

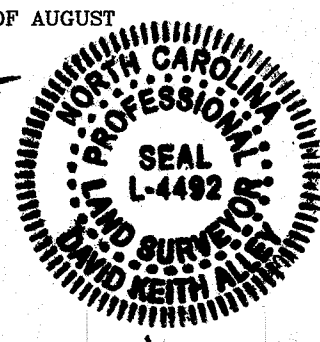
VICINITY MAP NOT TO SCALE

CERTIFICATE OF ACCURACY OF MAPPING

I, DAVID K. ALLEY, CERTIFY THAT THIS PROJECT WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT THIS TOPOGRAPHIC SURVEY WAS PERFORMED AT THE 98 PERCENT CONFIDENCE LEVEL TO MEET THE FEDERAL GEOGRAPHIC DATA COMMITTEE STANDARDS; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS FOR A TOPOGRAPHIC/PLANIMETRIC SURVEY TO THE ACCURACY OF CLASS AA AND VERTICAL ACCURACY WHEN APPLICABLE TO THE CLASS A STANDARD, AND THAT THE ORIGINAL DATA WAS OBTAINED ON FEBRUARY 19, 2015; THAT THE SURVEY WAS COMPLETED ON FEBRUARY 20, 2015; AND ALL COORDINATES ARE BASED ON NCGS VRS-NETWORK NAD83 (2011) AND ALL ELEVATIONS ARE BASED ON NCGS VRS-NETWORK NAVD 88 AND THAT THIS MAP WAS PREPARED IN ACCORDANCE WITH THE STANDARDS AND PRACTICE FOR LAND SURVEYING AS OUTLINED BY THE NC ADMINISTRATION CODE TITLE 21, CHAPTER 56.

WITNESS MY HAND AND OFFICIAL SEAL THIS 10th DAY OF AUGUST 2017.
 L-4492
 LICENSE NO.

D.K. Alley
 PROFESSIONAL LAND SURVEYOR



NOTES:

1. RAW ERROR OF CLOSURE 1:10,000+, MIS-CLOSURE WAS DISTRIBUTED BY COMPASS RULE.
2. AREA DETERMINED BY COORDINATE COMPUTATIONS.
3. DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES UNLESS NOTED OTHERWISE.
4. CONTOUR INTERVAL = 1 FOOT
5. THE HORIZONTAL (NAD 83/2011) AND VERTICAL (NAVD 88) DATUM WAS ESTABLISHED BY OTHERS. SEE REFERENCE'S SHOWN HEREON.
6. THIS SURVEY IS SUBJECT TO ANY AND ALL FACTS THAT MY BE DISCLOSED BY A FULL TITLE SEARCH, WHICH HAS NOT BEEN FURNISHED TO SURVEYOR AS OF THIS DATE.
7. THE EXISTING CONTOURS SHOWN HEREON IN COLOR WERE PROVIDED BY OTHERS AND ARE SUBJECT TO THE ACCURACY THEREOF.
8. THE FIELD WORK WAS PERFORMED FROM JULY 17-18, 2017.

REFERENCES:

1. PLAT ENTITLED "FINAL PLAT MUD LICK CREEK (EEP 939495, SPO 19-1D) ADDITIONAL ACREAGE TO NCDOT PROJECT U-2524WM, PROPERTY OF GRAYSON C. THOMAS HEIRS" RECORDED NOVEMBER 13, 2015 IN PLAT SLIDE 2015-285 & 286, CHATHAM COUNTY REGISTRY.
2. PLAT ENTITLED "CONSERVATION PROJECT U-2524WM THOMAS TRACT" RECORDED DECEMBER 2, 2014 IN PLAT SLIDE 2014-389 & 394, CHATHAM COUNTY REGISTRY.
3. ALL DEEDS AND MAPS SHOWN HEREON.

PROJECT CONTROL
 NCDOT "THOMAS 1" (NAD83/NAVD 88)
 NORTHING-751,100.7723'
 EASTING-1,869,878.4481'
 ELEVATION-610.85'

LEGEND

- EXISTING IRON PIN
- EXISTING REBAR
- NO POINT SET
- IRON REBAR SET
- CABLE PEDESTAL
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- FLOOD LIGHT
- GUY WIRE
- LIGHT POLE
- ELECTRIC MANHOLE
- ELECTRIC METER
- ELECTRIC TRANSFORMER
- UTILITY POLE
- BOLLARD
- GAS METER
- GAS VALVE
- SEWER CLEAN OUT
- SEWER MANHOLE
- SIGN
- CATCH BASIN
- CURB INLET
- DROP \ YARD INLET
- FLARED END SECTION
- STORM MANHOLE
- HANDICAP
- FIRE HYDRANT
- WATER MANHOLE
- WATER METER
- WATER VALVE
- WELL
- MANHOLE
- PRESSURE INDICATOR VALVE
- TREE
- RIGHT-OF-WAY
- PROPERTY LINE
- PARCEL IDENTIFICATION NO.
- CONCRETE MONUMENT
- CHORD
- SIGHT EASEMENT
- DEED BOOK
- PLAT BOOK
- CURB AND GUTTER
- REINFORCED CONC. PIPE
- CORRUGATED METAL PIPE
- CORRUGATED PLASTIC PIPE
- BOUNDARY LINE
- RIGHT-OF-WAY LINE
- UNSURVEYED PROPERTY LINE
- CONSERVATION EASEMENT
- FENCE (WIRE) LINE
- FENCE (WOOD) LINE
- BANKFULL
- THALWEG
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- GRADING LIMITS
- OVERHEAD UTILITY
- TIE LINE
- MAJOR CONTOUR LINE
- MINOR CONTOUR LINE
- WATER LINE
- WETLAND ZONE LINE
- CONSTRUCTED RIFFLE
- LOG VANE
- BRUSH TOE

PROJECT CONTROL
 NCDOT "THOMAS 2" (NAD83/NAVD 88)
 NORTHING-750,346.4685'
 EASTING-1,870,442.8109'
 ELEVATION-600.80'

SHEET 2

SHEET 3

SHEET 4

SHEET 6

SHEET 5

SHEET 1 OF 7

AS BUILT SURVEY
FOR: NORTH STATE ENVIRONMENTAL, INC

OF: "MUD LICK CREEK STREAM RESTORATION"

OWNER:
 GRAYSON C. THOMAS, HEIRS
 319 AUGUSTA DRIVE
 STATESVILLE, NC 28625

TAX PIN: 8775-12-3214.000
 DEED BOOK US, PAGE 143

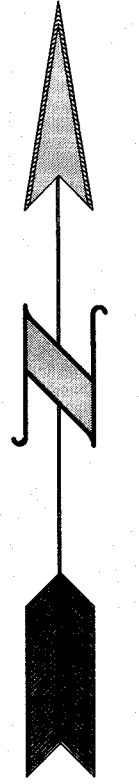
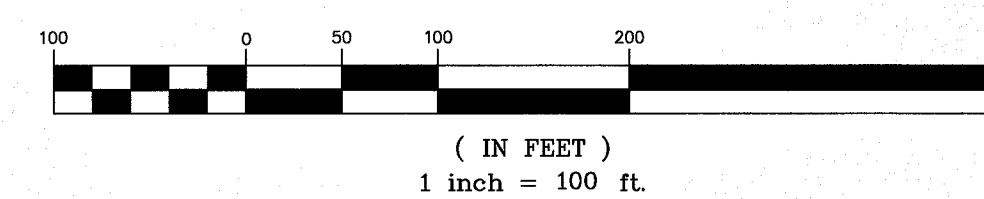
TAX PIN: 8775-01-6345.000
 DEED BOOK 411, PAGE 846

N/A ACRES +/- (TOTAL)

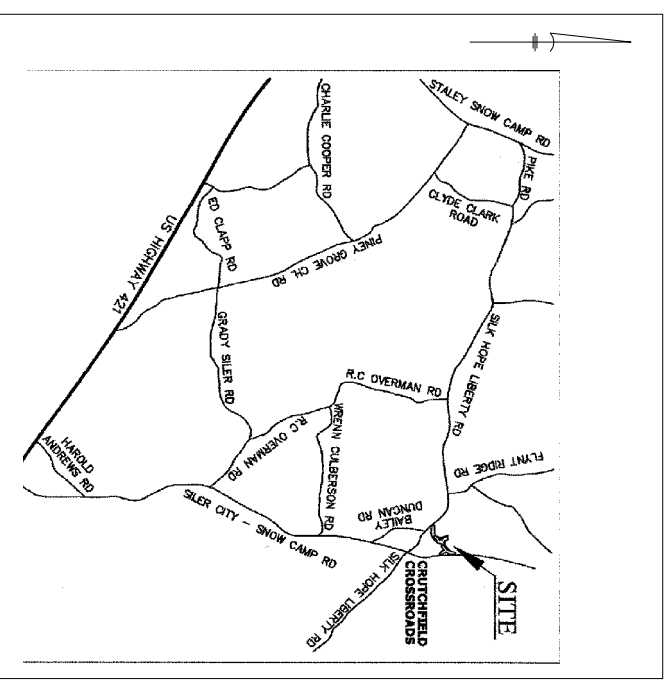
Allied Associates, P.A.
 4720 KESTER MILL ROAD PHONE (336) 785-2377
 WINSTON-SALEM, N.C. 27103
 www.alliedaps.com NC LICENSE #C-2198

SCALE	TOWNSHIP	COUNTY	STATE	DATE
1" = 100'	ALBRIGHT	CHATHAM	NORTH CAROLINA	08/01/17
SURVEYED:	MAP NO.	MAP NO.	TDS	
PJ TR	DA	PA170611	MLC.dwg	MLC

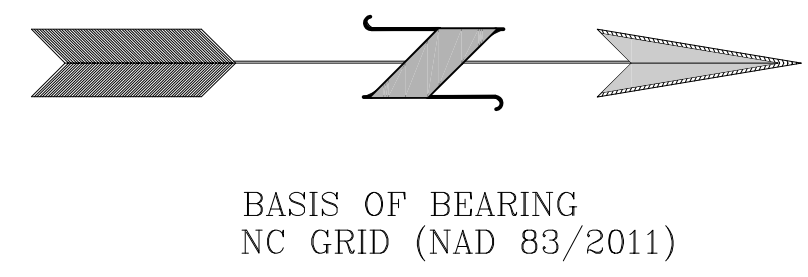
GRAPHIC SCALE



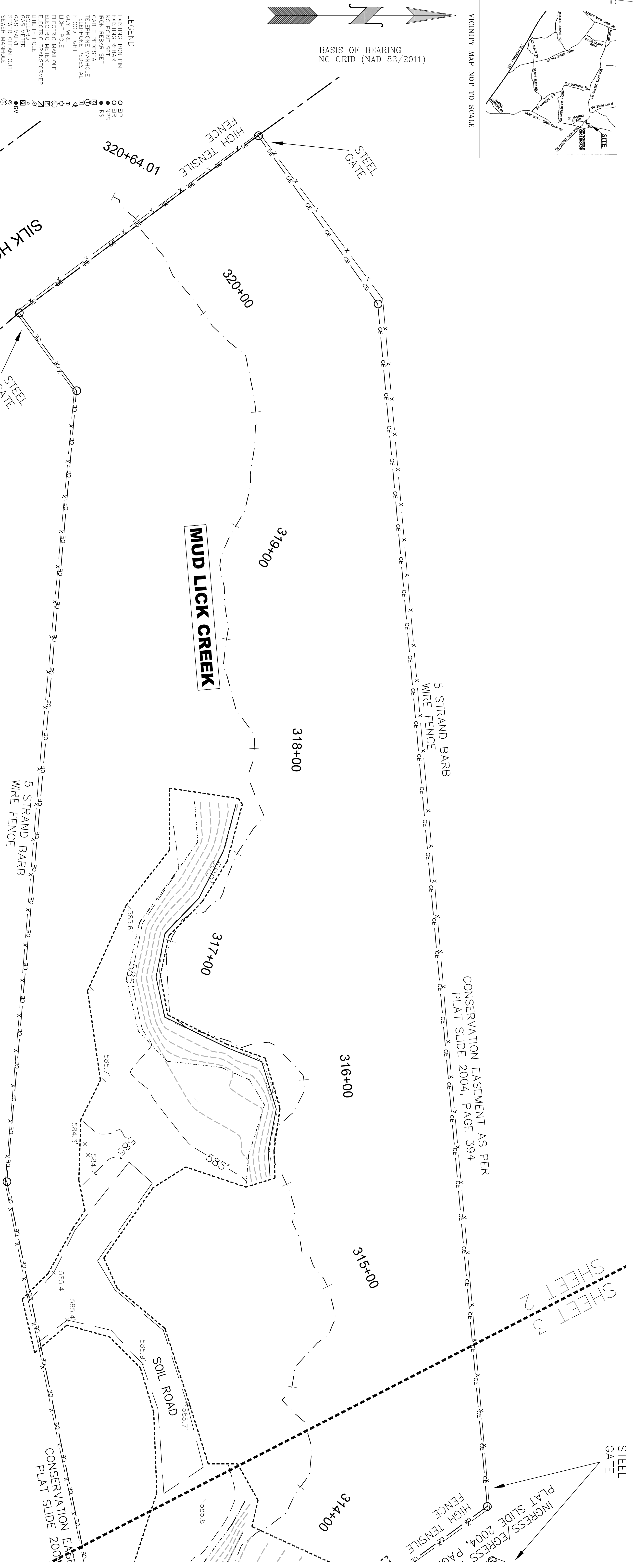
BASIS OF BEARING
 NC GRID (NAD 83/2011)



VICINITY MAP NOT TO SCALE



BASIS OF BEARING
NC GRID (NAD 83/2011)

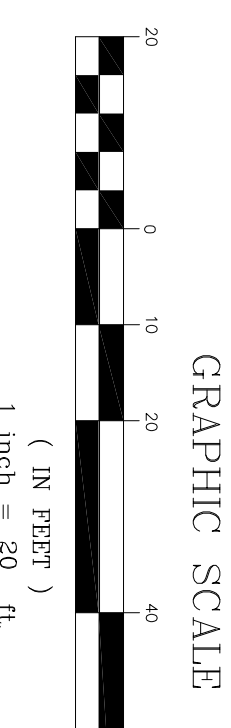


- LEGEND**
- EXISTING IRON PIN
 - EXISTING IRON SET
 - NO POINT SET
 - IRON REBAR SET
 - CABLE REBAR SET
 - REINFORCED CONCRETE
 - TELEPHONE PEDestal
 - FLOOD LIGHT
 - OUTLINE
 - ELECTRIC MANHOLE
 - ELECTRIC METER
 - ELECTRIC TRANSFORMER
 - BOLLARD
 - GAS METER
 - SEWER CLEAN OUT
 - SEWER MANHOLE
 - SEWER
 - SOIL BASIN
 - CURB INLET
 - DROP \ YARD INLET
 - FLARED END SECTION
 - STORM MANHOLE
 - HANDICAP
 - FIRE HYDRANT
 - WATER MANHOLE
 - WATER VALVE
 - WELL
 - MANHOLE
 - PRESSURE INDICATOR VALVE
 - TREE
 - RIGHT-OF-WAY
 - PAVED INTERSECTION
 - CONCRETE MONUMENT
 - SE
 - CONCRETE EASEMENT
 - DEED BOOK
 - DEED BOOK
 - REINFORCED CONC. PIPE
 - REINFORCED CONC. PIPE
 - CORRUGATED PLASTIC PIPE
 - BOUNDARY LINE
 - RIGHT-OF-WAY LINE
 - UNSURVEYED PROPERTY LINE
 - CONSERVATION EASEMENT
 - ENCE (WAVE) LINE
 - ENCE (WOOD) LINE
 - THAWING
 - EDGE OF GRAVEL
 - EDGE OF PAVEMENT
 - GRAVING UNITS
 - OVERHEAD UTILITY
 - TE LINE
 - MAJOR CONTOUR LINE
 - MINOR CONTOUR LINE
 - WATER LINE
 - WETLAND ZONE LINE
 - CONSTRUCTED RIFFLE
 - LOG VALE
 - BRUSH TOE

CONSERVATION EASEMENT AS PER
PLAT SLIDE 2004, PAGE 394

SHEET 1
SHEET 2
SHEET 3

INGRESS/EGRESS
PLAT SLIDE 2004, PAGE 394



SHEET 2 OF 7

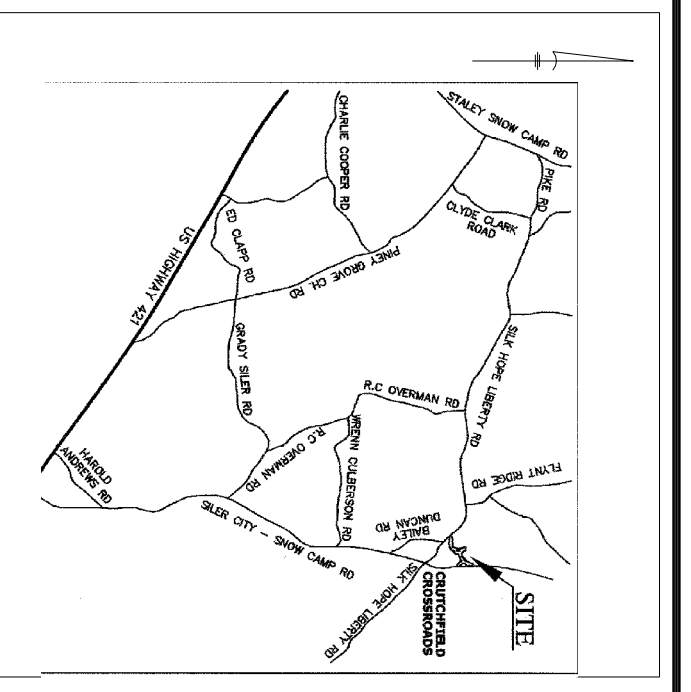
AS BUILT SURVEY
FOR: NORTH STATE ENVIRONMENTAL, INC

OF: "MUD LICK CREEK STREAM RESTORATION"

OWNER:
GRAYSON C. THOMAS, HERS
STATEVILLE, NC 28625
TAX P.N. 9778-12-3014.000
DEED BOOK US, PAGE 143
TAX P.N. 8773-01-6248.000
DEED BOOK 411, PAGE 848
N/A ADRES +/- (TOTAL)

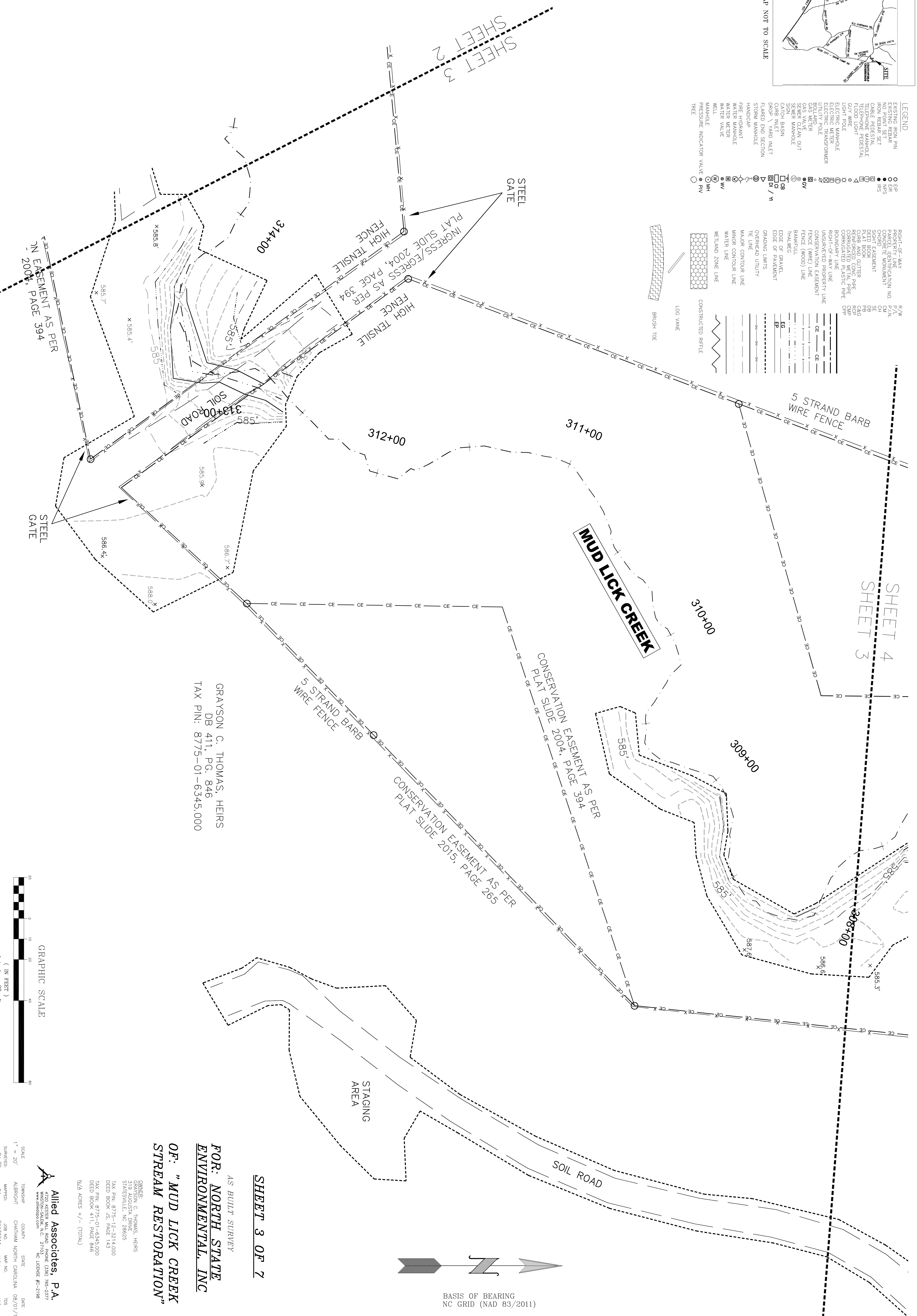
Allied Associates, P.A.
4720 WESTER WALK, ROAD PHONE (703) 765-2377
WINSTON-SALEM, NC 27103 FAX (703) 766-8888
www.alliedassocs.com No. License #C-2198

SCALE: 1" = 20'
SURVEYED: ALBRIGHT
DATE: 08/01/17
TOWNSHIP: CHATHAM
COUNTY: NORTH CAROLINA
SHEET: 028 NO. 1
DATE: 08/01/17
DATE: 08/01/17



VICINITY MAP NOT TO SCALE

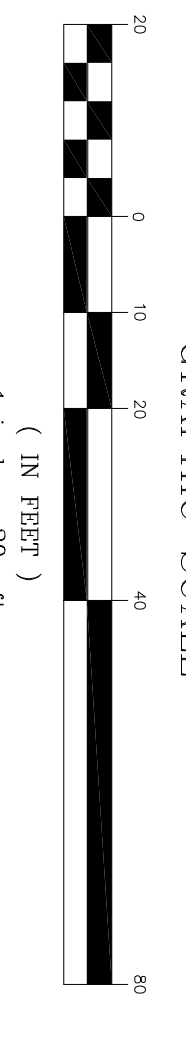
Symbol	Description
○	EXISTING IRON PIN
○	EXISTING REBAR
○	IRON REBAR SET
○	CABLE PEDestal
○	TELEPHONE MANHOLE
○	FLOOD LIGHT
○	QUI WIRE
○	LIGHT POLE
○	ELECTRIC MANHOLE
○	ELECTRIC TRANSFORMER
○	UTILITY POLE
○	FLARED END SECTION
○	STORM MANHOLE
○	HANDICAP
○	FIRE HYDRANT
○	WATER MANHOLE
○	WATER METER
○	WATER VALVE
○	WELL
○	MANHOLE
○	PRESSURE INDICATOR VALVE
○	TREE
○	RIGHT-OF-WAY
○	PROPERTY LINE
○	PARCEL IDENTIFICATION NO.
○	CONSERVATION EASEMENT
○	SOFT EASEMENT
○	PLEY BOOK
○	CLUB AND GUTTER
○	CORRUGATED METAL PIPE
○	CORRUGATED PLASTIC PIPE
○	CAP
○	COP
○	RIGHT-OF-WAY LINE
○	CONSERVATION EASEMENT LINE
○	CONSERVATION EASEMENT
○	FENCE (WOOD) LINE
○	BANKFILL
○	THALWEG
○	EDGE OF GRAVEL
○	EDGE OF PAVEMENT
○	GRADING LIMITS
○	OVERHEAD UTILITY
○	THE LINE
○	MAJOR CONTOUR LINE
○	MINOR CONTOUR LINE
○	WATER LINE
○	WETLAND ZONE LINE
○	CONSTRUCTED RIFFLE
○	LOG VANE
○	BRUSH TOE
○	R/W
○	P/L
○	P/L
○	CM
○	CM
○	SE
○	SE
○	PB
○	PB
○	C&G
○	C&G
○	CPP
○	CPP



SHEET 2
SHEET 3

SHEET 4
SHEET 3

GRAYSON C. THOMAS, HERS
DB 411, PG. 846
TAX PIN: 8775-01-6345.000



GRAPHIC SCALE
(IN FEET)
1 inch = 20' ft.

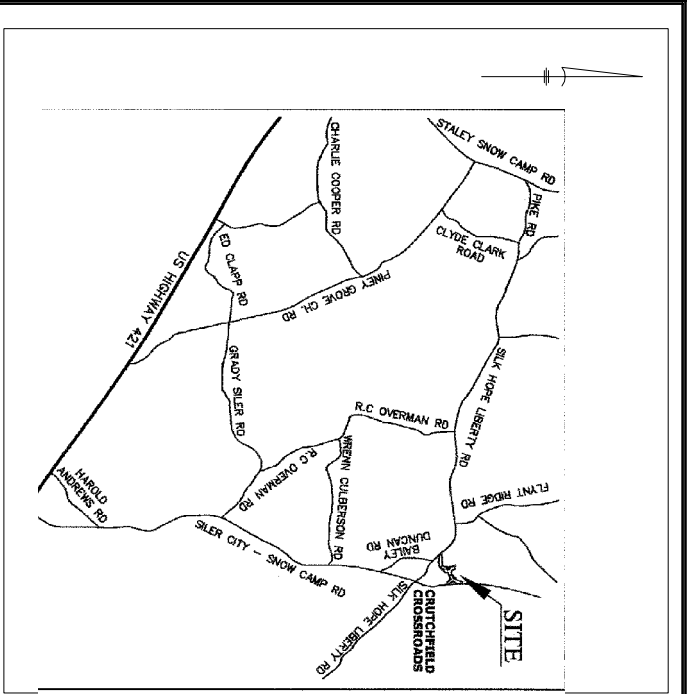
BASIS OF BEARING
NC GRID (NAD 83/2011)

AS BUILT SURVEY
FOR: NORTH STATE ENVIRONMENTAL, INC
OF: "MUD LICK CREEK STREAM RESTORATION"

SHEET 3 OF 7

OWNER:
GRAYSON C. THOMAS, HERS
STATESVILLE, NC 28625
TAX PIN: 8775-12-214.000
DEED BOOK 53, PAGE 143
TAX PIN: 8775-01-6345.000
DEED BOOK 411, PAGE 846
N/A ACRES +/- (TOTAL)

Allied Associates, P.A.
4700 CENTERS MILITARY ROAD, SUITE 200, WILSON, NC 27603
WINSTON-SALEM, NC 27103
www.alliedpa.com
www.alliedpa.com
SCALE: 1" = 20'
SURVEYED: ALBRICHT
MAPPER: DA
PROJECT NO.: CHATHAM NORTH CAROLINA 08/01/17
JOB NO.: PA170611
DATE: 7/15
TWS
MC



- LEGEND**
- EXISTING IRON PIN
 - EXISTING REBAR
 - NO POINT SET
 - NO POINT SET
 - CABLE PEDESTAL
 - TELEPHONE MANHOLE
 - TELEPHONE PEDESTAL
 - TELEPHONE PEDESTAL
 - GUY WIRE
 - LIGHT POLE
 - ELECTRIC MANHOLE
 - ELECTRIC TRANSFORMER
 - UTILITY POLE
 - BOLLARD
 - ROCK ARM
 - SEWER CLEAN OUT
 - SEWER MANHOLE
 - CATCH BASIN
 - CURB INLET
 - DECK HAND INLET
 - FRIGID SECTION
 - STORY ARCH
 - HANDICAP
 - FIRE HYDRANT
 - WATER MANHOLE
 - WATER METER
 - WATER VALVE
 - WELL
 - MANHOLE
 - PRESSURE INDICATOR VALVE
- P/1 = PROPERTY LINE
 P/L = PLAT IDENTIFICATION NO.
 C/D = CONDUIT IDENTIFICATION NO.
 C/S = CATCH BASIN
 C/I = CURB INLET
 C/H = HANDICAP
 C/S = CATCH BASIN
 C/I = CURB INLET
 C/H = HANDICAP
 C/S = CATCH BASIN
 C/I = CURB INLET
 C/H = HANDICAP
- CE = CONSERVATION EASEMENT AS PER PLAT SLIDE 2004, PAGE 394
 CE = CONSERVATION EASEMENT AS PER PLAT SLIDE 2015, PAGE 265
 CE = CONSERVATION EASEMENT AS PER PLAT SLIDE 2015, PAGE 265

OMAS, HEIRS
G. 846
01-6345.000

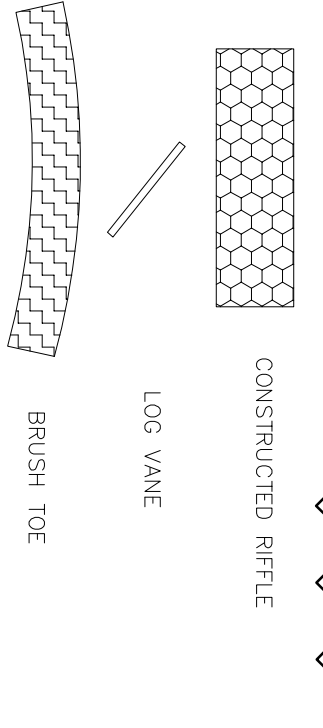
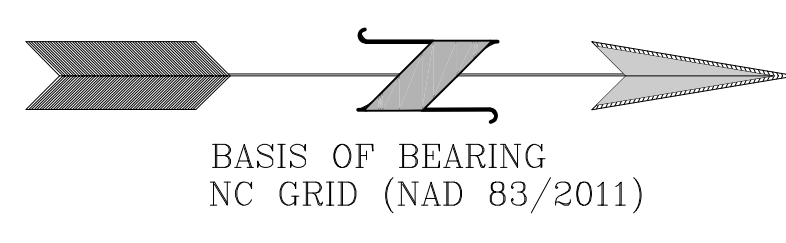
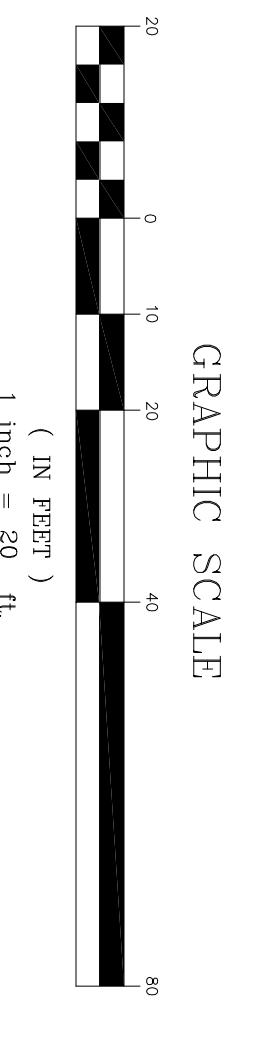
STEEL GATE

STEEL GATE

SHEET 5
SHEET 4

SHEET 4
SHEET 3

GRAYSON C. THOMAS, HEIRS
DB JS, PG. 143
TAX PIN: 8775-11-3214.000



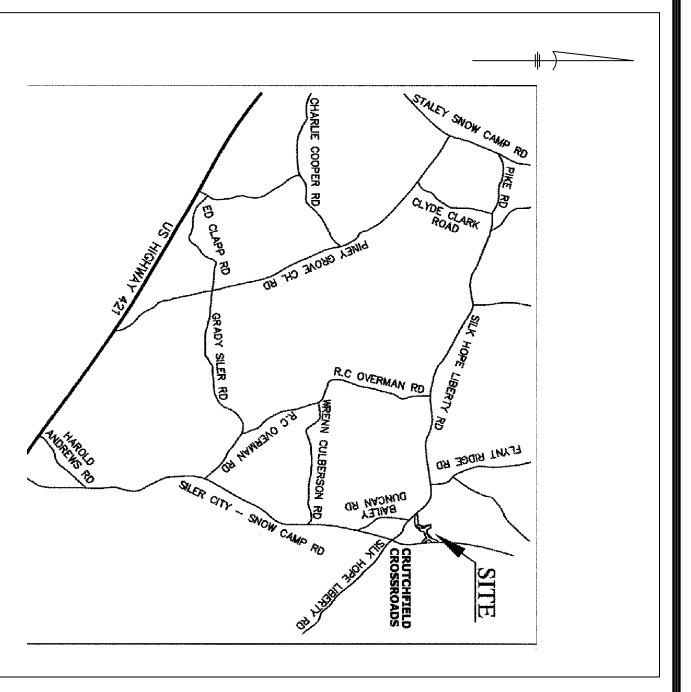
AS BUILT SURVEY
FOR: NORTH STATE ENVIRONMENTAL, INC
OF: "MUD LICK CREEK STREAM RESTORATION"

OWNER:
GRAYSON C. THOMAS, HEIRS
191 S. WOODSTOCK RD.
STATESVILLE, NC 28625
TAX PIN: 8775-12-2114.000
DEED BOOK 63, PAGE 143
TAX PIN: 8775-01-6345.000
DEED BOOK 411, PAGE 846
N/A ADRES +/- (TOMA)

Allied Associates, P.A.
1700 W. STATE ST. SUITE 1050
WINSTON-SALEM, N.C. 27103 NC LICENSE #C-2198
www.alliedpa.com

SCALE	TOWNSHIP	COUNTY	STATE	DATE
1" = 20'	ALBRIGHT	CHATHAM NORTH CAROLINA	NC	08/01/17
SUBMITTED	APPREPR.	JOB NO.	MAP NO.	TITLE
PA/170811	DA	WJCM	WJCM	TCS

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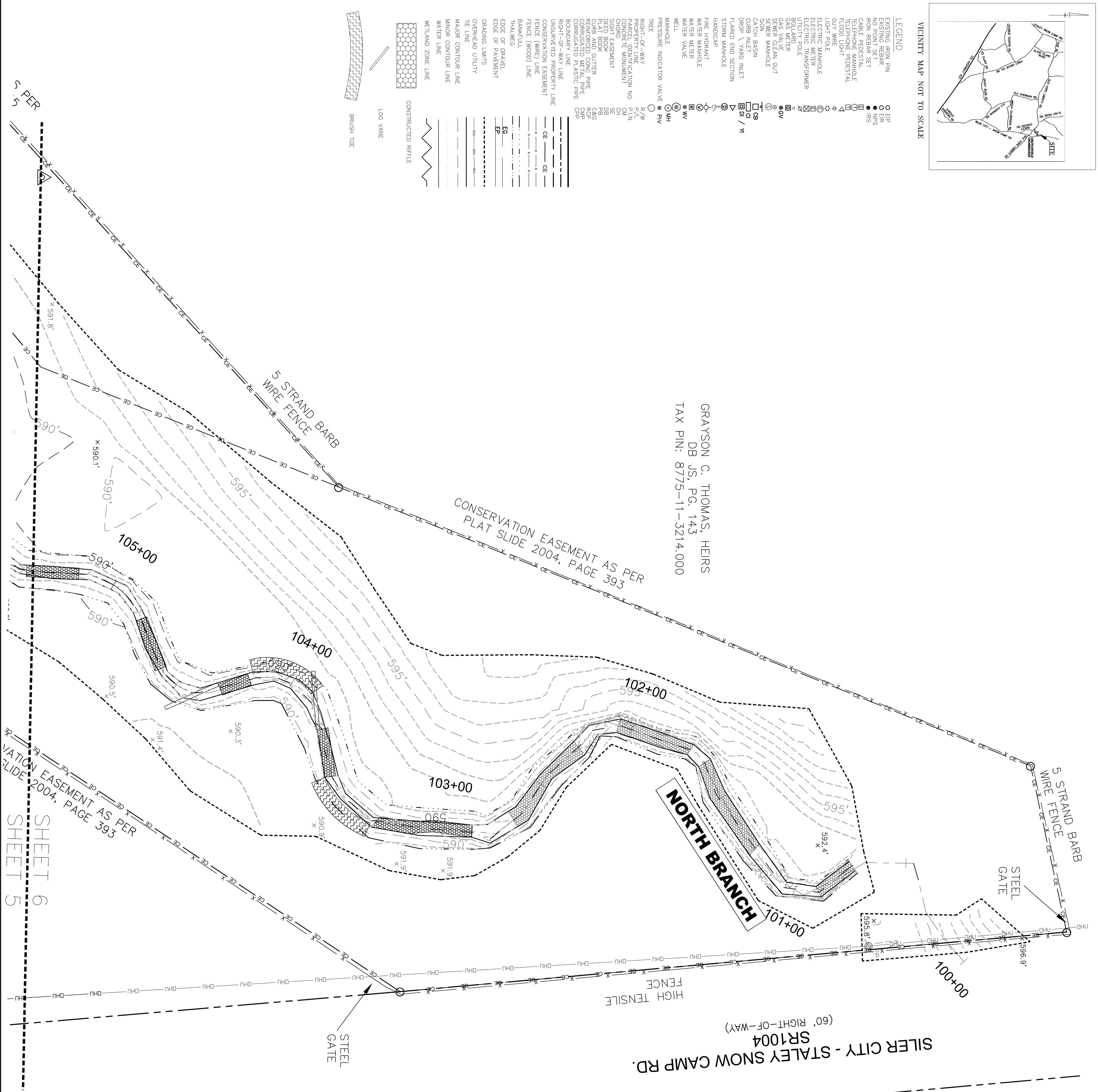


VICINITY MAP NOT TO SCALE

- LEGEND**
- EXISTING IRON PIN
 - EXISTING IRON NAIL
 - NO POINT SET
 - IRON REBAR SET
 - CAST IRON MANHOLE
 - TELEPHONE PEDestal
 - FLOOD LIGHT
 - LIGHT POLE
 - ELECTRIC MANHOLE
 - ELECTRIC METER
 - ELECTRIC TRANSFORMER
 - ELECTRIC CABLE
 - BOLLARD
 - GAS METER
 - SEWER CLEAN OUT
 - SEWER MANHOLE
 - CATCH BASIN
 - CURB INLET
 - DROP / YARD INLET
 - FLARED END SECTION
 - STORM MANHOLE
 - HANDICAP
 - FIRE HYDRANT
 - WATER METER
 - WATER VALVE
 - WELL
 - MANHOLE
 - PRESSURE INDICATOR VALVE
 - TREE
 - RIGHT-OF-WAY
 - PARCEL IDENTIFICATION NO.
 - CONCRETE MONUMENT
 - SIGHT EASEMENT
 - DEED BOOK
 - CURB AND CUTTER
 - REINFORCED CONC. PIPE
 - CONCRETE PIPE
 - CORRUGATED PLASTIC PIPE
 - BOUNDARY LINE
 - RIGHT-OF-WAY LINE
 - UNSURVEYED PROPERTY LINE
 - CONSERVATION EASEMENT
 - FENCE (WOOD) LINE
 - BLANKET
 - THAWEG
 - EDGE OF GRAVEL
 - EDGE OF PAVEMENT
 - GRADING LIMITS
 - OVERHEAD UTILITY
 - THE LINE
 - MAJOR CONTOUR LINE
 - MINOR CONTOUR LINE
 - WATER LINE
 - WETLAND ZONE LINE
 - CONSTRUCTED RIPPLE
 - LOG VANE
 - BRUSH TOE

GRAYSON C. THOMAS, HEIRS
 DB JS, PG. 143
 TAX PIN: 8775-11-3214.000

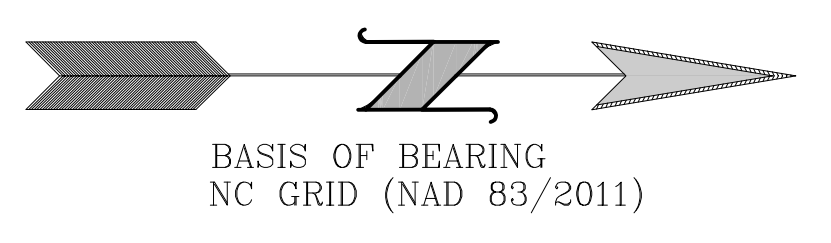
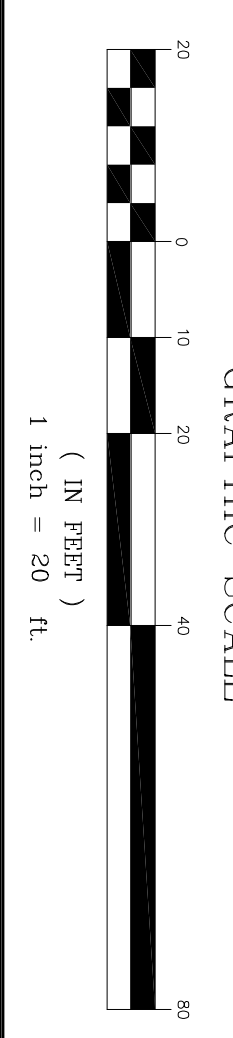
CONSERVATION EASEMENT AS PER
 PLAT SLIDE 2004, PAGE 393



SILVER CITY - STALEY SNOW CAMP RD.
 SR1004
 (60' RIGHT-OF-WAY)

CONSERVATION EASEMENT AS PER
 PLAT SLIDE 2004, PAGE 393

SHEET 6
 SHEET 5



SHEET 6 OF 7

AS BUILT SURVEY

FOR: NORTH STATE ENVIRONMENTAL, INC

OF: "MUD LICK CREEK STREAM RESTORATION"

OWNER:
 GRAYSON C. THOMAS, HEIRS
 1913 DOUGLASS AVE
 STATESVILLE, NC 28625

TAX PIN: 8775-12-3214.000
 DEED BOOK 53, PAGE 143

TAX PIN: 8775-01-6345.000
 DEED BOOK 411, PAGE 846

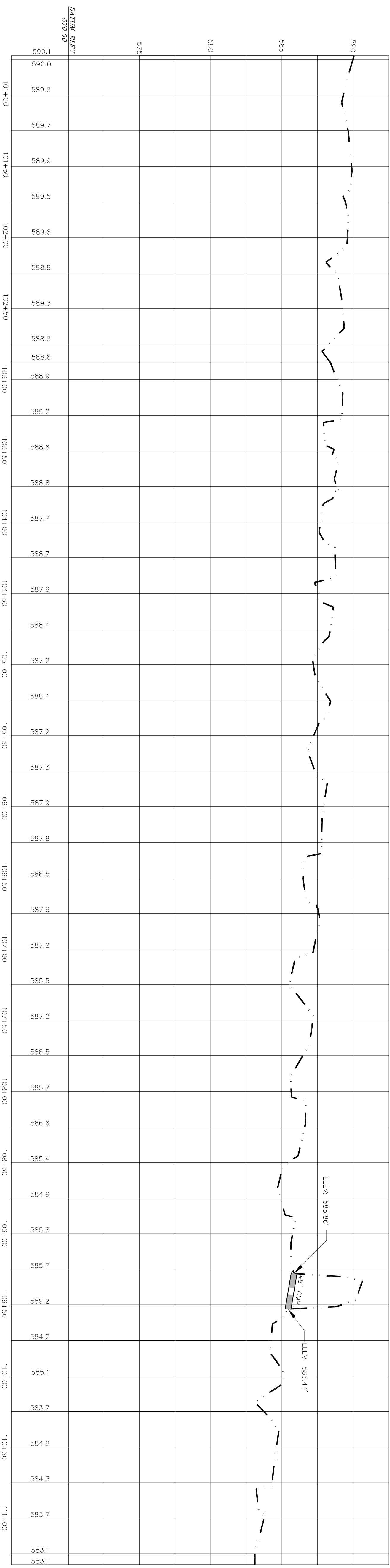
N/A AGRES +/- (TOMA)

Allied Associates, P.A.
 1000 WILSON-SALEM, N.C. 27103 (336) 765-2277
 www.alliedpa.com NC DCDISE #5-2198

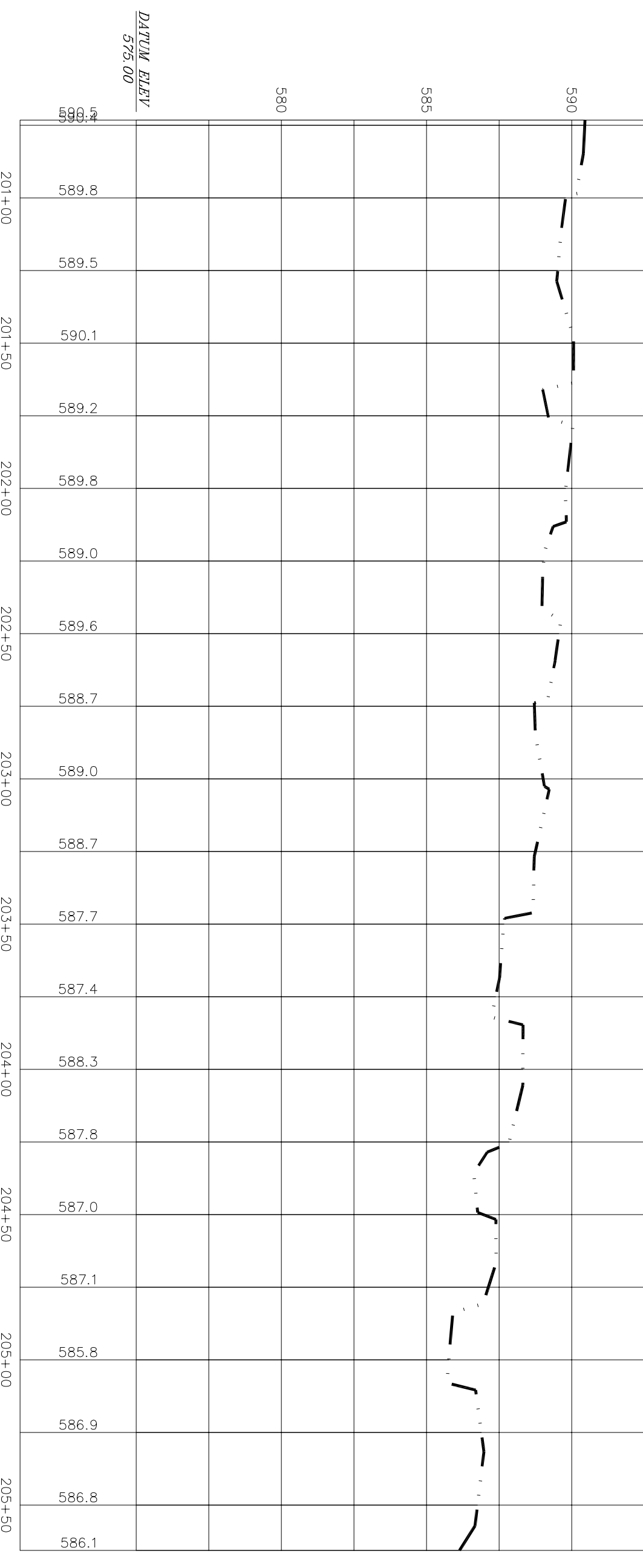
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 SURVEYED: ALBRIGHT
 DATE: DA

COUNTY: CHATHAM NORTH CAROLINA
 MAP NO.: WCA49
 JOB NO.: PA170811
 DATE: TIS

DATE: 08/01/17
 TIS
 WCA49
 © Allied Assoc., P.A. 2017



NORTH BRANCH



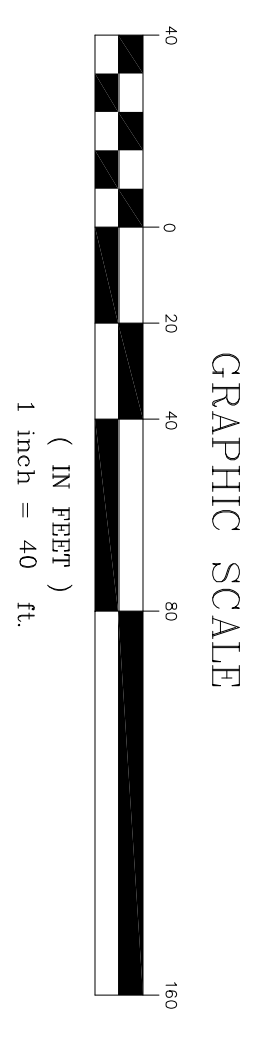
EAST BRANCH

SHEET 7 OF 7

AS BUILT SURVEY
FOR: NORTH STATE ENVIRONMENTAL, INC

OF: "MUD LICK CREEK STREAM RESTORATION"

OWNER:
 GRAYSON C. THOMAS, HERS
 2703 STATESVILLE, NC 28625
 TAX P.N. 8775-12-3714.000
 DEED BOOK 251, PAGE 143
 TAX P.N. 8775-01-6345.000
 DEED BOOK 411, PAGE 849
 N/A ACRES +/- (TOTAL)



Allied Associates, P.A.
 4201 GERRER HILL ROAD, PHONE (704) 765-3277
 WINSTON-SALEM, N.C. 27103, FAX (704) 765-3277
 www.alliedpa.com, NO LICENSE #C-2189

SCALE	TOWNSHIP	COUNTY	STATE	DATE
1" = 40'	ALBRIGHT	CHAHAM NORTH	CAROLINA	08/01/17
SHEET#	MAP#	JOB NO.	MAP NO.	TITLE
PJ TR	DA	PA170511	MC449	NC

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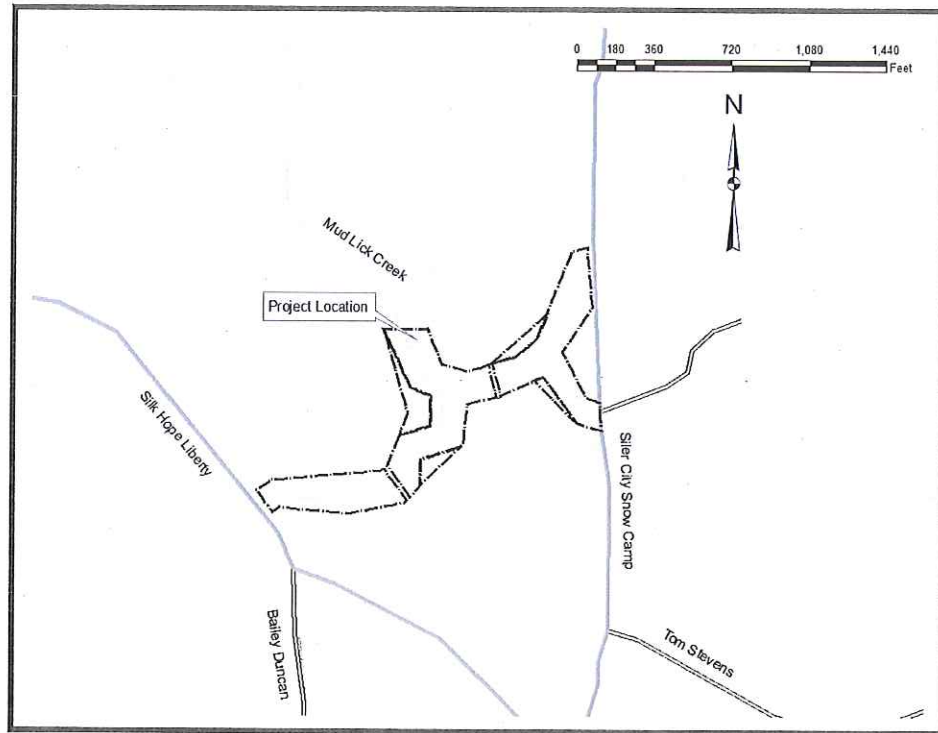
Mud Lick Creek Mitigation Site

Cape Fear River Basin 03030003

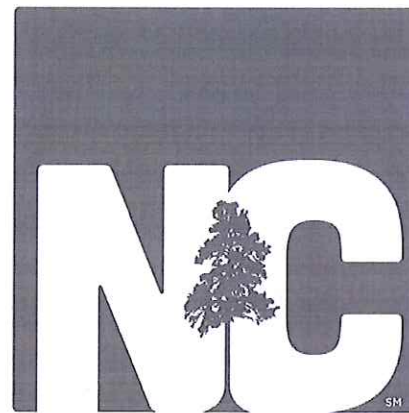
Chatham County, North Carolina

for

NCDEQ Division of
Mitigation Services



Vicinity Map
Not to Scale



FINAL RECORD DRAWINGS
Issued June 2018
Revised 06.12.2018

Stream Origins		
Stream	Latitude	Longitude
North Branch	N 35° 48' 53.73"	W 79° 25' 56.95"
East Branch	N 35° 48' 46.31"	W 79° 25' 56.17"
Mud Lick Creek	N 35° 48' 50.97"	W 79° 26' 07.48"

Sheet Index

Title Sheet	0.1
Legend	0.2
Stream Overlay Overview	0.3
Stream Overlay Plans	1.1-1.10
Planting Plan	2.1
Fencing Plan	3.1

Project Directory

Surveying:
Turner Land Surveying, PLLC
P.O. Box 41023
Raleigh, NC 27629
David S. Turner, PLS
919-875-1378

Engineering:
Wildlands Engineering, Inc
License No. F-0831
312 West Millbrook Road, Suite 225
Raleigh, NC 27609
Angela N. Allen, PE
919-851-9986

Owner:
NCDEQ Division of
Mitigation Services
1652 Mail Service Center
Raleigh, NC 27699-1652
Jeff Schaffer
919-707-8976
DEQ Contract No. D14001i
DMS ID No. 93482
SCO No. 1209857-01

WILDLANDS
ENGINEERING
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Raleigh, NC 27609
Tel: 919.851.9986
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Mud Lick Creek Mitigation Site
Chatham County, North Carolina

Title Sheet

Record Drawing

Date	06/12/2018
Job Number	09502DF2
Project Engineer	ANA
Drawn By	CLM
Checked By	JNK

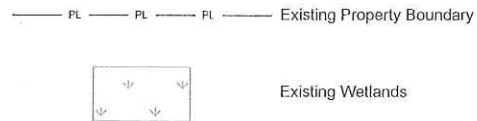
Revisions: See sheets 1.1, 1.4, & 2.1

0.1

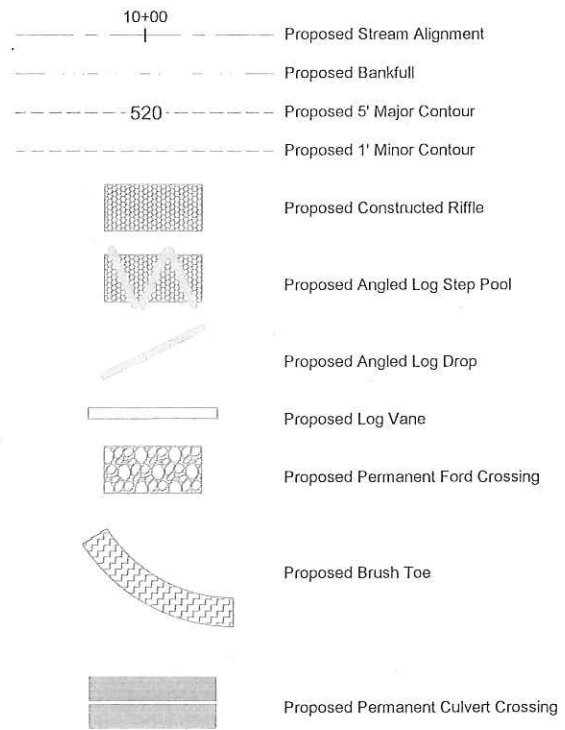
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June 12, 2018
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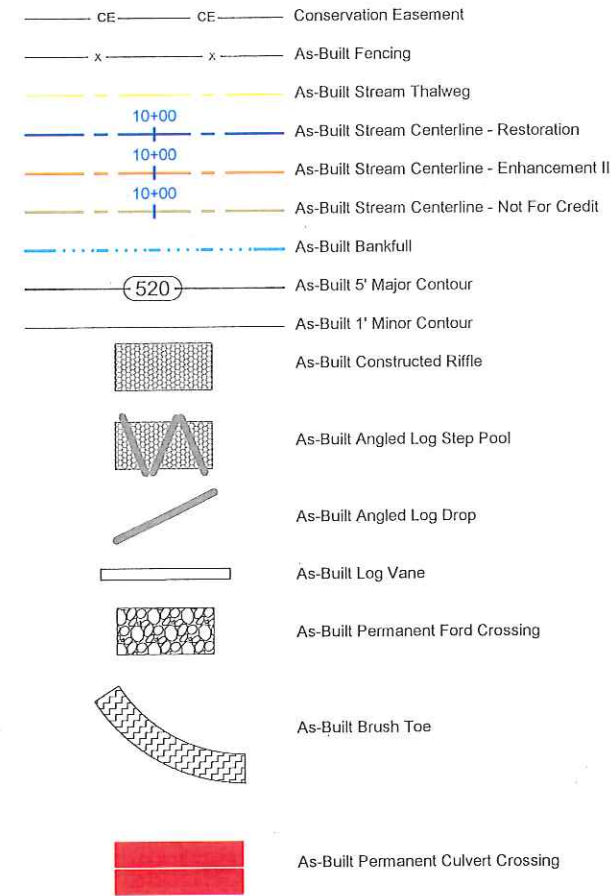
Existing Features



Proposed Features



As-Built Features



NOTE: FEATURES IN RED INDICATE DEVIATION FROM FINAL CONSTRUCTION PLANS.



Mud Lick Creek Mitigation Site
 Chatham County, North Carolina

Legend

Record Drawing

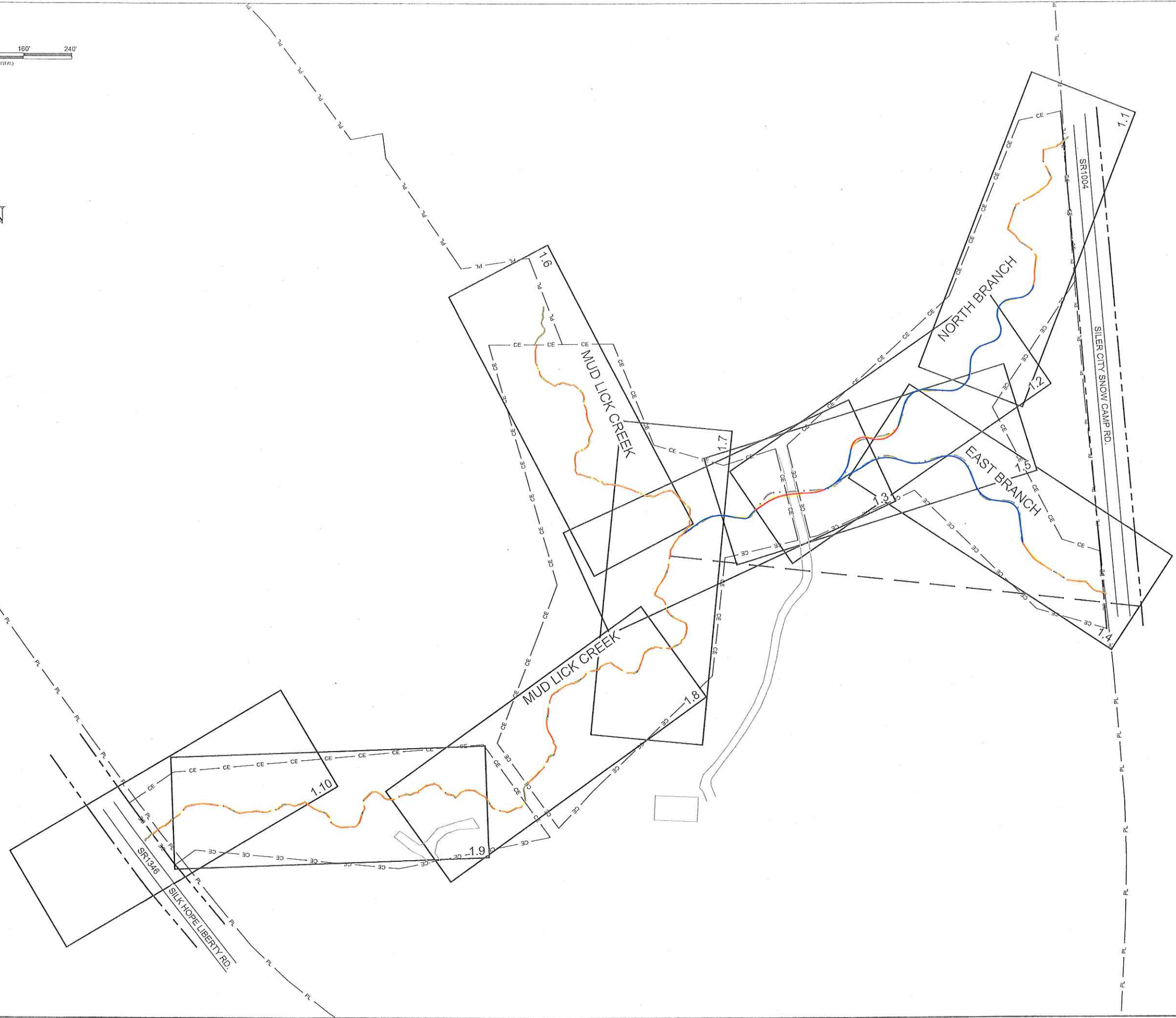
Date:	06/12/2018
Job Number:	00502142
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK
Revisions:	

0.2

Sheet

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June 12, 2018



Record Drawing

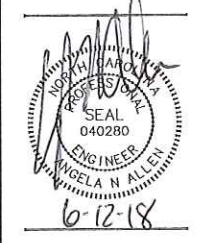
Date:	06.12.2018
Job Number:	DPS-0212
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNS

0.3

Revisions:	

Mud Lick Creek Mitigation Site
Chatham County, North Carolina

Stream Overlay Overview

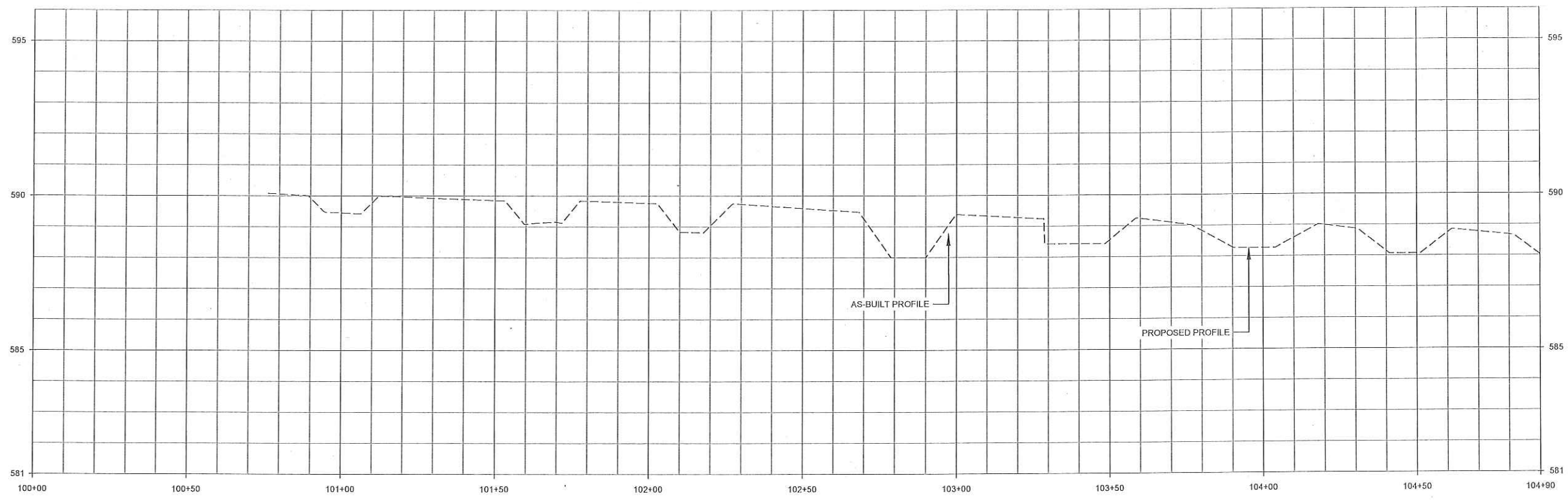


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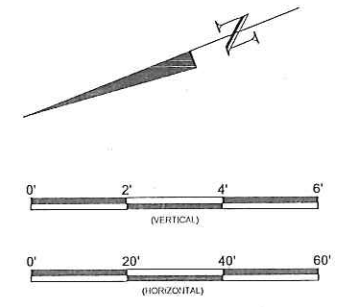
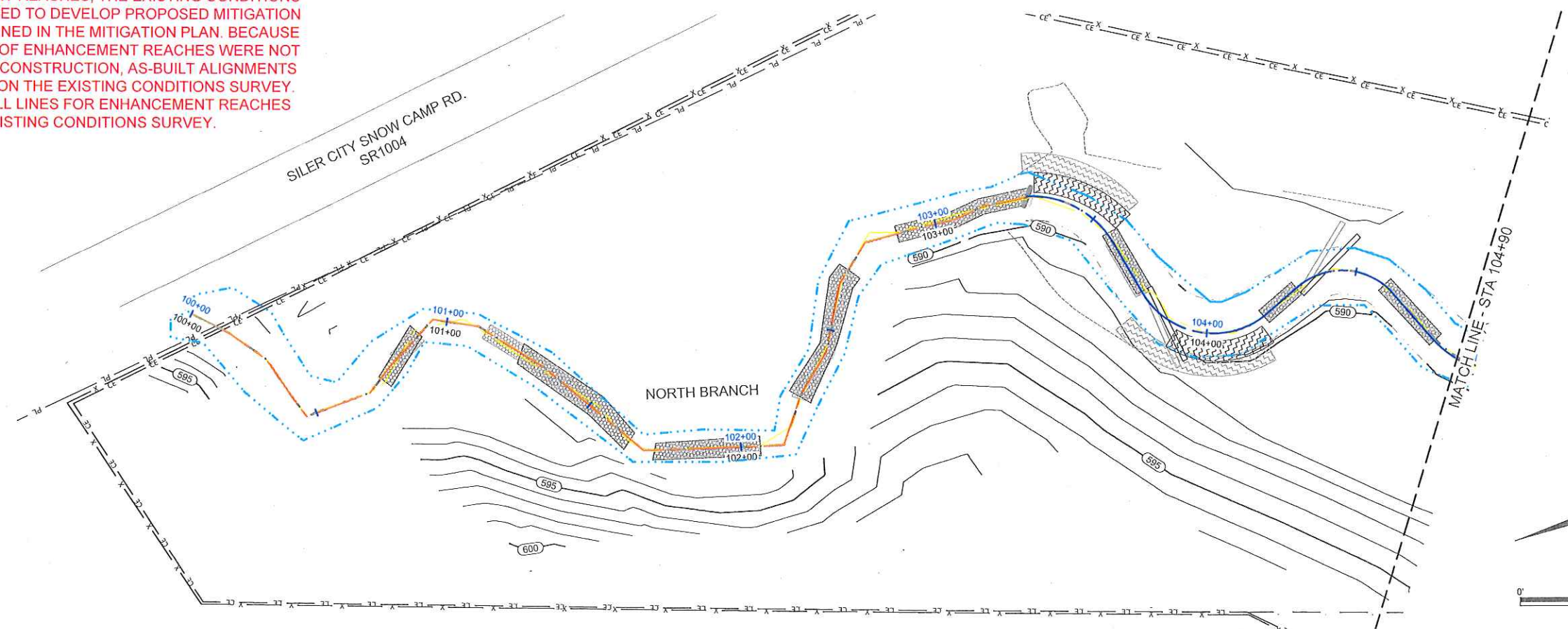
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Waynesville, NC 27586
Tel: 919.951.9896
Firm License No. F-0831

Sheet

June 13, 2018
 E:\Projects\001\0143_Mud Lick Creek\CD\Plan\0143-AP_Stream Overlay Plans.dwg



- NOTES:**
1. FOR ENHANCEMENT REACHES, THE EXISTING CONDITIONS THALWEG WAS USED TO DEVELOP PROPOSED MITIGATION CREDITS AS OUTLINED IN THE MITIGATION PLAN. BECAUSE THE ALIGNMENTS OF ENHANCEMENT REACHES WERE NOT ALTERED DURING CONSTRUCTION, AS-BUILT ALIGNMENTS ARE ALSO BASED ON THE EXISTING CONDITIONS SURVEY.
 2. AS-BUILT BANKFULL LINES FOR ENHANCEMENT REACHES ARE BASED ON EXISTING CONDITIONS SURVEY.



Record Drawing

Revisions: Bankfull symbol on the North Branch enhancement. If reach was revised to be more consistent with other reaches.

Date:	06.13.2018
Job Number:	001-0212
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK

1.1

Sheet

Mud Lick Creek Mitigation Site
Chatham County, North Carolina

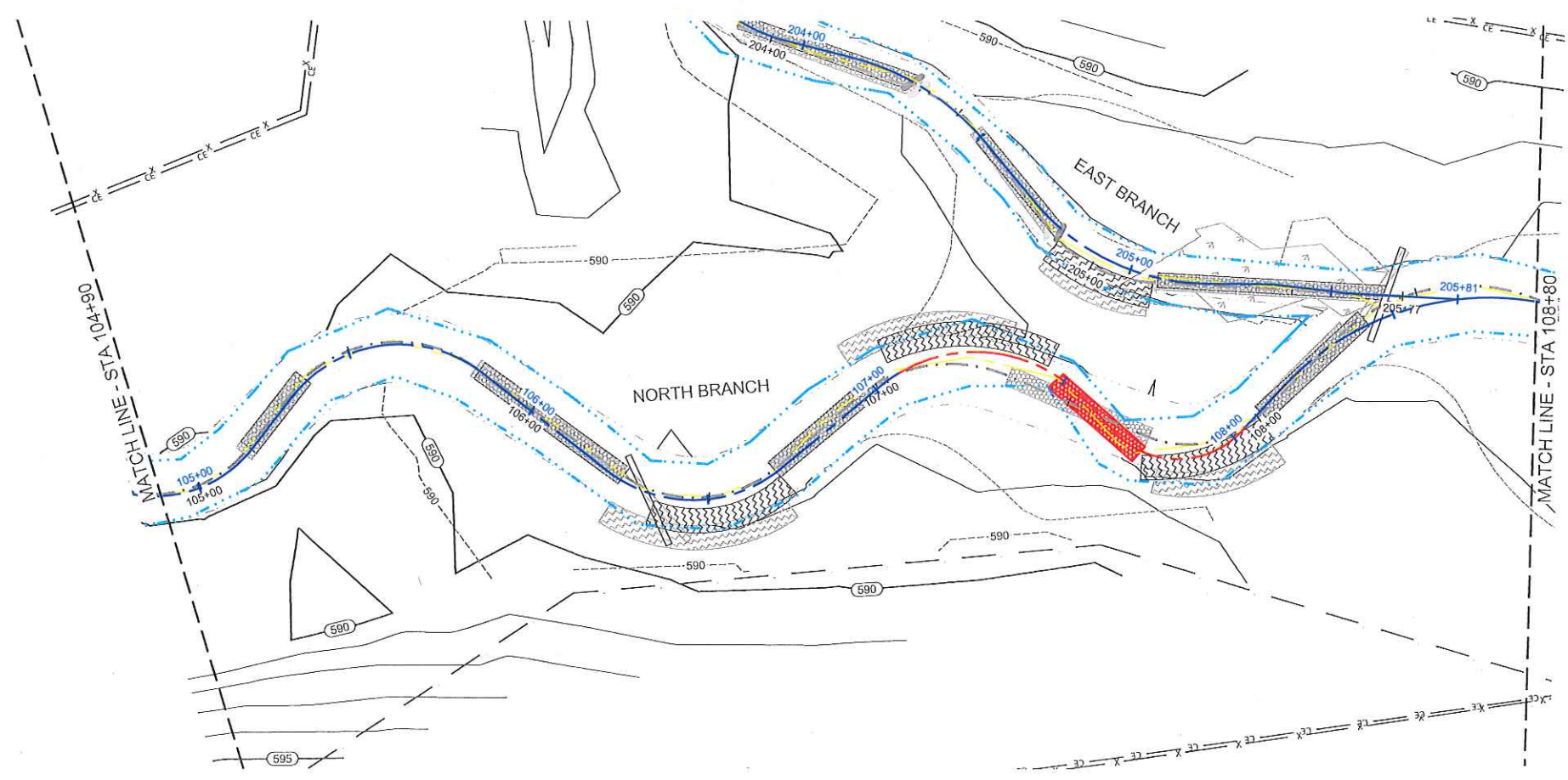
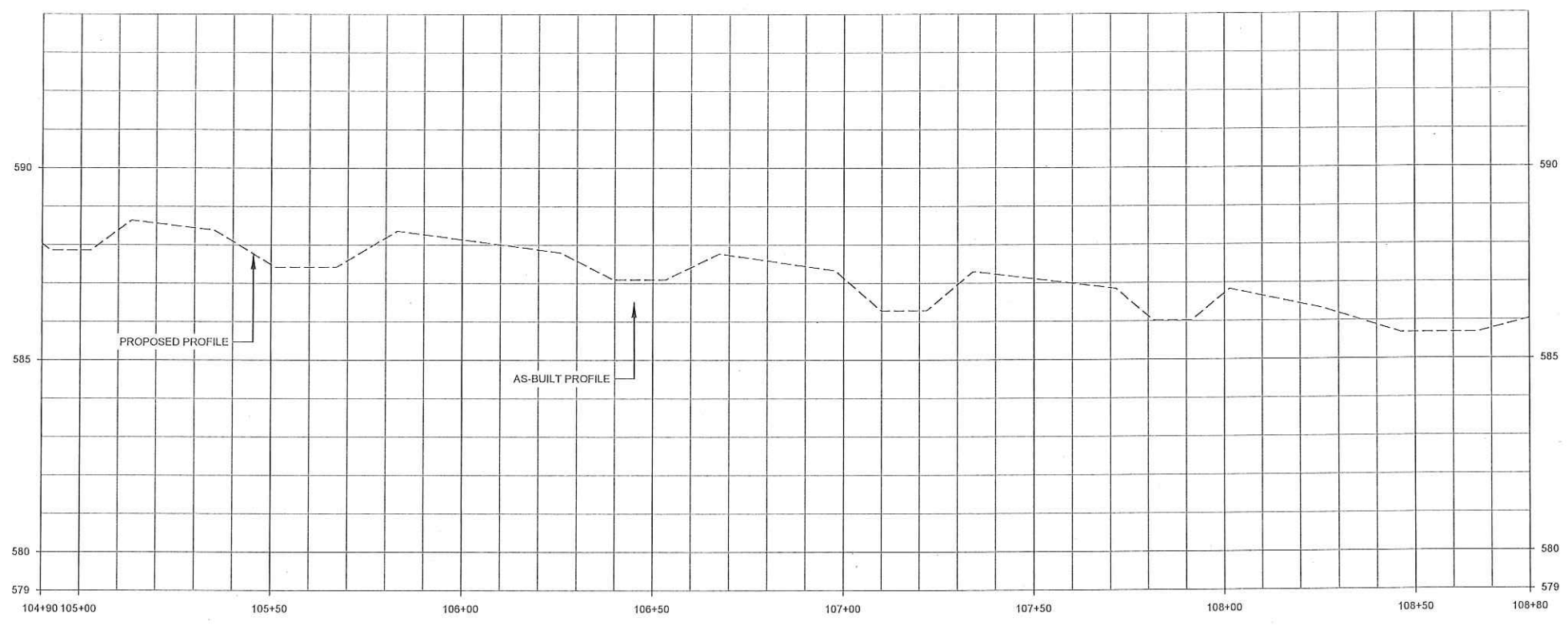
North Branch Reach 1
Stream Overlay Plans



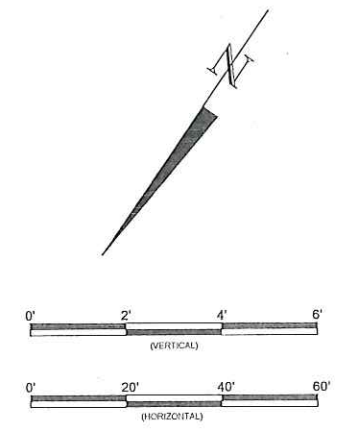
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Tel: 919.851.9956
Firm License No. F-0831

June 12, 2018

F:\Projects\011414 Mud Lick Creek\Civil\Plan\011414-18-Stream Overlay Plans.dwg



NOTE: FROM NORTH BRANCH STA. 107+55 TO STA. 107+86, PROPOSED STREAM ALIGNMENT REALIGNED IN ORDER TO AVOID EXISTING BEDROCK.



Record Drawing

Date:	06/12/2018
Job Number:	058-0212
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK

1.2

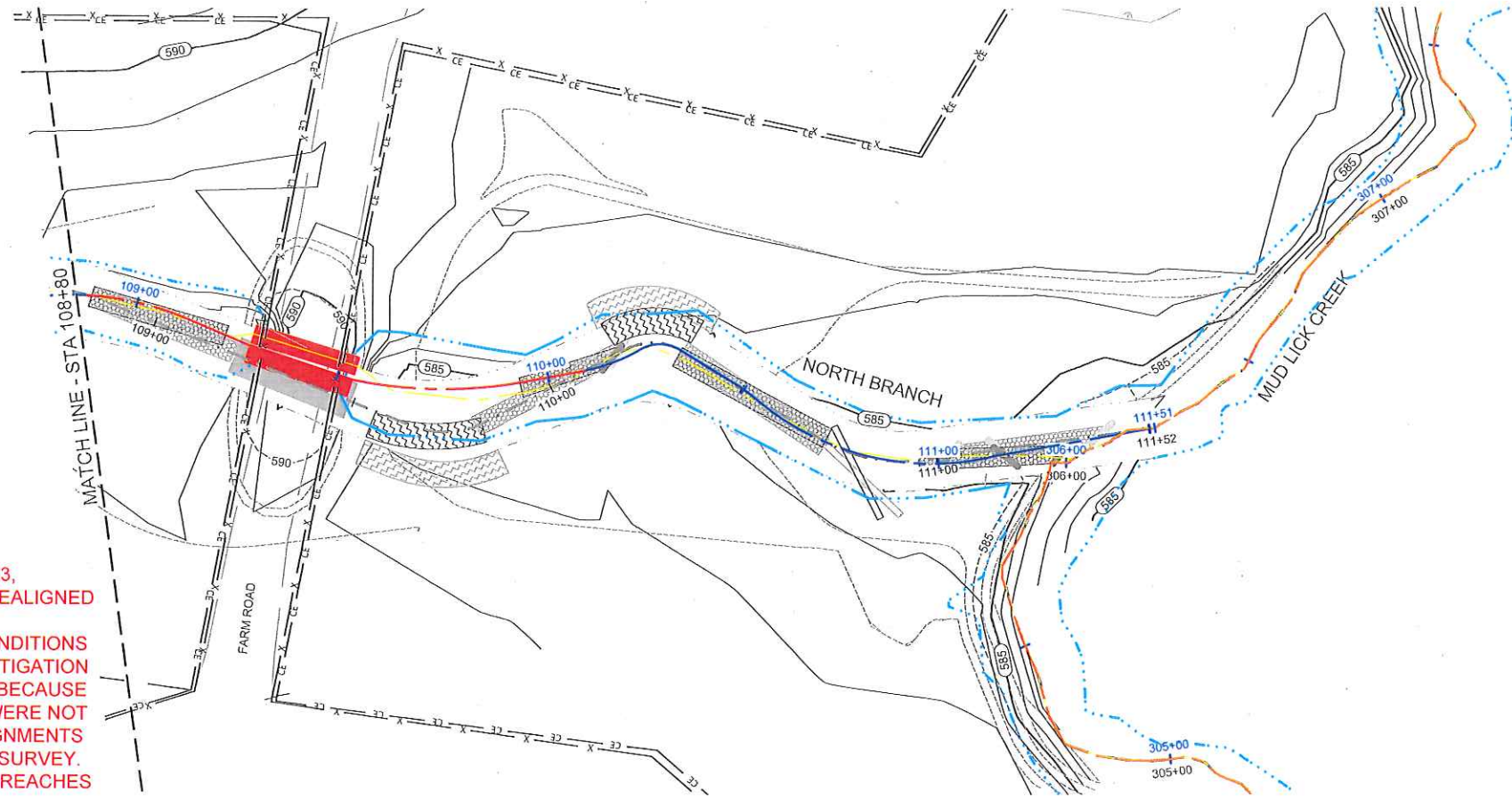
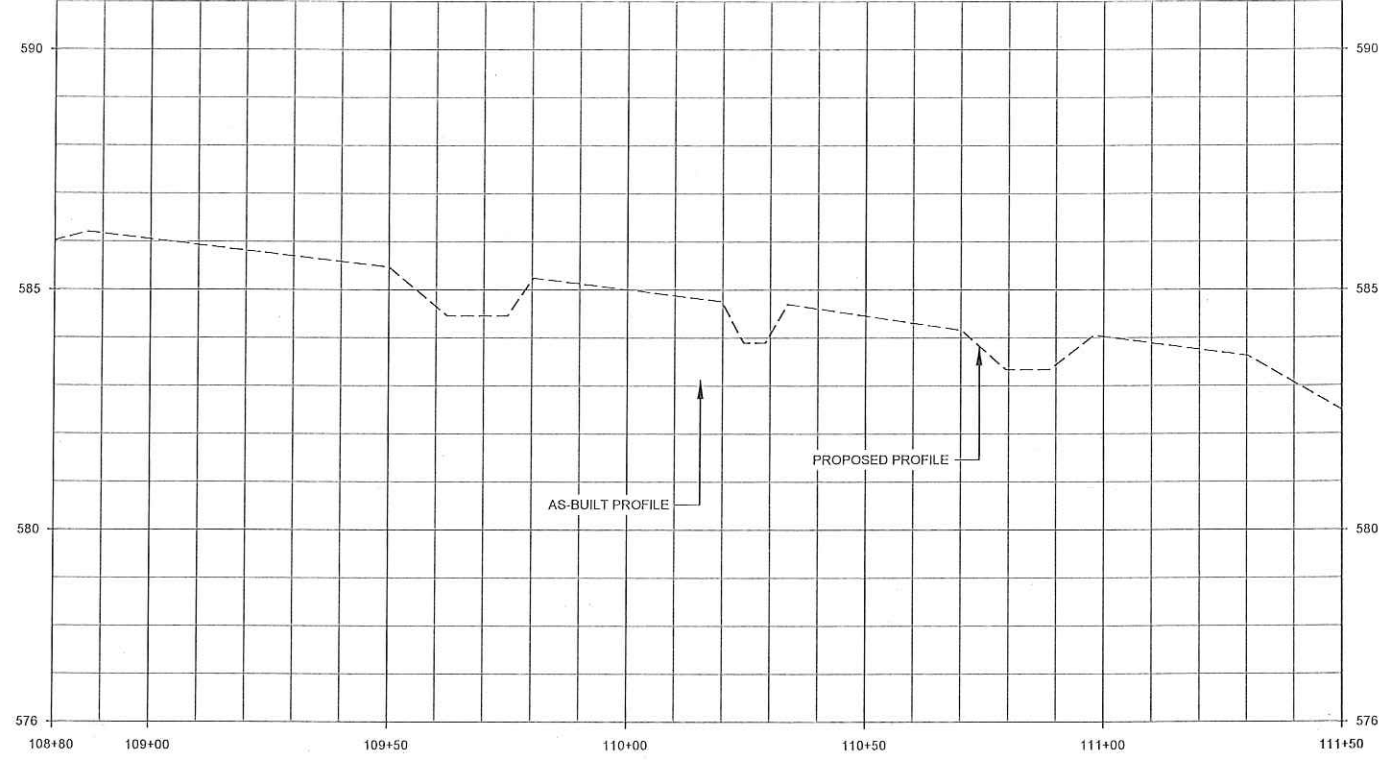
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Mud Lick Creek Mitigation Site
 Chatham County, North Carolina
 North Branch Reaches 1 & 2
 Stream Overlay Plans

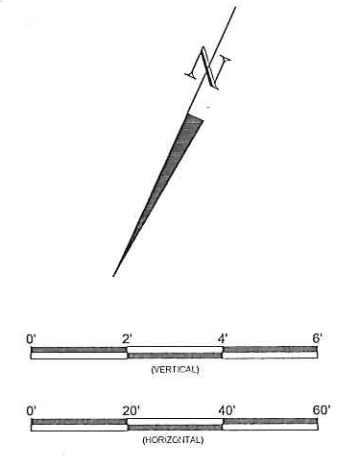


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File Path: \\s0112142.Mud.Lick.Creek\cadd\plans\Record Drawings\02142.A.A.B.Stream Overlay Plans.dwg
 Date: 06/12/2018 09:52:02



- NOTES:**
1. FROM NORTH BRANCH STA. 108+82 TO STA. 110+03, PROPOSED STREAM ALIGNMENT AND CULVERT REALIGNED IN ORDER TO AVOID EXISTING BEDROCK.
 2. FOR ENHANCEMENT REACHES, THE EXISTING CONDITIONS THALWEG WAS USED TO DEVELOP PROPOSED MITIGATION CREDITS AS OUTLINED IN THE MITIGATION PLAN. BECAUSE THE ALIGNMENTS OF ENHANCEMENT REACHES WERE NOT ALTERED DURING CONSTRUCTION, AS-BUILT ALIGNMENTS ARE ALSO BASED ON THE EXISTING CONDITIONS SURVEY.
 3. AS-BUILT BANKFULL LINES FOR ENHANCEMENT II REACHES ARE BASED ON EXISTING CONDITIONS SURVEY.



Record Drawing

Date:	06/12/2018
Job Number:	095-0212
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK

1.3

Sheet

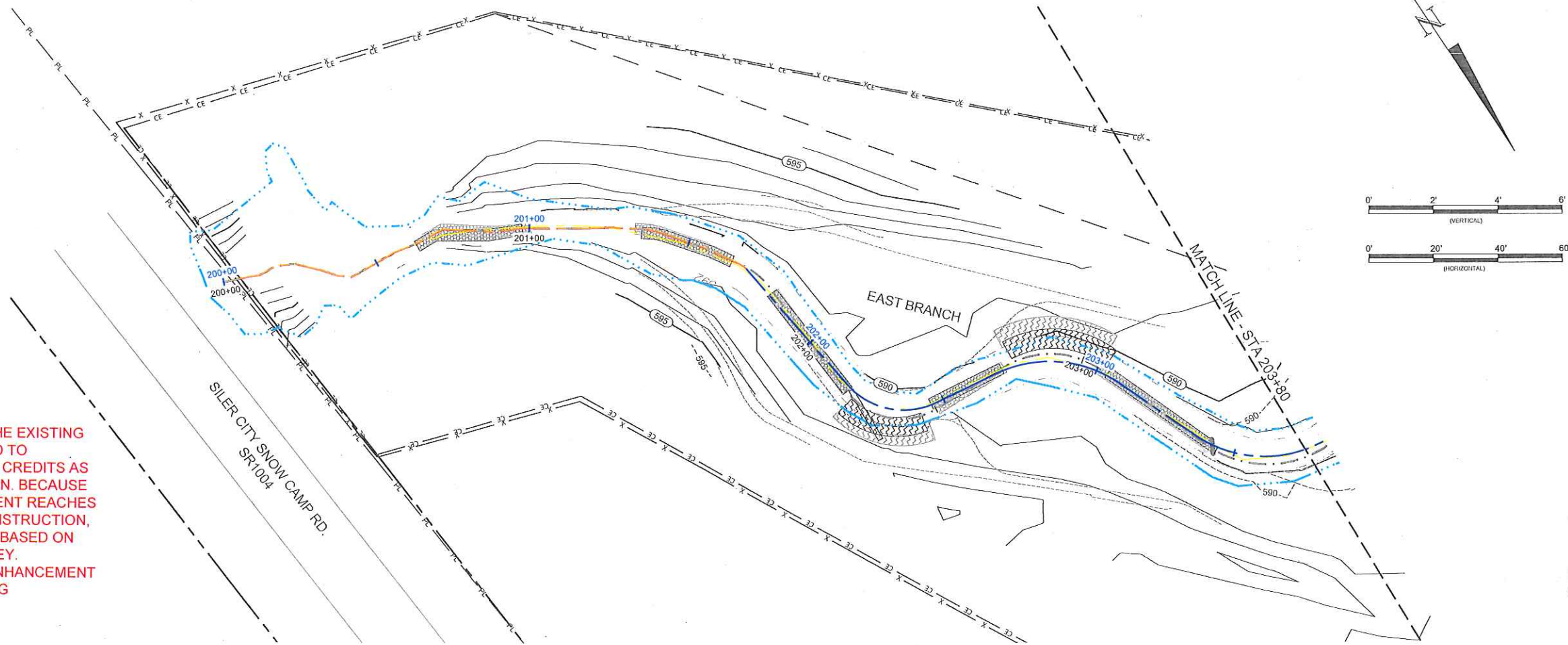
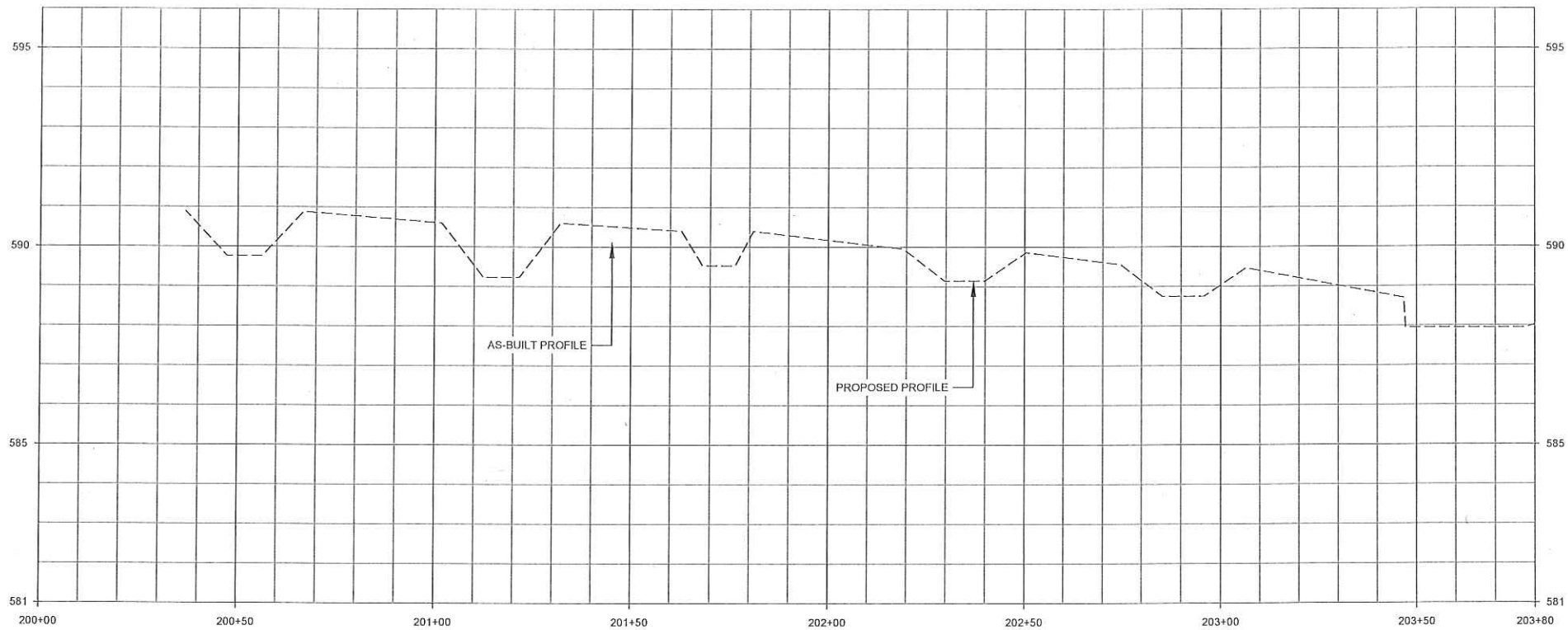
Mud Lick Creek Mitigation Site
 Chatham County, North Carolina
 North Branch Reach 2
 Stream Overlay Plans



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June 17, 2018

F:\Projects\091618142 Mud Lick Creek\Civil\Plan\As-Built\Record Drawings\091618142-AB-Stream Overlay Plans.dwg



NOTES:

1. FOR ENHANCEMENT REACHES, THE EXISTING CONDITIONS THALWEG WAS USED TO DEVELOP PROPOSED MITIGATION CREDITS AS OUTLINED IN THE MITIGATION PLAN. BECAUSE THE ALIGNMENTS OF ENHANCEMENT REACHES WERE NOT ALTERED DURING CONSTRUCTION, AS-BUILT ALIGNMENTS ARE ALSO BASED ON THE EXISTING CONDITIONS SURVEY.
2. AS-BUILT BANKFULL LINES FOR ENHANCEMENT REACHES ARE BASED ON EXISTING CONDITIONS SURVEY.

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Mud Lick Creek Mitigation Site
Chatham County, North Carolina

East Branch
Stream Overlay Plans

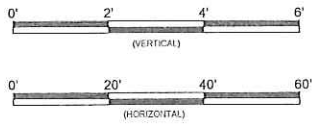
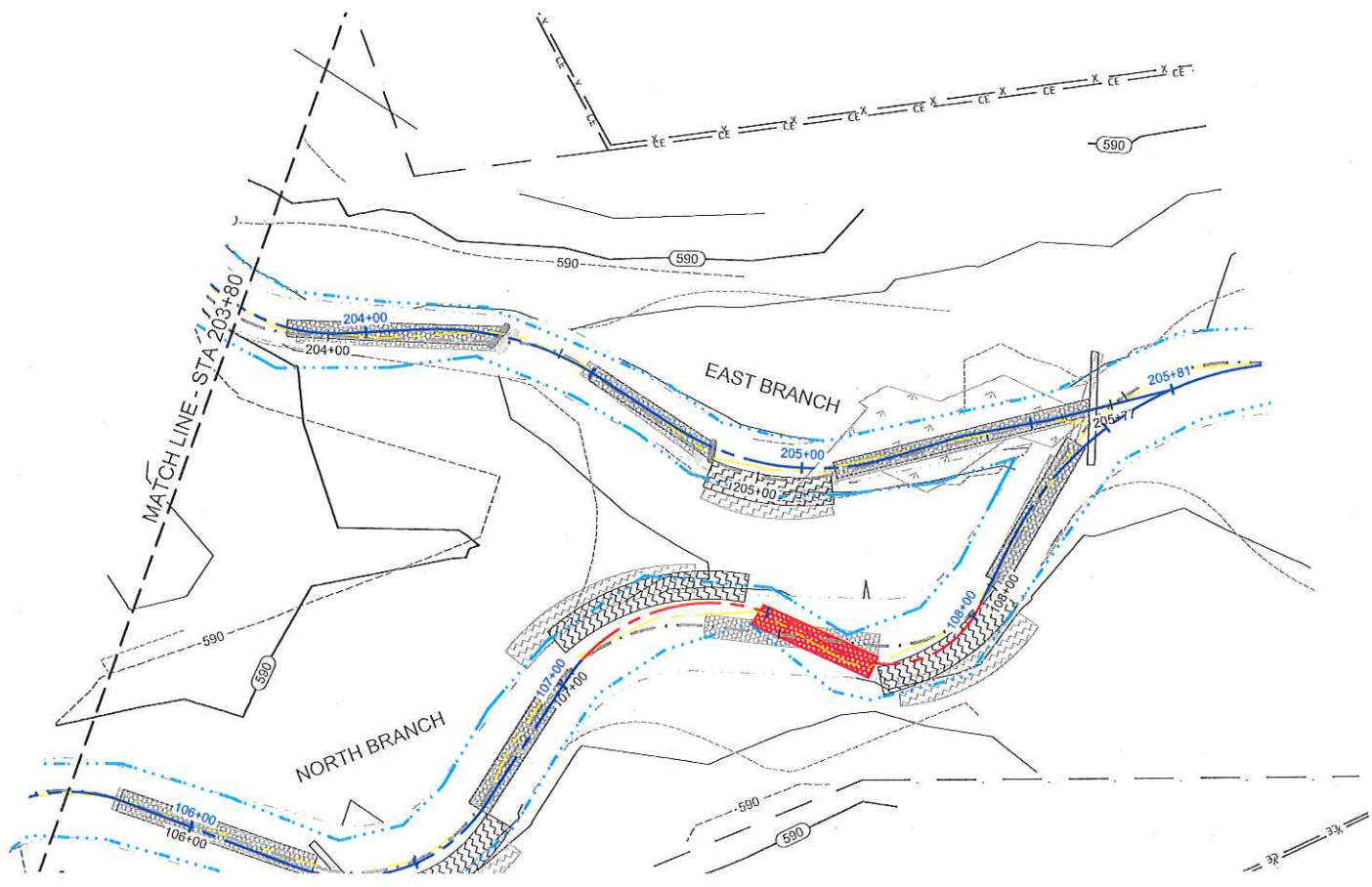
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Date:	06.12.2018
Job Number:	091618142
Project Engineer:	ANJ
Drawn By:	CLM
Checked By:	JNK

Revisions: Beneficial symbology on the East Branch enhancement reach was revised to be more consistent with other reaches.

1.4

Sheet

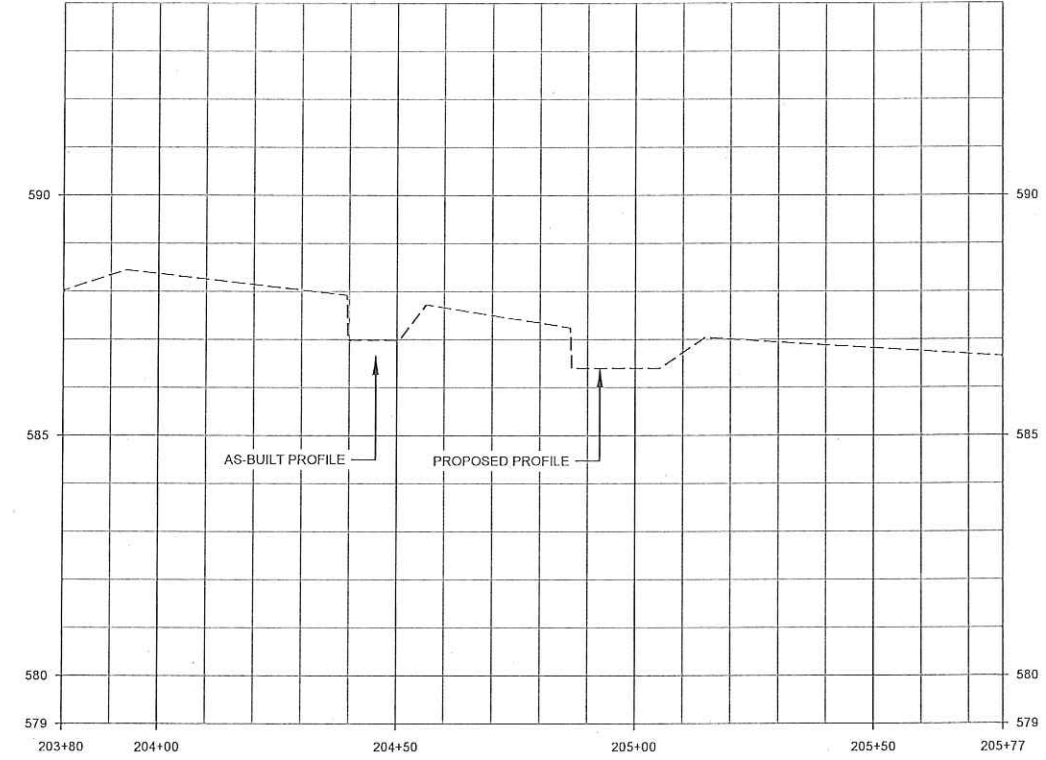


Record Drawing

Date:	06/12/2018
Job Number:	005-0212
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK

1.5

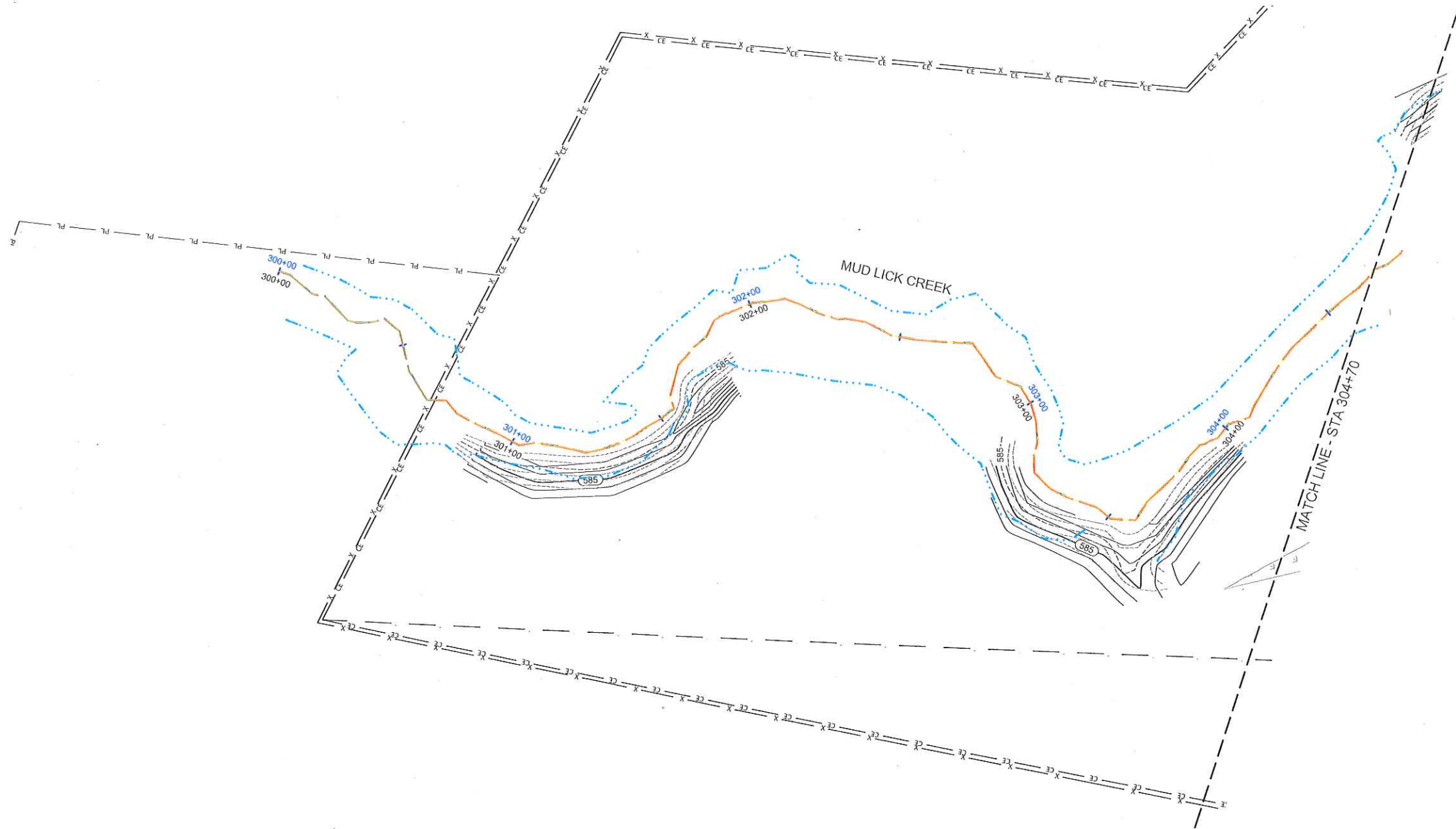
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Mud Lick Creek Mitigation Site
Chatham County, North Carolina

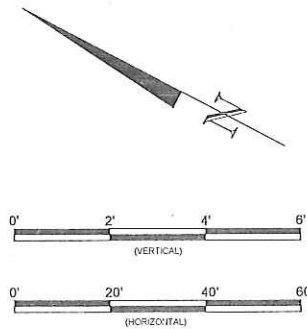
East Branch
Stream Overlay Plans





NOTES:

1. FOR ENHANCEMENT REACHES, THE EXISTING CONDITIONS THALWEG WAS USED TO DEVELOP PROPOSED MITIGATION CREDITS AS OUTLINED IN THE MITIGATION PLAN. BECAUSE THE ALIGNMENTS OF ENHANCEMENT REACHES WERE NOT ALTERED DURING CONSTRUCTION, AS-BUILT ALIGNMENTS ARE ALSO BASED ON THE EXISTING CONDITIONS SURVEY.
2. AS-BUILT BANKFULL LINES FOR ENHANCEMENT REACHES ARE BASED ON EXISTING CONDITIONS SURVEY.



Record Drawing

Date:	06/12/2018
Job Number:	00542142
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK

1.6

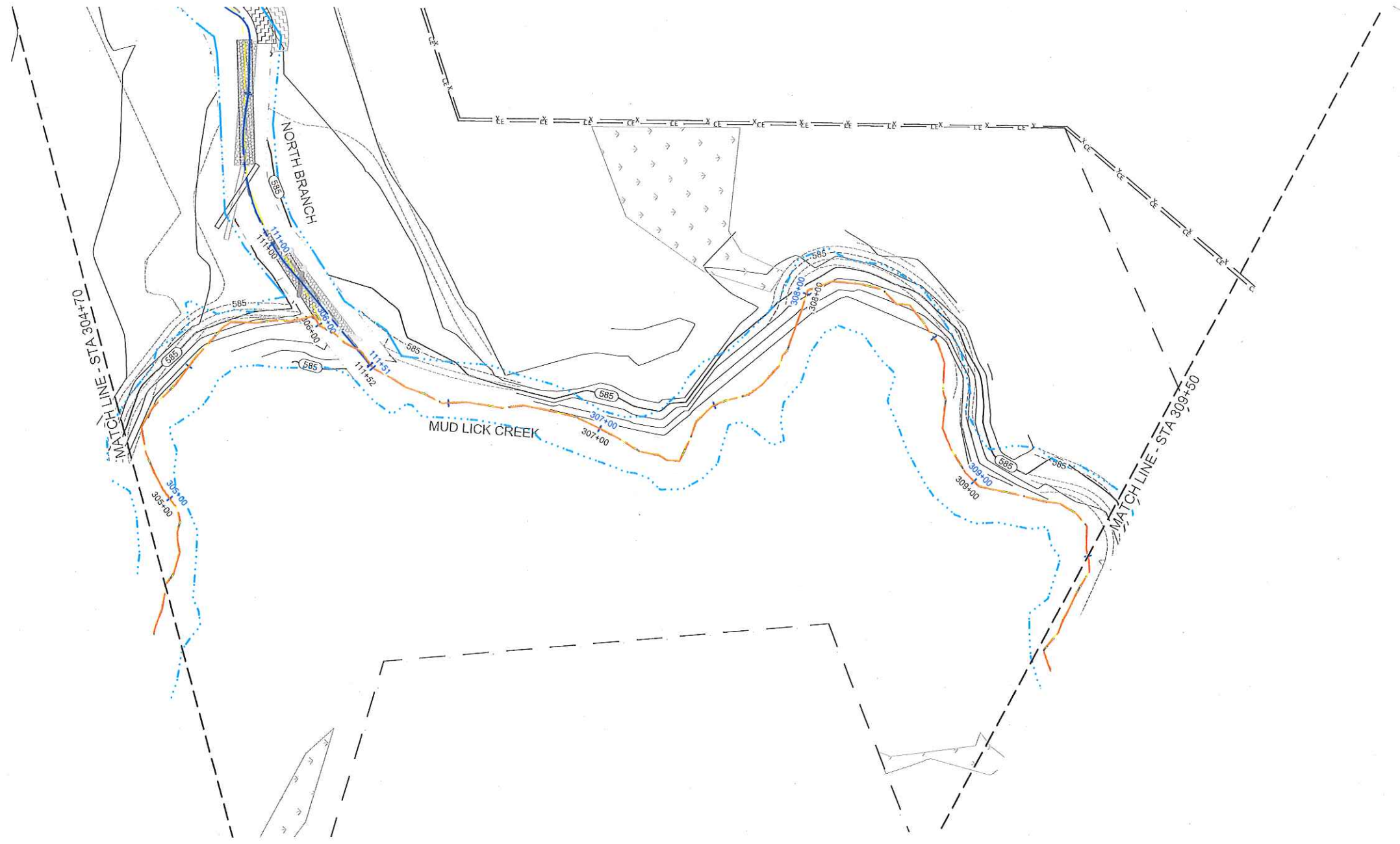
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Mud Lick Creek Mitigation Site
 Chatham County, North Carolina

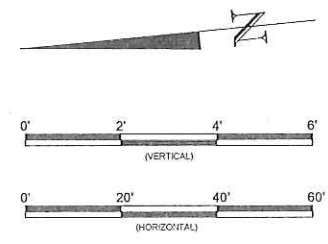
Mud Lick Creek Reach 1
 Stream Overlay Plans



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- NOTES:**
- FOR ENHANCEMENT REACHES, THE EXISTING CONDITIONS THALWEG WAS USED TO DEVELOP PROPOSED MITIGATION CREDITS AS OUTLINED IN THE MITIGATION PLAN. BECAUSE THE ALIGNMENTS OF ENHANCEMENT REACHES WERE NOT ALTERED DURING CONSTRUCTION, AS-BUILT ALIGNMENTS ARE ALSO BASED ON THE EXISTING CONDITIONS SURVEY.
 - AS-BUILT BANKFULL LINES FOR ENHANCEMENT REACHES ARE BASED ON EXISTING CONDITIONS SURVEY.



Record Drawing

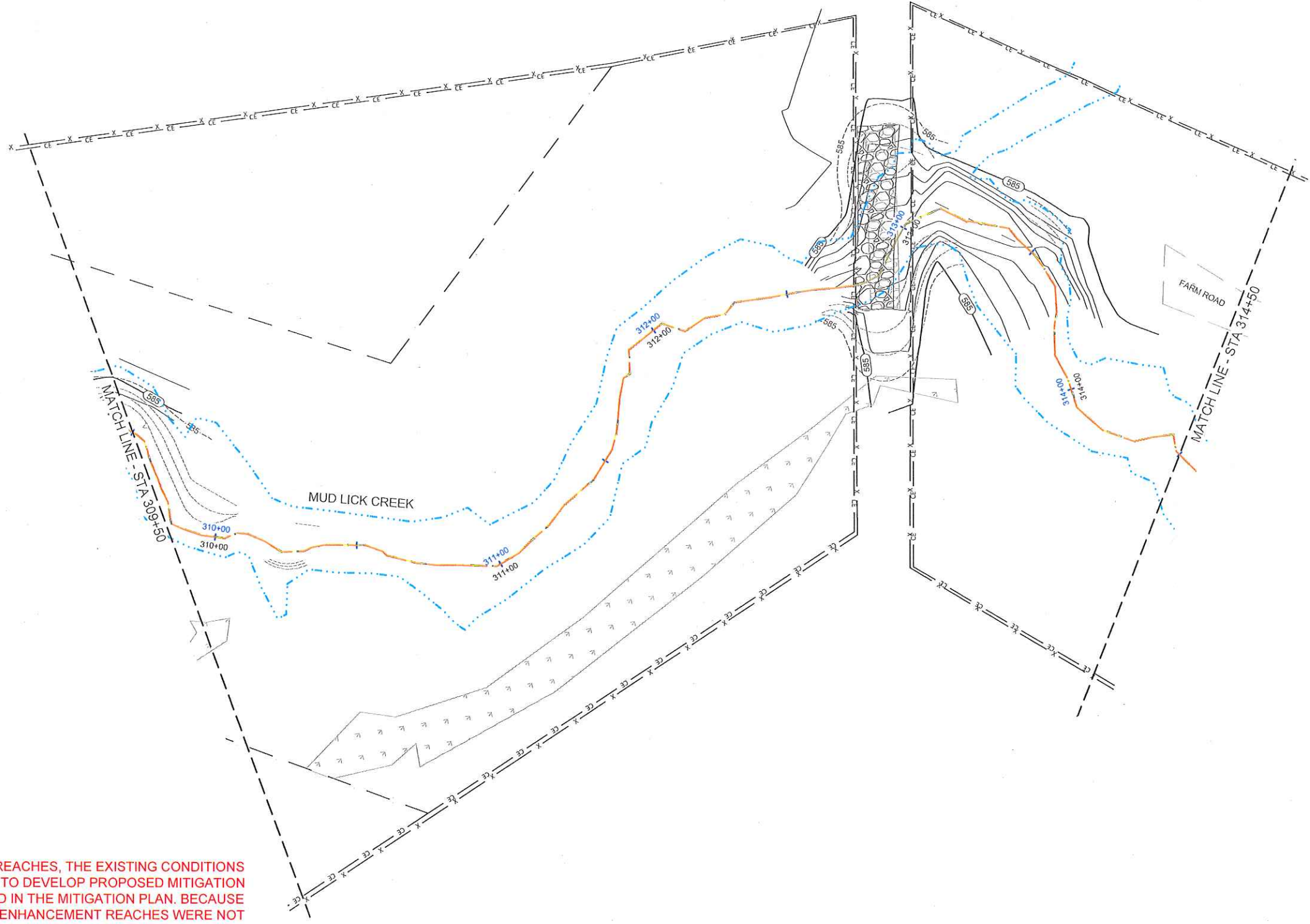
Date:	06.12.2018
Job Number:	095-02142
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK

1.7

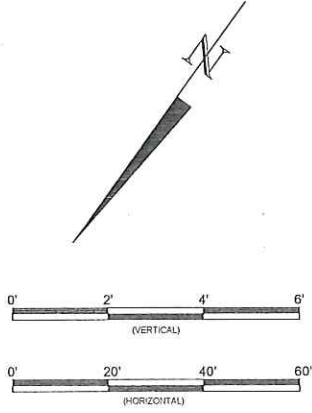
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Mud Lick Creek Mitigation Site
 Chatham County, North Carolina
 Mud Lick Creek Reaches 1 & 2
 Stream Overlay Plans





- NOTES:**
1. FOR ENHANCEMENT REACHES, THE EXISTING CONDITIONS THALWEG WAS USED TO DEVELOP PROPOSED MITIGATION CREDITS AS OUTLINED IN THE MITIGATION PLAN. BECAUSE THE ALIGNMENTS OF ENHANCEMENT REACHES WERE NOT ALTERED DURING CONSTRUCTION, AS-BUILT ALIGNMENTS ARE ALSO BASED ON THE EXISTING CONDITIONS SURVEY.
 2. AS-BUILT BANKFULL LINES FOR ENHANCEMENT REACHES ARE BASED ON EXISTING CONDITIONS SURVEY.



Record Drawing

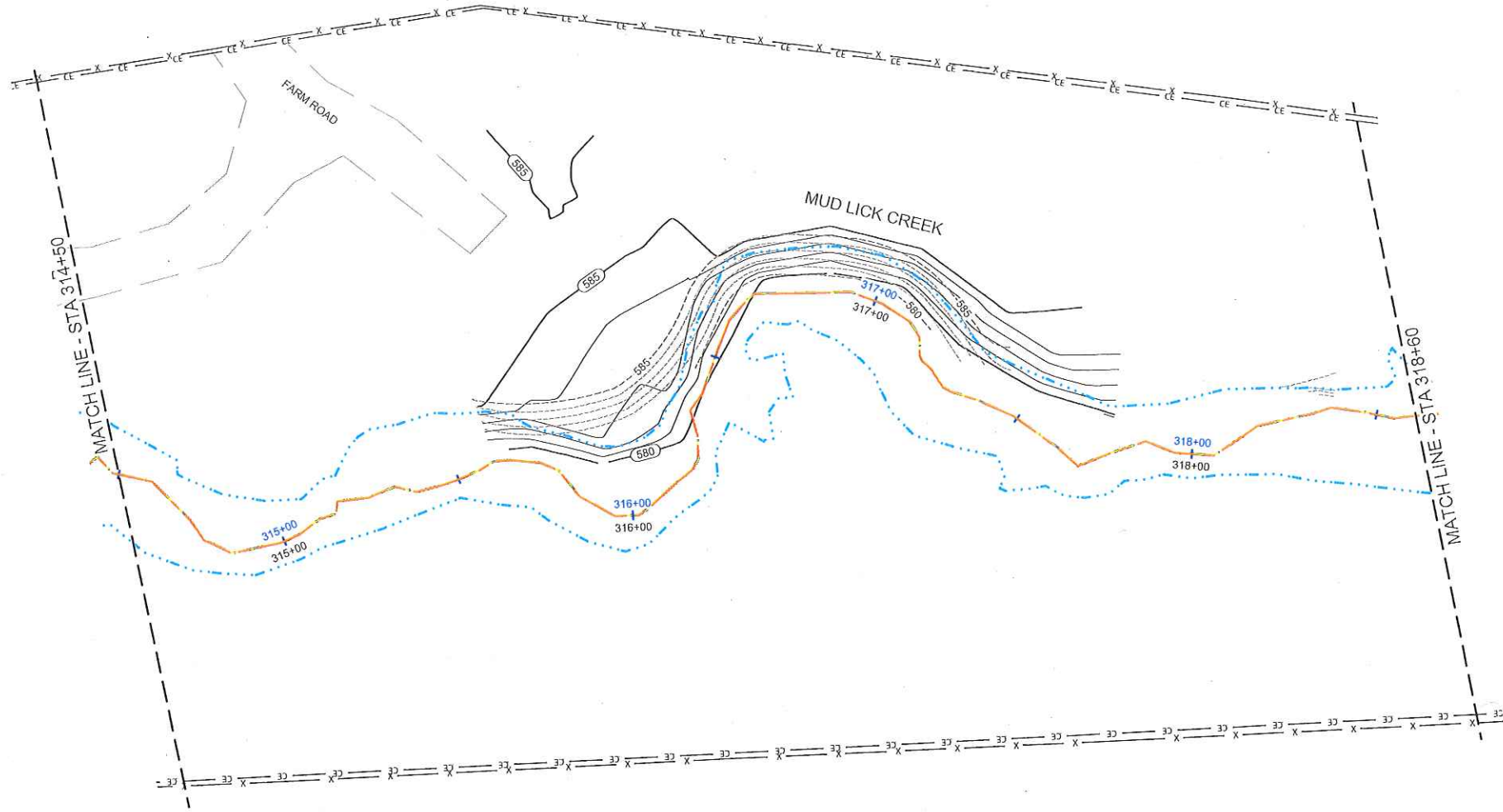
Date:	06.12.2018
Job Number:	095-02142
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK

1.8

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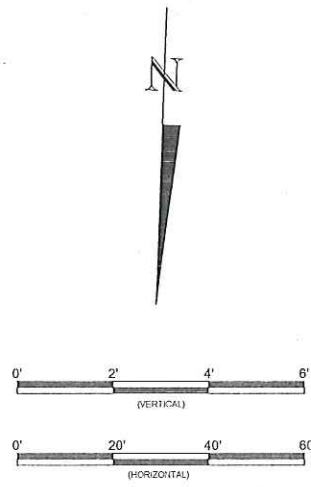
Mud Lick Creek Mitigation Site
 Chatham County, North Carolina
 Mud Lick Creek Reaches 2 & 3
 Stream Overlay Plans





NOTES:

1. FOR ENHANCEMENT REACHES, THE EXISTING CONDITIONS THALWEG WAS USED TO DEVELOP PROPOSED MITIGATION CREDITS AS OUTLINED IN THE MITIGATION PLAN. BECAUSE THE ALIGNMENTS OF ENHANCEMENT REACHES WERE NOT ALTERED DURING CONSTRUCTION, AS-BUILT ALIGNMENTS ARE ALSO BASED ON THE EXISTING CONDITIONS SURVEY.
2. AS-BUILT BANKFULL LINES FOR ENHANCEMENT REACHES ARE BASED ON EXISTING CONDITIONS SURVEY.



Record Drawing

Date:	06/12/2018
Job Number:	095-02142
Project Engineer:	ANA
Drawer By:	CLM
Checked By:	JNK
Revised:	

1.9

Sheet

Mud Lick Creek Mitigation Site
 Chatham County, North Carolina
 Mud Lick Creek Reach 3
 Stream Overlay Plans

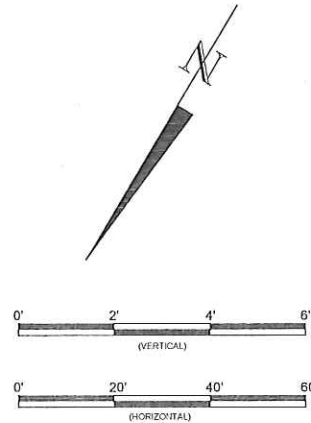


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NOTES:

1. FOR ENHANCEMENT REACHES, THE EXISTING CONDITIONS THALWEG WAS USED TO DEVELOP PROPOSED MITIGATION CREDITS AS OUTLINED IN THE MITIGATION PLAN. BECAUSE THE ALIGNMENTS OF ENHANCEMENT REACHES WERE NOT ALTERED DURING CONSTRUCTION, AS-BUILT ALIGNMENTS ARE ALSO BASED ON THE EXISTING CONDITIONS SURVEY.
2. AS-BUILT BANKFULL LINES FOR ENHANCEMENT REACHES ARE BASED ON EXISTING CONDITIONS SURVEY.



Record Drawing

Date:	06/12/2018
DSS Number:	095/02142
Project Engineer:	ANY
Drawn By:	CLR
Checked By:	JNK

1.10

Sheet

Mud Lick Creek Mitigation Site
Chatham County, North Carolina

Mud Lick Creek Reach 3
Stream Overlay Plans

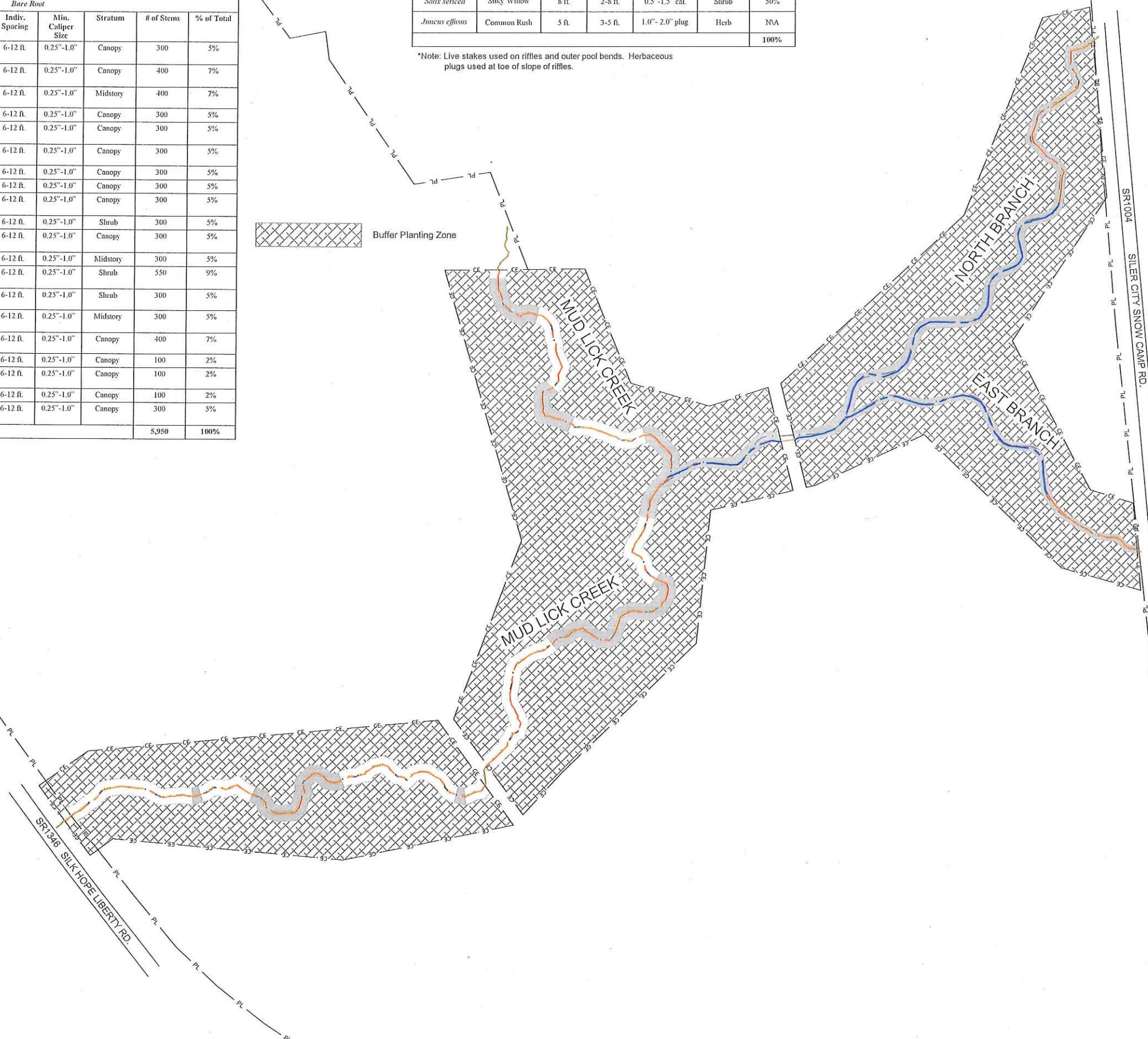


Buffer Planting Zone							
Bare Root							
Species	Common Name	Max Spacing	Indiv. Spacing	Min. Caliper Size	Stratum	# of Stems	% of Total
<i>Fraxinus pennsylvanica</i>	Green Ash	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	300	5%
<i>Platanus occidentalis</i>	Sycamore	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	400	7%
<i>Cercis canadensis</i>	Redbud	12 ft.	6-12 ft.	0.25"-1.0"	Midstory	400	7%
<i>Populus deltoides</i>	Cottonwood	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	300	5%
<i>Betula nigra</i>	River Birch	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	300	5%
<i>Celtis occidentalis</i>	Hackberry	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	300	5%
<i>Nyssa sylvatica</i>	Black Gum	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	300	5%
<i>Ulmus americana</i>	American Elm	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	300	5%
<i>Ostrya virginiana</i>	Eastern Hophornbeam	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	300	5%
<i>Sambucus spp.</i>	Elderberry	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	300	5%
<i>Robinia pseudoacacia</i>	Black Locust	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	300	5%
<i>Cornus amomum</i>	Silky Dogwood	12 ft.	6-12 ft.	0.25"-1.0"	Midstory	300	5%
<i>Hamelis virginiana</i>	Witch hazel	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	550	9%
<i>Cephalanthus occidentalis</i>	Buttonbush	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	300	5%
<i>Diospyros virginiana</i>	Persimmon	12 ft.	6-12 ft.	0.25"-1.0"	Midstory	300	5%
<i>Carpinus caroliniana</i>	Ironwood	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	400	7%
<i>Nyssa biflora</i>	Swamp Tupelo	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	100	2%
<i>Quercus michauxii</i>	Swamp Chestnut Oak	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	100	2%
<i>Quercus nigra</i>	Water Oak	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	100	2%
<i>Liriodendron tulipifera</i>	Tulip Poplar	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	300	5%
						5,950	100%

*Area for bare root planting = 9.6 acres

Streambank Planting Zone						
Live Stakes and Herbaceous Plugs						
Species	Common Name	Max Spacing	Indiv. Spacing	Min. Size	Stratum	# of Stems
<i>Cornus amomum</i>	Silky Dogwood	8 ft.	2-8 ft.	0.5"-1.5" cal.	Shrub	50%
<i>Salix sericea</i>	Silky Willow	8 ft.	2-8 ft.	0.5"-1.5" cal.	Shrub	50%
<i>Juncus effusus</i>	Common Rush	5 ft.	3-5 ft.	1.0"-2.0" plug	Herb	NA
						100%

*Note: Live stakes used on riffles and outer pool bends. Herbaceous plugs used at toe of slope of riffles.



6-12-18

Mud Lick Creek Mitigation Site
 Chatham County, North Carolina

Planting Plan

Record Drawing

Date:	06.12.2018
Job Number:	005-02112
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK

2.1

E:\Projects\0915\0915_02142_Mud Lick Creek\0915_02142_Mud Lick Creek\Drawings\0915_02142_AB_Fencing_Plan.dwg
 Date: 12/13/2018



PROPERTY BOUNDARY FOR REPRESENTATIVE PURPOSES ONLY. NOT FINAL SURVEY.



Record Drawing

Date:	06/12/2018
Job Number:	095-0212
Project Engineer:	ANA
Drawn By:	CLM
Checked By:	JNK

3.1

Sheet

Mud Lick Creek Mitigation Site
Chatham County, North Carolina

Fencing Plan




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