

DEPARTMENT OF ENVIRONMENTAL QUALITY - DIVISION OF MITIGATION SERVICES

BUFFALO CREEK TRIBUTARIES MITIGATION PROJECT

JOHNSTON COUNTY, NORTH CAROLINA
 NCDEQ - DMS PROJECT ID # 100042
 NCDEQ - DMS CONTRACT #7422 UNDER RFP 16-007279
 NEUSE RIVER BASIN (CU 03020201)
 USACE ACTION ID # SAW-2018-00425
 TYPE OF WORK : STREAM AND WETLAND MITIGATION

SURVEY CERTIFICATE "I, MARSHALL G. WIGHT, CERTIFY THAT THIS PROJECT WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT THIS GROUND SURVEY WAS PERFORMED AT THE 95 PERCENT CONFIDENCE LEVEL TO MEET FEDERAL GEOGRAPHIC DATA COMMITTEE STANDARDS; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS FOR A TOPOGRAPHIC/PLANIMETRIC SURVEY TO THE ACCURACY OF CLASS A AND VERTICAL ACCURACY WHEN APPLICABLE TO THE CLASS C STANDARD, AND THAT THE ORIGINAL DATA WAS OBTAINED ON THE SURVEY WAS COMPLETED ON JUNE 1ST, 2021 CONTOURS SHOWN AS [BROKEN LINES] MAY NOT MEET THE STATED STANDARD; AND ALL COORDINATES ARE BASED ON NAD 83(20 11) AND ALL ELEVATIONS ARE BASED ON NAVD 88."

THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY MARSHALL G. WIGHT, L-5034, ON

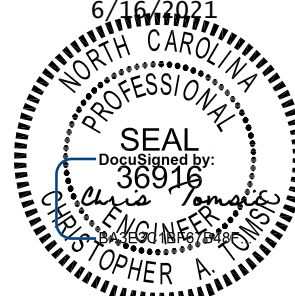
SHEET INDEX

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2	LEGEND
3-11	PLAN AND PROFILE
12-13	MONITORING PLAN



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PROJECT ENGINEER
 6/16/2021



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 36916
 Christopher A. Tomasi
 ENGINEER
 LICENSE NO. P-1480

ENGINEERING SERVICES BY
 WLS ENGINEERING, PLLC
 6 DULA SPRINGS RD.
 WEAVERVILLE, NC 28787
 FIRM LICENSE NO. P-1480

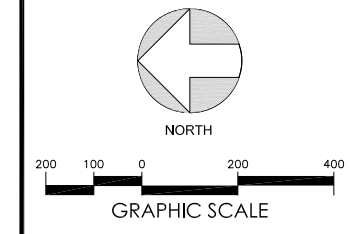
REVISIONS

A	DRAFT MIT PLAN	1-17-20
B	FINAL DRAFT MIT PLAN	3-28-20
C	FINAL MIT PLAN	7-24-20
D	ISSUED FOR CONSTRUCTION	10-12-20
E	ASBUILT	6-16-21

NO.	DESCRIPTION	DATE
PROJECT NAME		
BUFFALO CREEK TRIBUTARIES MITIGATION PROJECT		
JOHNSTON COUNTY, NC		

DRAWING INFORMATION

PROJECT NO.	18-002
FILENAME	ASB_01_BUFFALO CREEK TRIBS_COVER.DWG
DESIGNED BY	KMV/CAT
DRAWN BY	AL
DATE	6-16-21
HORIZ. SCALE	1" = 400'
VERT. SCALE	N/A



NORTH

GRAPHIC SCALE

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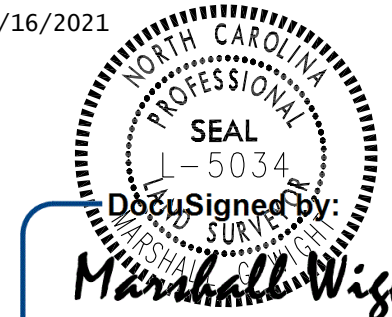
SHEET NAME

COVER SHEET

SHEET NUMBER

1

6/16/2021



DocuSigned by:
 Marshall G. Wight

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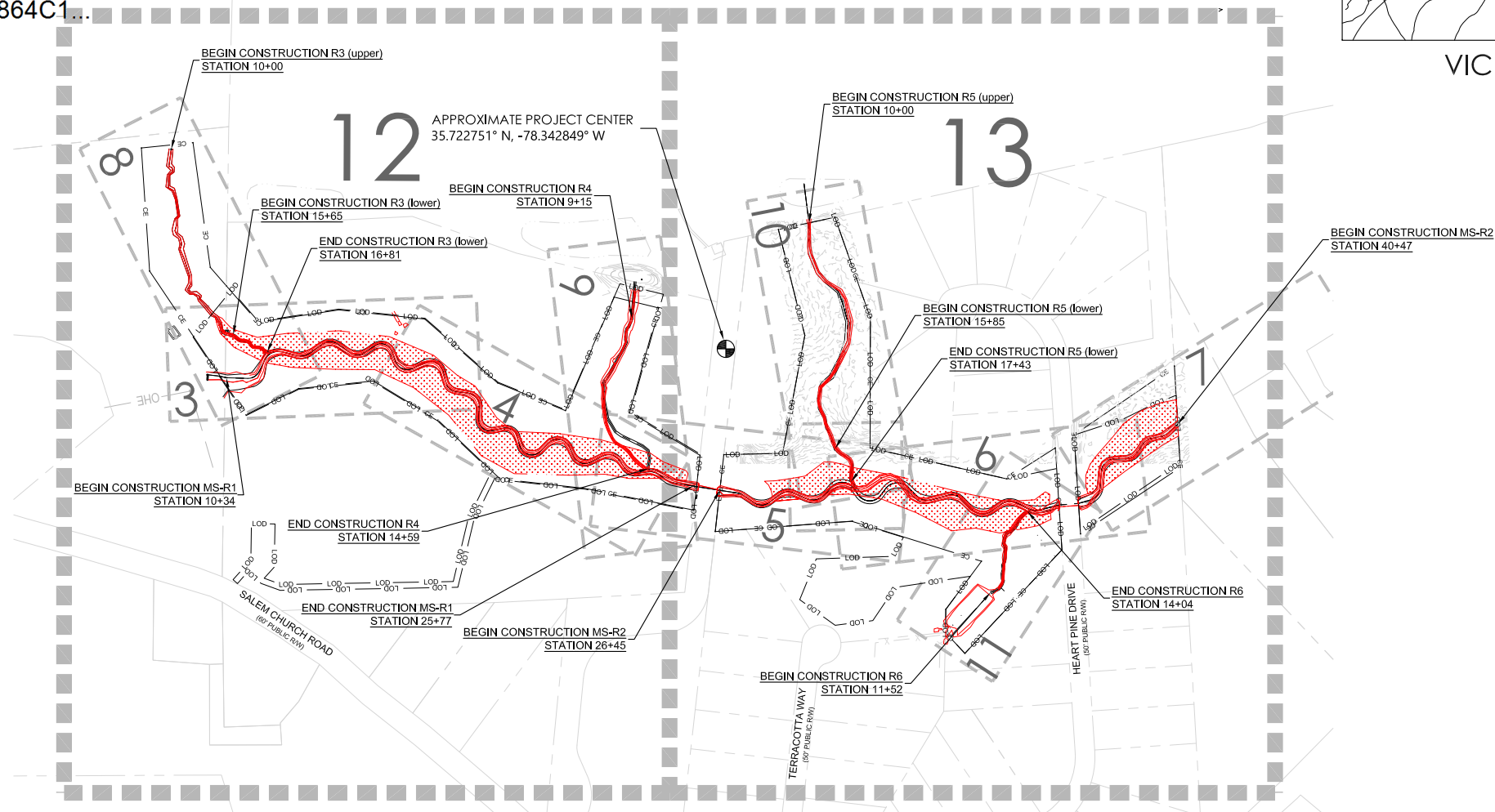
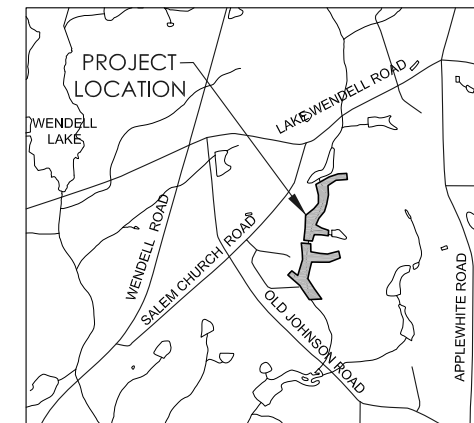
PROJECT SUMMARY

Project Reach Designation	Type of Mitigation	Creditable Units (LF)	Mitigation Ratio (X:1)	Stream Mitigation Credits (SMCs)
MS-R1	Stream Restoration (P)	1,543	1	1,543.000
MS-R2	Stream Restoration (P)	1,351	1	1,351.000
R3 (upper)	Stream Preservation	565	10	56.500
R3 (lower)	Stream Restoration (P)	116	1	116.000
R4	Stream Enhancement Level I	459	1.5	306.000
R5 (upper)	Stream Enhancement Level I	585	1.5	390.000
R5 (lower)	Stream Restoration (P)	158	1	158.000
R6	Stream Enhancement Level I	252	1.5	168.000
Total		5,029		4,088.500

Note 1: No mitigation credits were calculated outside the conservation easement boundaries.





























Project Wetland Area	Type of Mitigation	Creditable Units (AC)	Mitigation Ratio (X:1)	Riparian Wetland Mitigation Credits (WMCs)
W1	Wetland Re-establishment	2.013	1	2.013
W2	Wetland Re-establishment	0.932	1	0.932
W3	Wetland Re-establishment	0.475	1	0.475
WD	Wetland Enhancement	0.039	2	0.020
WC	Wetland Enhancement	0.004	2	0.002
WB	Wetland Enhancement	0.032	2	0.016
Total		3.495		3.458

Note 1: No mitigation credits were calculated outside the conservation easement boundaries.



AS-BUILT


LEGEND

-  ROOTWAD
-  LOG VANE
-  LOG WEIR
-  STONE/LOG STEP-POOL
-  STONE OUTLET
-  CONSTRUCTED STONE RIFFLE
-  CONSTRUCTED LOG RIFFLE
-  GEOLIFT W/ TOEWOOD
-  GRADE CONTROL LOG J-HOOK
-  OUTLET CHANNEL
-  OHPL
EXISTING OVERHEAD ELECTRIC
-  PERMANENT STREAM CROSSING
-  CE
CONSERVATION EASEMENT BOUNDARY
-  -100-
EXISTING MAJOR CONTOUR
-  -101-
EXISTING MINOR CONTOUR
-  LOD
LIMITS OF DISTURBANCE
-  WLB
EXISTING WETLAND BOUNDARY
-  ASBUILT WETLAND BOUNDARY
-  EXISTING WOODLINE
-  ASBUILT TOP OF STREAM BANK
-  EXISTING PROPERTY BOUNDARY
-  EXISTING FENCE
-  15+00
ASBUILT CENTERLINE (THALWEG)
-  EXISTING FARM PATH
-  PROPOSED FARM PATH
-  EXISTING TREE
-  WATER QUALITY TREATMENT FEATURE
-  EXISTING STRUCTURE



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 JOHNSTON COUNTY, NC

DRAWING INFORMATION	
PROJECT NO.	18-002
FILENAME	ASB_02_BUFFALO CREEK TRIBS_LEGEND.DWG
DESIGNED BY	KMV/CAT
DRAWN BY	AL
DATE	6-16-21
HORIZ. SCALE	N.T.S.
VERT. SCALE	N.T.S.

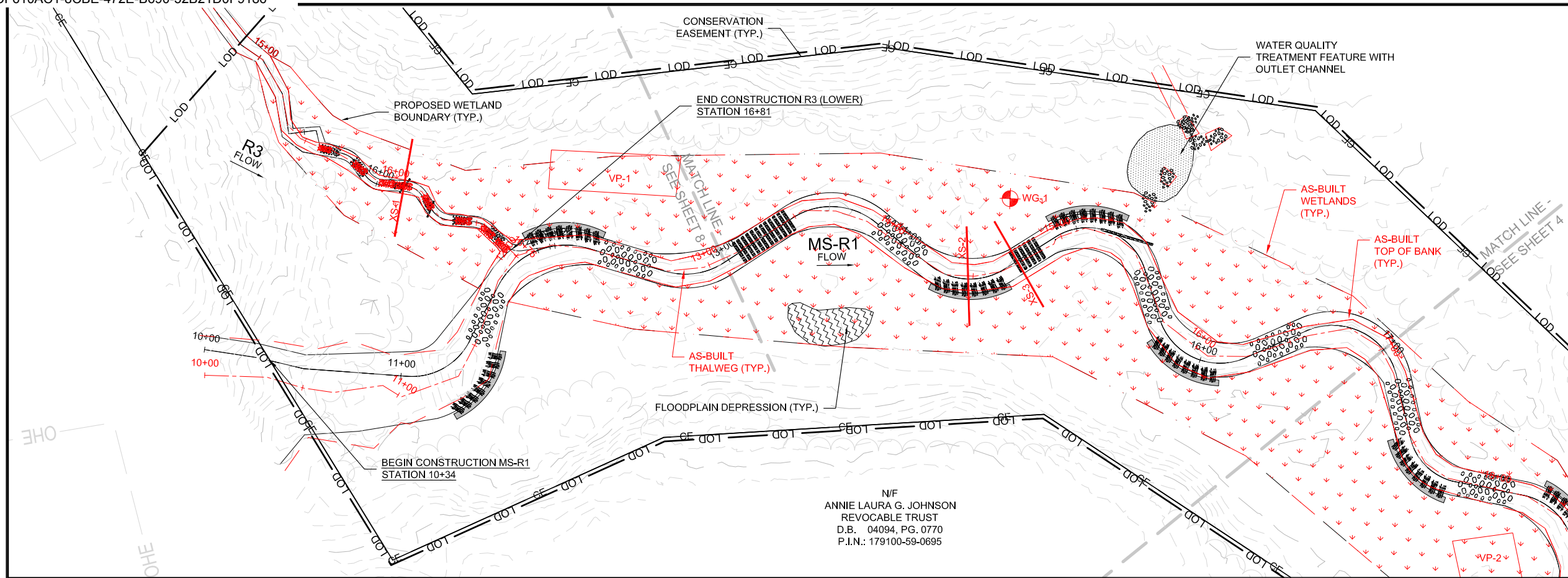
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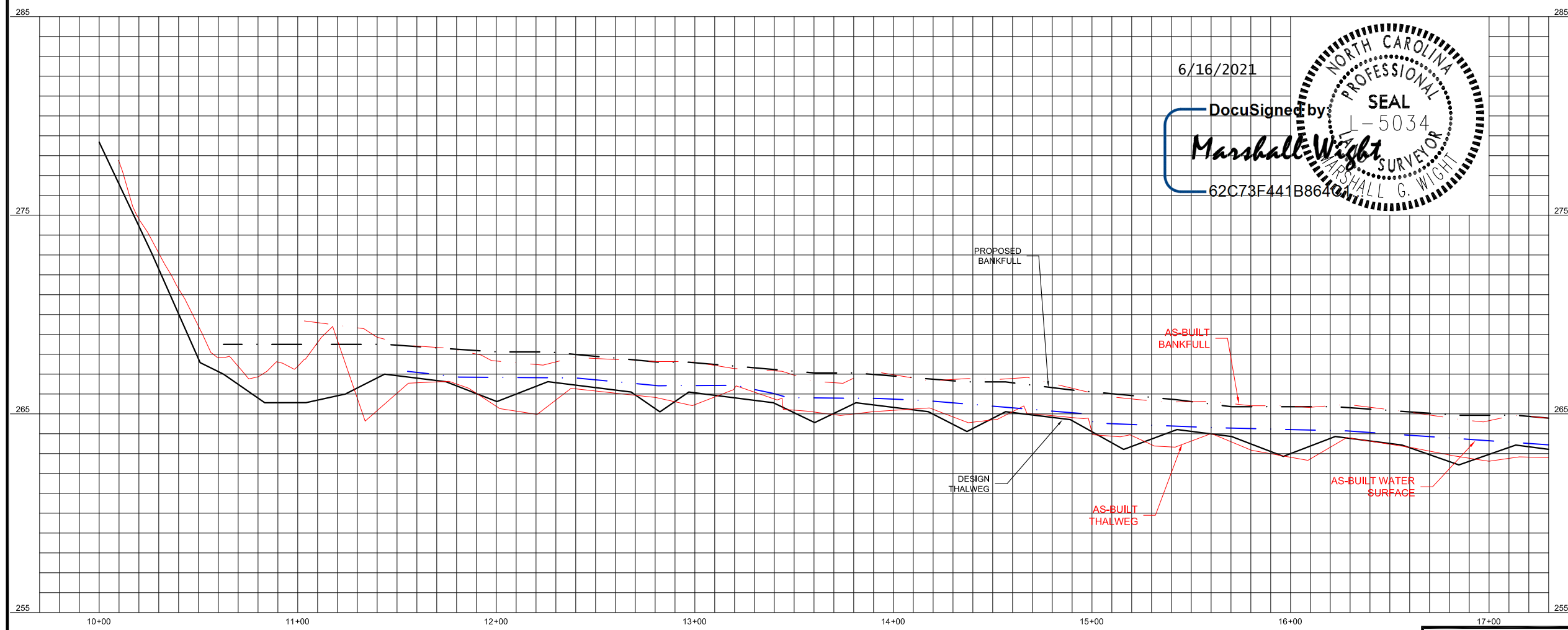
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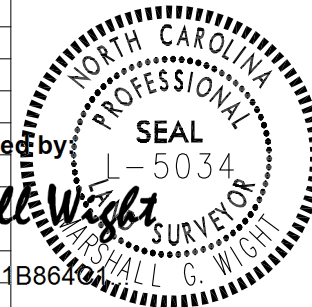


N/F
ANNIE LAURA G. JOHNSON
REVOCABLE TRUST
D.B. 04094, PG. 0770
P.I.N.: 179100-59-0695



6/16/2021

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Marshall Wight
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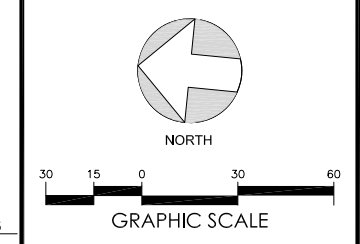
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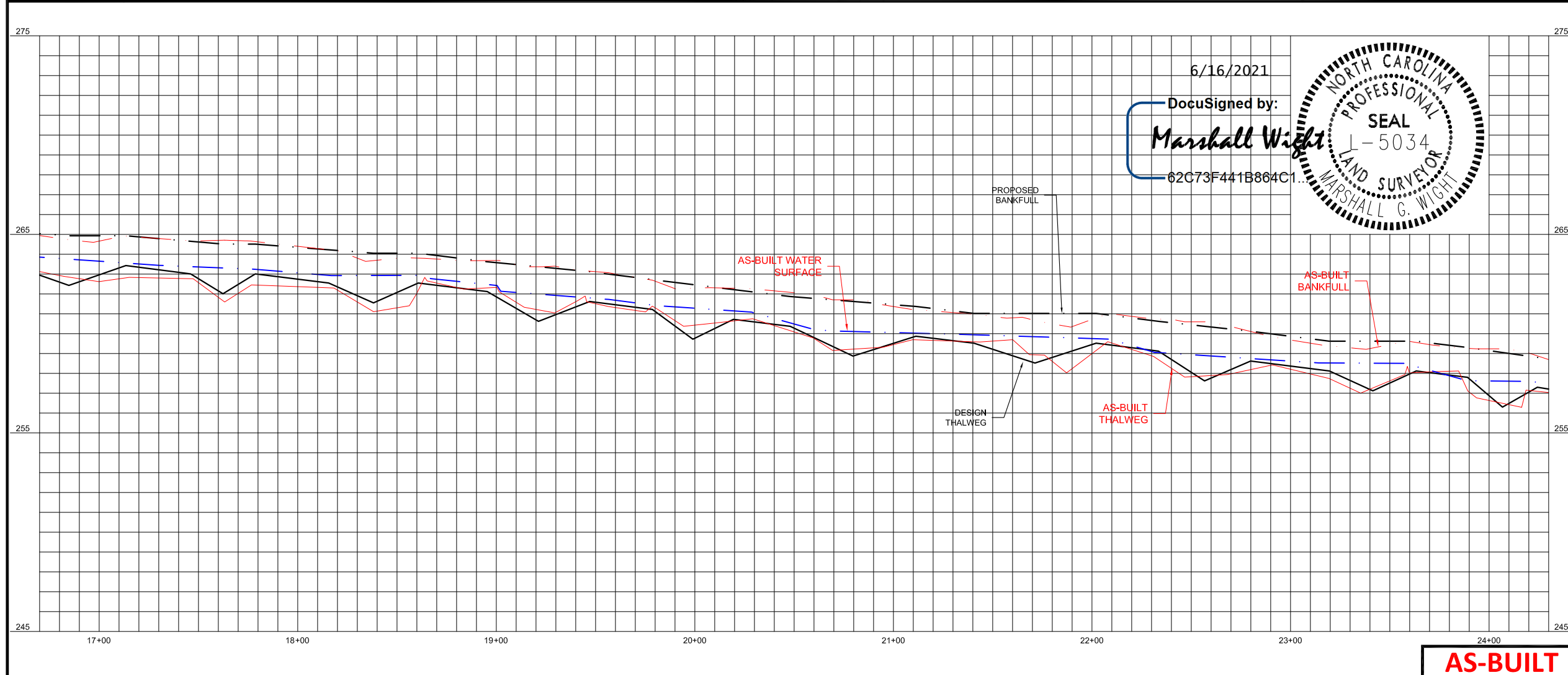
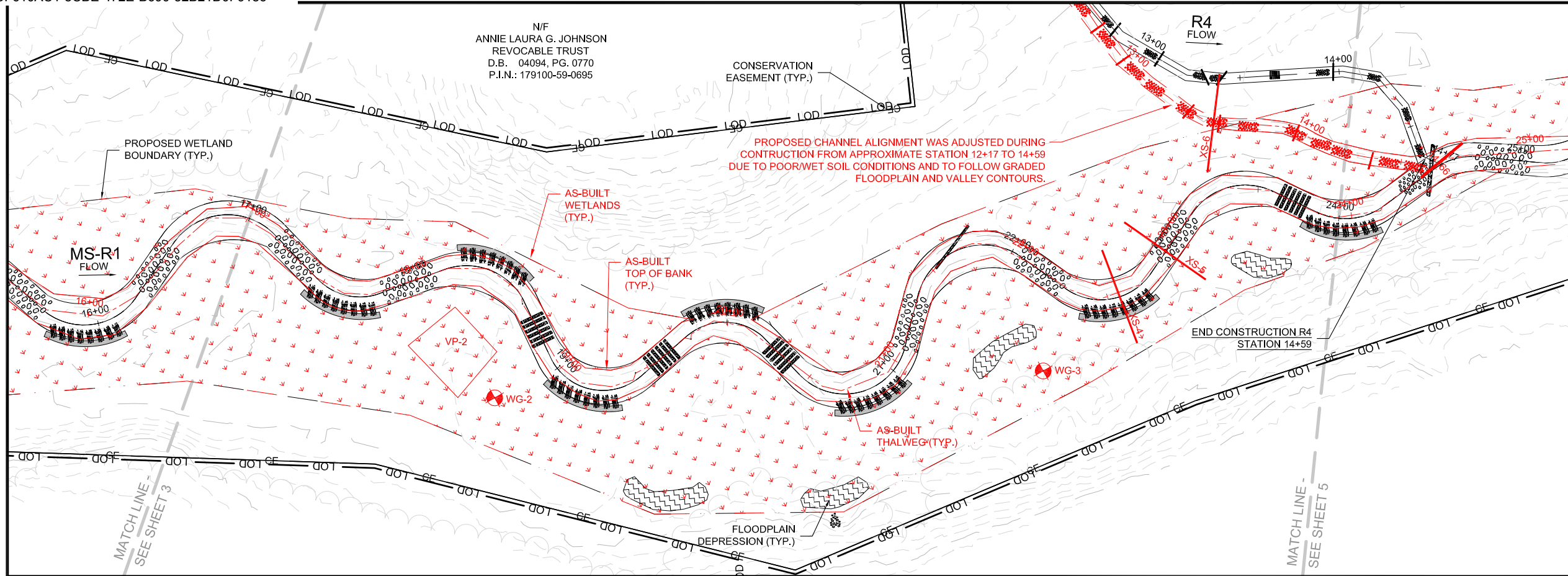
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PROJECT NO.	18-002
FILENAME	ASB_03+11_BUFFALO_CREEK_TRIBS_PLAN_AND_PROFILES.DWG
DESIGNED BY	KMV/CAT
DRAWN BY	AL
DATE	6-16-21
HORIZ. SCALE	1" = 60'
VERT. SCALE	1" = 6'



SHEET NAME
MS-R1
PLAN AND PROFILE

SHEET NUMBER
3

AS-BUILT



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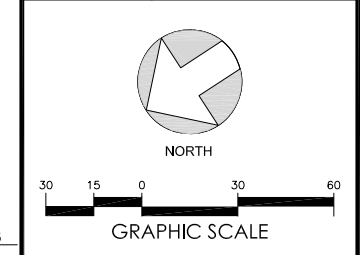
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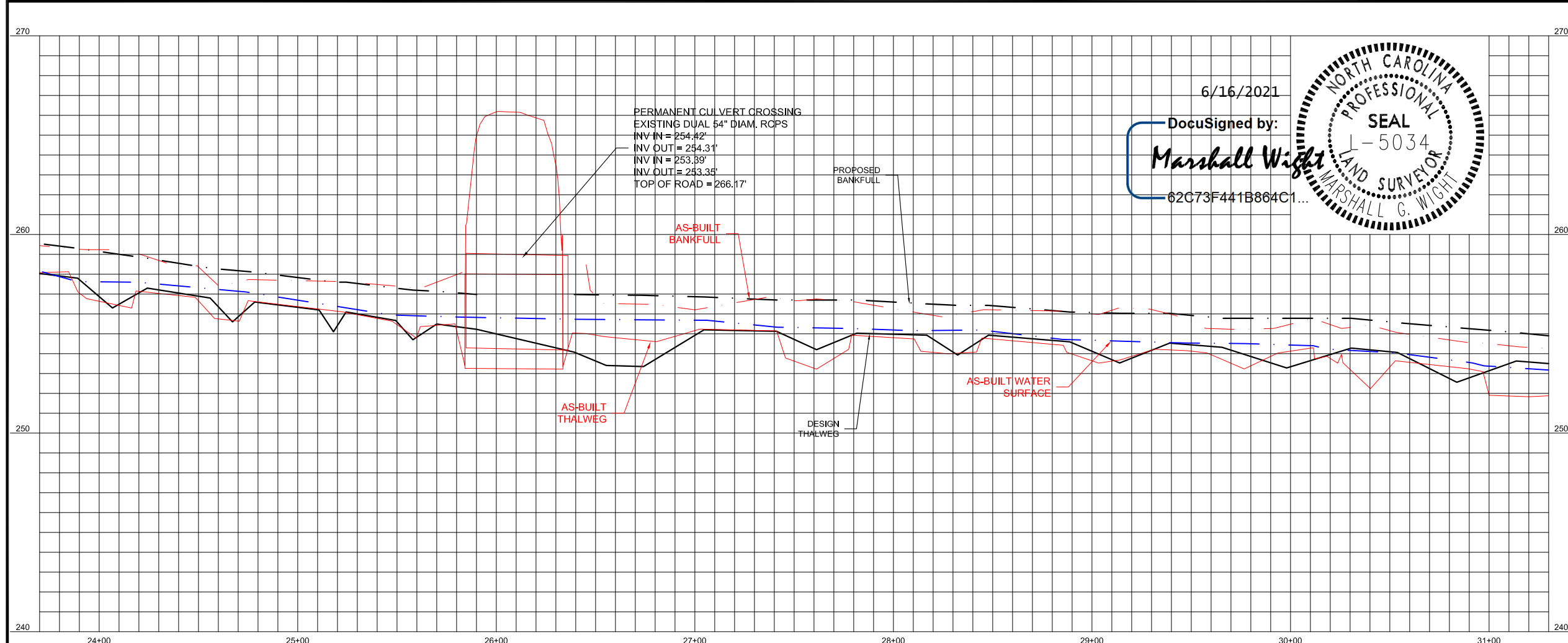
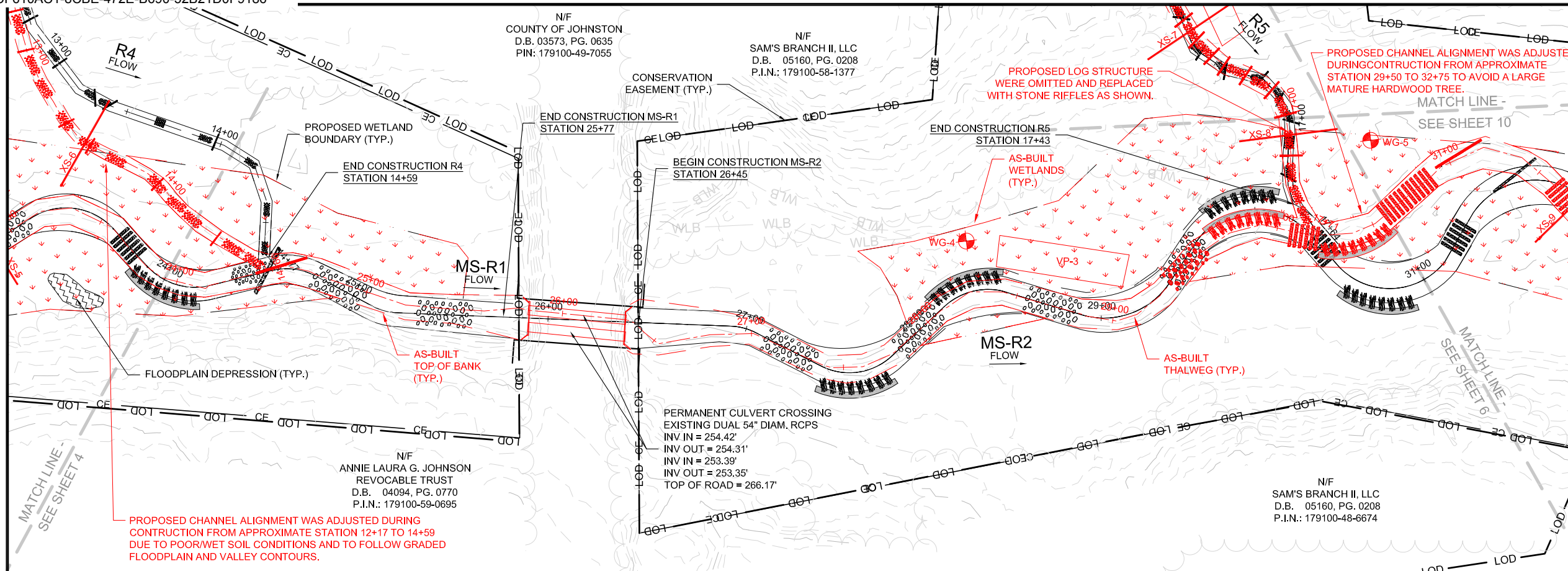
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DESIGNED BY	KMV/CAT
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DATE	6-16-21
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VERT. SCALE	1" = 6'



SHEET NAME
MS-R1
 PLAN AND PROFILE
 SHEET NUMBER
4

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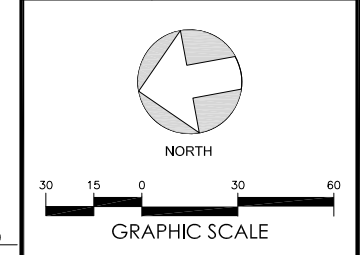
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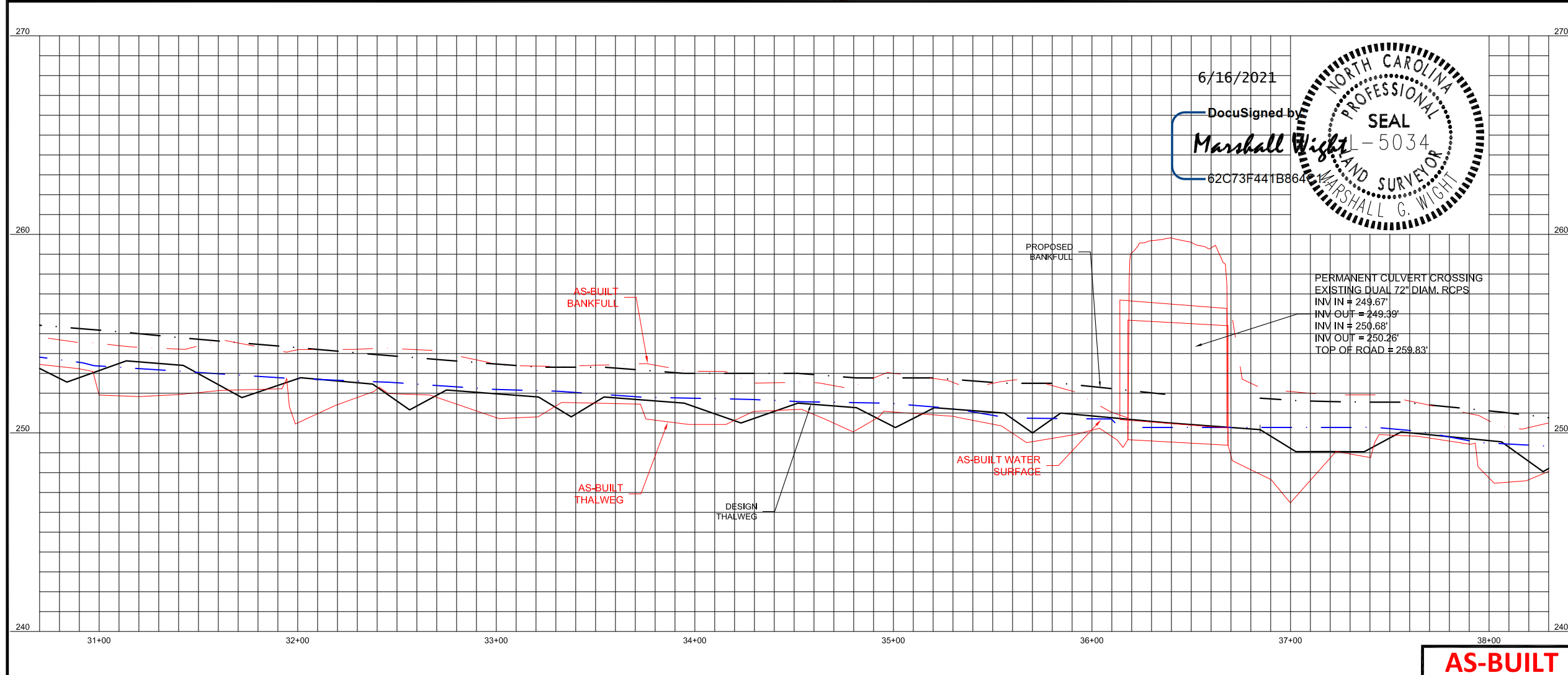
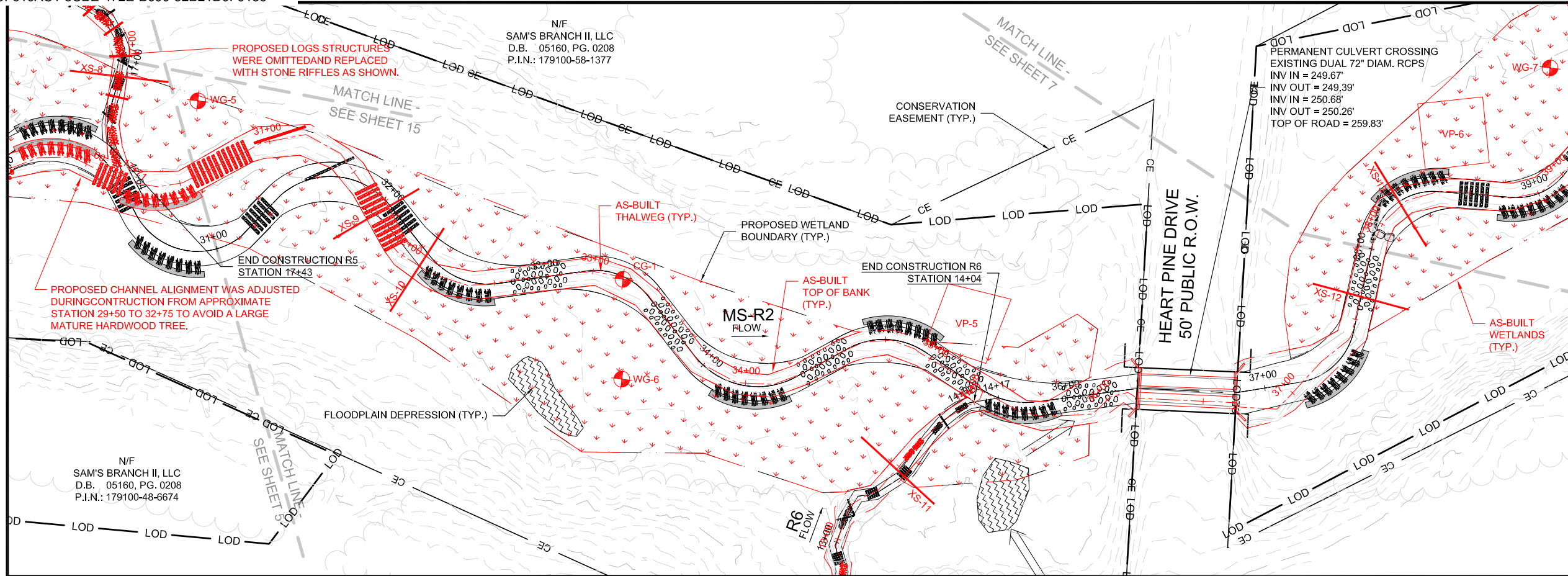


SHEET NAME
MS-R1&R2
 PLAN AND PROFILE

SHEET NUMBER
5

6/16/2021
 DocuSigned by:
Marshall Wight
 62C73F441B864C1...
NORTH CAROLINA PROFESSIONAL SEAL
 1-5034
 LAND SURVEYOR
 MARSHALL G. WIGHT

AS-BUILT



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NORTH CAROLINA PROFESSIONAL SEAL
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PROJECT NAME
BUFFALO CREEK TRIBUTARIES MITIGATION PROJECT
 JOHNSTON COUNTY, NC

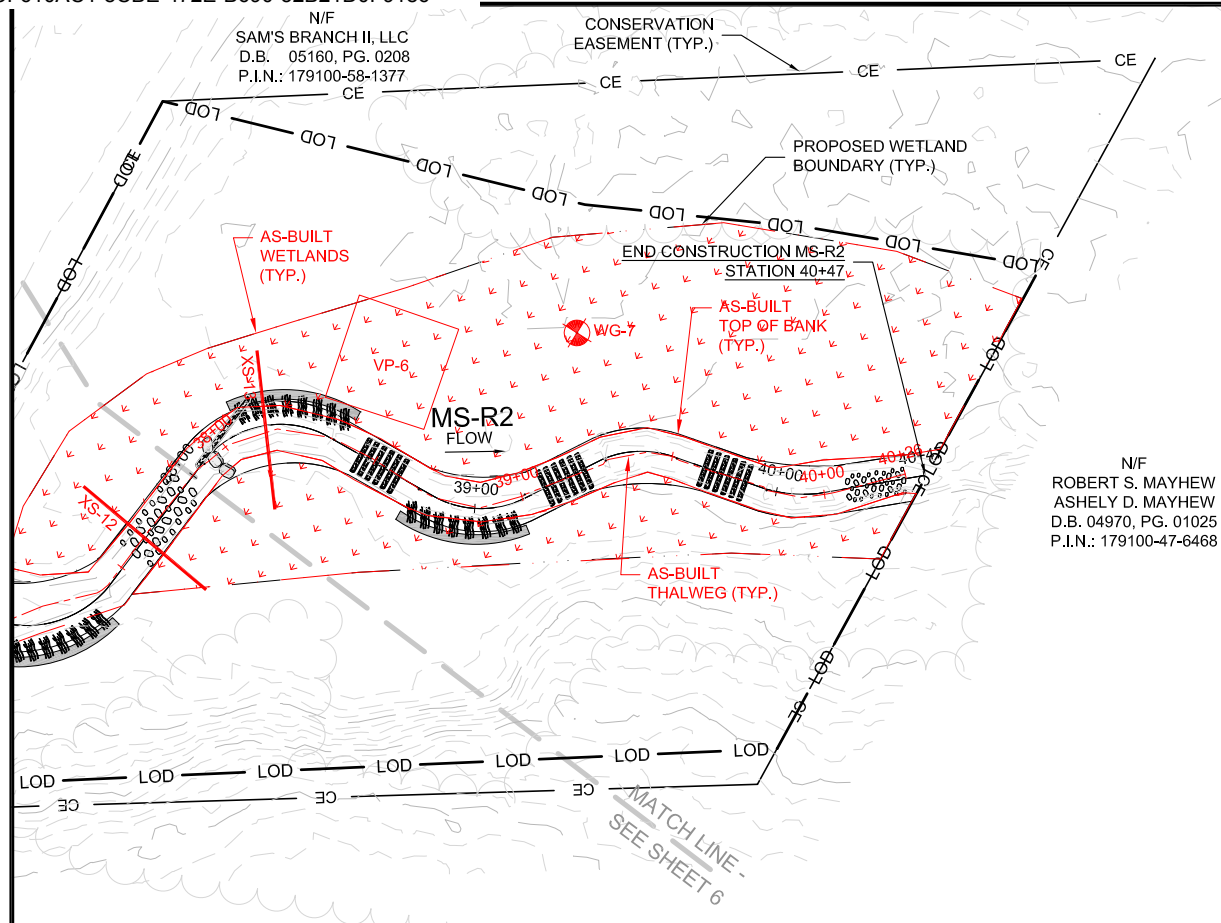
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DESIGNED BY	KMV/CAT
DRAWN BY	AL
DATE	6-16-21
HORIZ. SCALE	1" = 60'
VERT. SCALE	1" = 6'

NORTH
 GRAPHIC SCALE
 30 15 0 30 60

SHEET NAME
MS-R2
 PLAN AND PROFILE
 SHEET NUMBER
6

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PROJECT ENGINEER
6/16/2021

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Christopher A. Tomasi
ENGINEER

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WEAVERVILLE, NC 28787
FIRM LICENSE NO. P-1480

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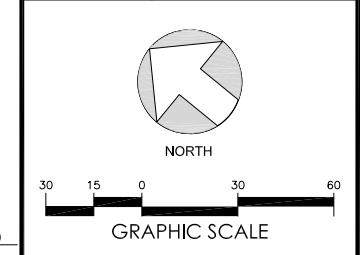
PROJECT NAME

BUFFALO CREEK TRIBUTARIES MITIGATION PROJECT

JOHNSTON COUNTY, NC

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DATE	6-16-21
HORIZ. SCALE	1" = 60'
VERT. SCALE	1" = 6'



SHEET NAME

MS-R2

PLAN AND PROFILE

SHEET NUMBER

7

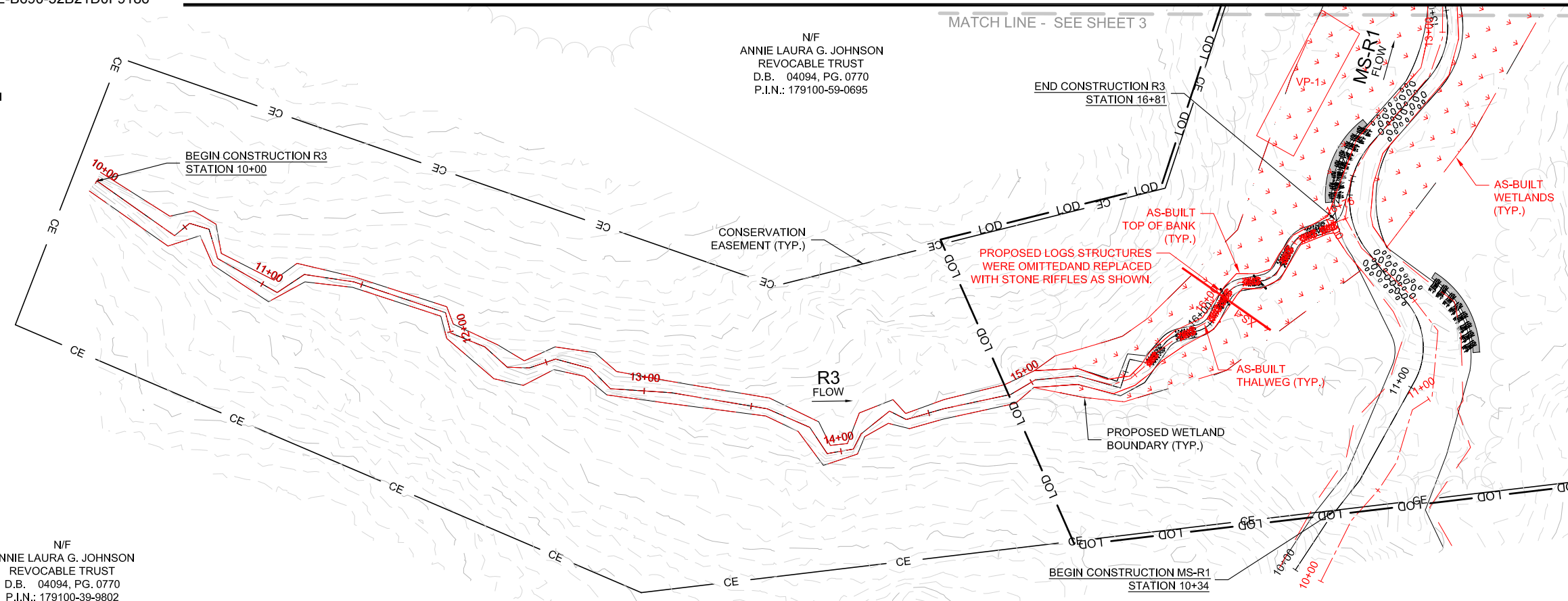
AS-BUILT

COUNTY OF JOHNSTON
DB 3561 PG 693
PIN: 179100-69-5346

N/F
ANNIE LAURA G. JOHNSON
REVOCABLE TRUST
D.B. 04094, PG. 0770
P.I.N.: 179100-59-0695

N/F
ANNIE LAURA G. JOHNSON
REVOCABLE TRUST
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P.I.N.: 179100-39-9802

MATCH LINE - SEE SHEET 3



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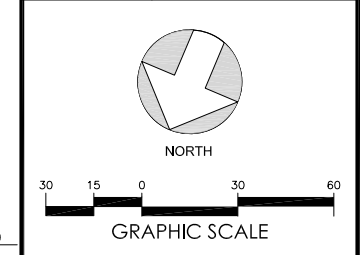
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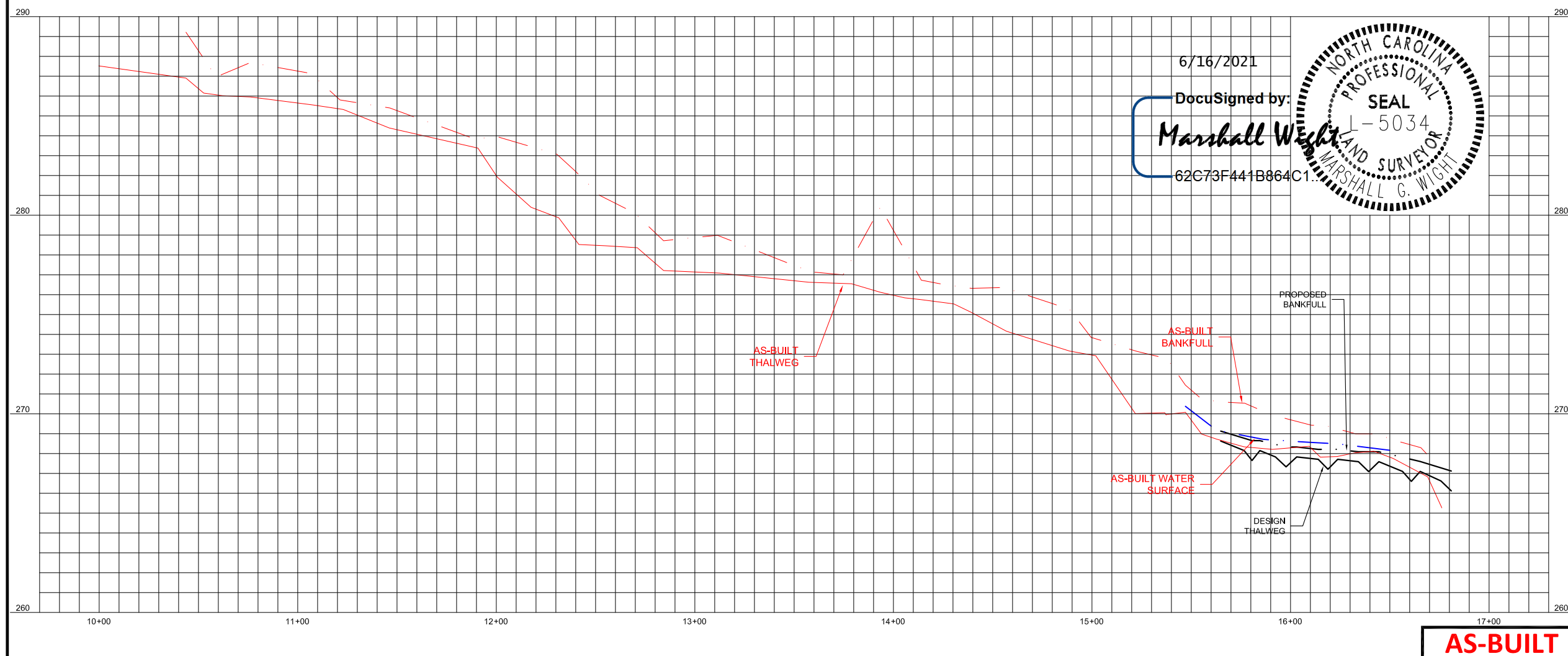
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SHEET NAME
R3
PLAN AND PROFILE

SHEET NUMBER
8

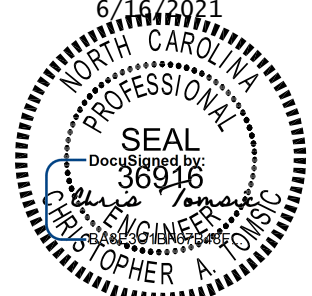


6/16/2021
DocuSigned by:
Marshall Wight
62C73F441B864C1...
SEAL
NORTH CAROLINA PROFESSIONAL LAND SURVEYOR
MARSHALL G. WIGHT

AS-BUILT



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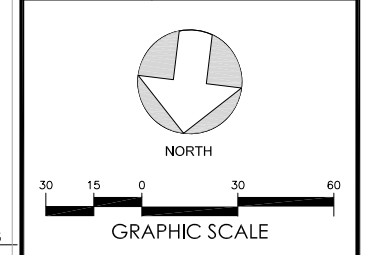
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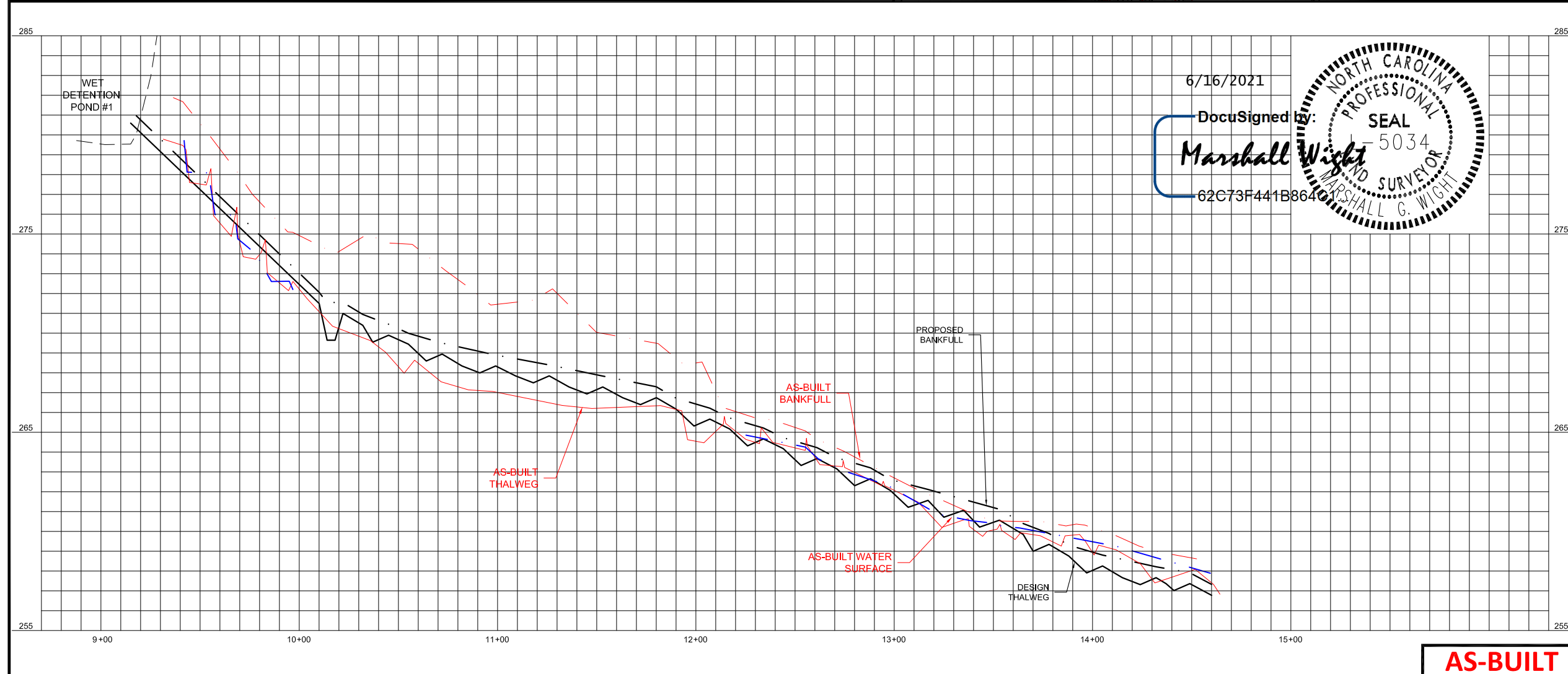
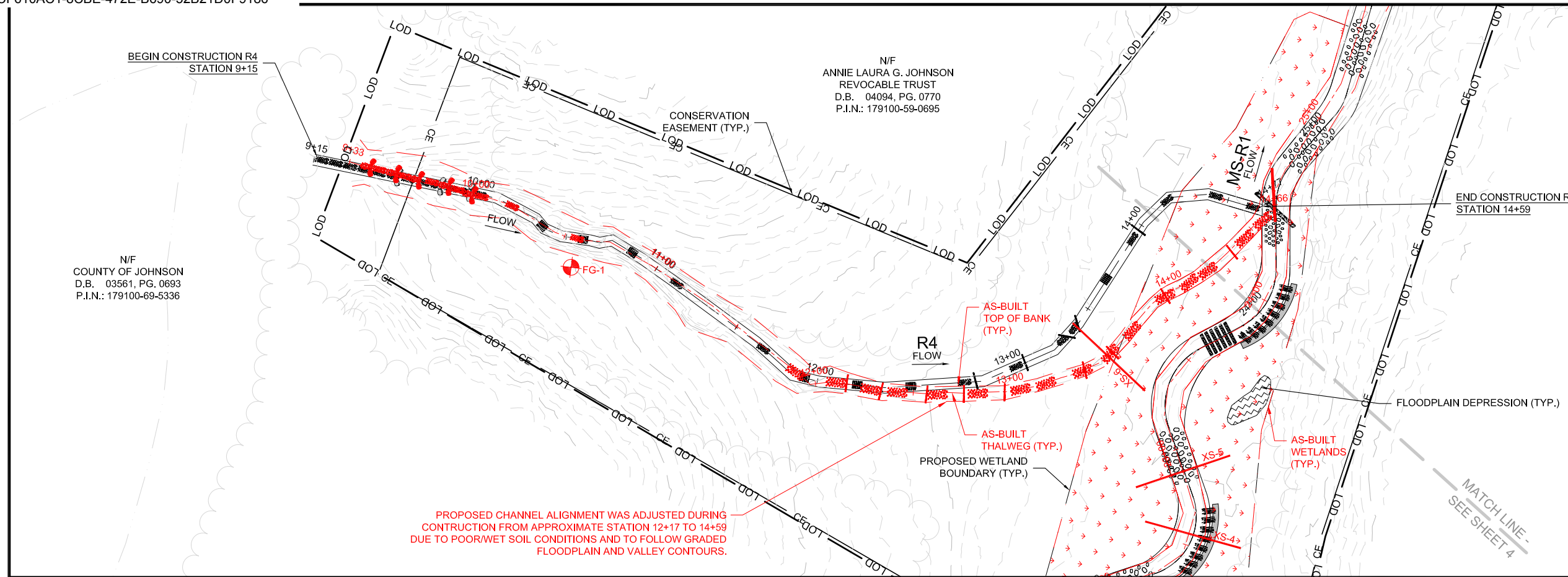
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R4
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9





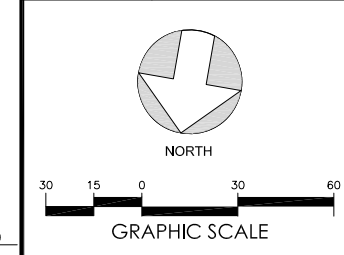
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DocuSigned by:
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ENGINEER
6/16/2021
6/16/2021
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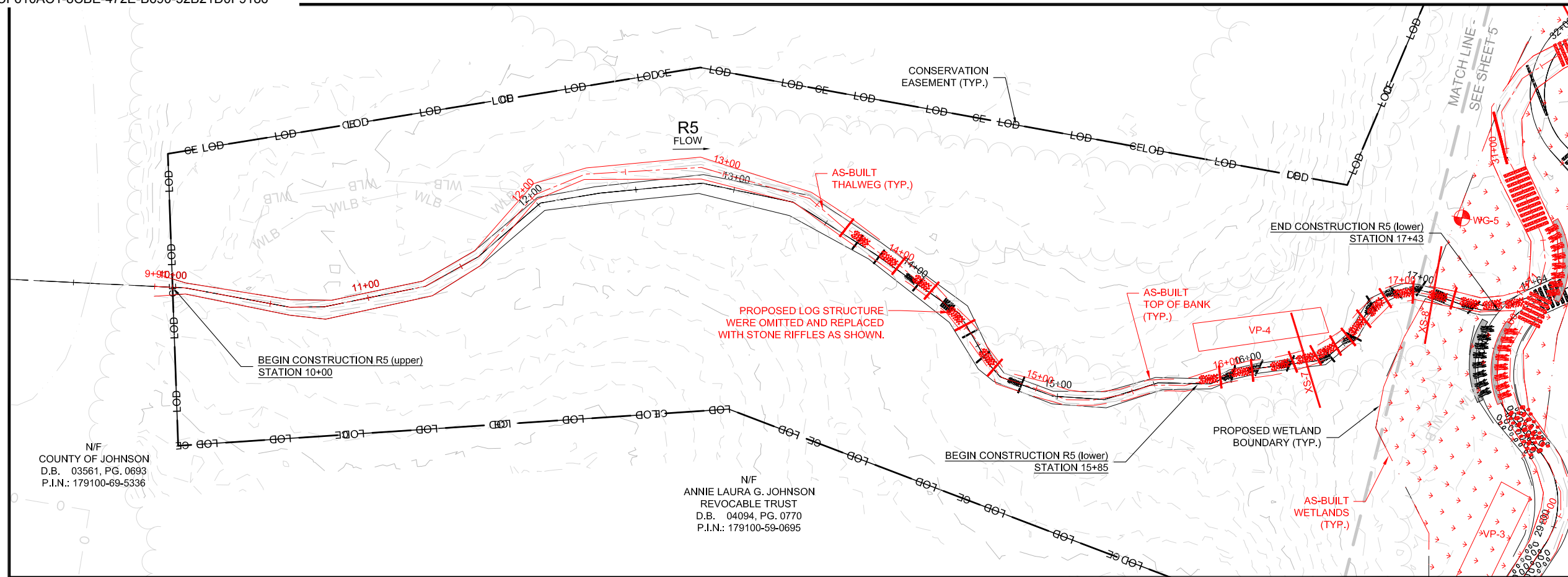
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D	ISSUED FOR CONSTRUCTION	10-12-20
E	ASBUILT	6-16-21

PROJECT NAME
BUFFALO CREEK TRIBUTARIES MITIGATION PROJECT
JOHNSTON COUNTY, NC

DRAWING INFORMATION	
PROJECT NO.	18-002
FILENAME	ASB_05+11_BUFFALO_CREEK_TRIBS_PLAN_AND_PROFILE.DWG
DESIGNED BY	KMV/CAT
DRAWN BY	AL
DATE	6-16-21
HORIZ. SCALE	1" = 60'
VERT. SCALE	1" = 6'

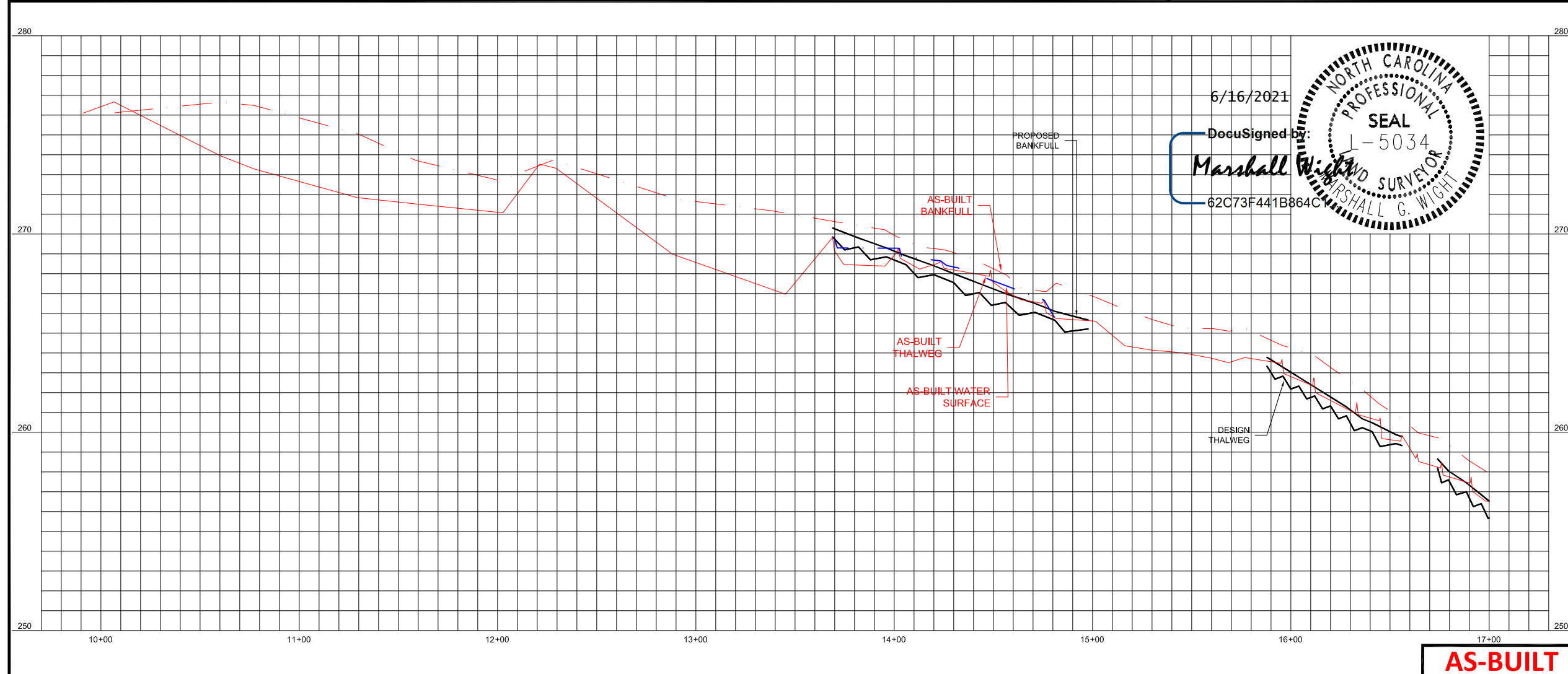


SHEET NAME
R5
PLAN AND PROFILE
SHEET NUMBER
10

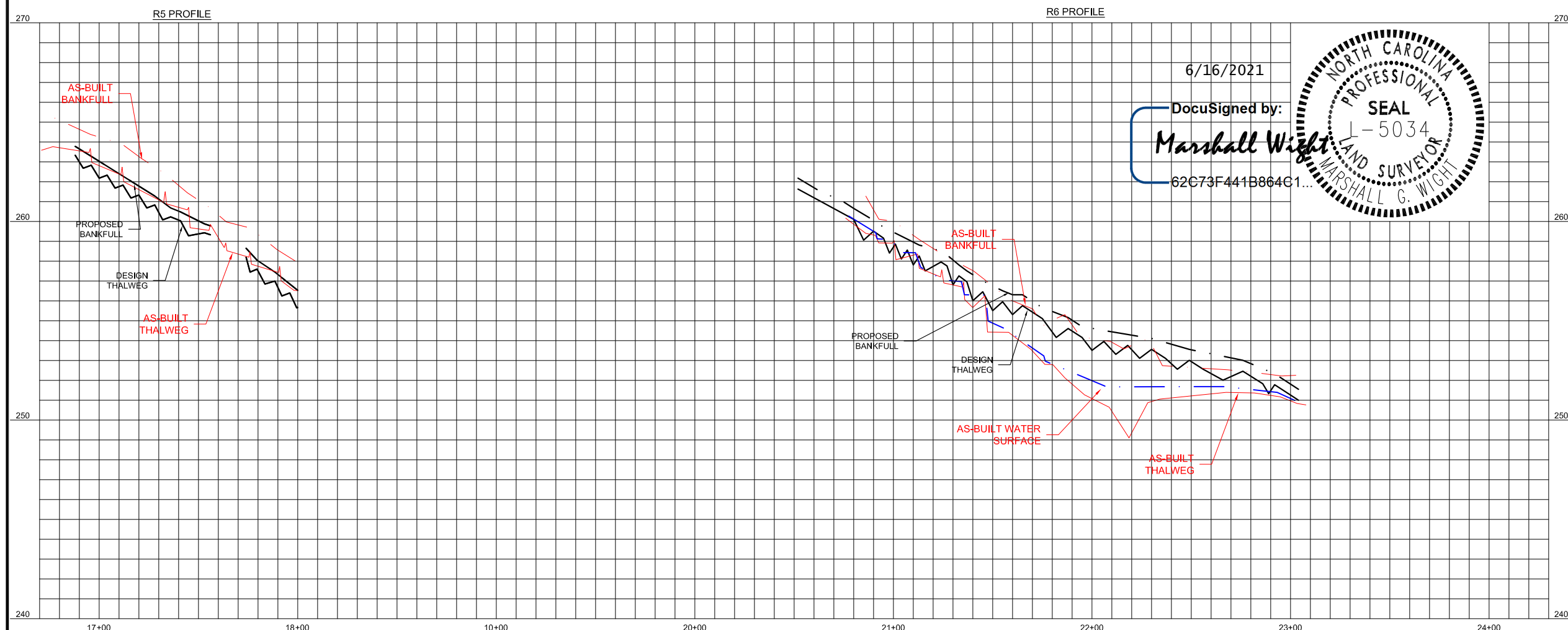
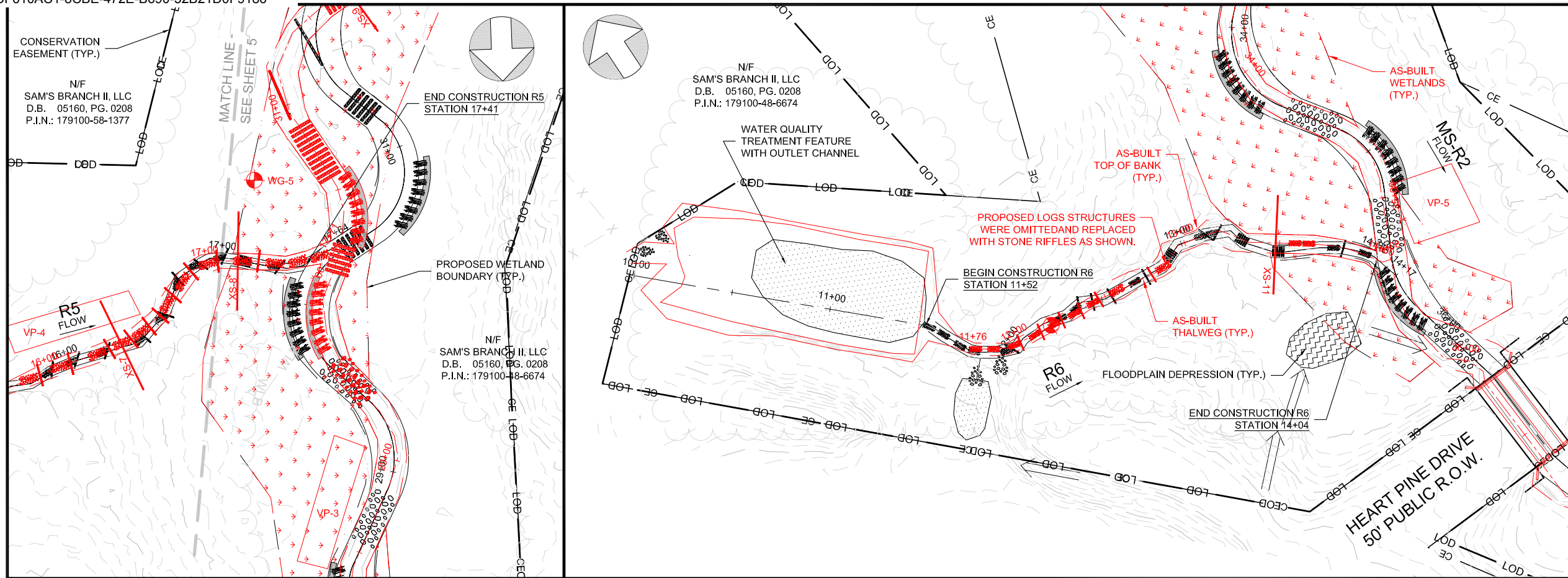


N/F
COUNTY OF JOHNSON
D.B. 03561, PG. 0693
P.I.N.: 179100-69-5336

N/F
ANNIE LAURA G. JOHNSON
REVOCABLE TRUST
D.B. 04094, PG. 0770
P.I.N.: 179100-59-0695



AS-BUILT



WATER & LAND SOLUTIONS

7721 Six Forks Rd., Suite 130
Raleigh, NC 27615
(919)614-5111
waterlandsolutions.com

PROJECT ENGINEER
6/16/2021

NORTH CAROLINA PROFESSIONAL SEAL
DocuSigned by:
36916
STEPHEN A. TOMS

ENGINEERING SERVICES BY
WLS ENGINEERING, PLLC
6 DULA SPRINGS RD.
WEAVERVILLE, NC 28787
FIRM LICENSE NO. P-1480

REVISIONS

NO.	DESCRIPTION	DATE
A	DRAFT MIT PLAN	1-17-20
B	FINAL DRAFT MIT PLAN	3-28-20
C	FINAL MIT PLAN	7-24-20
D	ISSUED FOR CONSTRUCTION	10-12-20
E	ASBUILT	6-16-21

PROJECT NAME

BUFFALO CREEK TRIBUTARIES MITIGATION PROJECT

JOHNSTON COUNTY, NC

DRAWING INFORMATION

PROJECT NO.	18-002
FILENAME	ASB_0511_BUFFALO_CREEK_TRIBS_PLAN_AND_PROFILES.DWG
DESIGNED BY	KMV/CAT
DRAWN BY	AL
DATE	6-16-21
HORIZ. SCALE	1" = 60'
VERT. SCALE	1" = 6'

SHEET NAME

R5&R6

PLAN AND PROFILE

SHEET NUMBER

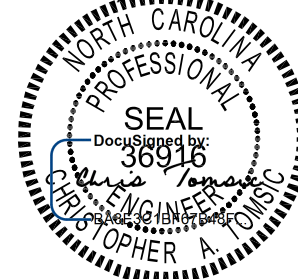
11

AS-BUILT



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E	ASBUILT	6-16-21

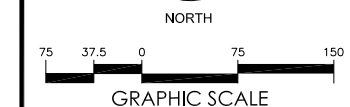
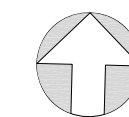
PROJECT NAME

BUFFALO CREEK TRIBUTARIES MITIGATION PROJECT

JOHNSTON COUNTY, NC

DRAWING INFORMATION

PROJECT NO.	18-002
FILENAME	ASB_12_13_BUFFALO_CREEK_TRIBS_MONITORING_PLAN.DWG
DESIGNED BY	KMV/CAT
DRAWN BY	AL
DATE	6-16-21
HORIZ. SCALE	1" = 150'
VERT. SCALE	N/A

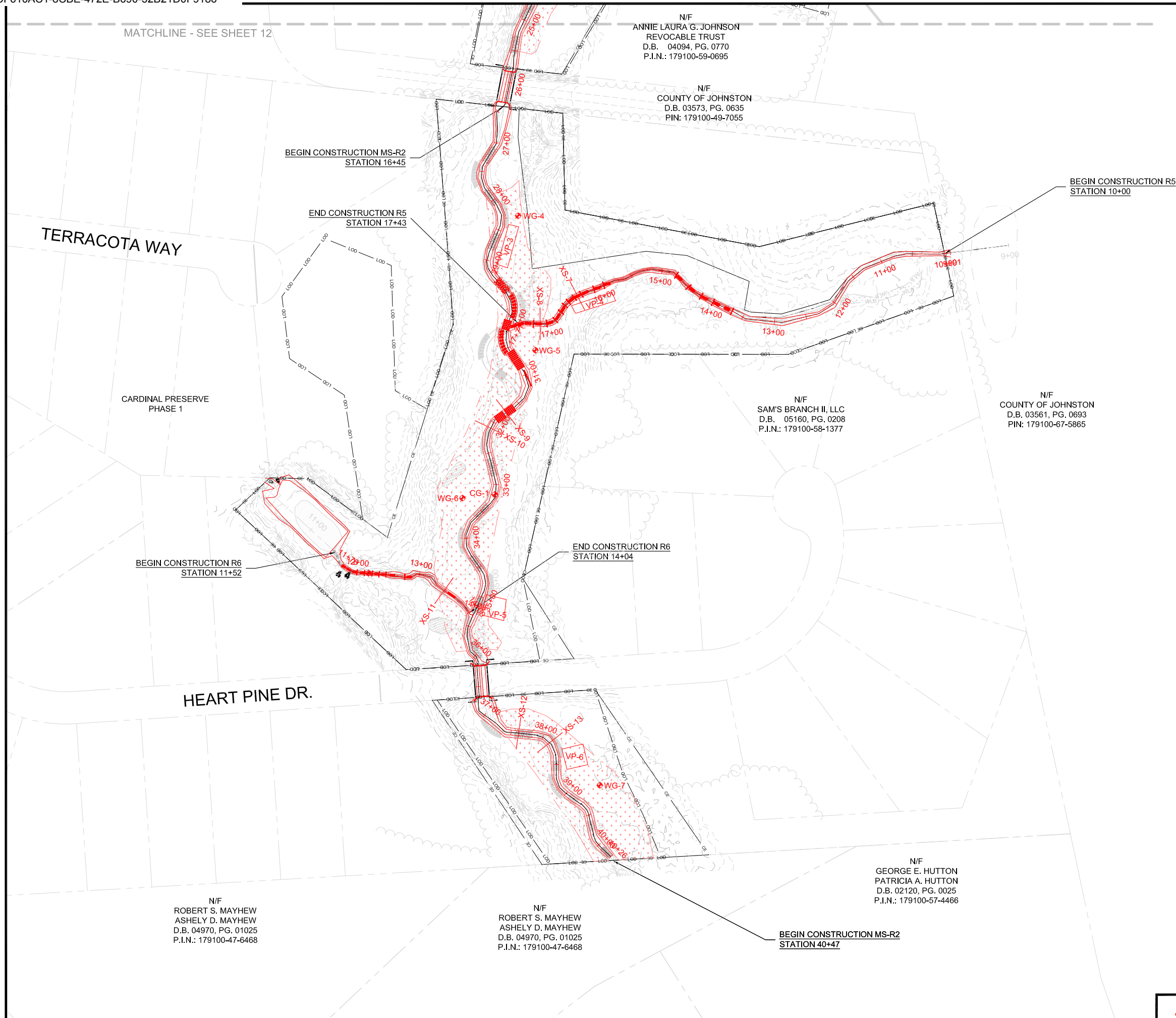


SHEET NAME

MONITORING PLAN

SHEET NUMBER

13



AS-BUILT