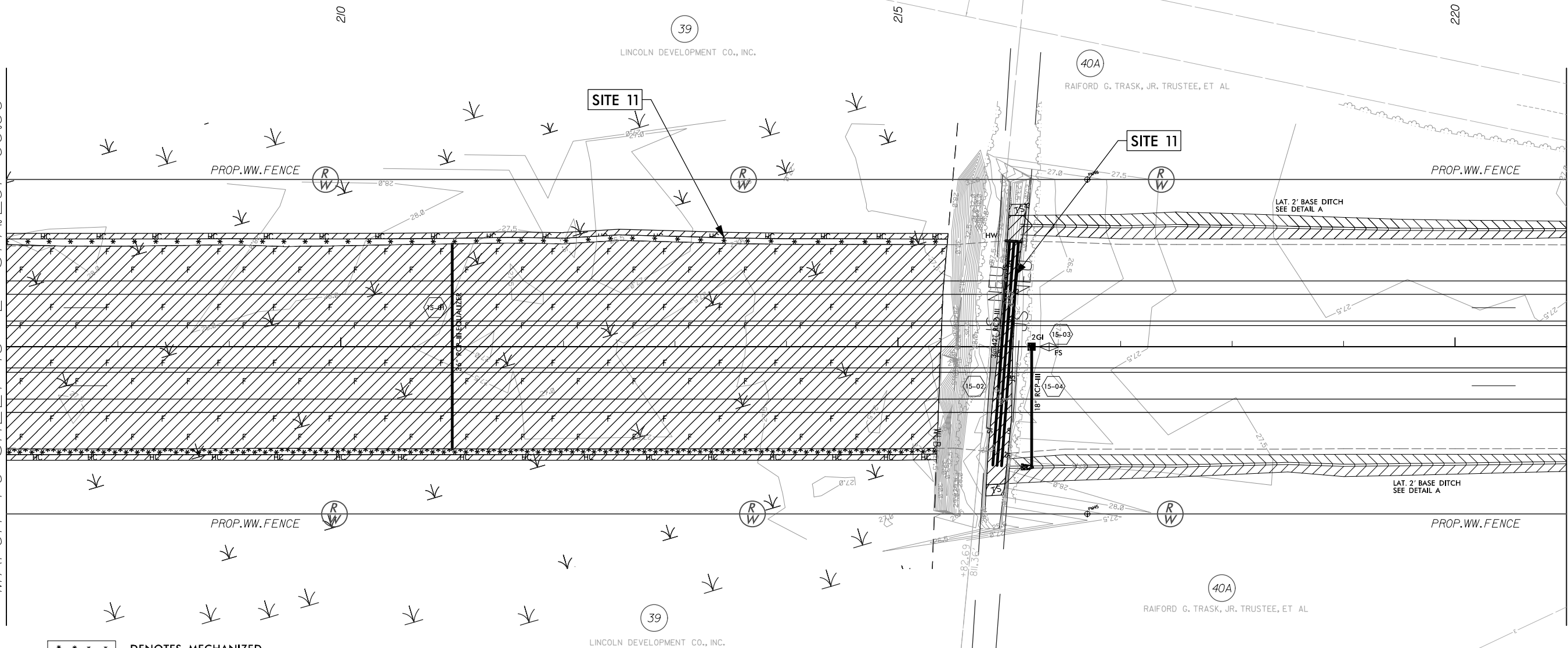
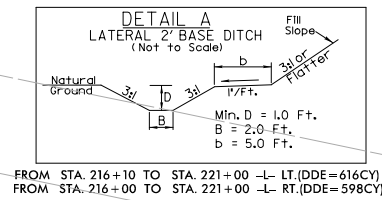
EQUALIZER PIPE INVERTS WILL NOT BE BURIED

NAD 83/95

MATCH TO SHEET 16 -L- STA. 207+00.00

MATCH TO SHEET 18 -L- STA. 221+00.00

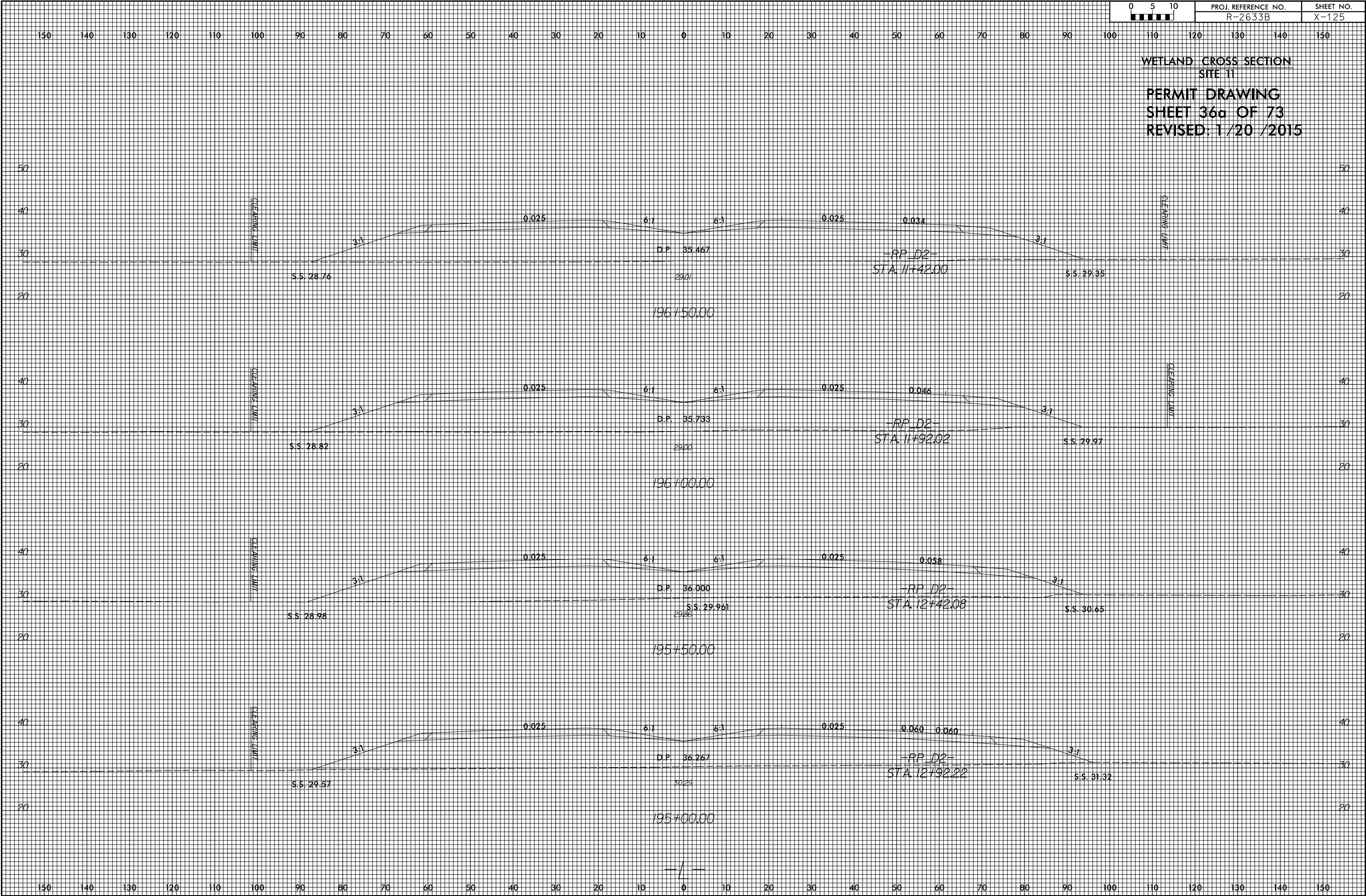
-  DENOTES MECHANIZED CLEARING
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES FILL IN WETLAND
-  DENOTES HAND CLEARING



SEE SHEET 49 FOR -L- PROFILE

8/23/99

WETLAND CROSS SECTION
SITE 11
PERMIT DRAWING
SHEET 36a OF 73
REVISED: 1/20 /2015

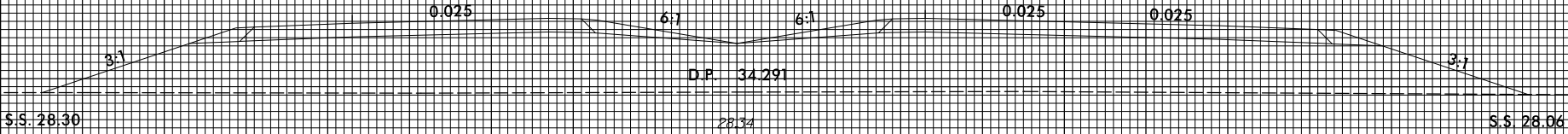


8/23/99

WETLAND CROSS SECTION
SITE 11
PERMIT DRAWING
SHEET 36b OF 73
REVISED: 1/20 /2015

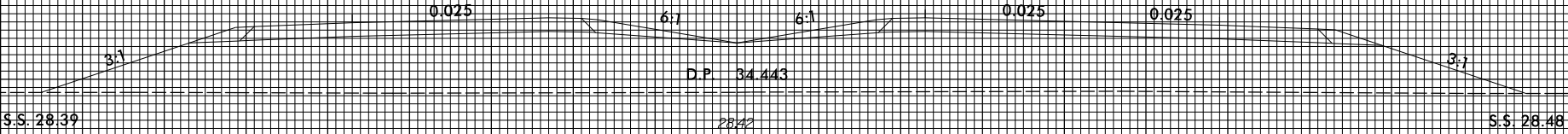
CLEARING LIMIT

CLEARING LIMIT



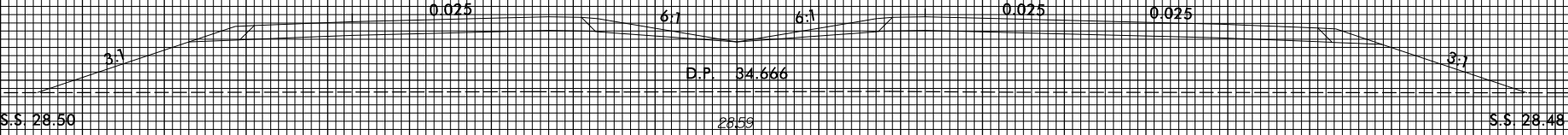
CLEARING LIMIT

CLEARING LIMIT



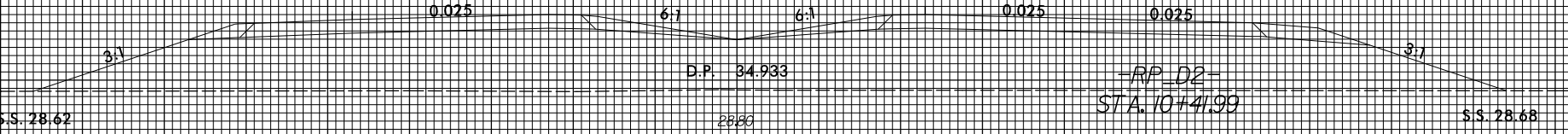
CLEARING LIMIT

CLEARING LIMIT



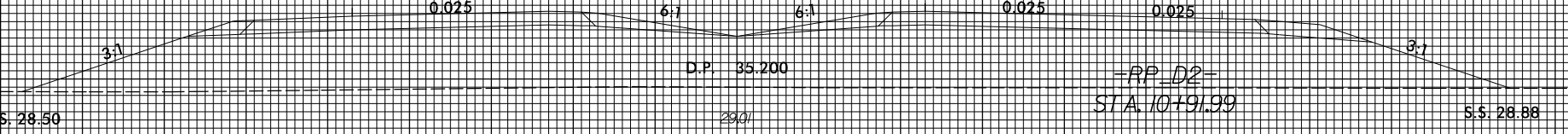
CLEARING LIMIT

CLEARING LIMIT

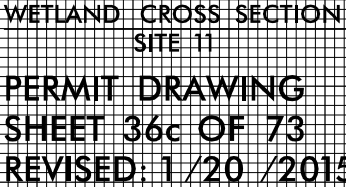


CLEARING LIMIT

CLEARING LIMIT



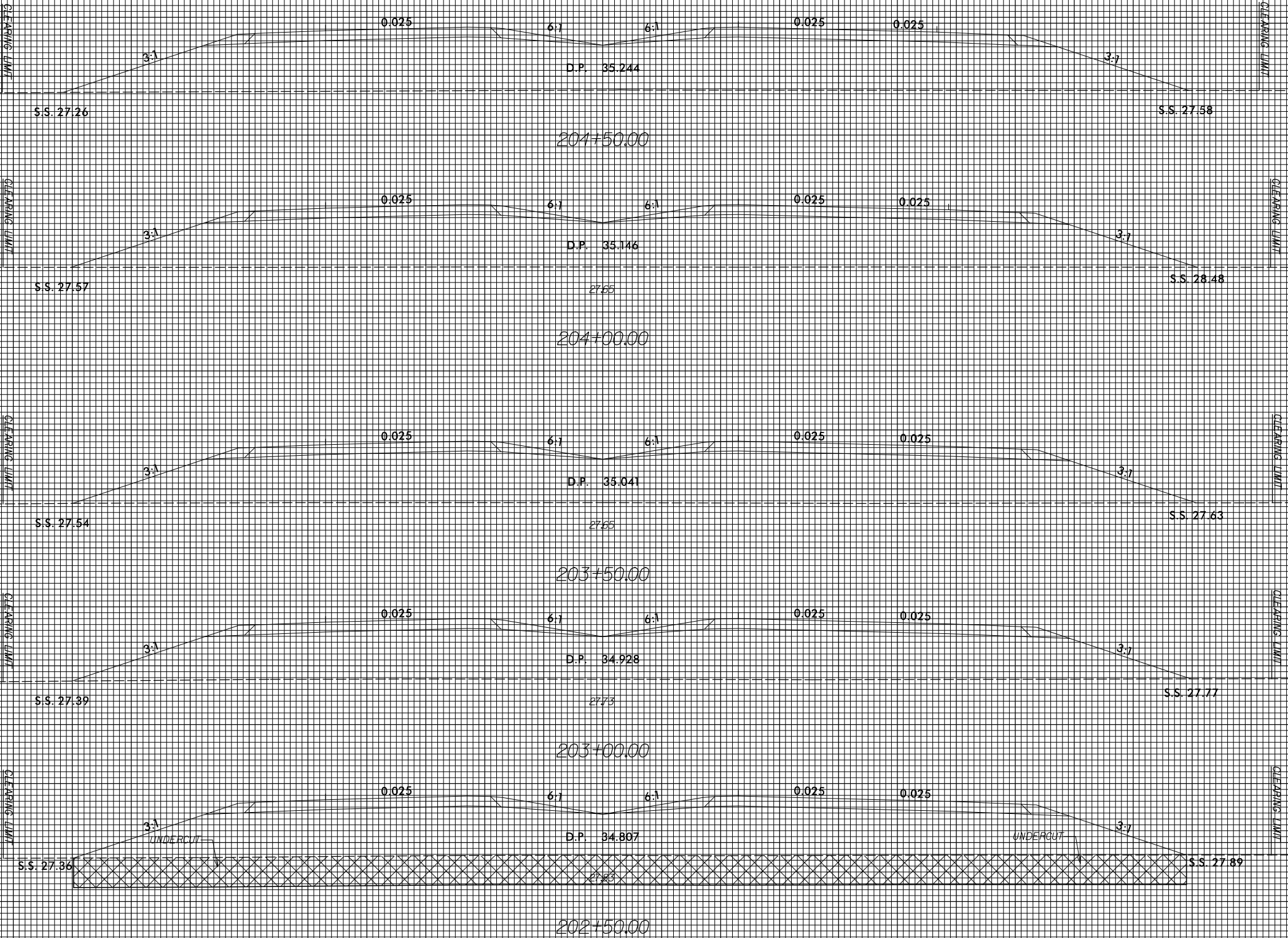
SYTIME
US
CROSS
SECTION
DRAWING
8/23/99



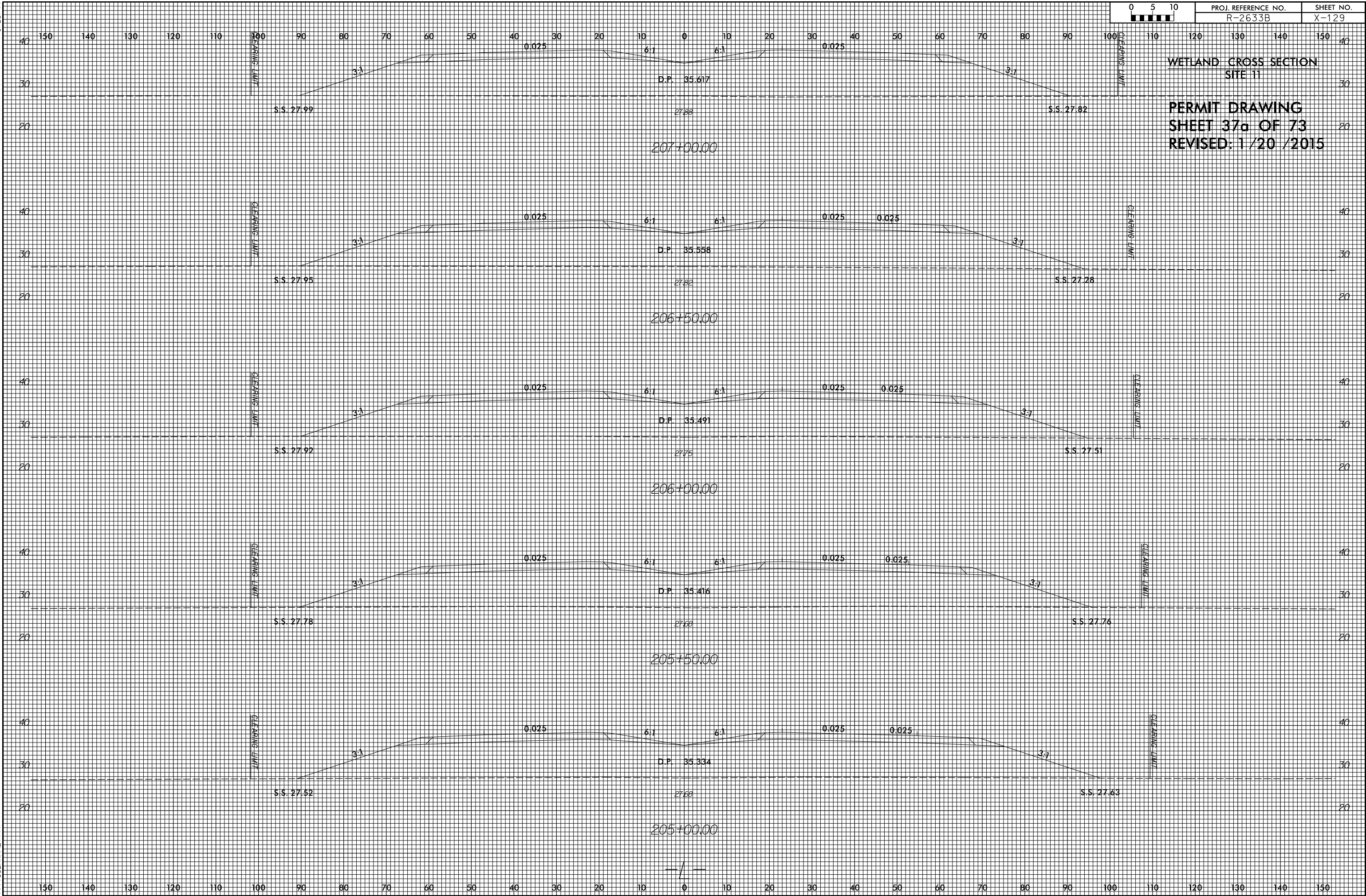
8/23/99

WETLAND CROSS SECTION
SITE 11

PERMIT DRAWING
SHEET 37 OF 73
REVISED: 1/20 /2015



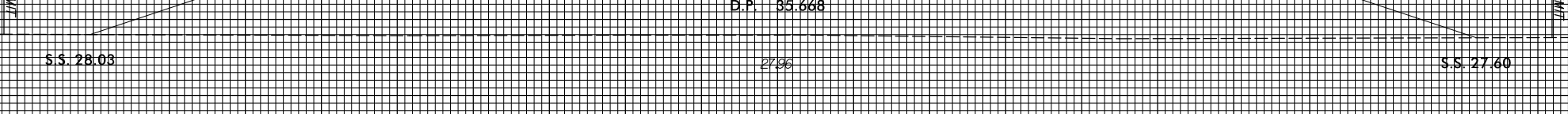
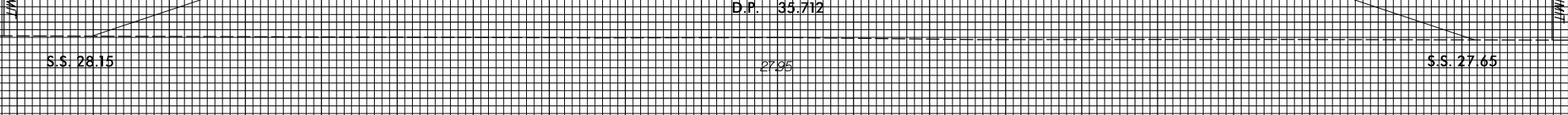
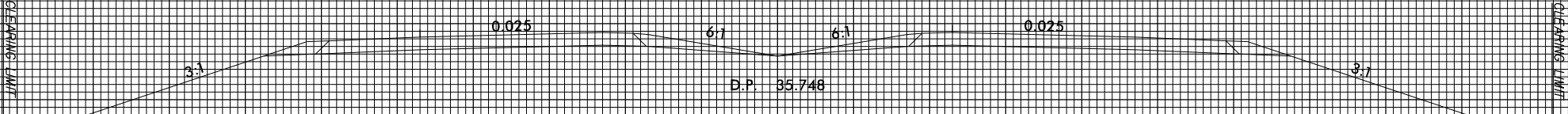
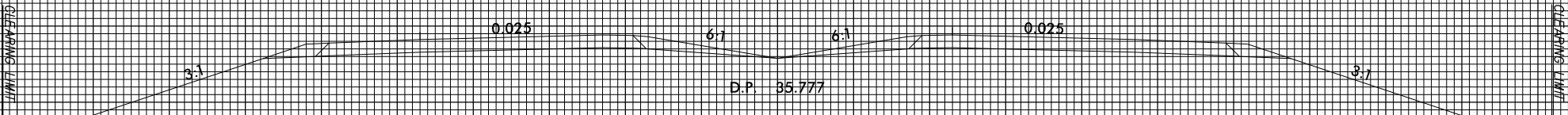
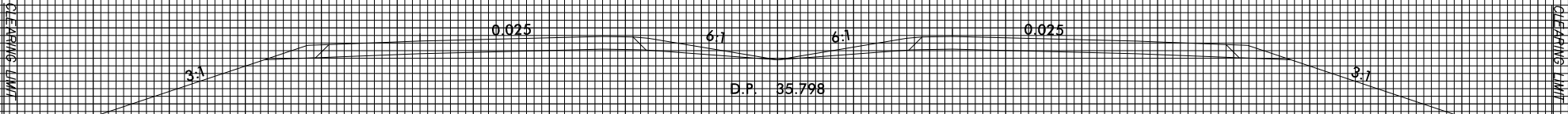
SYTIME
US
CR
PLAN
SHEET
37
OF
73
REVISED
1/20/2015



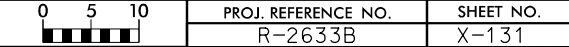
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2633B	X-130

WETLAND CROSS SECTION
SITE 11
PERMIT DRAWING
SHEET 37b OF 73
REVISED: 1/20 /2015

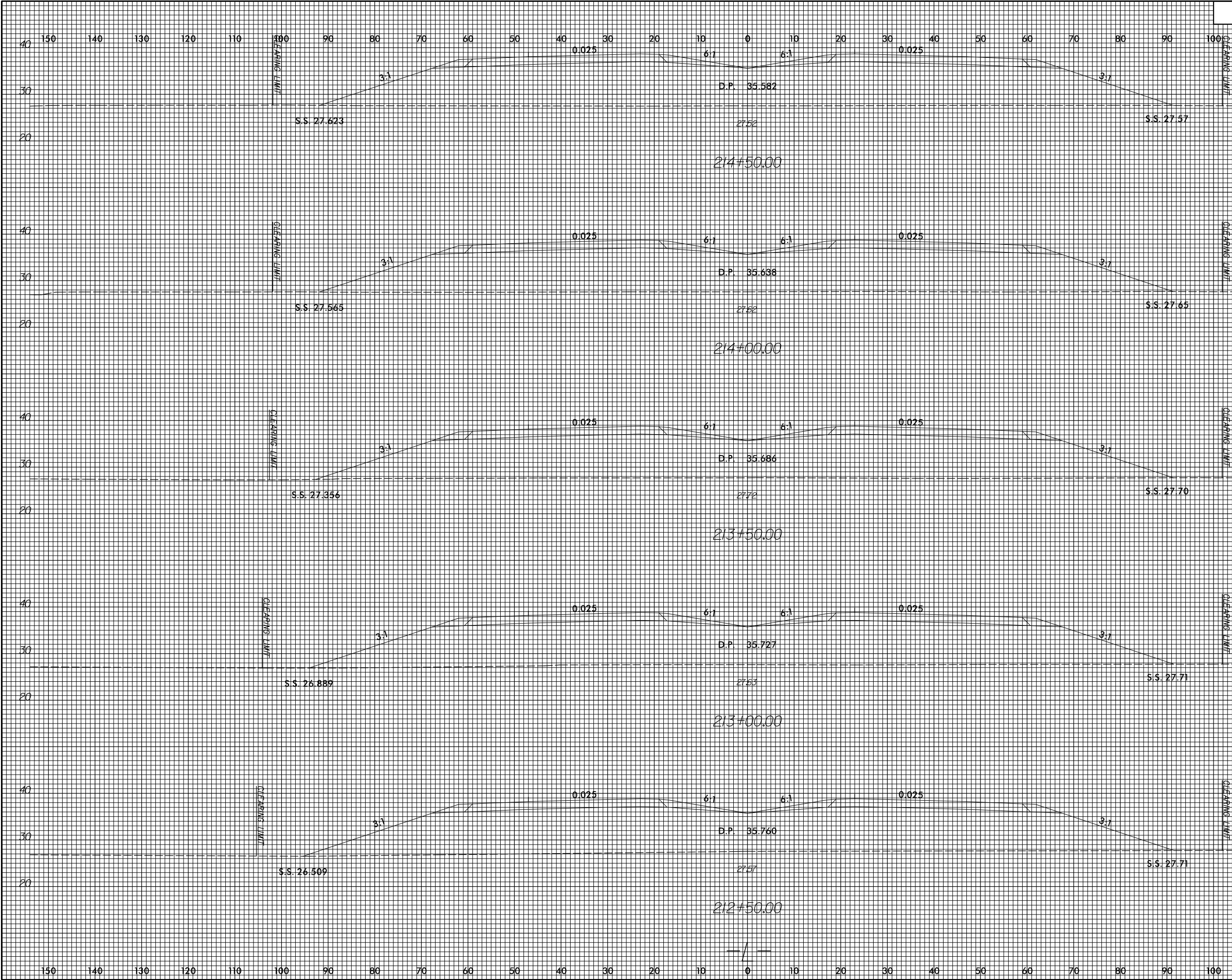


SYTIME
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PLAN
SHEET
37b
OF
73
REVISED
1/20/2015



8/23/99

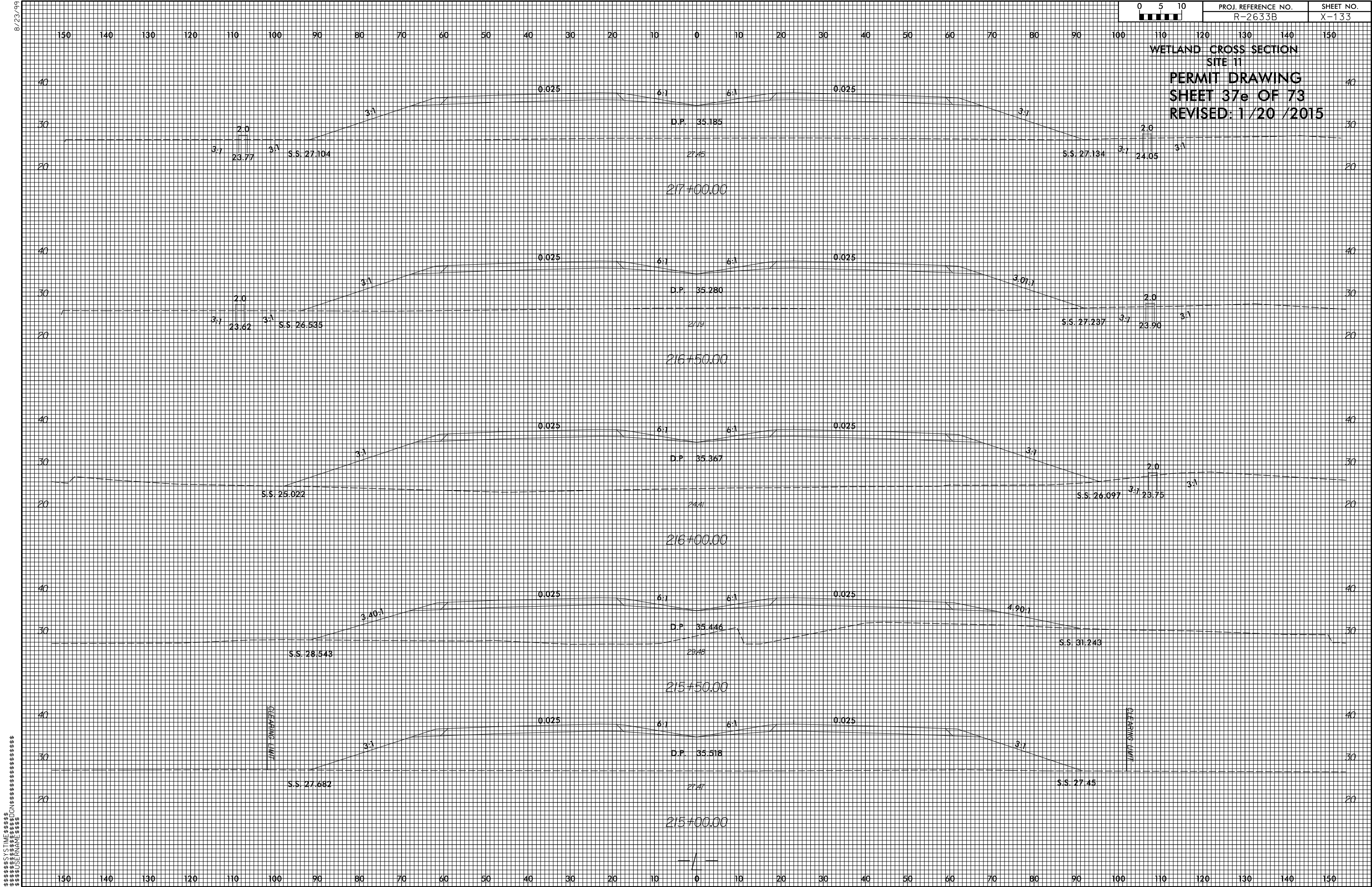
WETLAND CROSS SECTION
SITE 11
PERMIT DRAWING
SHEET 37d OF 73
REVISED: 1 /20 /2015



SYTIME
CROSS
SECTION
DRAWING
SHEET 37d
OF 73
REVISED: 1 /20 /2015

8/23/99

WETLAND CROSS SECTION
SITE 11
PERMIT DRAWING
SHEET 37e OF 73
REVISED: 1/20 /2015



8/17/99

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO. SHEET NO.

R-2633B 37

R/W SHEET NO.
ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

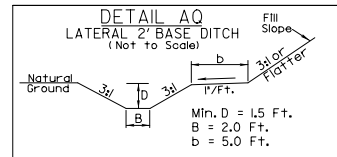
PERMIT DRAWING

SHEET 62 OF 73

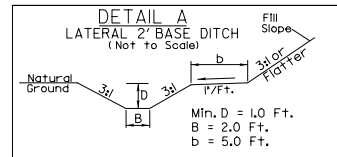
Revised 1/20/15

SEE SHEET 2-K FOR
IMPACTS IN THIS AREA

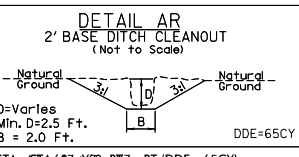
NAD 83/95



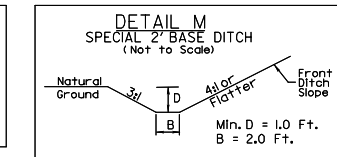
FROM STA. 41+50 TO STA. 45+75 -Y7- LT. (DDE=231CY)



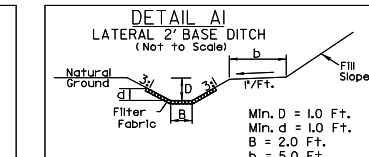
FROM STA. 45+45 TO STA. 47+45 -Y7- RT. (DDE=147CY)
FROM STA. 52+15 TO STA. 52+70 -Y7- RT. (DDE=46CY)



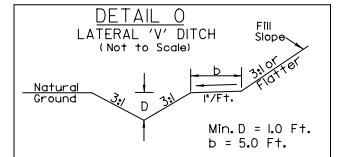
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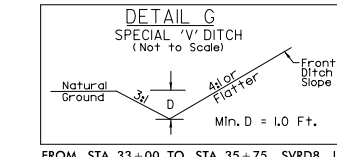
FROM STA. 51+60 TO STA. 51+90 -Y7- RT.



FROM STA. 52+50 TO STA. 53+50 -Y7- LT. (DDE=200CY)



FROM STA. 36+00 -SVRD8- TO STA. 10+50 -SR8- LT. (DDE=99CY)
FROM STA. 47+75 TO STA. 48+50 -Y7- RT. (DDE=58CY)



FROM STA. 33+00 TO STA. 35+75 -SVRD8- LT.
FROM STA. 32+50 TO STA. 33+83 -SVRD8- RT.
FROM STA. 49+00 TO STA. 51+60 -Y7- RT.
FROM STA. 51+90 TO STA. 53+50 -Y7- LT.

E. G. DALE ET UX

WILLIE A. BEATTY, JR.
ET UX

DONALD BEATTY
ET UX

MAINTENANCE, INC.

E. G. DALE ET UX

CLASS B RIP RAP
EST. 5 TON
EST. 14 SY FF

BEGIN SBG
STA. 51+25-Y7-

END SBG
STA. 52+71-Y7-

CHORD

CLASS B RIP RAP
EST. 5 TON
EST. 14 SY FF

BEGIN SBG
STA. 51+25-Y7-

END SBG
STA. 52+71-Y7-

CHORD

CLASS B RIP RAP
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EST. 14 SY FF

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CLASS B RIP RAP
EST. 5 TON
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STA. 52+71-Y7-

CHORD

CLASS B RIP RAP
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CHORD

CLASS B RIP RAP
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EST. 14 SY FF

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CHORD

CLASS B RIP RAP
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CLASS B RIP RAP
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CLASS B RIP RAP
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CHORD

CLASS B RIP RAP
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CHORD

CLASS B RIP RAP
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CLASS B RIP RAP
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EST. 14 SY FF

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EST. 14 SY FF

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EST. 14 SY FF

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CHORD

CLASS B RIP RAP
EST. 5 TON
EST. 14 SY FF

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CHORD

CLASS B RIP RAP
EST. 5 TON
EST. 14 SY FF

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STA. 51+25-Y7-

END SBG
STA. 52+71-Y7-

CHORD

CLASS B RIP RAP
EST. 5 TON
EST. 14 SY FF

BEGIN SBG
STA. 51+25-Y7-

END SBG
STA. 52+71-Y7-

CHORD

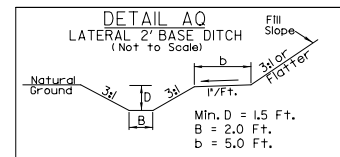
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EST. 14 SY FF

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STA. 51+25-Y7-

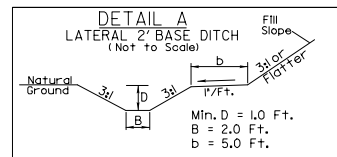
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STA. 52+71-Y7-

CHORD

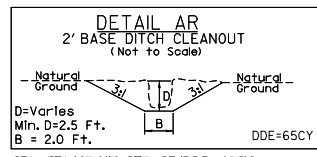
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EST. 5 TON
EST. 14 SY FF



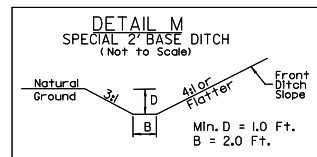
FROM STA. 41+50 TO STA. 45+75 -Y7- LT. (DDE=231CY)



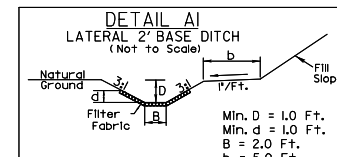
FROM STA. 45+45 TO STA. 47+45 -Y7- RT.(DDE=147CY)
FROM STA. 52+15 TO STA. 52+70 -Y7- RT.(DDE=46CY)



STA. 451A607+Y60 RY7- RT.(DDE=65CY)
STA. 451A702+Y70 LY7- LT.(DDE=215CY)



FROM STA. 51+60 TO STA. 51+90 -Y7- RT.



Type of Liner= Class 'B' Rip-Rap
FROM STA. 52+50 TO STA. 53+50 -Y7- LT.(DDE=200CY)

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

SEE SHEET 2-K FOR
IMPACTS IN THIS AREA

PROJECT REFERENCE NO.	SHEET NO.
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R-2633B	37
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RW SHEET NO.

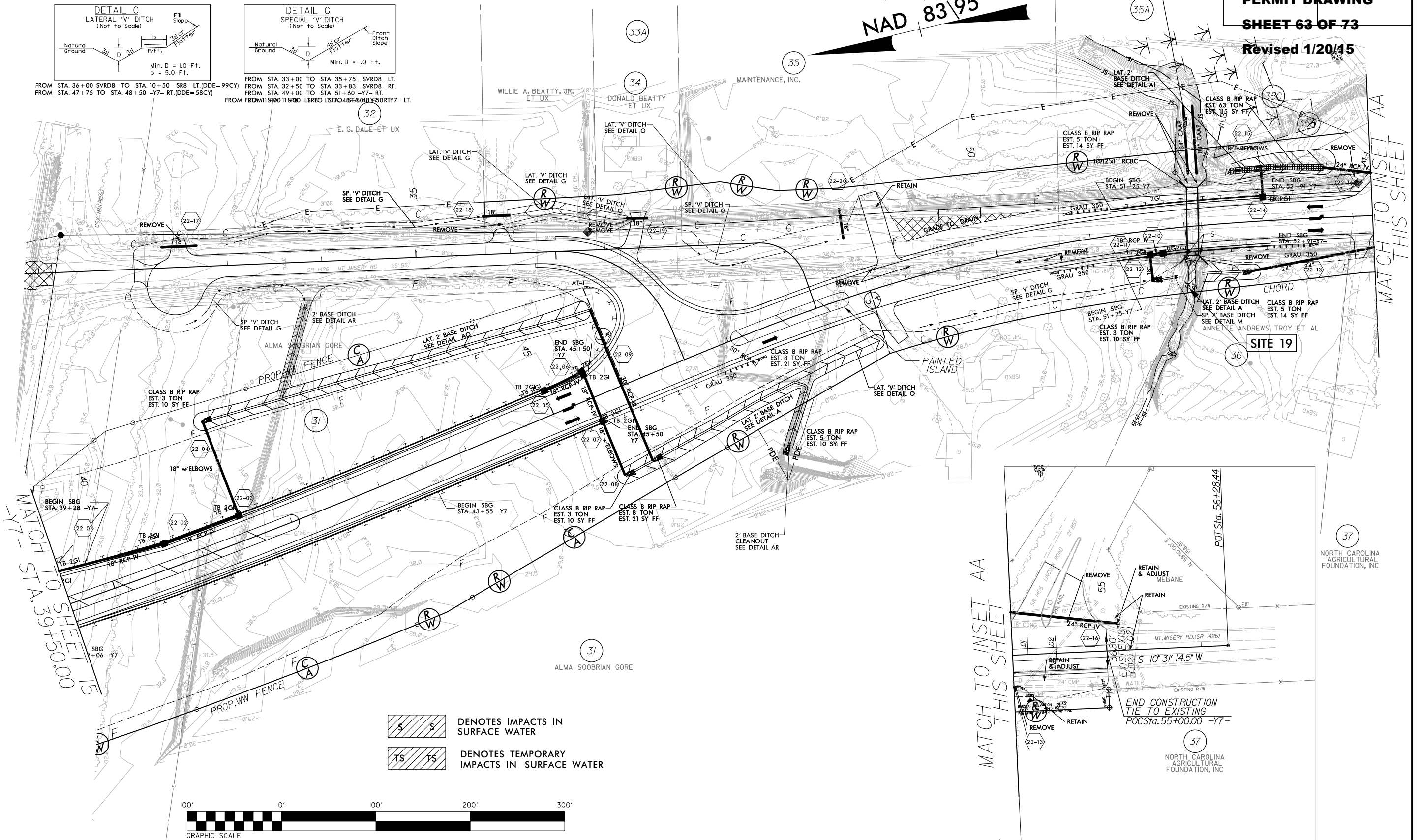
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING

SHEET 63 OF 73

Revised 1/20/15

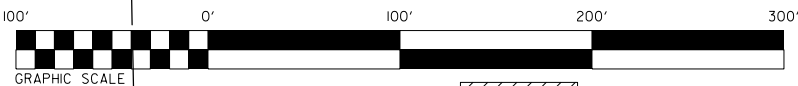


NOTE: ALL DRIVEWAY RADII ARE TO BE 10',
UNLESS OTHERWISE NOTED.

SEE SHEETS 67 & 68 FOR -SVRD8- PROFILE

SEE SHEETS 63 & 64 FOR -Y7- PROFILE

8/17/99



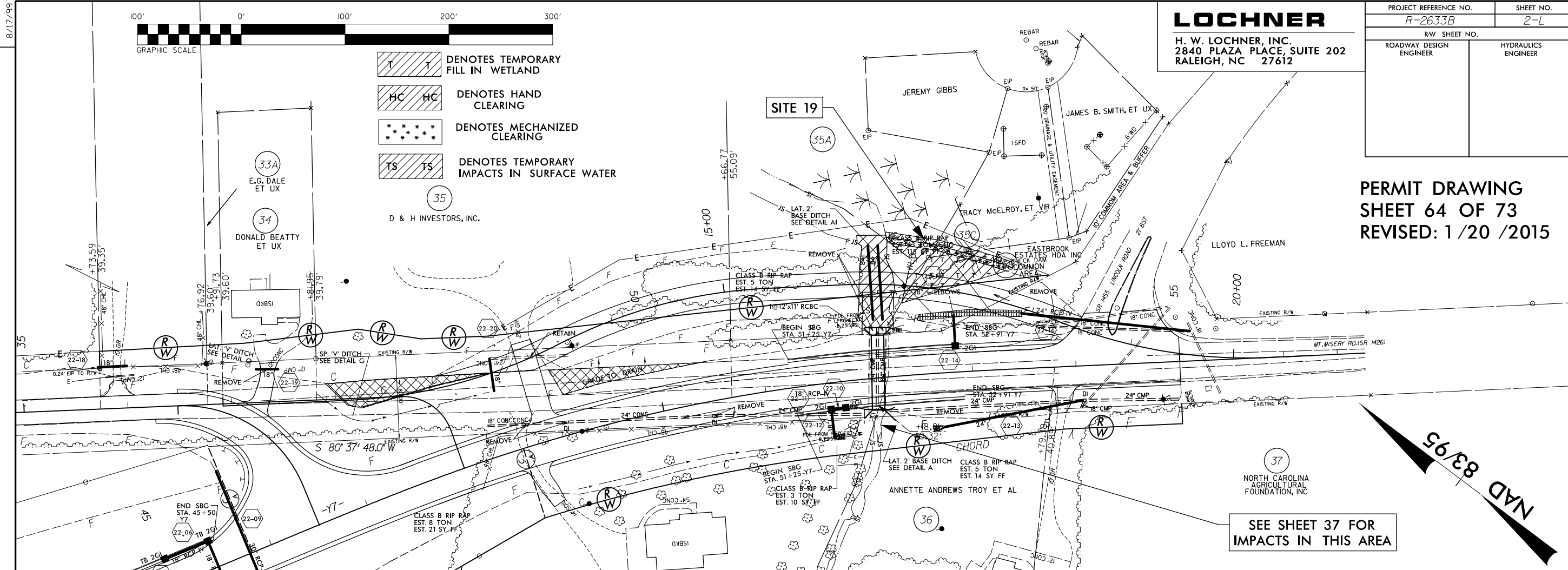
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO.	SHEET NO.
R-2633B	2-L
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 64 OF 73
REVISED: 1 / 20 / 2015

REVISIONS

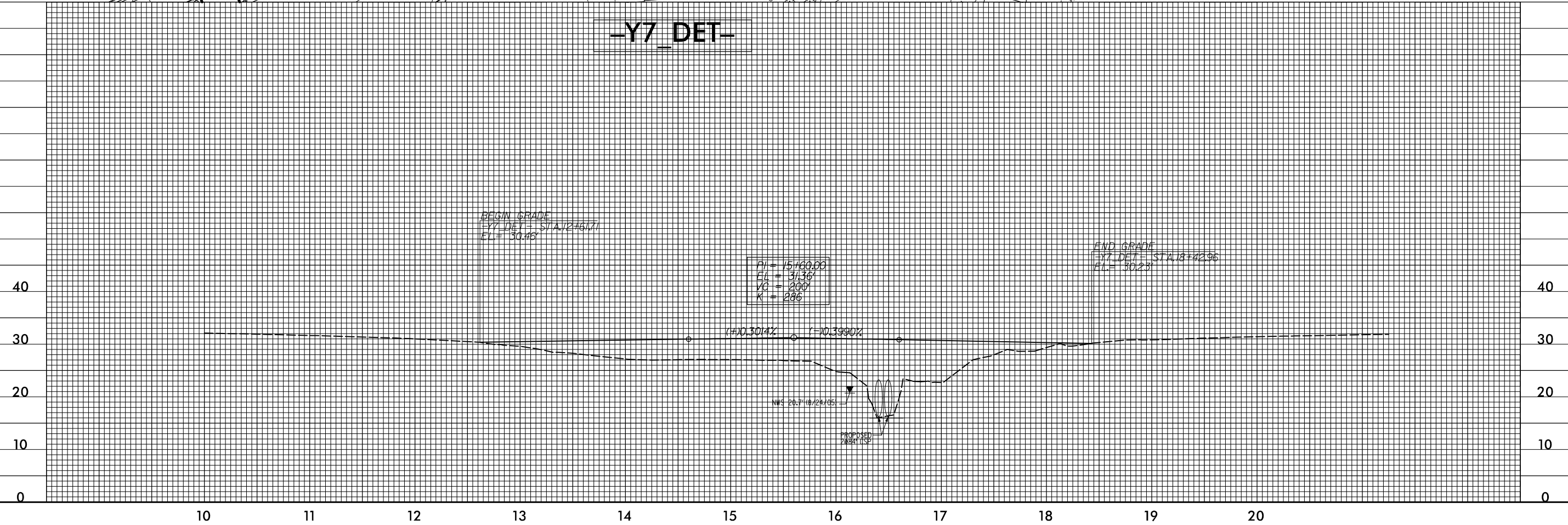


SEE SHEET 37 FOR
IMPACTS IN THIS AREA

NAD 83/95

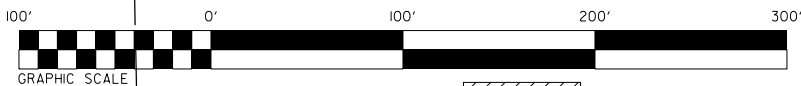
-Y7_DET-

SYTIME\$\$\$\$
\$\$\$\$SYTIME\$\$\$\$



8/17/99

REVISIONS

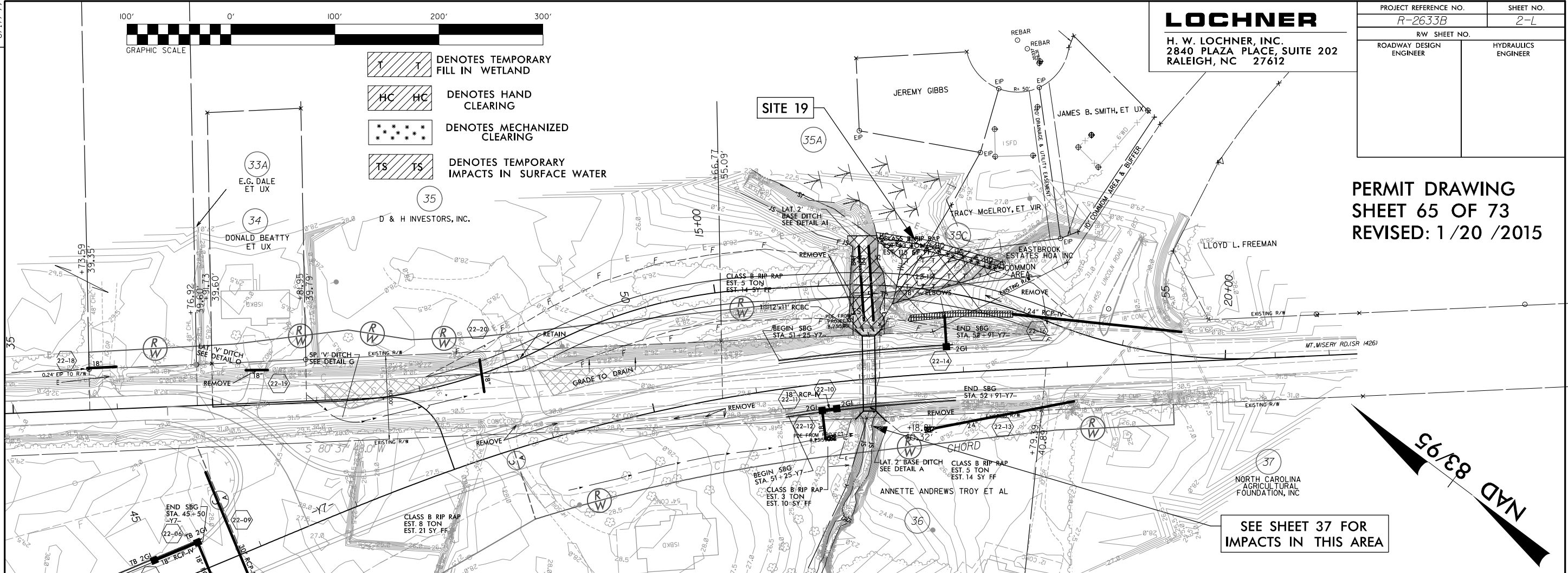


- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES MECHANIZED CLEARING
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

PROJECT REFERENCE NO.	SHEET NO.
R-2633B	2-L
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

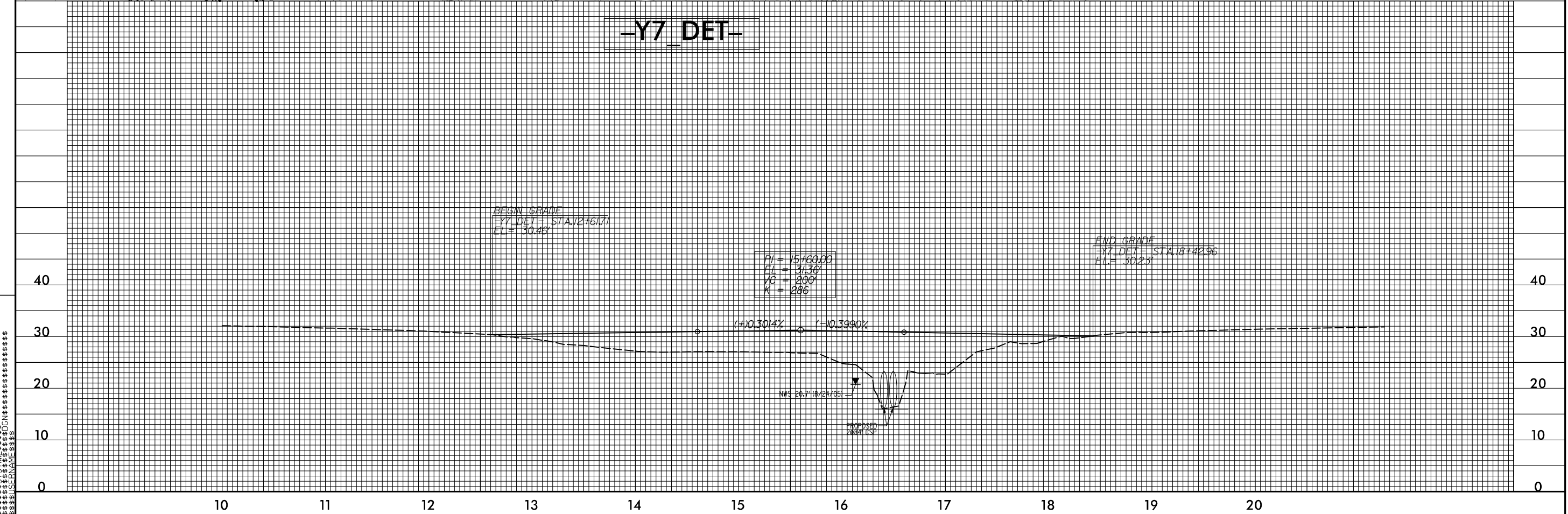
PERMIT DRAWING
SHEET 65 OF 73
REVISED: 1 / 20 / 2015



NAD 83/95

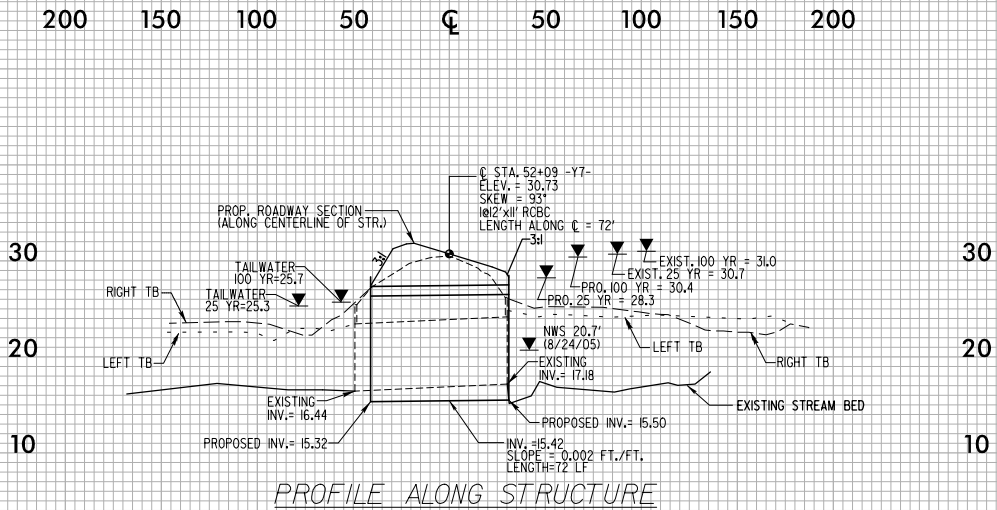
SEE SHEET 37 FOR
IMPACTS IN THIS AREA

-Y7_DET-



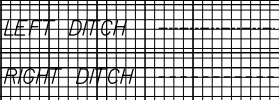
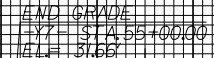
PERMIT DRAWING
SHEET 66 OF 73
Revised 1/20/15

SITE 19
JURISDICTIONAL STREAM PROFILE
-Y7- 52 + 09



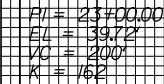
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y7-



SEE SHEET 37 FOR -Y7- PLAN VIEW

A blank grid for drawing a picture, consisting of 10 columns and 5 rows of squares.


$$\frac{30'' \text{ RCP}}{\text{INV}} = 34.35'$$

SEE SHEETS 14 & 15 FOR -RAMP B2- PLAN VIEW

WETLAND PERMIT IMPACT SUMMARY														
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS							SURFACE WATER IMPACTS				
			404 Permanent Fill In Wetlands (ac)	CAMA Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	404 Hand Clearing in Wetlands (ac)	CAMA 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***	-L- 24+75 Lt.	Roadway Fill												
2***	-L- 37+96 Rt.	Bridge												
3****	-LREV- 339+73 to 358+92	Roadway Fill	7.51			0.03	0.29	0.29						
4	-RP_D1- 22+60	Deleted due to new JS delineation												
5*	-LREV- 372+74 to -L-85+08	Roadway Fill	1.04				0.05	0.05						
6*	-L- 109+28 to 134+54	Roadway Fill	9.72				0.57	0.57						
6A**	-L- 138+11 to 140+70	Roadway Fill	0.68											
6B**	-L- 141+20 to 144+29	Roadway Fill	0.41				0.02							
7*	-L- 146+78 to 165+66	Roadway Fill	10.61		0.92		0.48	0.28						
8	-L 166+60	Deleted due to new JS delineation												
9*	-L- 186+97 to 191+88	Roadway Fill	1.04				0.05	0.05						
10	-RP_D2- 19+20 Lt.	Deleted due to new JS delineation												
11*	-L- 194+75 to 216+13	Roadway Fill; 3@42"	8.71				0.48	0.47		0.08	<0.01	242	20	
12	-L- 230+39 to 242+11	Deleted due to new JS delineation												
13	-L- 256+36 to 265+87	Deleted due to new JS delineation												
14*	-L- 264+32 to 266+94	Bridge					0.03	0.20		<0.01				
		Temp. Work Bridge						0.10						
15*	319+46 to 387+92	Bridge	0.05			*****0.93		10.48	7.79	0.13	0.03			
		Temp. Work Bridge						6.43	4.70					
16*	-L- 399+43 to 400+51	Roadway Fill	0.22											
17***	-Y5-16+25 Rt	48" RCP												
18***	-Y5-16+25 Lt	18" RCP												
19*	-Y7- 52+09	Culvert								<0.01	<0.01	5	39	
	-Y7 DET- 16+45	Detour Culvert			0.06		0.01	0.01			0.61		90	
20*	-Y8- 47+74 to 49+88	Bridge	<0.01				0.04	0.17						
	-Y8- 48+78 to 49+95	Temp. Work Bridge						0.14						
21	-Y8E-	3@42" RCP-IV								0.02	0.02	27	59	
TOTALS:			40.00		0.98	0.96	2.02	19.23	12.49	0.23	0.65	274	208	0.00

Site 14 See Structures sheet for Bridge Impacts on Cartwheel Branch

Site 15 Impacts for Permanent Dual Bridges CAMA=0.07 Ac, 404=0.07 Ac, Surface Water=0.0 1Ac; Total=0.15 Ac.

Site 15 Impacts for Temporary Work Bridge CAMA=0.16 Ac, 404=0.21 Ac, Surface Water=0.0 1 Ac; Total=0.38 Ac.

* Revised due to new JS Delineation

** New Site due to new JS Delineation

*** Sites 1, 2, 17, and 18 are now permitted with R-2633AA & AB and the impacts are included with that project.

**** A portion of Site 3 is now permitted with R-2633AA & AB and the impacts are included with that project.

***** Temporary Excavation. CAMA=0.41Ac, 404 =0.52 Ac.; Total=0.91 Ac.

0.75 acres of Temp. Fill in 404 Wetlnads in the Hand Clearing areas for Erosion Control Measures

NC DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

BRUNSWICK AND NEW HANOVER COUNTIES

WBS - 34491.1.2 (R-2633B)

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