

Oak Hill Dairy Mitigation Site Record Drawing

Gaston County, North Carolina

for

NCDEQ

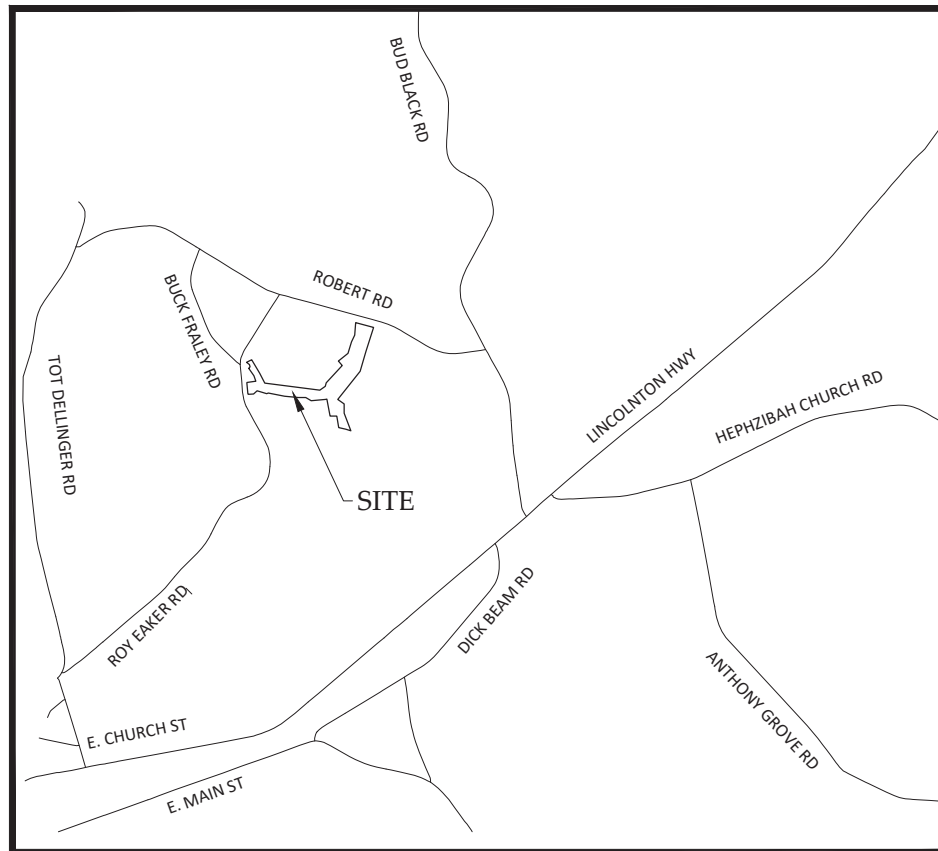
Division of Mitigation Services

Jacob P. McLean

Digitally signed by Jacob P. McLean
Date: 2023.04.18 11:55:27 -04'00'



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Vicinity Map
Not to Scale



**RECORD DRAWINGS
ISSUED APRIL 18, 2023**

STREAM ORIGINS		
NAME	NORTHING	EASTING
OAK HILL CREEK	609299	1299430
UT1	610055	1297694
UT1A	610499	1297711
UT1B	609941	1297705
UT2	610266	1299747
UT3	610616	1299891

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Project Directory

Engineering:
Wildlands Engineering, Inc
License No. F-0831
167-B Haywood Rd
Asheville, NC 28806
Jake Mclean, PE, CFM
828-774-5547

Owner:
NCDEQ - NC DMS
1652 Mail Service Center
Raleigh, NC 27699
Mathew Reid
828-231-7912

Surveying:
Kee Mapping and Surveying, PA
P.O. Box 2566
Asheville, NC 28802
Phillip B. Kee, PLS
828-575-9021

NCDEQ Contract No. 7867
DMS ID No. 100120
NC DWR#20190863
Catawba River Basin 03050102

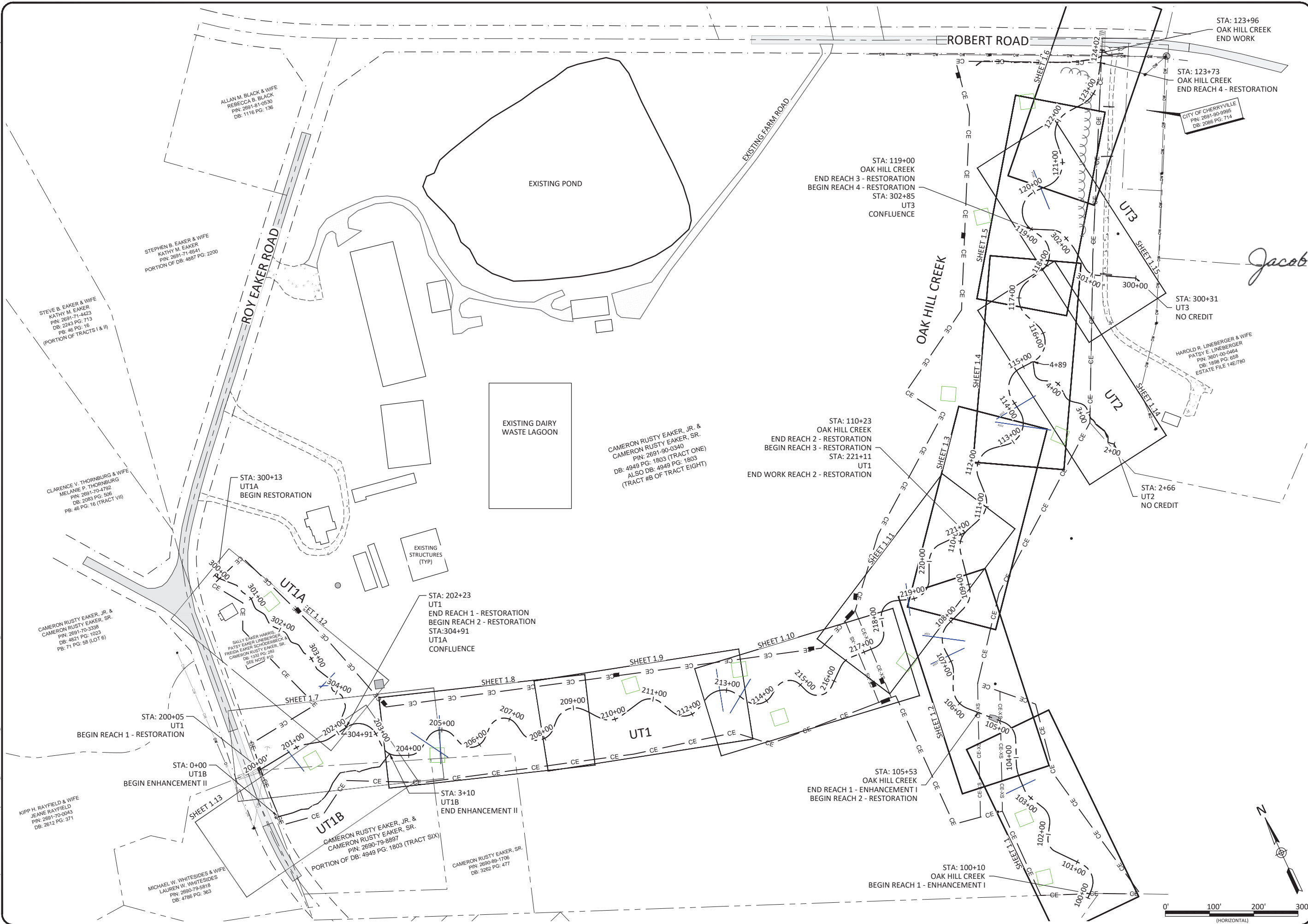
Oak Hill Dairy Mitigation Site Record Drawings
Gaston County, North Carolina

Title Sheet

Revisions:

Date: April 18, 2023
Job Number: 005-02182
Project Engineer: JM
Drawn By: AMR/JCK
Checked By: JCK

0.1



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Oak Hill Dairy Mitigation Site Record Drawings Gaston County, North Carolina

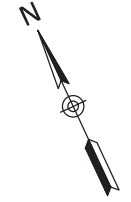
Project Overview

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Pre-Construction Features

- Pre-Construction Property Line
- Pre-Construction NCDOT Right-of-Way
- Pre-Construction Top of Bank
- Pre-Construction Overhead Utility Line
- Pre-Construction Overhead Utility Easement
- Pre-Construction Fence
- Pre-Construction Overhead Utility
- Pre-Construction Sanitary Sewer
- Pre-Construction Sanitary Sewer Right of Way
- Pre-Construction Tree Line
- Pre-Construction Storm Pipe
- Pre-Construction Wetland
- Pre-Construction Road
- Pre-Construction Rip Rap
- Pre-Construction Building
- Pre-Construction Utility Pole

Design Features

- Design Alignment
- Design Bankfull
- Design Major Contour (5' Interval)
- Design Minor Contour
- Design Permanent Culvert
- Design Woven Wire Fence
- Design Barbed Wire Fence
- Design 8' Double Gate
- Design 12' Single Gate

Design Structures

- Design Various Constructed Riffles
- Design Cascading Riffle/Rock Cascade
- Design Brush Toe
- Design Vegetated Soil Lift
- Design Bank Roughening
- Design Floodplain Roughening
- Design BMP
- Design Log Sill
- Design Cover Log
- Design Log J-hook
- Design Log Vane
- Design Rock Sill
- Design Boulder J-hook with Sill

Asbuilt Features

- Asbuilt Alignment
- Asbuilt Bankfull
- Recorded CE
- Recorded Internal Crossing
- Asbuilt LOD
- Asbuilt Major Contour (5' Interval)
- Asbuilt Minor Contour
- Asbuilt Permanent Culvert
- Asbuilt Fence
- Asbuilt 8' Double Gate
- Asbuilt 12' Single Gate
- Asbuilt Permanent Ford Crossing
- Asbuilt Stream Crossing - Culvert

Asbuilt Structures

- Asbuilt Various Constructed Riffles
- Asbuilt Cascading Riffle/Rock Cascade
- Asbuilt Brush Toe
- Asbuilt Vegetated Soil Lift
- Asbuilt BMP
- Asbuilt Gravel Farm Road
- Asbuilt Soil Farm Road
- Asbuilt Bank Roughening
- Asbuilt Boulder Toe
- Asbuilt Riprap
- Asbuilt Bridge Crossing
- Asbuilt Log Sill
- Asbuilt Cover Log
- Asbuilt Log J-hook
- Asbuilt Rock Sill
- Asbuilt Rock J-hook with Sill
- Asbuilt Log J-hook with Sill
- Photo Point
- Permanent Vegetation Plot
- Barotroll
- Ground Water Gage
- Crest Gage
- Monitoring Cross Section

PROJECT NOTES:
 As-built survey was completed March 2022.
 Updated As-built survey was completed November 2022.

Topographic survey was completed by Kee Mapping and Surveying, PA in July 2019.
 Parcel boundary survey completed by Kee Mapping and Surveying, PA in October 2019.
 Conservation easement survey completed by Kee Mapping and Surveying, PA in October 2020.

Topographic data supplemented with Lidar data from Feb - April 2017.

Riffle selection varied based on available materials at the Engineers' discretion. Field coordination will be required.

Project Notes:
 1. DEVIATIONS FROM THE DESIGN WILL BE SHOWN IN RED.



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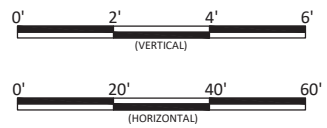
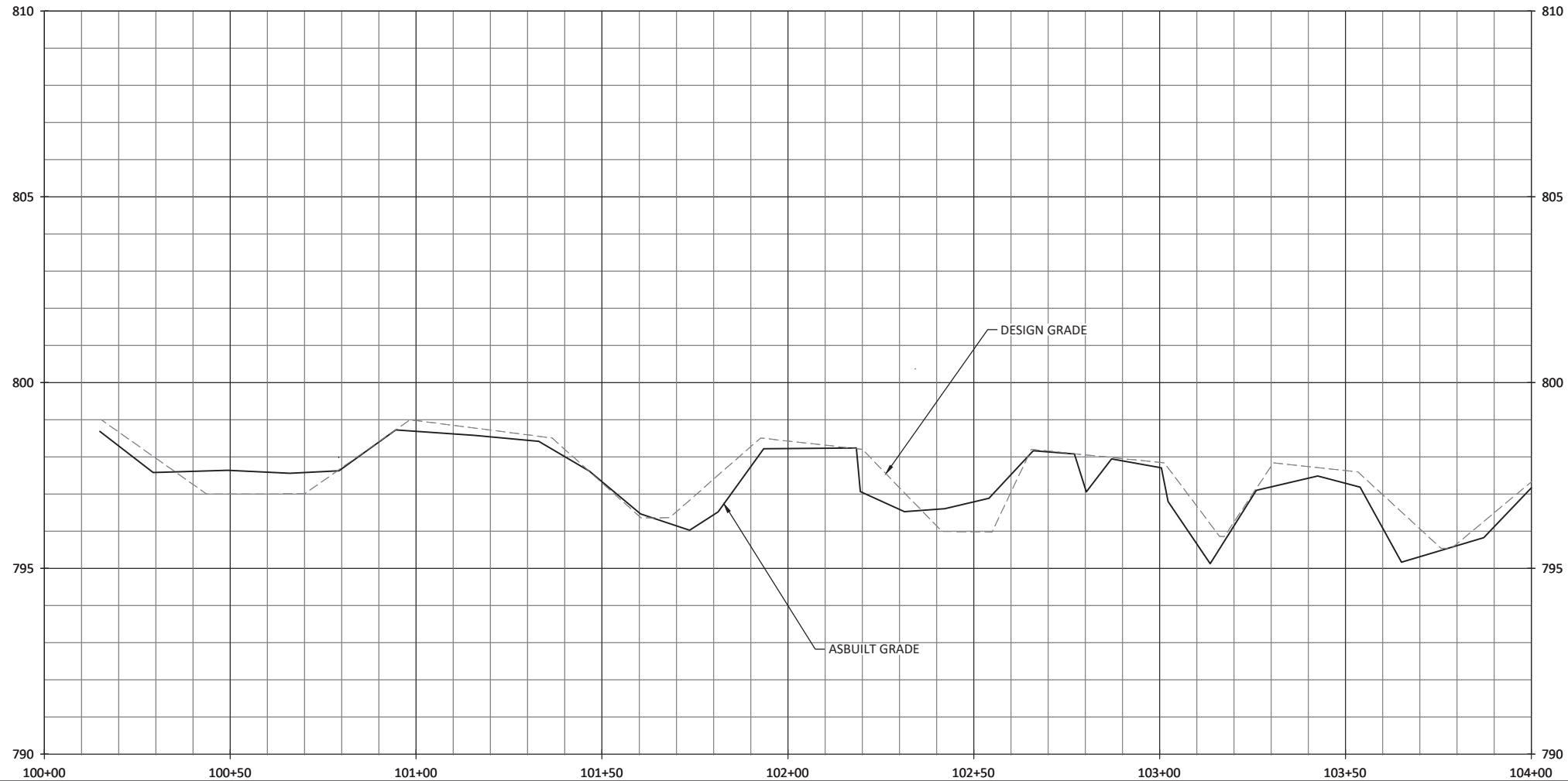
General Notes and Symbols

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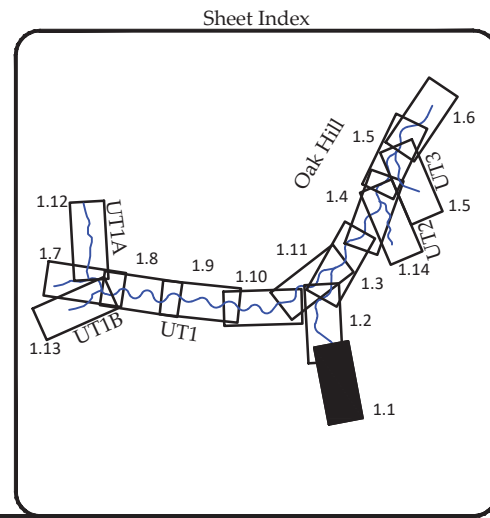
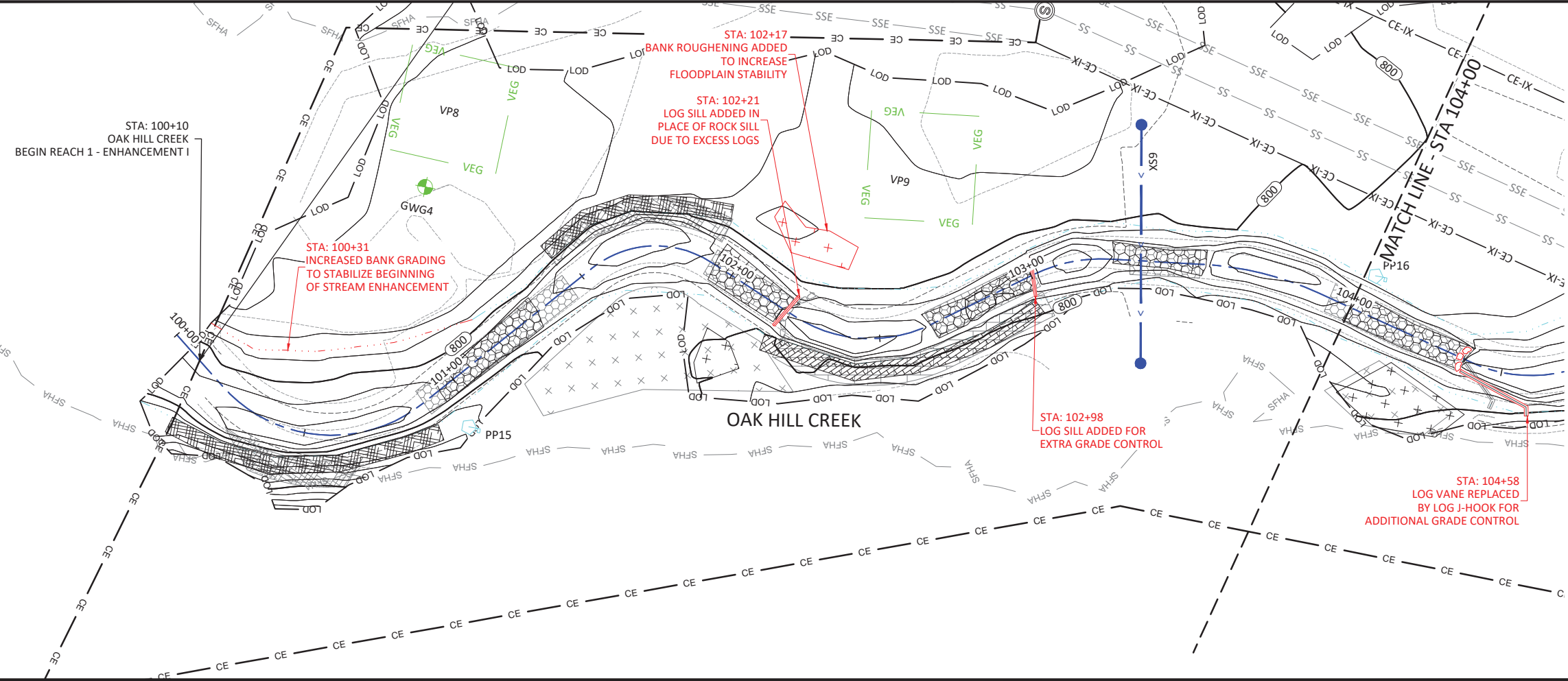


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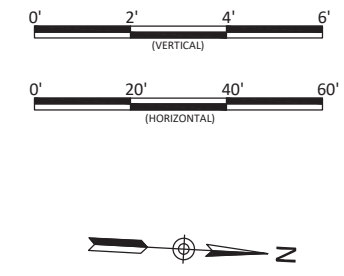
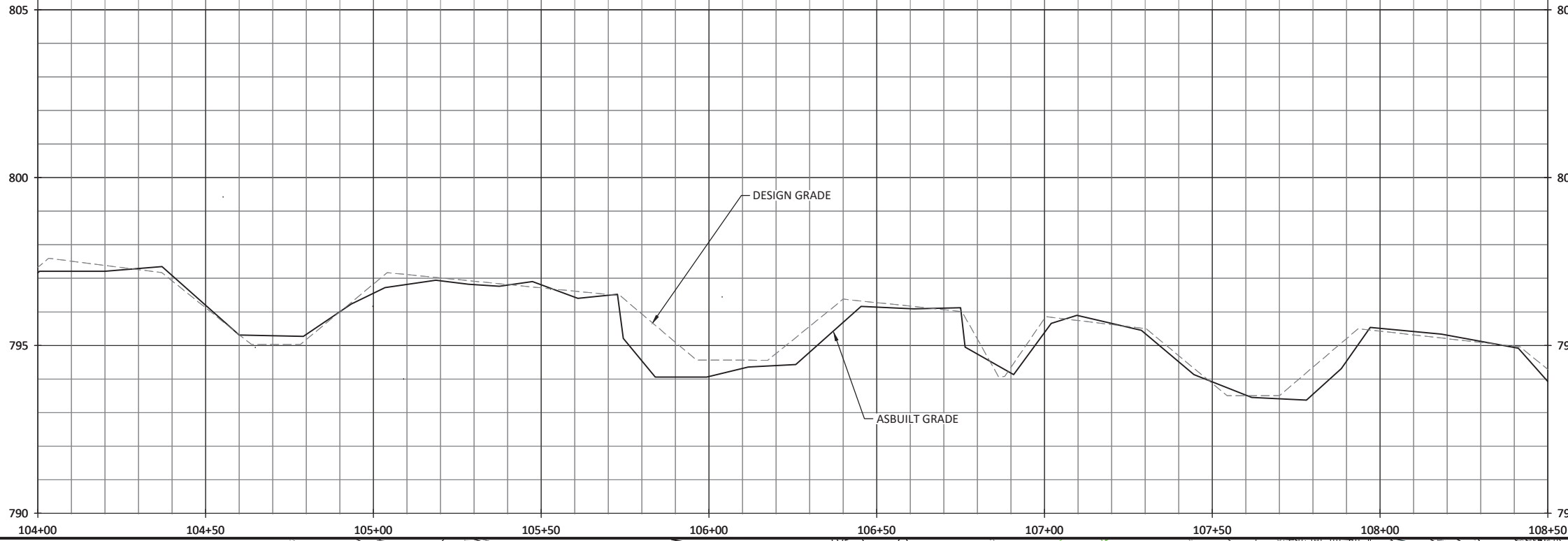
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Oak Hill Creek
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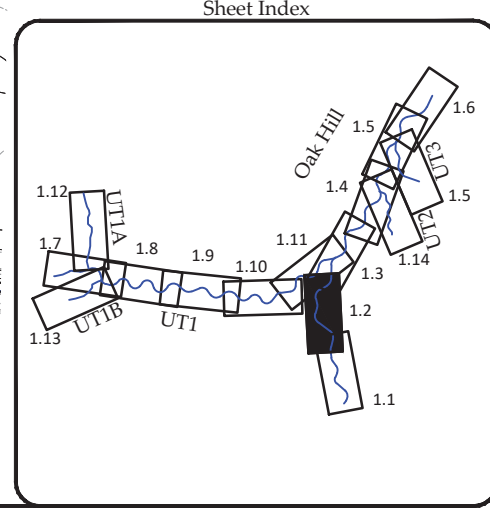
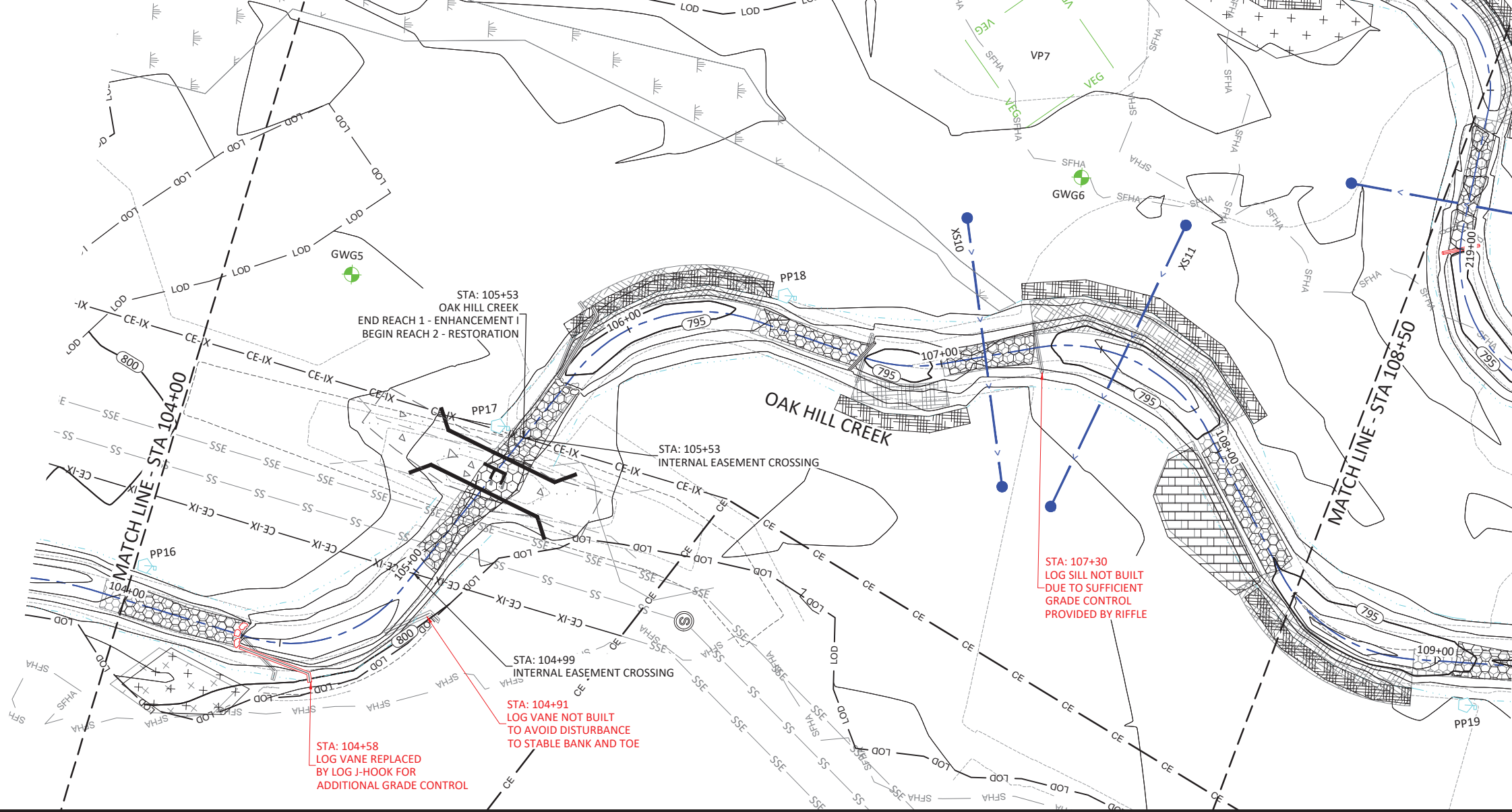
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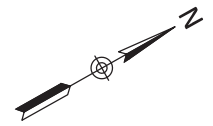
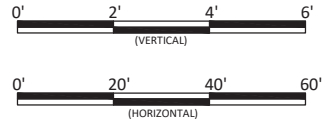
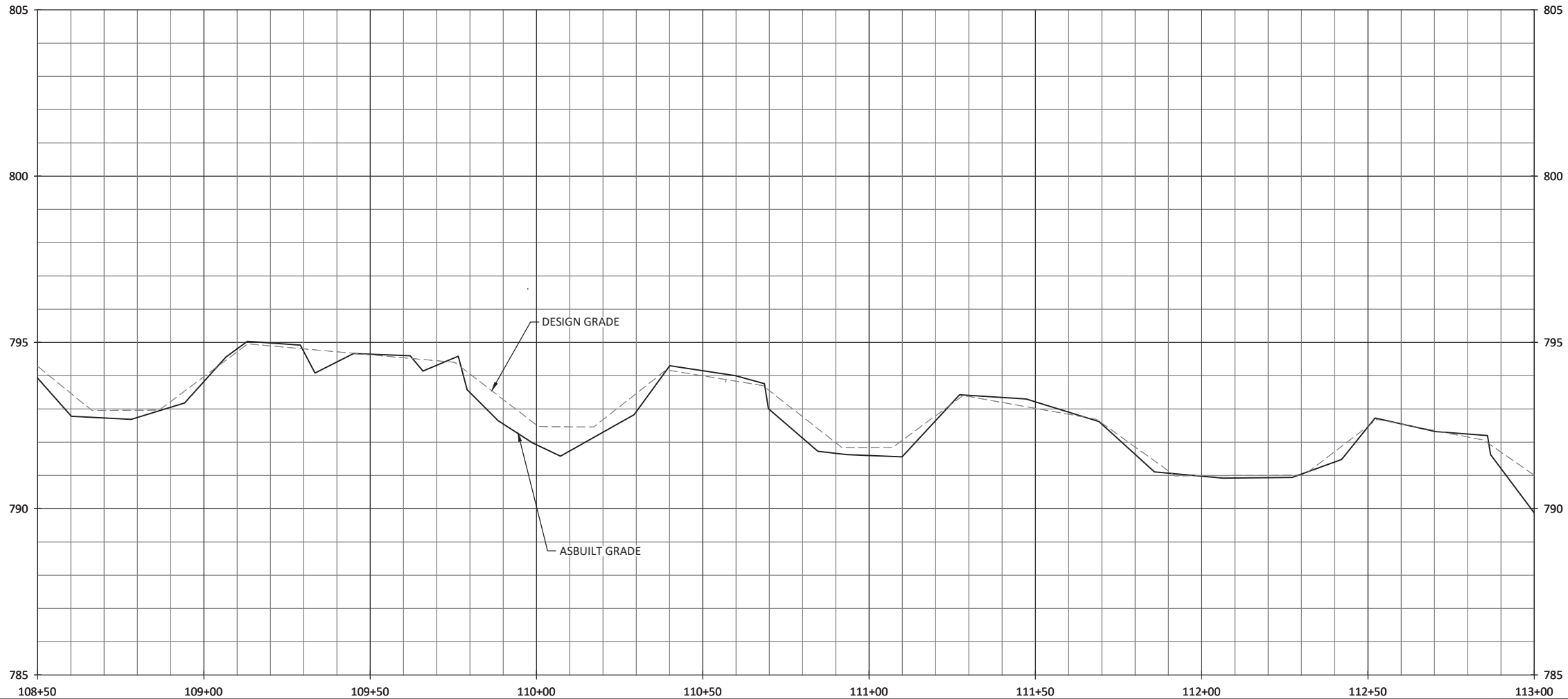


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Stream Plan and Profiles

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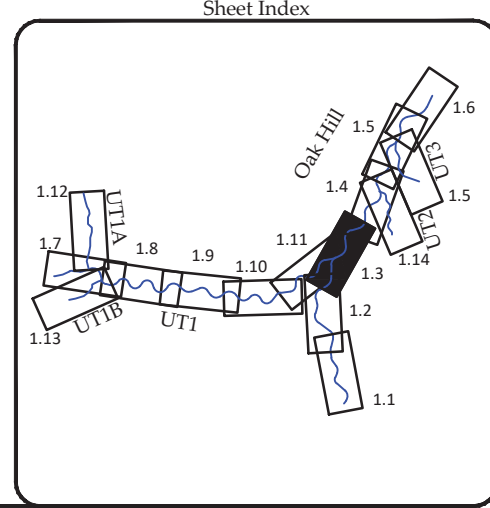
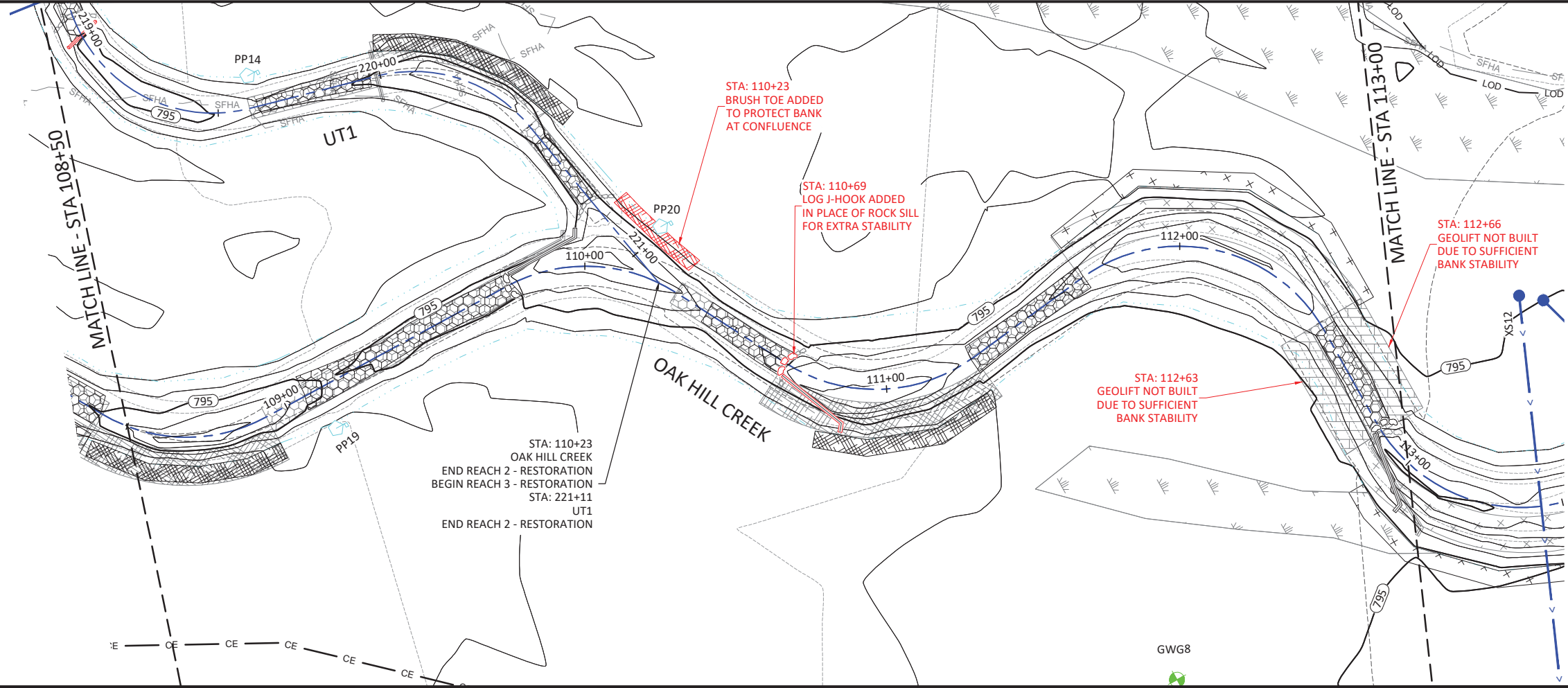


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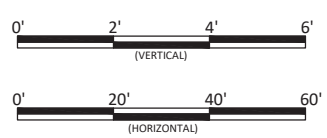
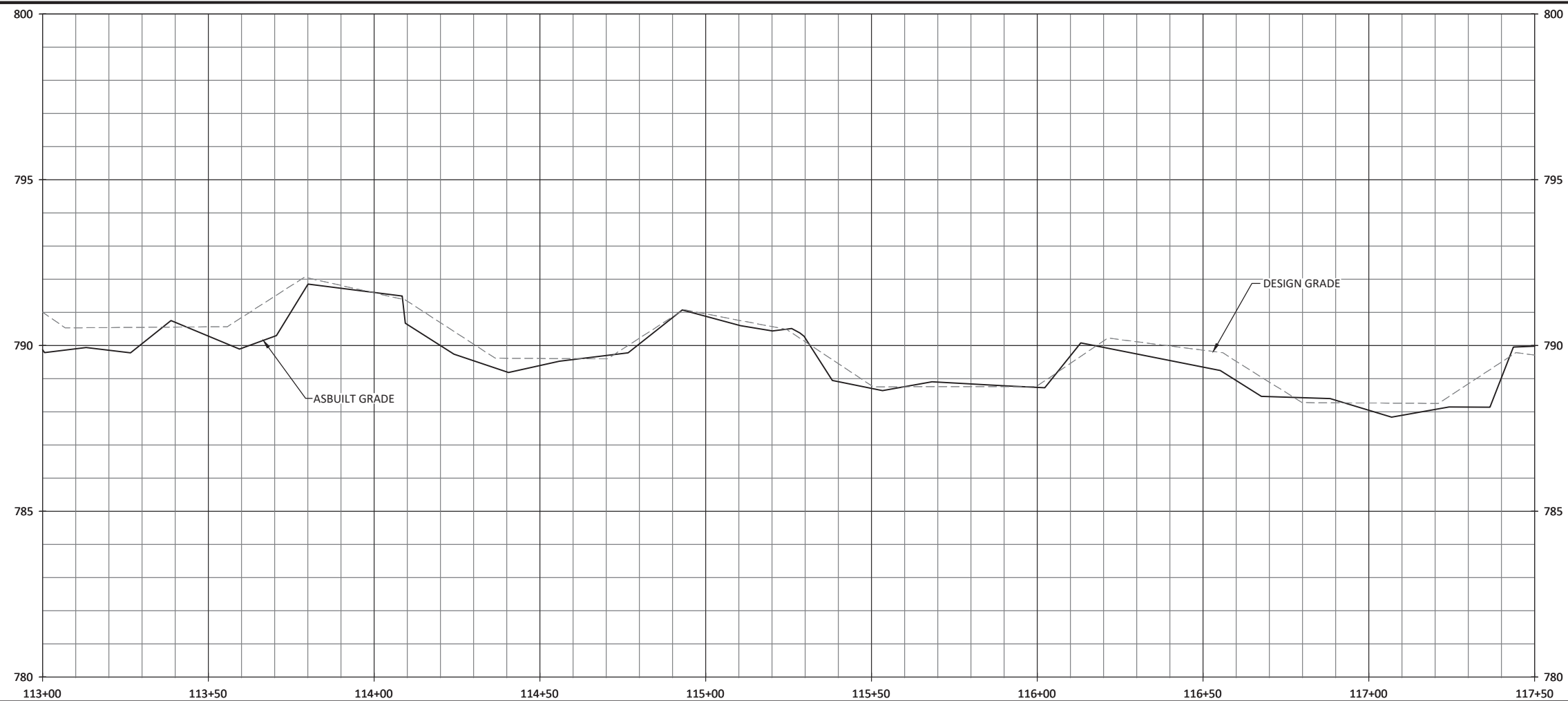
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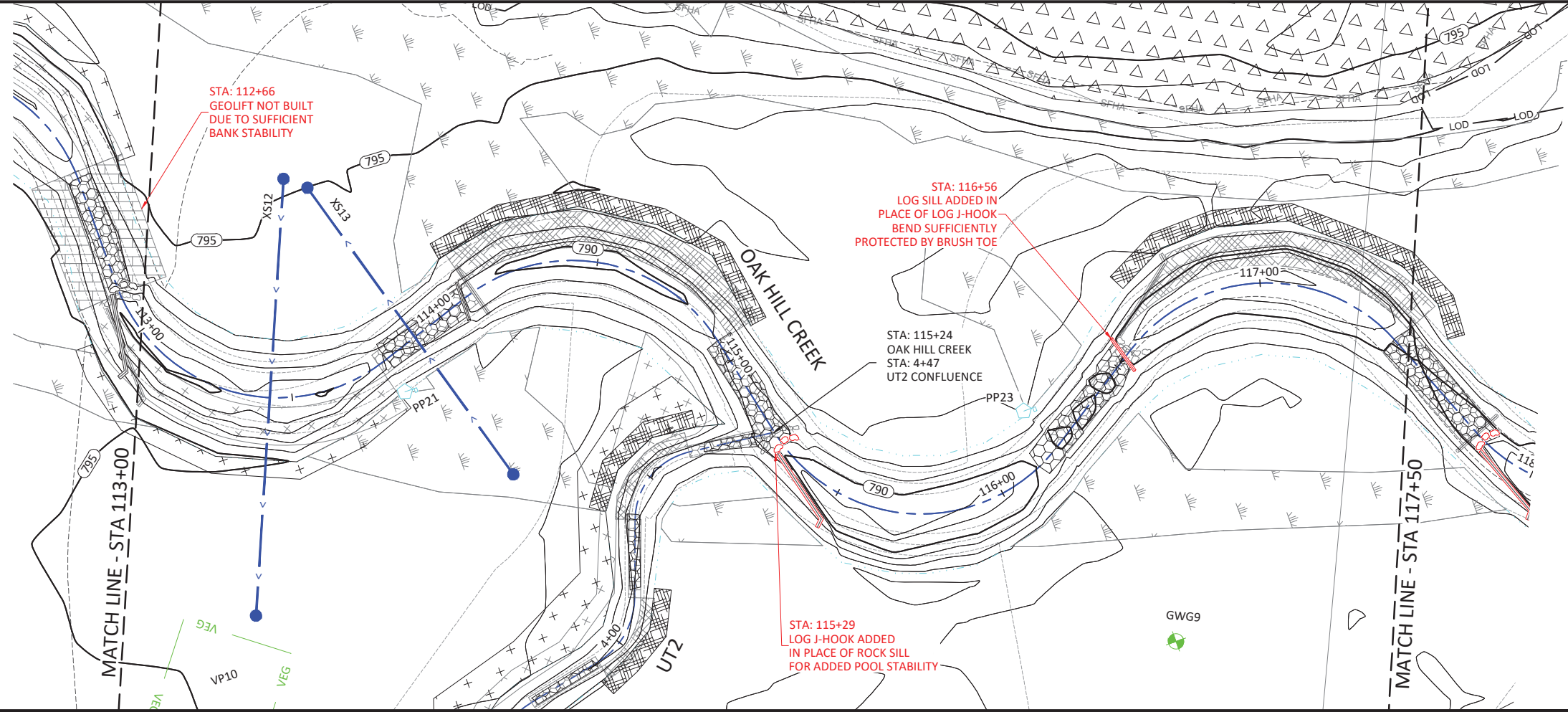
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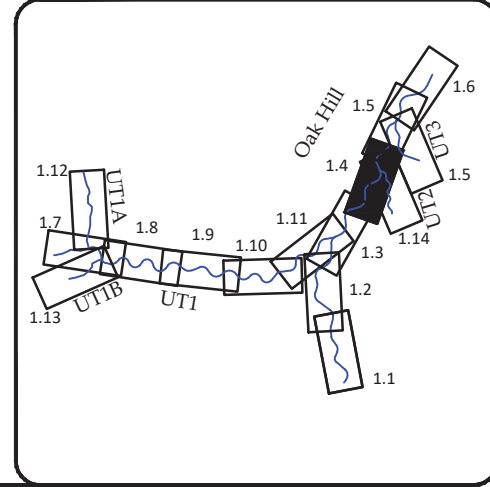
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Oak Hill Creek
Stream Plan and Profiles



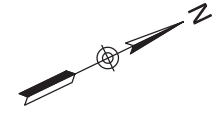
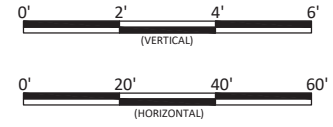
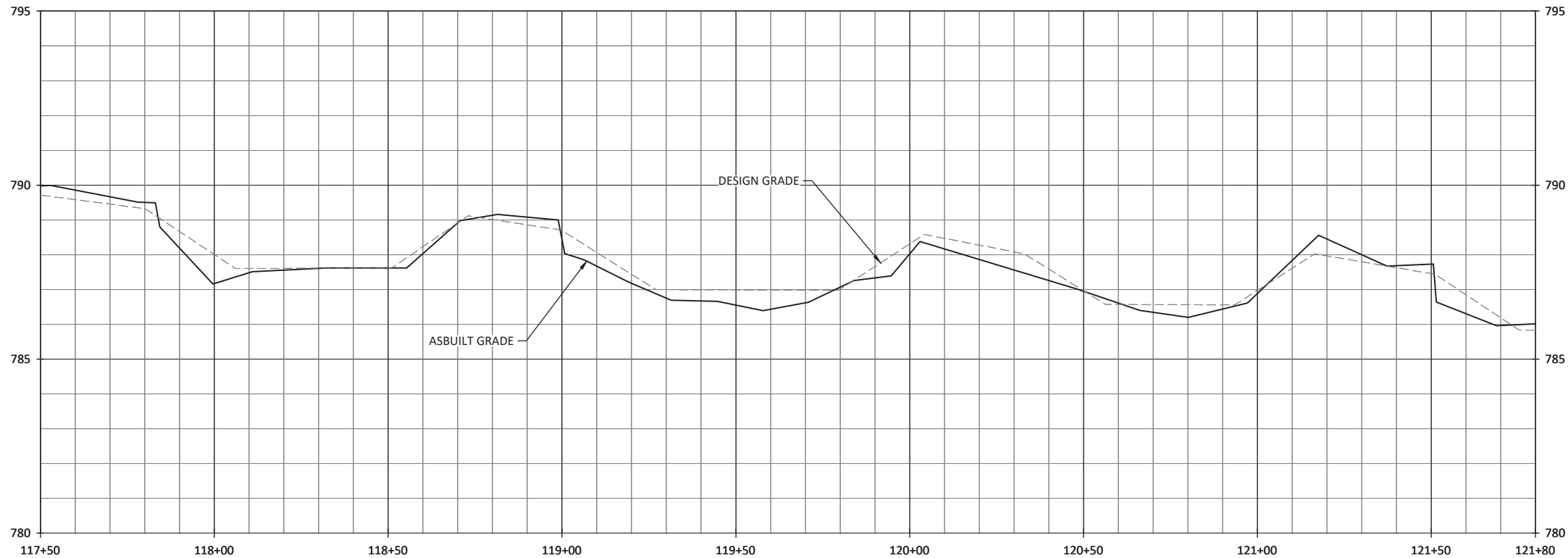
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1.4

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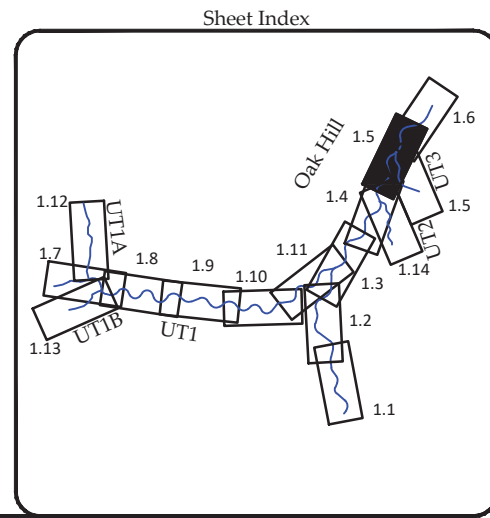
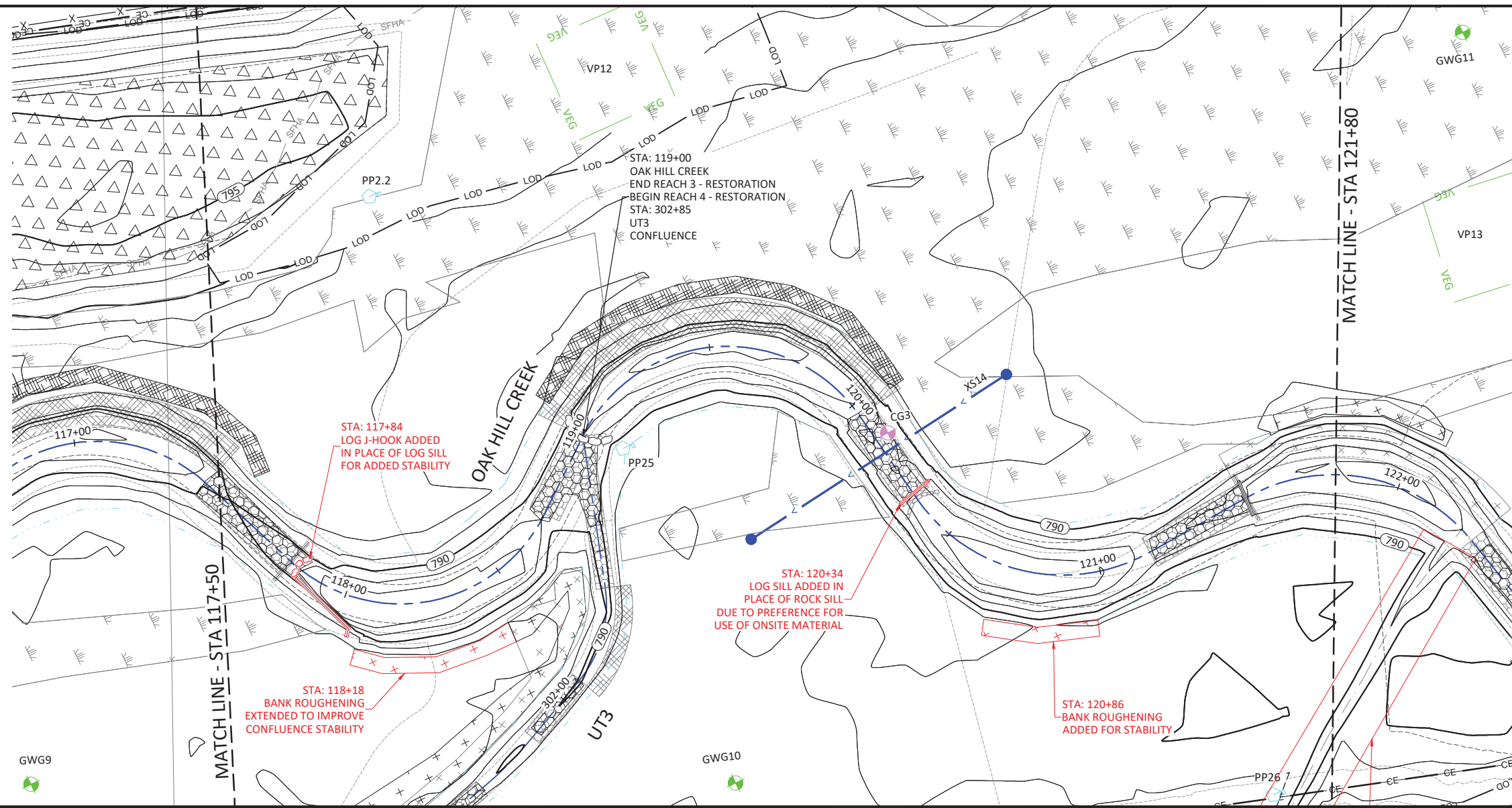


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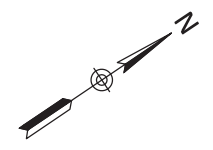
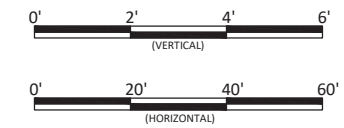
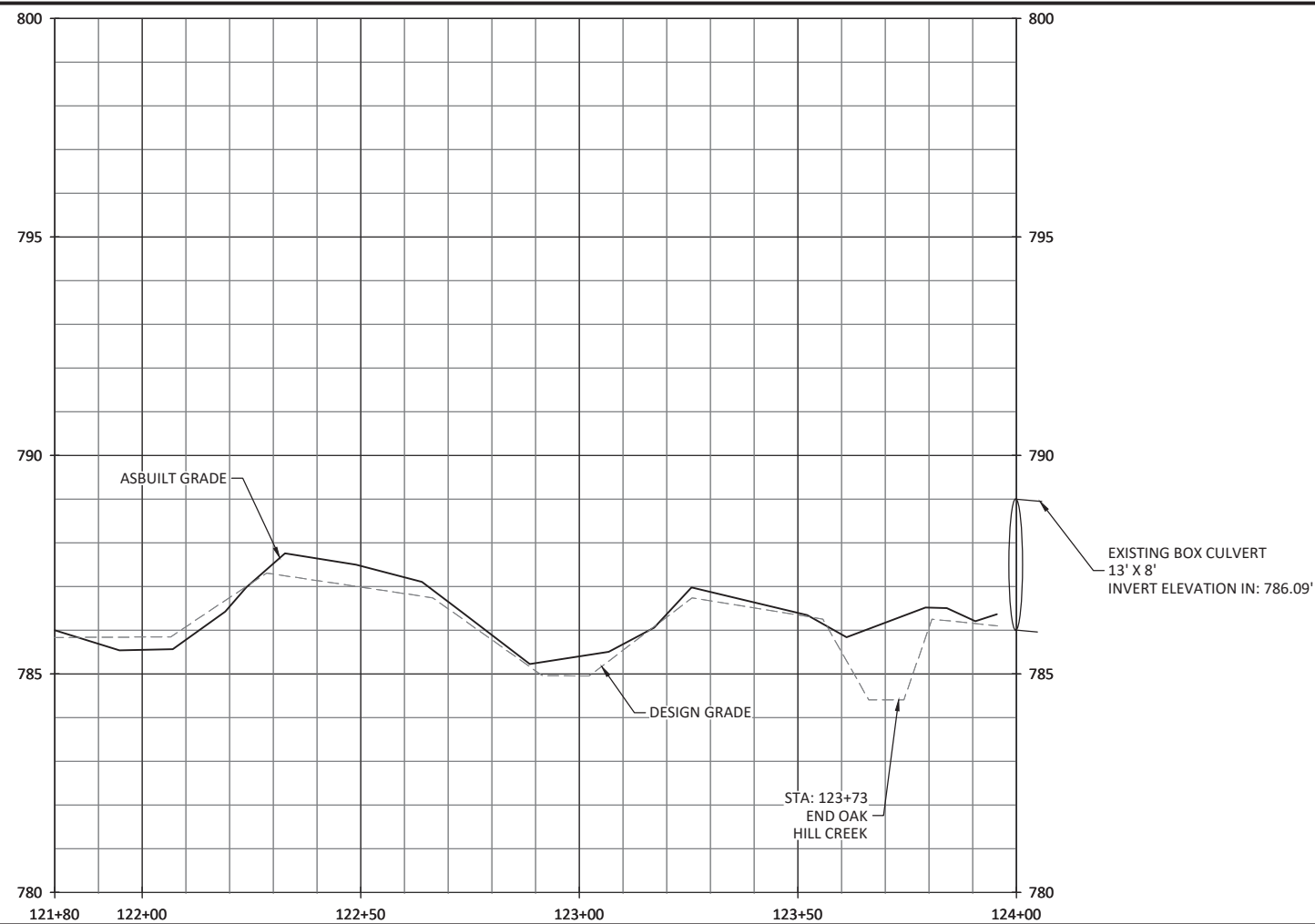
Oak Hill Creek
 Stream Plan and Profiles

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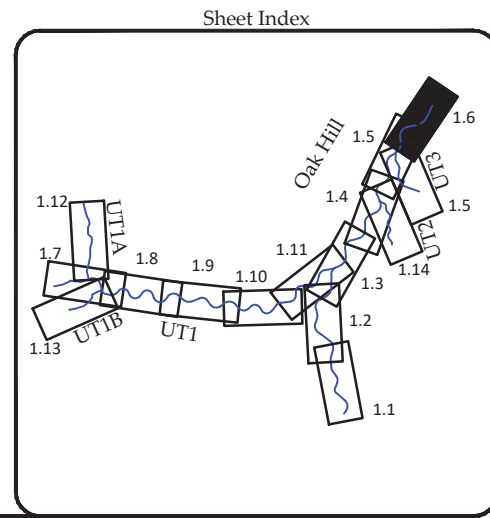
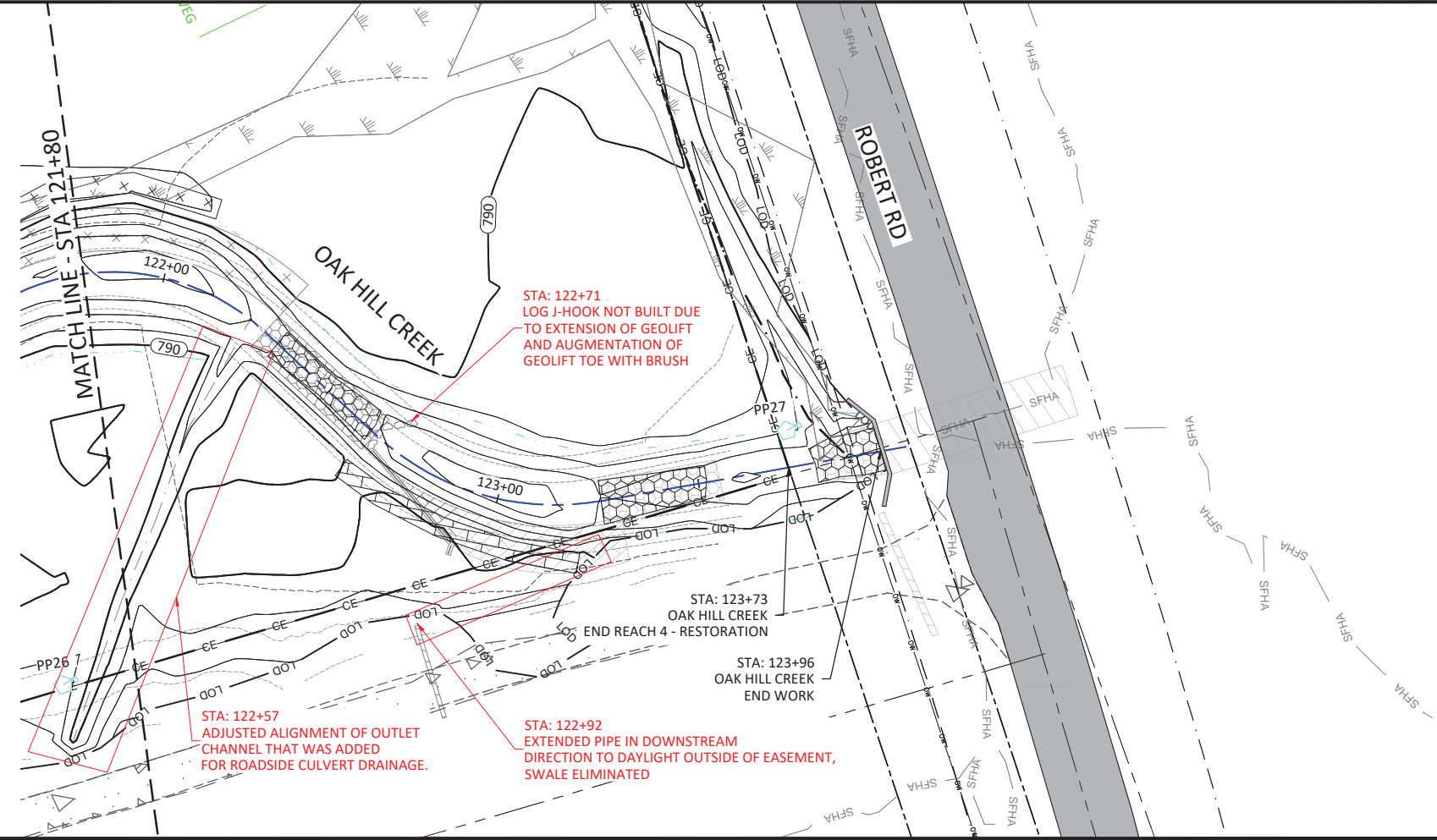
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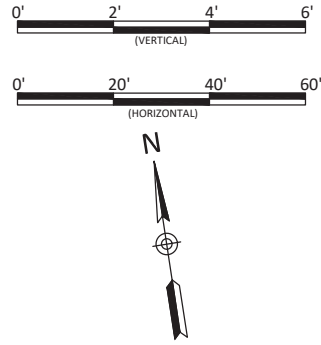
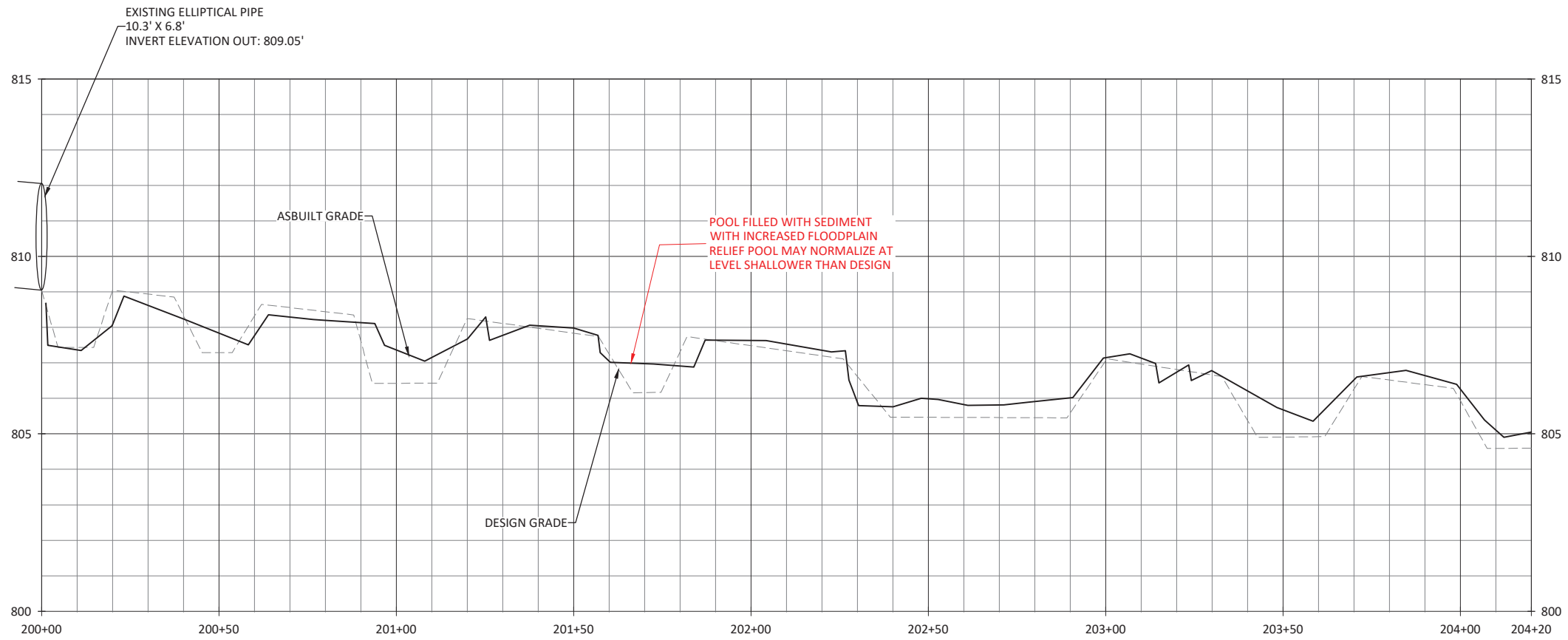
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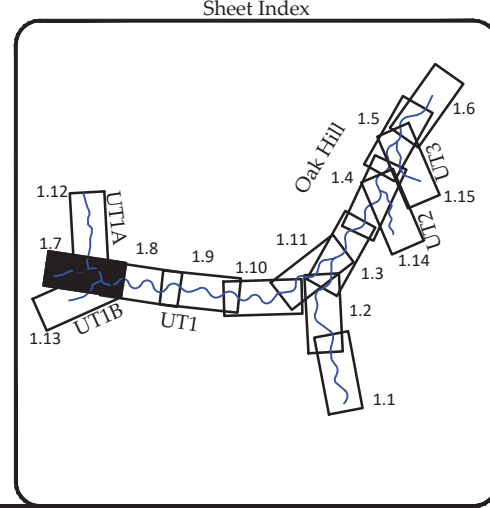
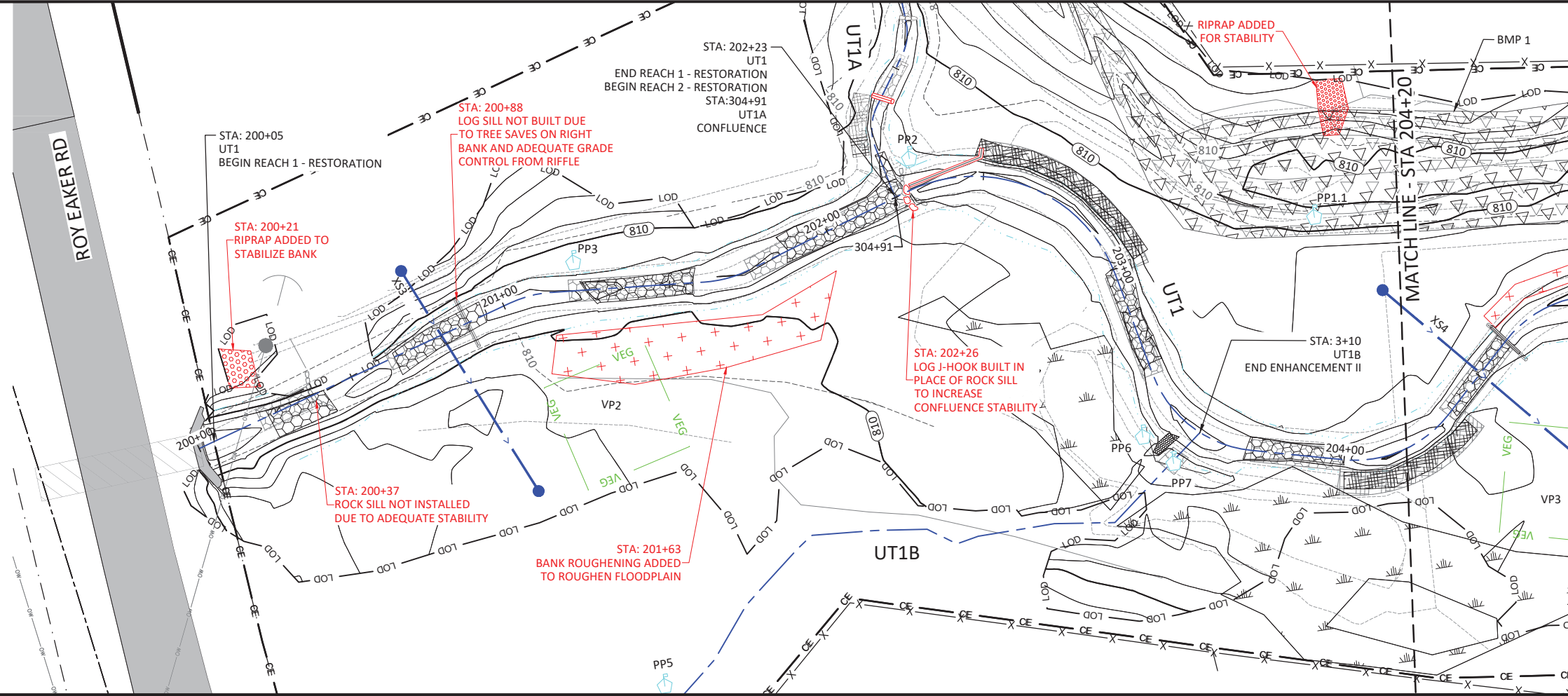
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Oak Hill Dairy Mitigation Site Record Drawings
Gaston County, North Carolina

UT1
Stream Plan and Profiles

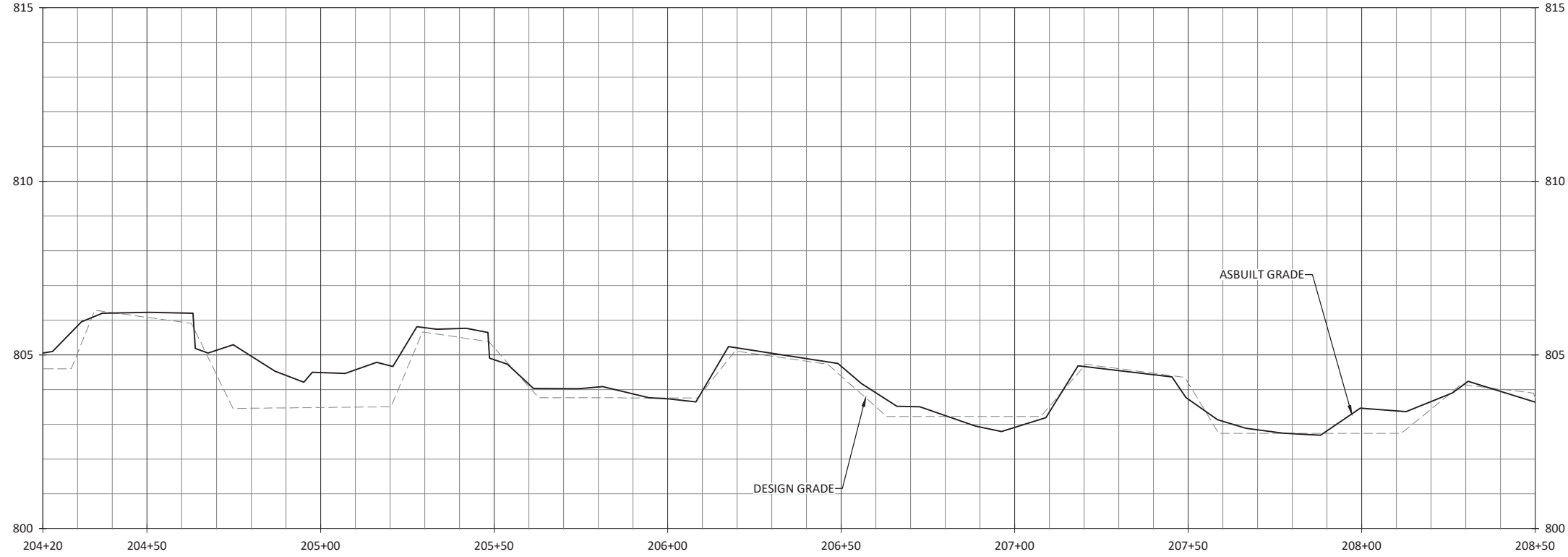
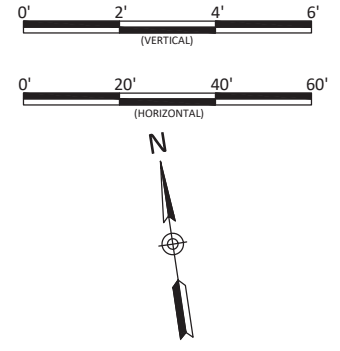


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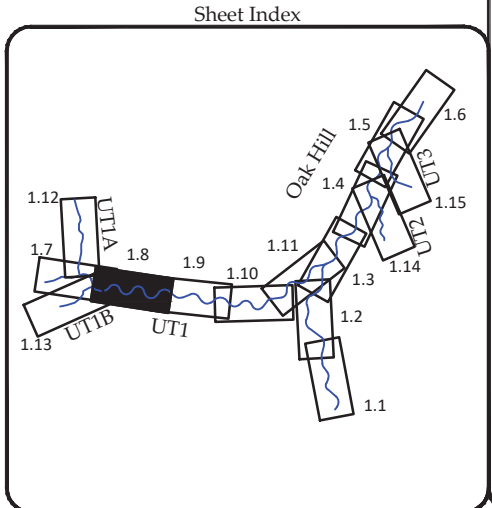
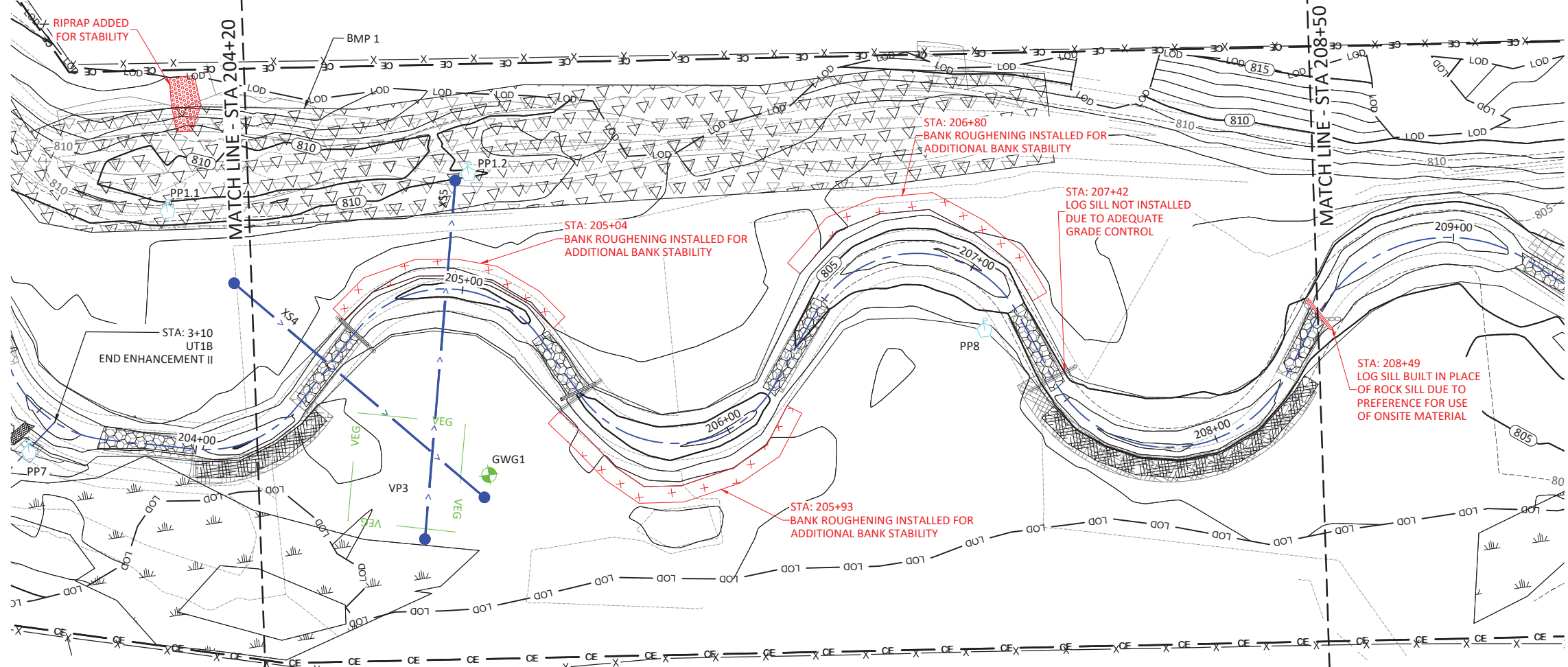
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UT1
Stream Plan and Profiles



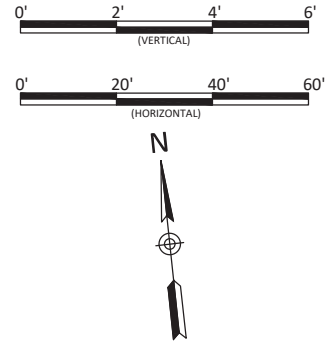
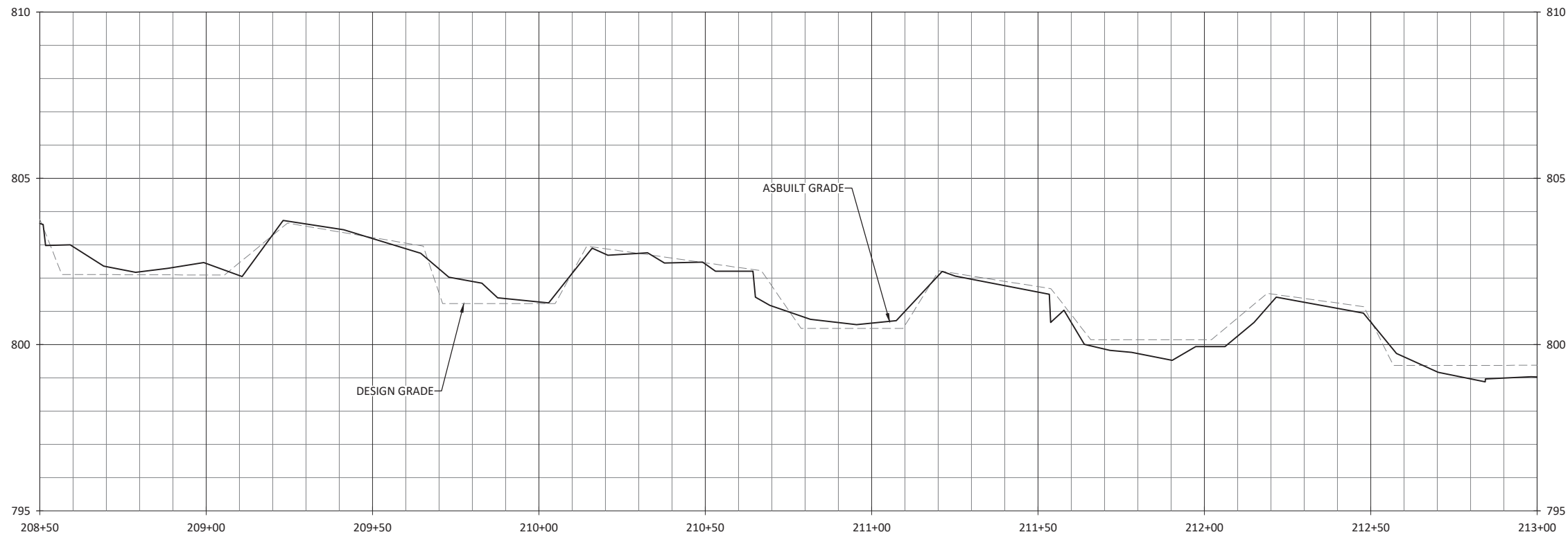
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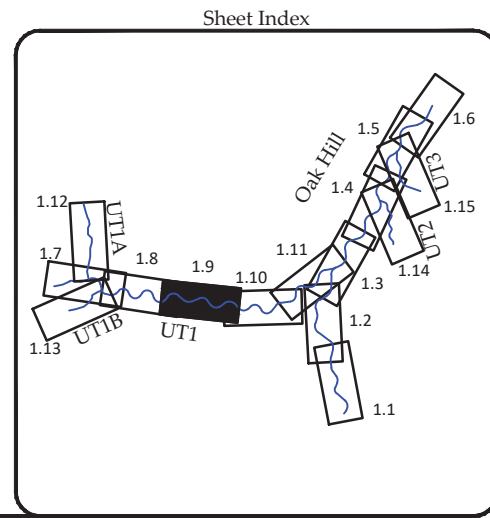
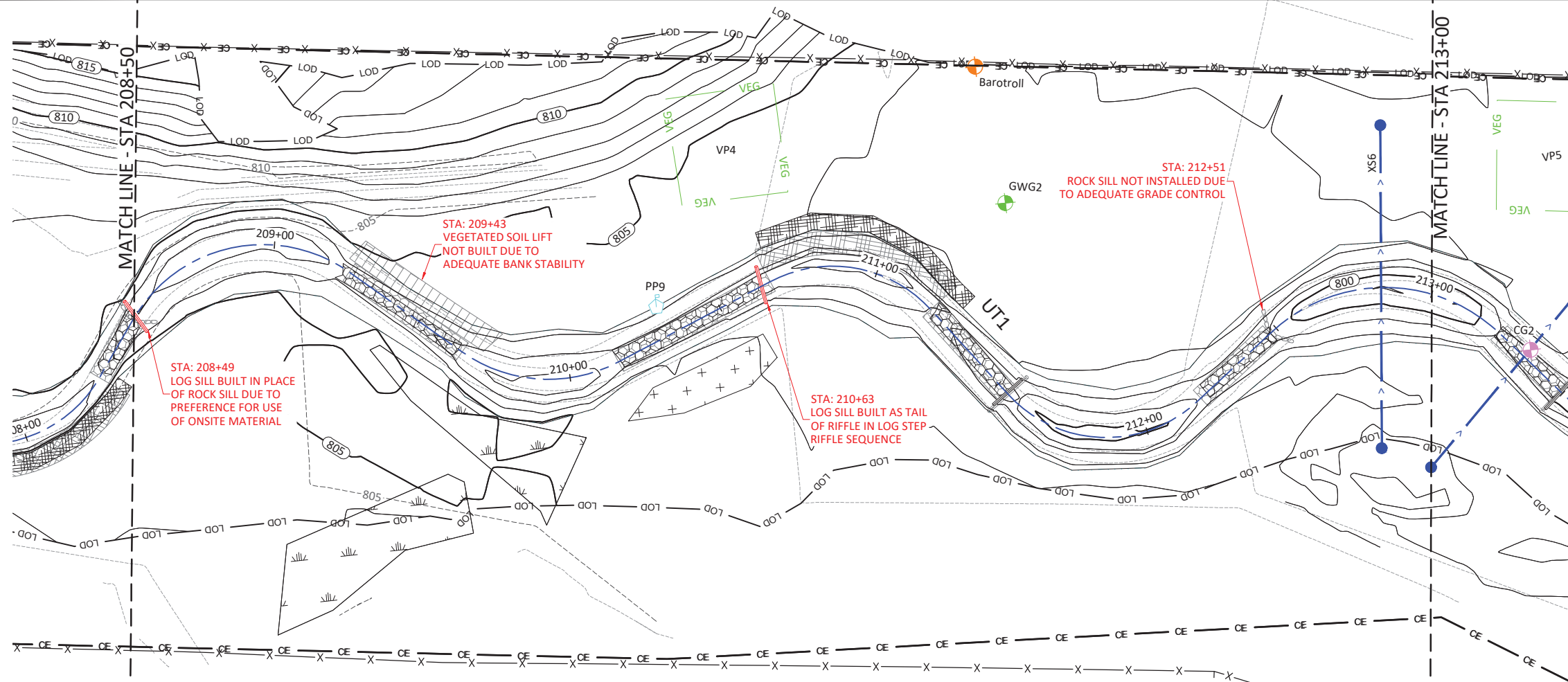
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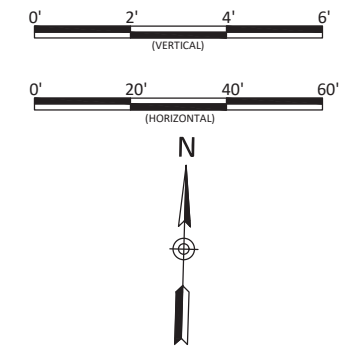
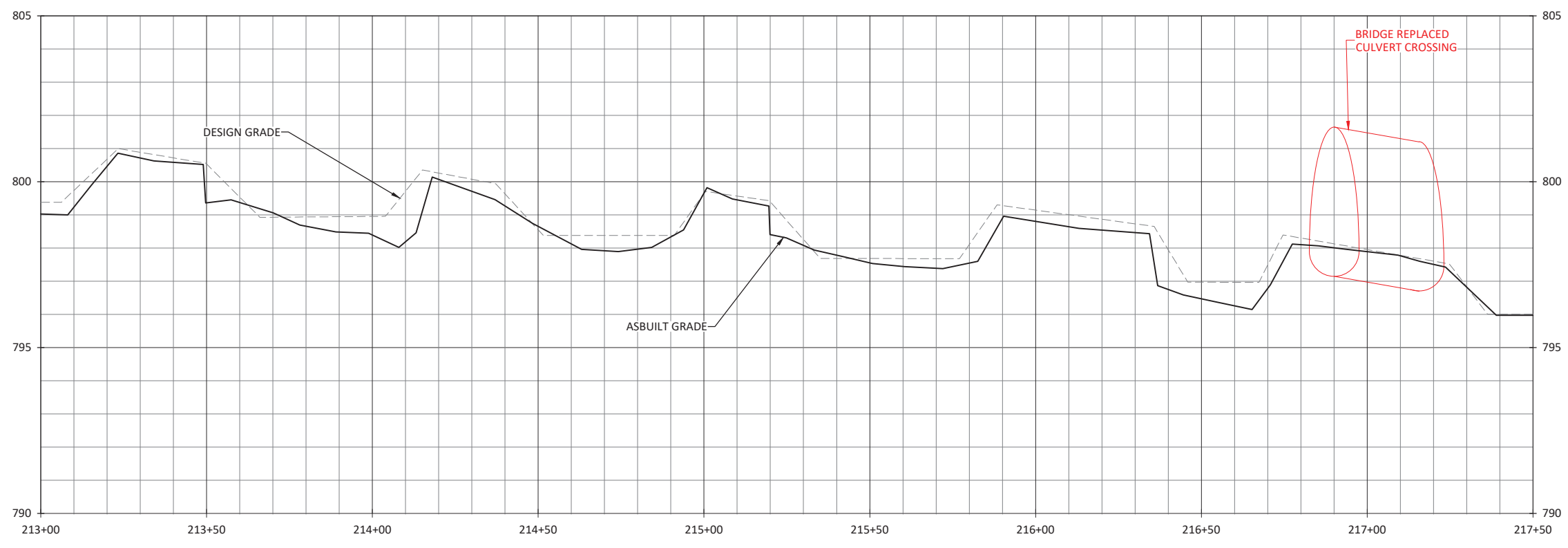
UT1
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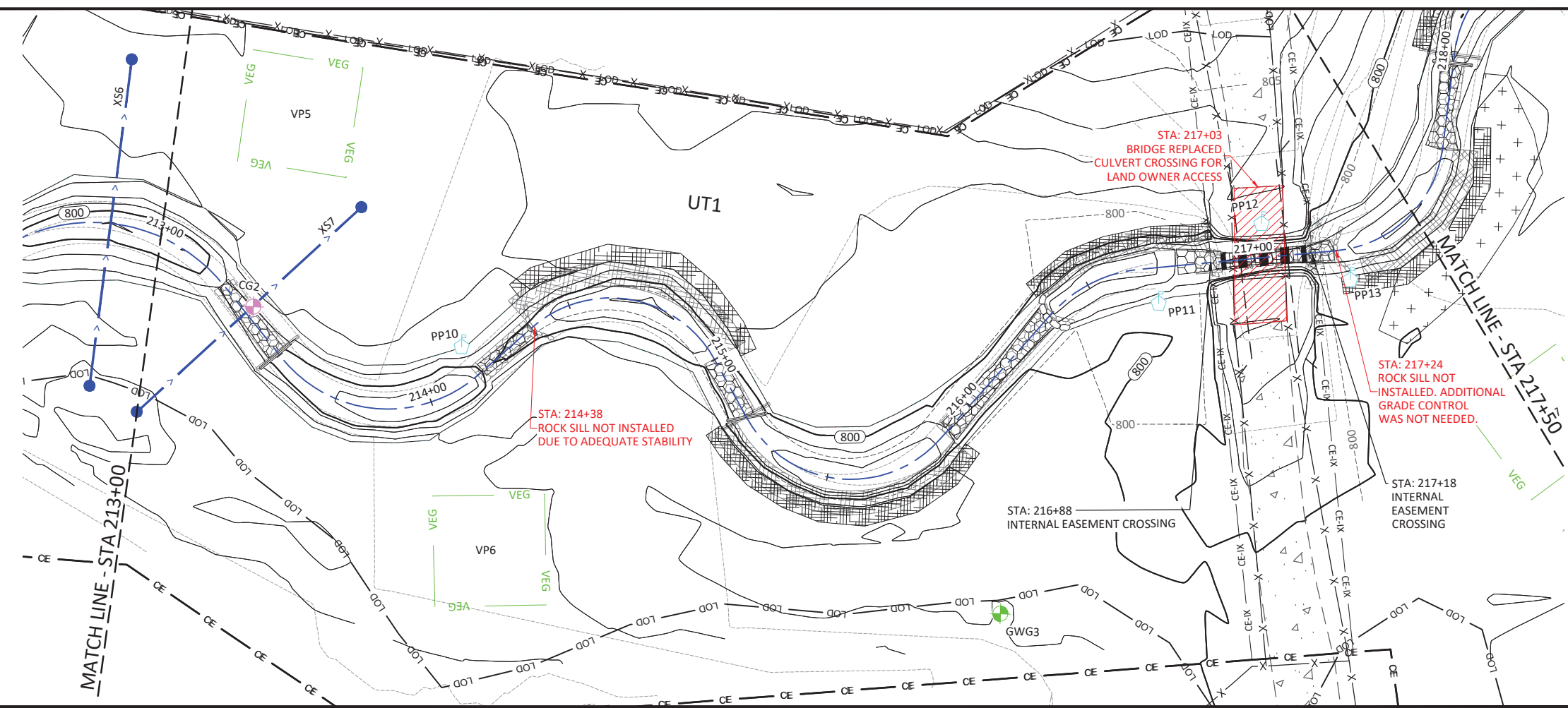
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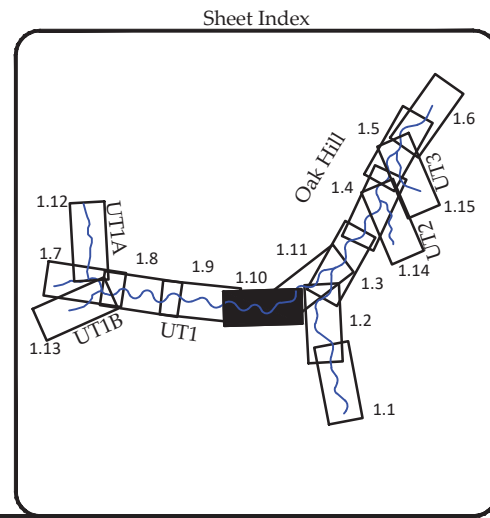


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UT1
Stream Plan and Profiles



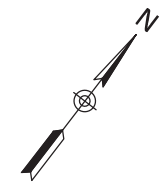
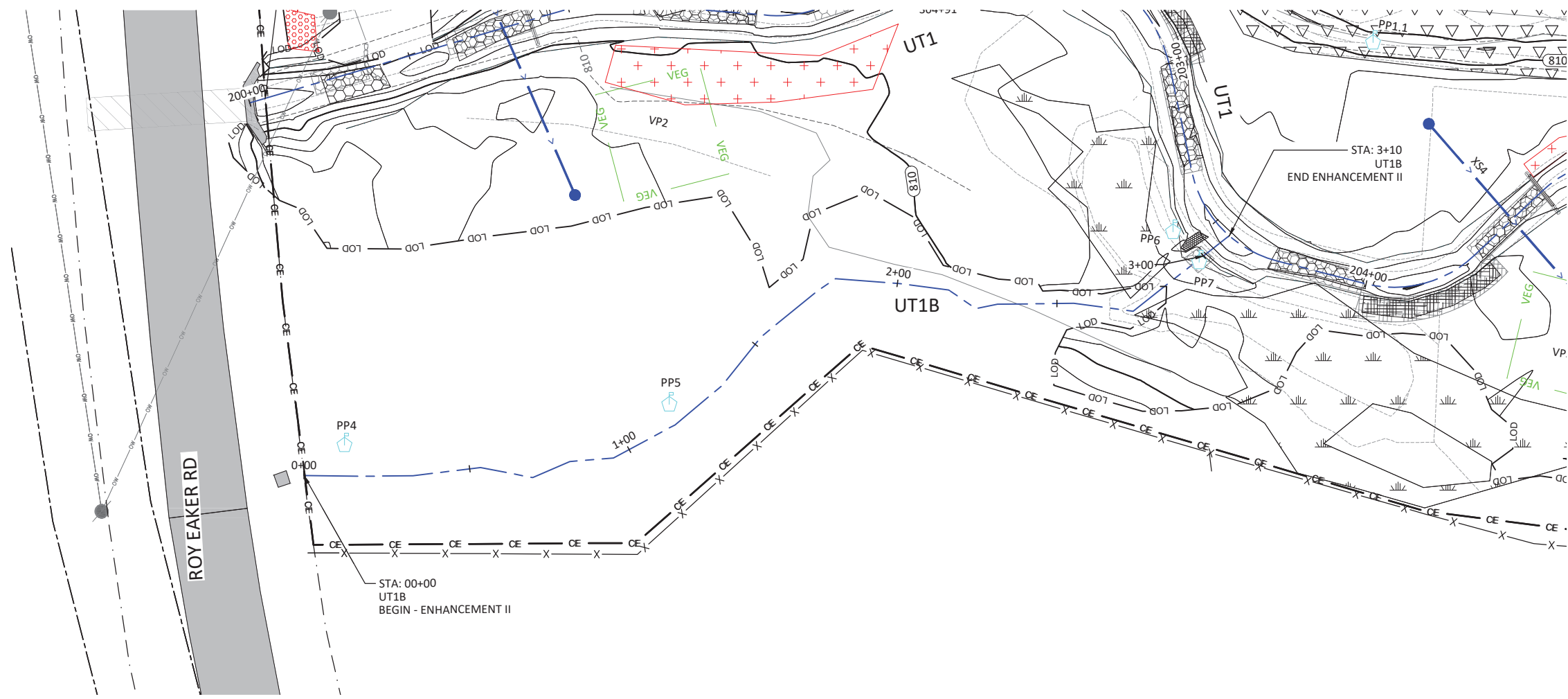
NOTE:
FLOODPLAIN GRADING MODIFIED
DURING CONSTRUCTION ON RIGHT
FLOODPLAIN NEAR 213+00 TO SAVE
LARGE TREES.



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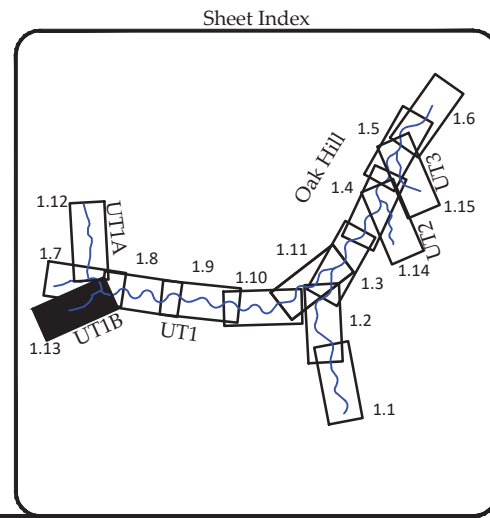
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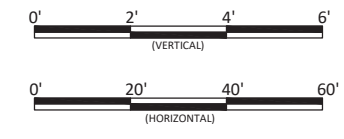
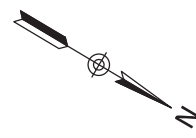
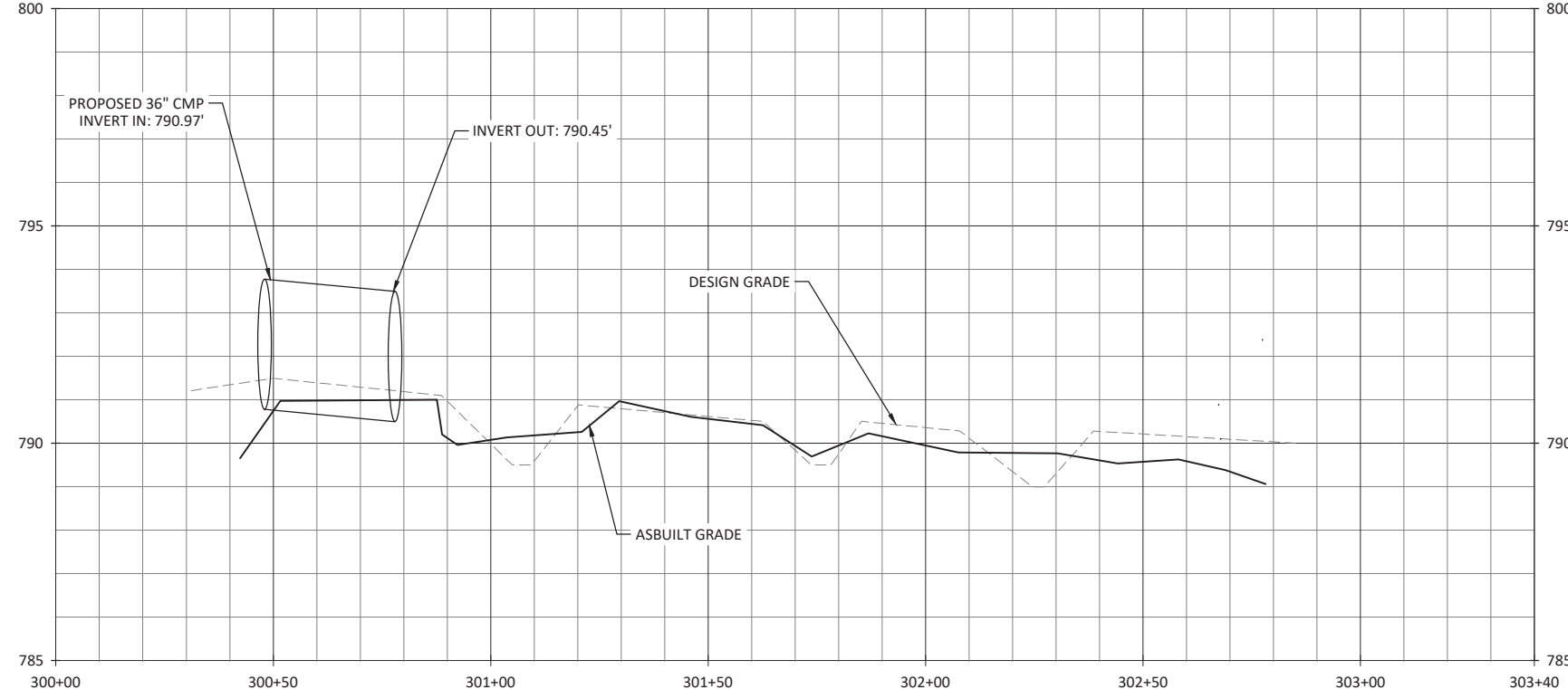
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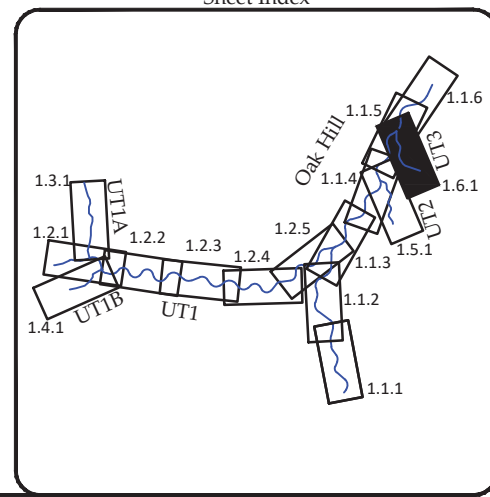
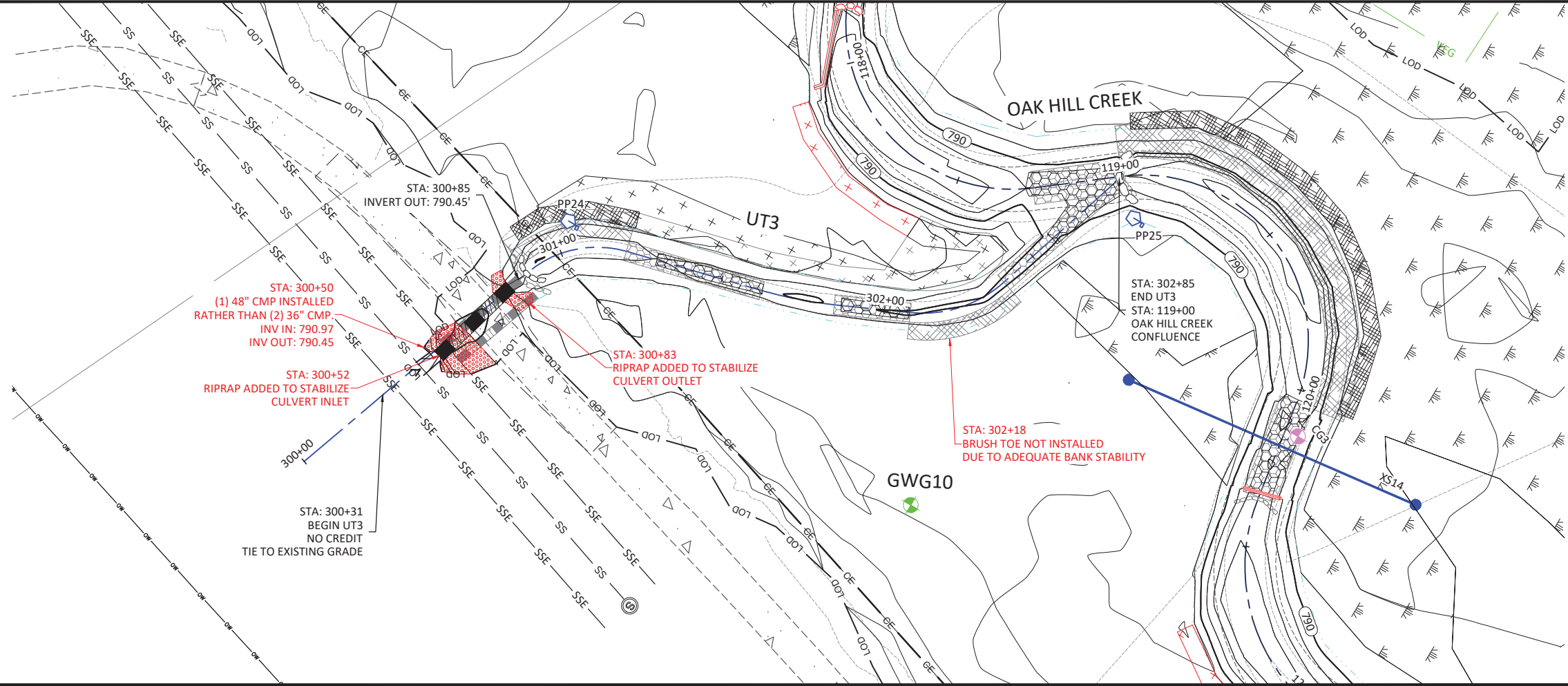
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Uncredited-Tribs - UT3
Stream Plan and Profiles




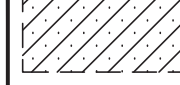
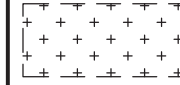
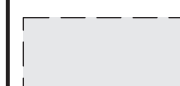
Revisions:

Date: April 18, 2023
Job Number: 005-02182
Project Engineer: JM
Drawn By: AMR/JCK
Checked By: JCK

1.15

Sheet

April 18, 2023

-  WETLAND RE-ESTABLISHMENT PROPOSED AT A 1:1 CREDIT RATIO
-  WETLAND REHABILITATION PROPOSED AT A 1:1 CREDIT RATIO
-  WETLAND REHABILITATION PROPOSED AT A 1.5:1 CREDIT RATIO
-  WETLAND CREATION PROPOSED AT A 3:1 CREDIT RATIO

EAKER
71-6541
4887 PG: 2200

I RUSTY EAKER, JR.
N RUSTY EAKER, SR.
PIN: 2691-70-3338
DB: 4821 PG: 1023
11 PG: 58 (LOT 6)

SALLY EAKER HARRIS
PATSY EAKER LINEBERGER
FREDIA EAKER WOODRIDGE
CAMERON RUSTY EAKER, SR.
DB: 1332 PG: 262
SEE NOTE #10

MICHAEL W. WHITESIDES & WIFE
LAUREN W. WHITESIDES
PIN: 2690-79-5818
DB: 4786 PG: 363

CAMERON RUSTY EAKER, JR. &
CAMERON RUSTY EAKER, SR.
PIN: 2690-79-8897
PORTION OF DB: 4949 PG: 1803 (TRACT SIX)

GABRIEL L. LAIL
PIN: 2690-79-6528
DB: 4601 PG: 1438

CAMERON RUSTY EAKER, JR. &
CAMERON RUSTY EAKER, SR.
PIN: 2690-79-8664
DB: 4949 PG: 1803 (TRACT FIVE)

CAMERON RUSTY EAKER, JR. &
CAMERON RUSTY EAKER, SR.
PIN: 2690-79-9620
DB: 4949 PG: 1803 (TRACT FOUR)

CAMERON RUSTY EAKER, JR. &
CAMERON RUSTY EAKER, SR.
PIN: 2690-79-9577
DB: 4949 PG: 1803 (TRACT THREE)

NICOLE L. MASSEY
PIN: 2690-89-0562
DB: 4782 PG: 590

CAROLYN B. TURNER (LIFE ESTATE)
ROBERT F. TURNER &
CHARLES B. TURNER
PIN: 2690-89-1434
DB: 4999 PG: 501

CAMERON RUSTY EAKER, JR. &
CAMERON RUSTY EAKER, SR.
PIN: 2691-90-0340
DB: 4949 PG: 1803 (TRACT ONE)
ALSO DB: 4949 PG: 1803
(TRACT #8 OF TRACT EIGHT)

TERRY A. RIDDLLEY & WIFE
LORIE B. RIDDLLEY
PIN: 2690-89-8022
DB: 4483 PG: 1040

0' 100' 200' 300'
(HORIZONTAL)



Date: April 18, 2023
Job Number: 005-02182
Project Engineer: JM
Drawn By: AMR/JCK
Checked By: JCK

2:1

Sheet

Oak Hill Dairy Mitigation Site Record Drawings
Gaston County, North Carolina
Wetland Grading - Overview
Wetland Grading



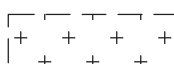



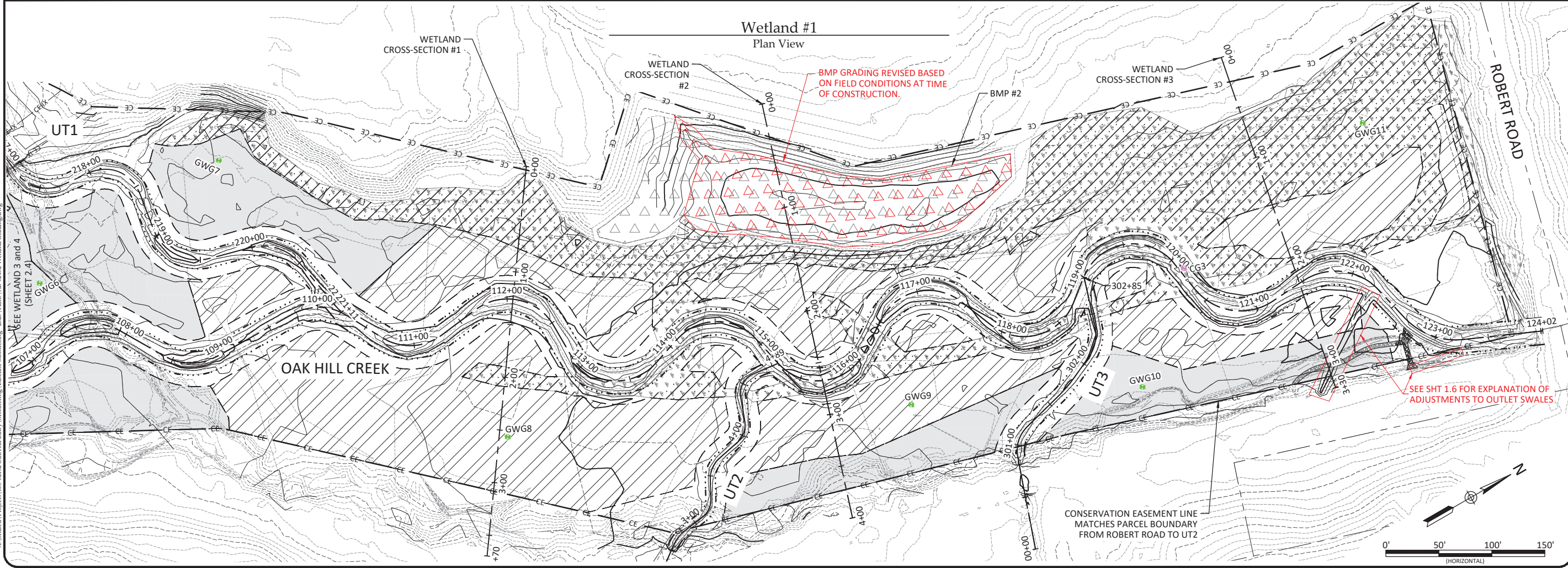
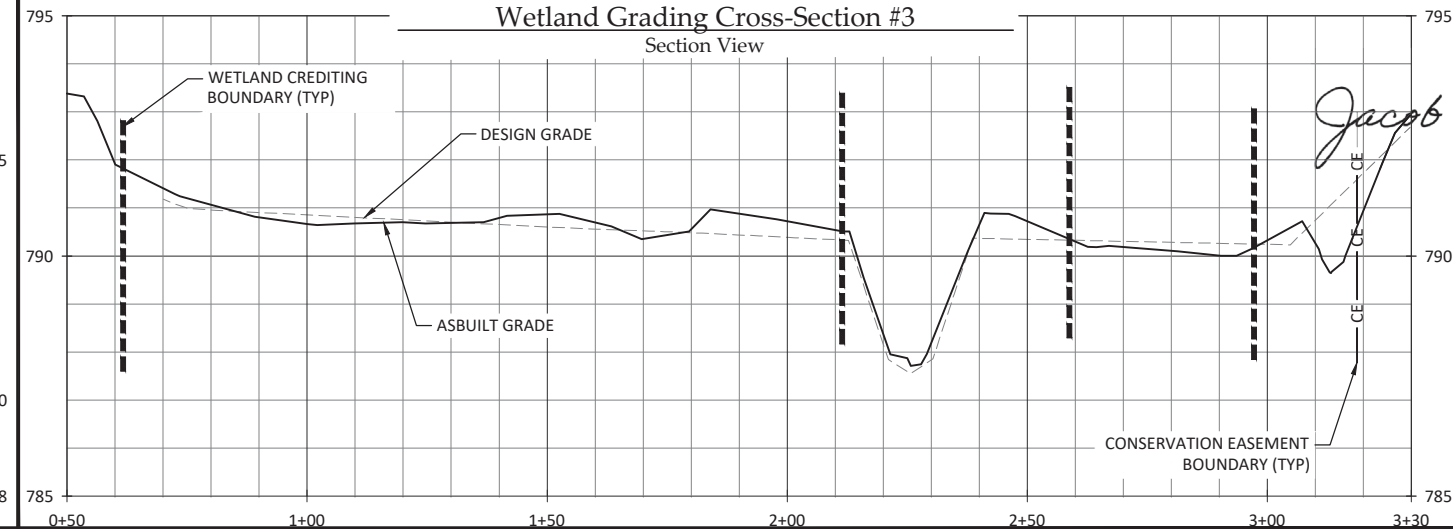
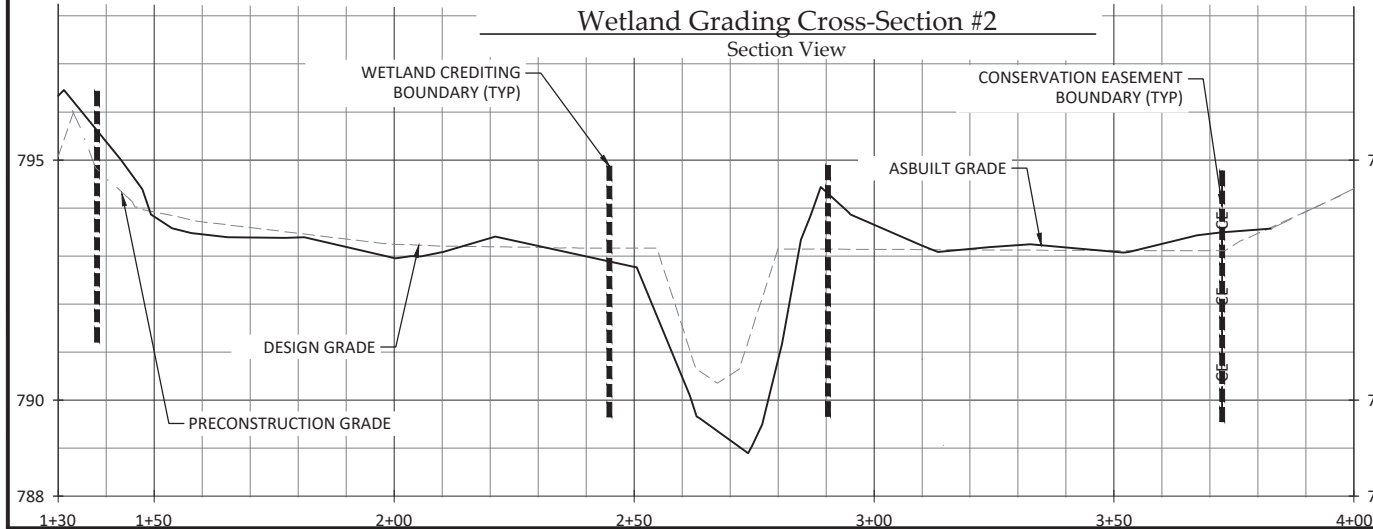
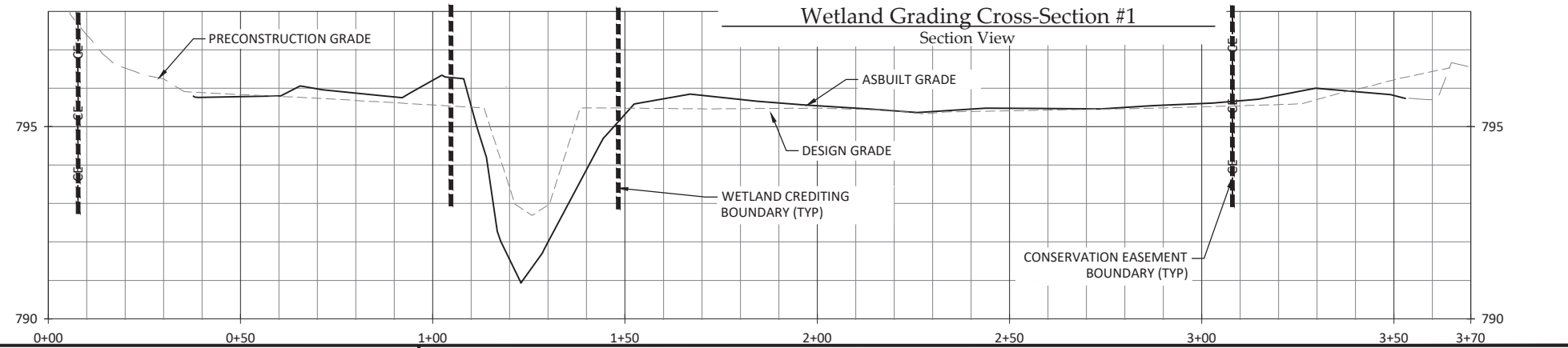
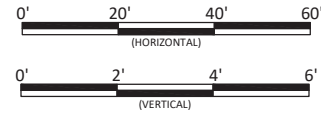
Jacob P. McLean

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April 18, 2023

-  WETLAND RE-ESTABLISHMENT PROPOSED AT A 1:1 CREDIT RATIO
-  WETLAND REHABILITATION PROPOSED AT A 1:1 CREDIT RATIO
-  WETLAND REHABILITATION PROPOSED AT A 1.5:1 CREDIT RATIO
-  WETLAND CREATION PROPOSED AT A 3:1 CREDIT RATIO



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Oak Hill Dairy Mitigation Site Record Drawings
Gaston County, North Carolina
Wetland Grading - Wetland 1
Wetland Grading

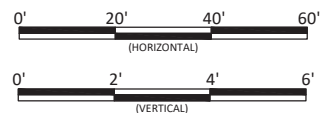
Revisions:

Date: April 18, 2023
Job Number: 005-02182
Project Engineer: JPM
Drawn By: AMR/JCK
Checked By: JCK

2.2

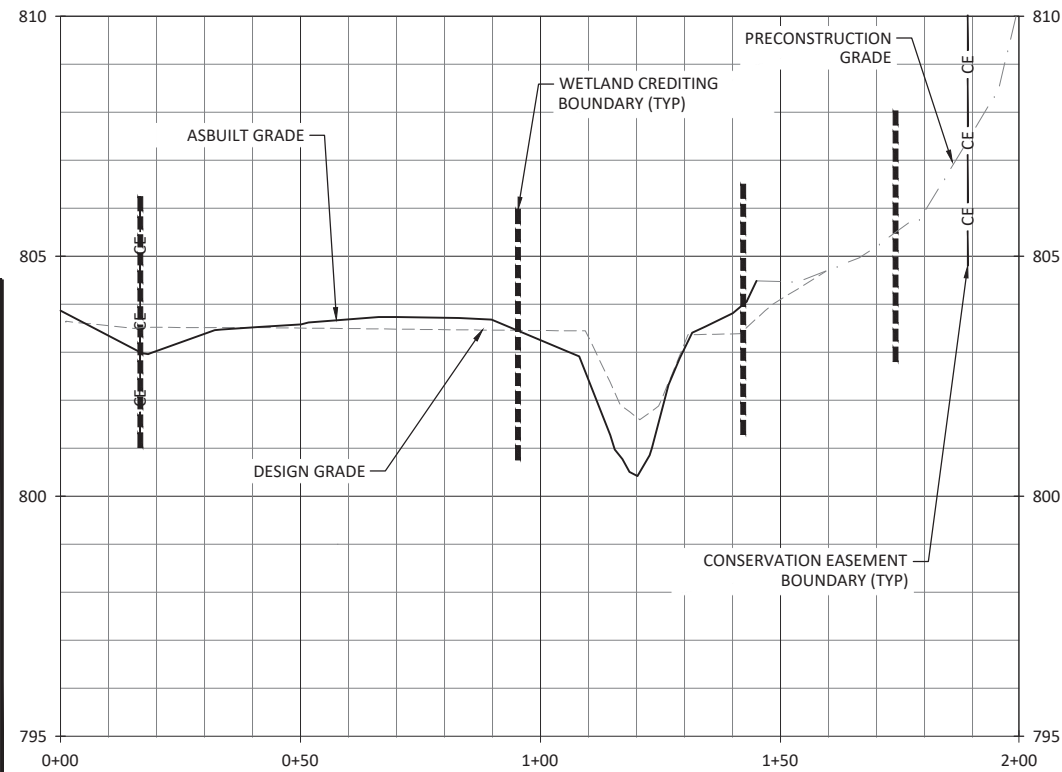
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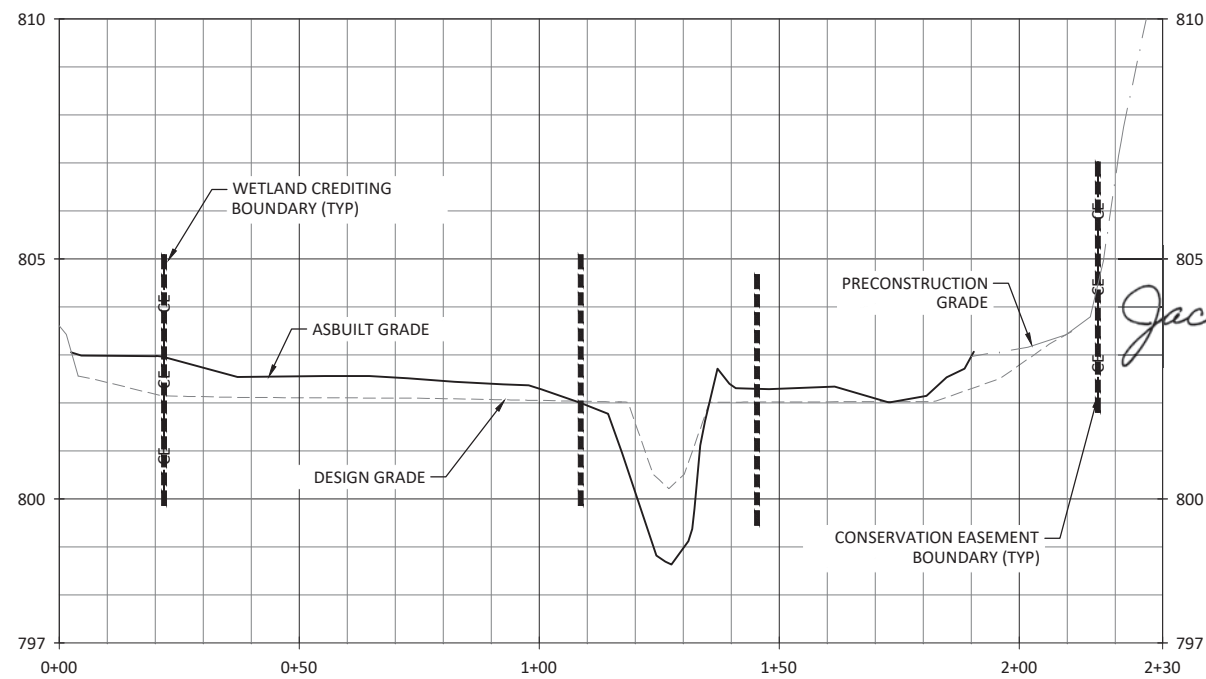
Wetland Grading Cross-Section #4

Section View



Wetland Grading Cross-Section #5

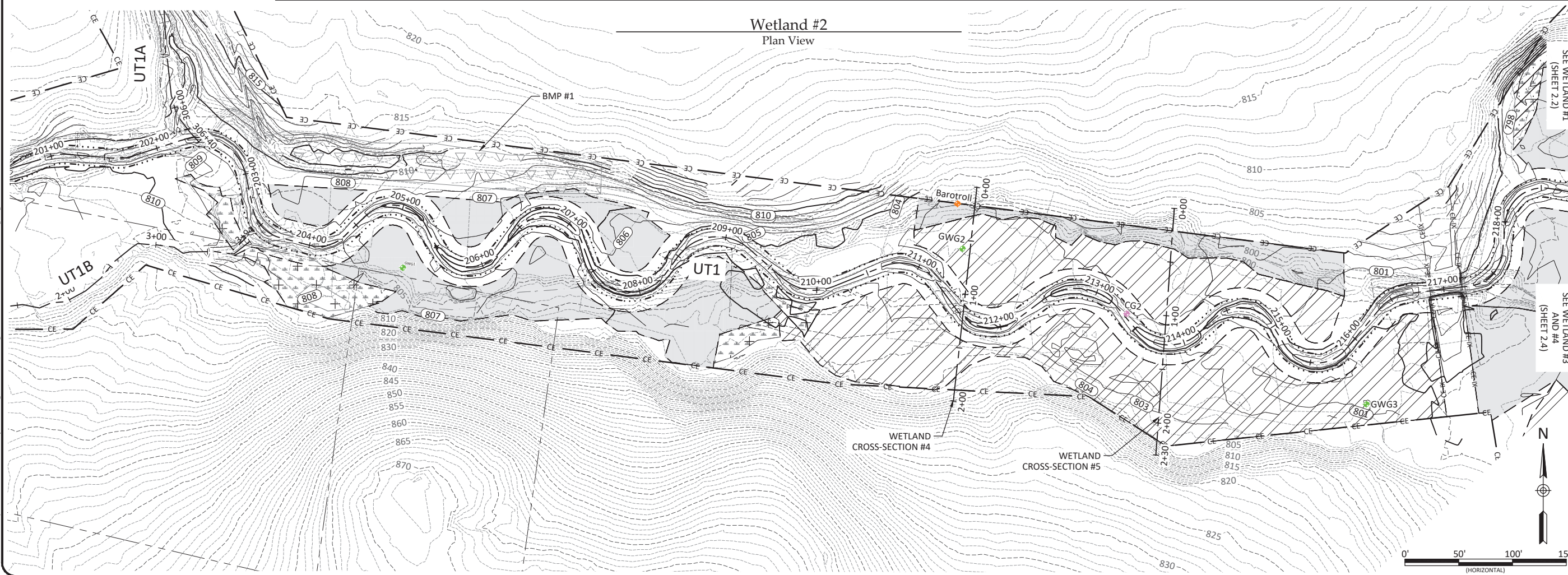
Section View



	WETLAND RE-ESTABLISHMENT PROPOSED AT A 1:1 CREDIT RATIO
	WETLAND REHABILITATION PROPOSED AT A 1:1 CREDIT RATIO
	WETLAND REHABILITATION PROPOSED AT A 1.5:1 CREDIT RATIO
	WETLAND CREATION PROPOSED AT A 3:1 CREDIT RATIO

Wetland #2

Plan View



Oak Hill Dairy Mitigation Site Record Drawings

Gaston County, North Carolina

Wetland Grading - Wetland 2
Wetland Grading

Revisions:

Date:	April 18, 2023
Job Number:	005-02182
Project Engineer:	JM
Drawn By:	AMR/JCK
Checked By:	JCK

2.3

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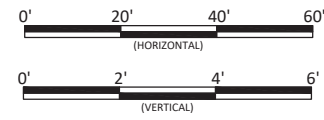
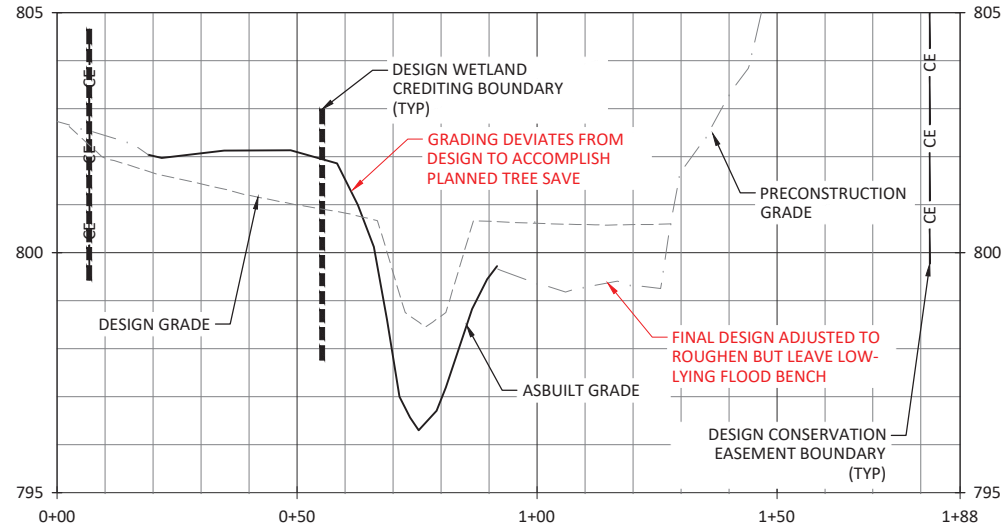
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April 18, 2023

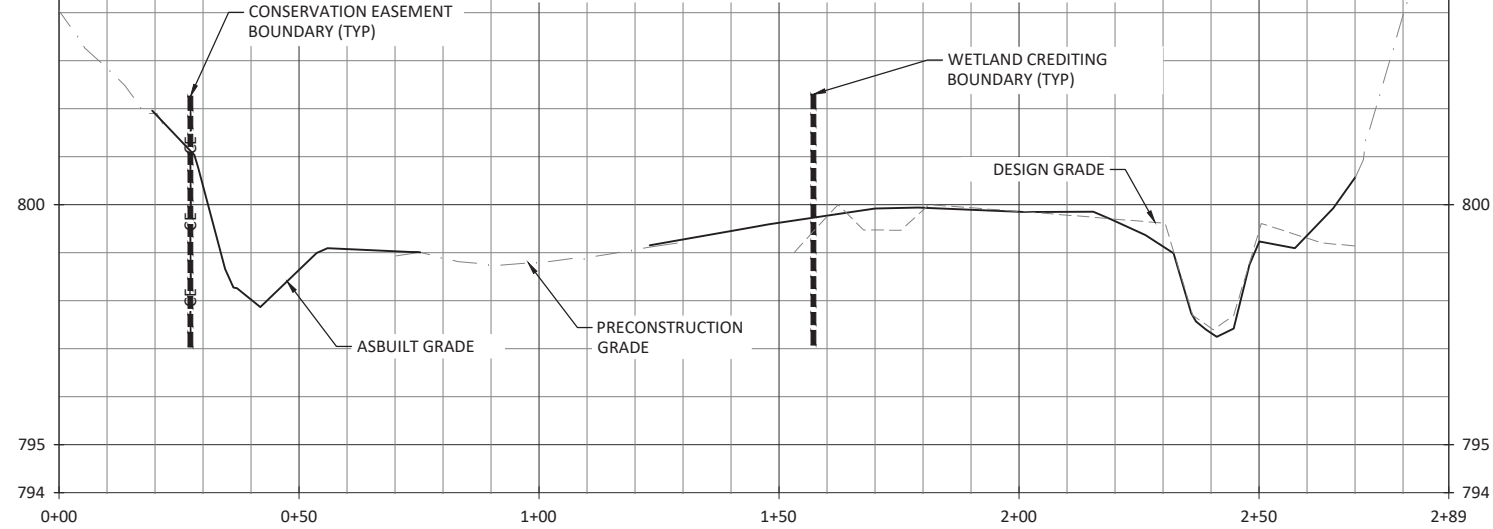
Wetland Grading Cross-Section #6

Section View



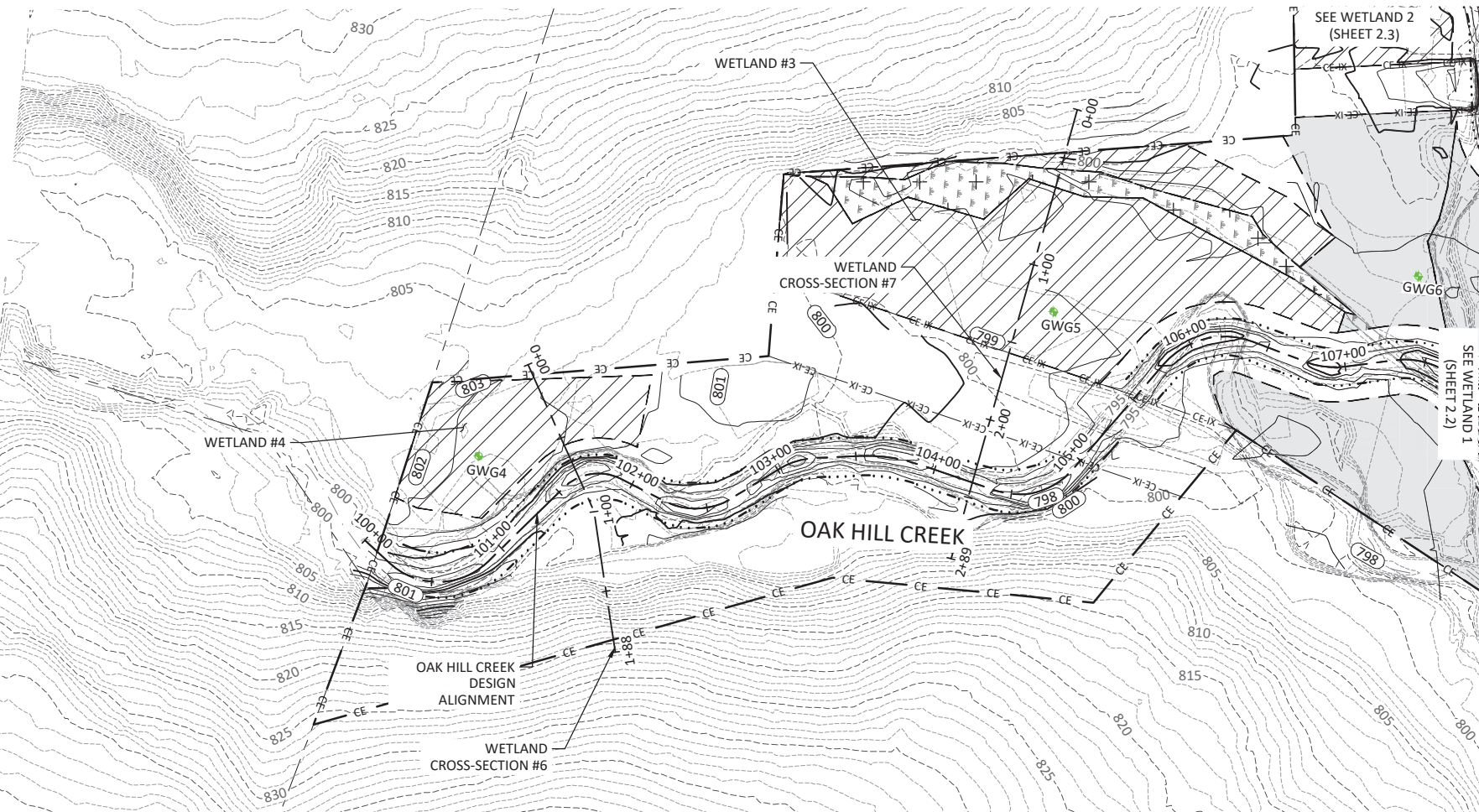
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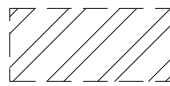
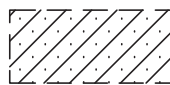
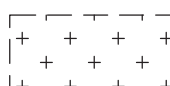

Section View

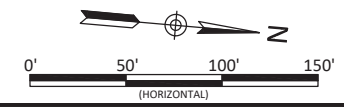


Wetland #3 and #4

Plan View



-  WETLAND RE-ESTABLISHMENT PROPOSED AT A 1:1 CREDIT RATIO
-  WETLAND REHABILITATION PROPOSED AT A 1:1 CREDIT RATIO
-  WETLAND REHABILITATION PROPOSED AT A 1.5:1 CREDIT RATIO
-  WETLAND CREATION PROPOSED AT A 3:1 CREDIT RATIO



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Oak Hill Dairy Mitigation Site Record Drawings
Gaston County, North Carolina
Wetland Grading - Wetland 3-4
Wetland Grading

Revisions:

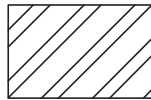
Date: April 18, 2023
Job Number: 005-02182
Project Engineer: JM
Drawn By: AMR/JCK
Checked By: JCK

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Open Area Buffer Planting



Open Buffer Planting Zone Trees							
Bare Root							
Species	Common Name	Max Spacing	Indiv. Spacing	Min. Caliper Size	Stratum	Wetland Indicator	# of Stems
<i>Acer negundo</i>	Boxelder	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FAC	10%
<i>Platanus occidentalis</i>	Sycamore	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACW	15%
<i>Betula nigra</i>	River Birch	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACW	15%
<i>Liriodendron tulipifera</i>	Tulip Poplar	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACU	2%
<i>Quercus phellos</i>	Willow Oak	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FAC	10%
<i>Oxydendrum arboreum</i>	Sourwood	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	UPL	5%
<i>Diospyros virginiana</i>	Persimmon	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FAC	6%
<i>Populus deltoides</i>	Eastern Cottonwood	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FAC	10%
<i>Carya cordiformis</i>	Bitternut Hickory	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACU	5%
<i>Quercus alba</i>	White Oak	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACU	5%
<i>Quercus rubra</i>	Northern Red Oak	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACU	5%
<i>Ulmus rubra</i>	Slippery Elm	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FAC	1%
Total							89%

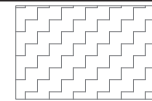
Open Buffer Planting Zone Small Trees / Shrubs							
Bare Root							
Species	Common Name	Max Spacing	Indiv. Spacing	Min. Caliper Size	Stratum	Wetland Indicator	# of Stems
<i>Ainus serrulata</i>	Tag Alder	12 ft.	6-12 ft.	0.25"-1.0"	Sub-Canopy	OBL	2%
<i>Hamamelis virginiana</i>	Witch Hazel	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FACU	2%
<i>Cornus florida</i>	Flowering Dogwood	12 ft.	6-12 ft.	0.25"-1.0"	Sub-Canopy	FACU	2%
<i>Lindera benzoin</i>	Spicebush	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FAC	2%
<i>Amelanchier arborea</i>	Serviceberry	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FAC	2%
<i>Calycanthus floridus</i>	Sweet Shrub	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FACW	1%
<i>Sambucus canadensis</i>	Elderberry	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FAC	2%
Total							11%

- Notes:
 (1) Substitute species: Sweetshrub, northern red oak, slippery elm.
 (2) Transplants from on-site to be used at Designer's discretion for streambank and floodplain planting.
 (3) Percentages of each species may be varied at Designer's discretion but shall not exceed 20% per each species.
 (4) Designer may substitute container plantings or other plantings for bare roots.

TEMPORARY SEEDING		
APPROVED DATE	TYPE	PLANTING RATE (lbs/acre)
Jan 1 – May 1	Rye Grain (<i>Secale Cereale</i>)	120
	Ladino clover (<i>Trifolium Repens</i>)	5
	Crimson Clover (<i>Trifolium incarnatum</i>)	5
	Straw Mulch	4,000
May 1 – Aug 15	German Millet (<i>Setaria italica</i>)	40
	Ladino clover (<i>Trifolium Repens</i>)	5
	Crimson Clover (<i>Trifolium incarnatum</i>)	5
	Straw Mulch	4,000
Aug 15 – Dec 31	Rye Grain (<i>Secale Cereale</i>)	120
	Ladino clover (<i>Trifolium Repens</i>)	5
	Crimson Clover (<i>Trifolium incarnatum</i>)	5
	Straw Mulch	4,000

Note:
 Rates of fertilizer and lime if necessary can be found in the site preparation plan included in the specification documents.

Wetland Planting

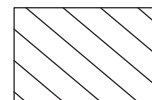


Wetland Planting Zone Trees							
Bare Root							
Species	Common Name	Max Spacing	Indiv. Spacing	Min. Caliper Size	Stratum	Wetland Indicator	# of Stems
<i>Platanus occidentalis</i>	Sycamore	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACW	15%
<i>Betula nigra</i>	River Birch	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACW	15%
<i>Quercus phellos</i>	Willow Oak	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FAC	10%
<i>Ulmus americana</i>	American Elm	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACW	10%
<i>Nyssa sylvatica</i>	Black Gum	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FAC	5%
<i>Quercus michauxii</i>	Swamp Chestnut Oak	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACW	8%
<i>Acer negundo</i>	Boxelder	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FAC	5%
<i>Quercus nigra</i>	Water Oak	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACW	7%
<i>Celtis laevigata</i>	Sugarberry	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACW	5%
Total							80%

Wetland Planting Zone Small Trees/Shrubs							
Bare Root							
Species	Common Name	Max Spacing	Indiv. Spacing	Min. Caliper Size	Stratum	Wetland Indicator	# of Stems
<i>Alnus serrulata</i>	Tag Alder	12 ft.	6-12 ft.	0.25"-1.0"	Sub-Canopy	OBL	1%
<i>Lindera benzoin</i>	Spicebush	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FAC	5%
<i>Cephalanthus occidentalis</i>	Buttonbush	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	OBL	5%
<i>Sambucus canadensis</i>	Elderberry	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FAC	5%
<i>Cornus amomum</i>	Silky Dogwood	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FACW	1%
<i>Salix sericea</i>	Silky Willow	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	OBL	2%
Livestakes							
<i>Salix nigra</i>	Black Willow	8 ft.	6-8 ft.	0.5"-1.5"	Shrub	OBL	1%
Total							20%

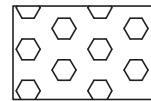
- Notes:
 (1) Substitute species: Silky willow, silky dogwood.
 (2) Tag Alder shall be limited to Wetland 1 or other wetter areas of the site as designated by Designer.
 (3) Transplants from on-site to be used at Designer's discretion for streambank and floodplain planting.
 (4) Percentages of each species may be varied at Designer's discretion but shall not exceed 20% per each species.
 (5) Designer may substitute container plantings or other plantings for bare roots.

Partially Vegetated Buffer Area Planting



Open Buffer Planting Zone Trees							
Bare Root							
Species	Common Name	Max Spacing	Indiv. Spacing	Min. Caliper Size	Stratum	Wetland Indicator	# of Stems
<i>Carpinus caroliniana</i>	American Hornbeam	12 ft.	6-12 ft.	0.25"-1.0"	Sub-Canopy	FAC	14%
<i>Euonymus americana</i>	Strawberry Bush	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FAC	14%
<i>Lindera benzoin</i>	Spicebush	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FAC	8%
<i>Fagus grandifolia</i>	American Beech	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACU	14%
<i>Ulmus rubra</i>	Slippery Elm	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FAC	7%
<i>Hamamelis virginiana</i>	Witchhazel	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FACU	7%
<i>Calycanthus floridus</i>	Sweetshrub	12 ft.	6-12 ft.	0.25"-1.0"	Shrub	FACU	7%
<i>Cornus florida</i>	Flowering Dogwood	12 ft.	6-12 ft.	0.25"-1.0"	Sub-Canopy	FACU	7%
<i>Asimina triloba</i>	Pawpaw	12 ft.	6-12 ft.	0.25"-1.0"	Sub-Canopy	FAC	14%
<i>Quercus rubra</i>	Northern Red Oak	12 ft.	6-12 ft.	0.25"-1.0"	Canopy	FACU	8%
Total							100%

Riparian Corridor and Inundated Wetland Planting



Streambank Planting Zone							
Live Stakes							
Species	Common Name	Max Spacing	Indiv. Spacing	Min. Size	Stratum	Wetland Indicator	% of Stems
<i>Salix nigra</i>	Black Willow	8 ft.	6-8 ft.	0.5"-1.5" cal.	Shrub	OBL	25%
<i>Cornus amomum</i>	Silky Dogwood	8 ft.	6-8 ft.	0.5"-1.5" cal.	Shrub	FACW	20%
<i>Salix sericea</i>	Silky Willow	8 ft.	6-8 ft.	0.5"-1.5" cal.	Shrub	OBL	25%
<i>Cephalanthus occidentalis</i>	Buttonbush	8 ft.	6-8 ft.	0.5"-1.5" cal.	Shrub	OBL	15%
<i>Sambucus canadensis</i>	Elderberry	8 ft.	6-8 ft.	0.5"-1.5" cal.	Shrub	FAC	15%
Total							100%
Herbaceous Plugs							
<i>Juncus effusus</i>	Common Rush	5 ft.	3-5 ft.	1.0"-2.0" plug	Herb	FACW	40%
<i>Carex crinita</i>	Fringed Sedge	5 ft.	3-5 ft.	1.0"-2.0" plug	Herb	OBL	10%
<i>Carex lurida</i>	Lurid Sedge	5 ft.	3-5 ft.	1.0"-2.0" plug	Herb	OBL	20%
<i>Carex lupulina</i>	Hop Sedge	5 ft.	3-5 ft.	1.0"-2.0" plug	Herb	OBL	15%
<i>Scirpus cyperinus</i>	Woolgrass	5 ft.	3-5 ft.	1.0"-2.0" plug	Herb	FACW	15%
Total							100%

Note: See live staking and herbaceous plugs detail.

Permanent Seeding

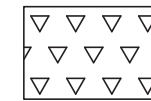
Riparian Seeding - Open Canopy					
Pure Live Seed (21 lbs/ acre)					
Approved Date	Species Name	Common Name	Stratum	Wetland Indicator	Density (lbs/acre)
All Year	<i>Schizachyrium scoparium</i>	Little Bluestem	Herb	FACU	4.0
All Year	<i>Panicum virgatum</i>	Switchgrass	Herb	FAC	2.0
All Year	<i>Panicum rigidulum</i>	Redtop Panicgrass	Herb	FACW	1.0
All Year	<i>Rudbeckia hirta</i>	Blackeyed Susan	Herb	FACU	1.0
All Year	<i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	Herb	FACU	1.0
All Year	<i>Echinacea purpurea</i>	Purple coneflower	Herb	UPL	1.0
All Year	<i>Dichanthelium clandestinum</i>	Deertongue	Herb	FAC	2.0
All Year	<i>Elymus virginicus</i>	Virginia Wild Rye	Herb	FACW	2.0
All Year	<i>Sorghastrum nutans</i>	Indiangrass	Herb	FACU	3.0
All Year	<i>Bidens aristosa</i>	Bur-Marigold	Herb	FACW	1.0
All Year	<i>Helianthus angustifolia</i>	Narrowleaf Sunflower	Herb	FACW	1.0
All Year	<i>Coreopsis tinctoria</i>	Plains coreopsis	Herb	FAC	1.0
All Year	<i>Achillea millefolium</i>	Common yarrow	Herb	FACU	1.0
Wetland Seeding - Open Canopy					
Pure Live Seed (20 lbs/ acre)					
All Year	<i>Coleataenia anceps</i>	Beaked Panicgrass	Herb	FAC	1.0
All Year	<i>Carex vulpinoidea</i>	Fox Sedge	Herb	OBL	3.0
All Year	<i>Elymus virginicus</i>	Virginia Wild Rye	Herb	FACW	4.0
All Year	<i>Bidens aristosa</i>	Bur-Marigold	Herb	FACW	1.0
All Year	<i>Panicum virgatum</i>	Switchgrass	Herb	FAC	1.0
All Year	<i>Polygonum pensylvanicum</i>	Smartweed	Herb	FACW	0.5
All Year	<i>Juncus effusus</i>	Common Rush	Herb	FACW	1.5
All Year	<i>Panicum dichotomiflorum</i>	Panicgrass	Herb	FACW	2.0
All Year	<i>Helianthus angustifolia</i>	Narrowleaf sunflower	Herb	FACW	1.0
All Year	<i>Dichanthelium clandestinum</i>	Deertongue	Herb	FAC	1.5
All Year	<i>Tripsacum dactyloides</i>	Eastern Gammagrass	Herb	FACW	2.0
All Year	<i>Elymus riparius</i>	Riverbank Wild Rye	Herb	FACW	2.0
All Year	<i>Carex lurida</i>	Lurid Sedge	Herb	OBL	1.0

- Notes:
 (1) Apply Permanent Riparian seeding in all disturbed areas within Conservation Easement.
 (2) Apply Permanent seeding in all other disturbed areas outside of Easement per specification.

Stabilization Seeding

Stabilization Seeding		
Pure Live Seed (32 lbs/ac)		
Species Name	Common Name	lbs/acre
<i>Festuca arundinacea</i>	Fescue (KY 31)	20
<i>Dactylis glomerata</i>	Orchard Grass	12

- Notes:
 (1) Apply Pasture Seeding for grading outside Conservation Easement, utility easements, and stream crossings.
 (2) Install temporary seed and mulch with all permanent seed.



Best Management Practice (BMP) Planting

- Notes:
 (1) Apply "Wetland Seeding - Open Canopy" seed mix to all disturbed areas of BMP including bottom of basin.
 (2) Apply "Riparian Corridor Planting - Herbaceous Plugs and Livestakes" species in areas shown in detail.

Oak Hill Dairy Mitigation Site Record Drawings
 Gaston County, North Carolina



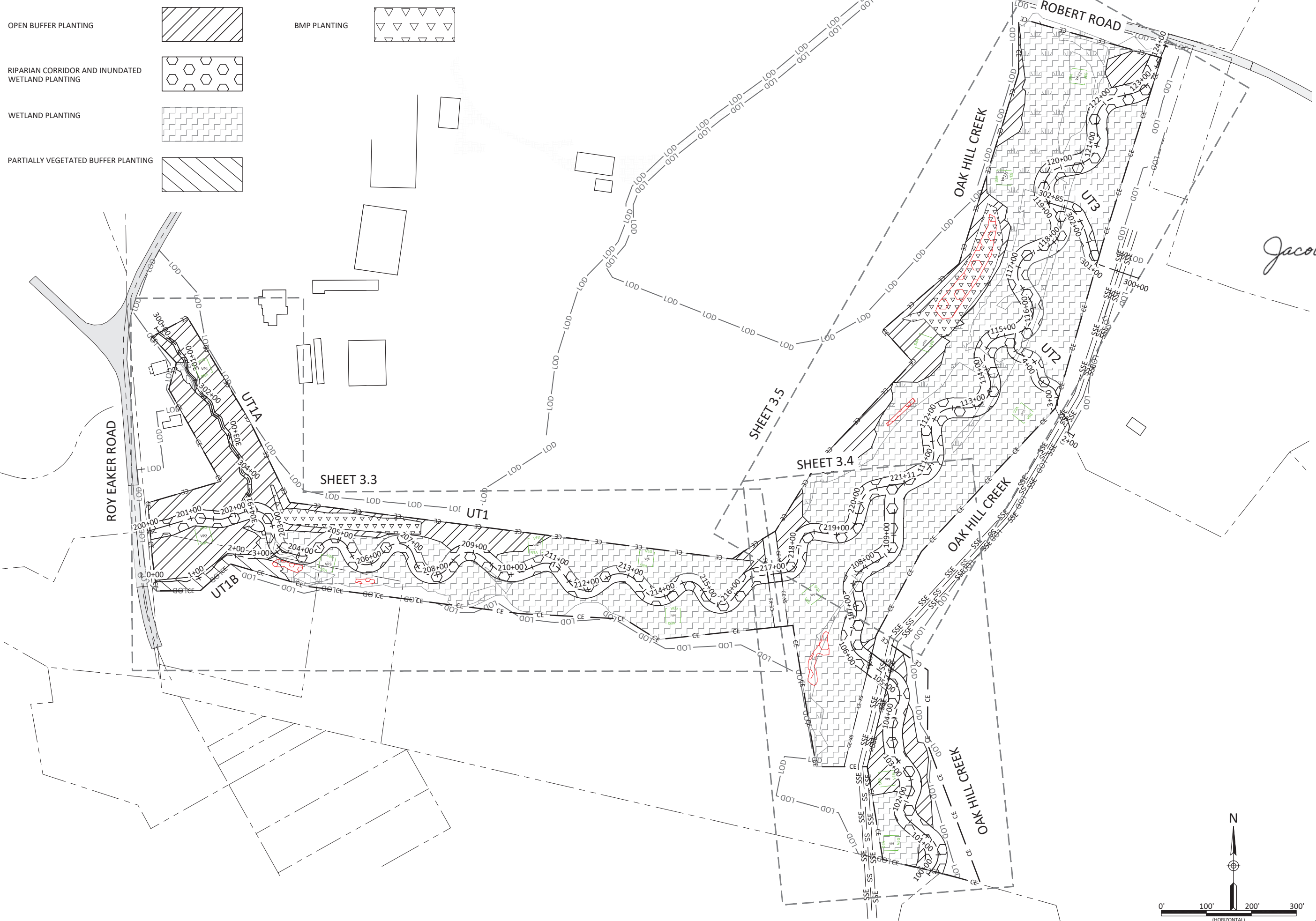
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Planting List

Date: April 18, 2023
 Job Number: 005-02182
 Project Engineer: JPM
 Drawn By: AMR/JCK
 Checked By: JCK

3.1

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Oak Hill Dairy Mitigation Site Record Drawings
Gaston County, North Carolina

Planting Overview

Date: April 18, 2023
Job Number: 005-02182
Project Engineer: JM
Drawn By: AMR/JCK
Checked By: JCK

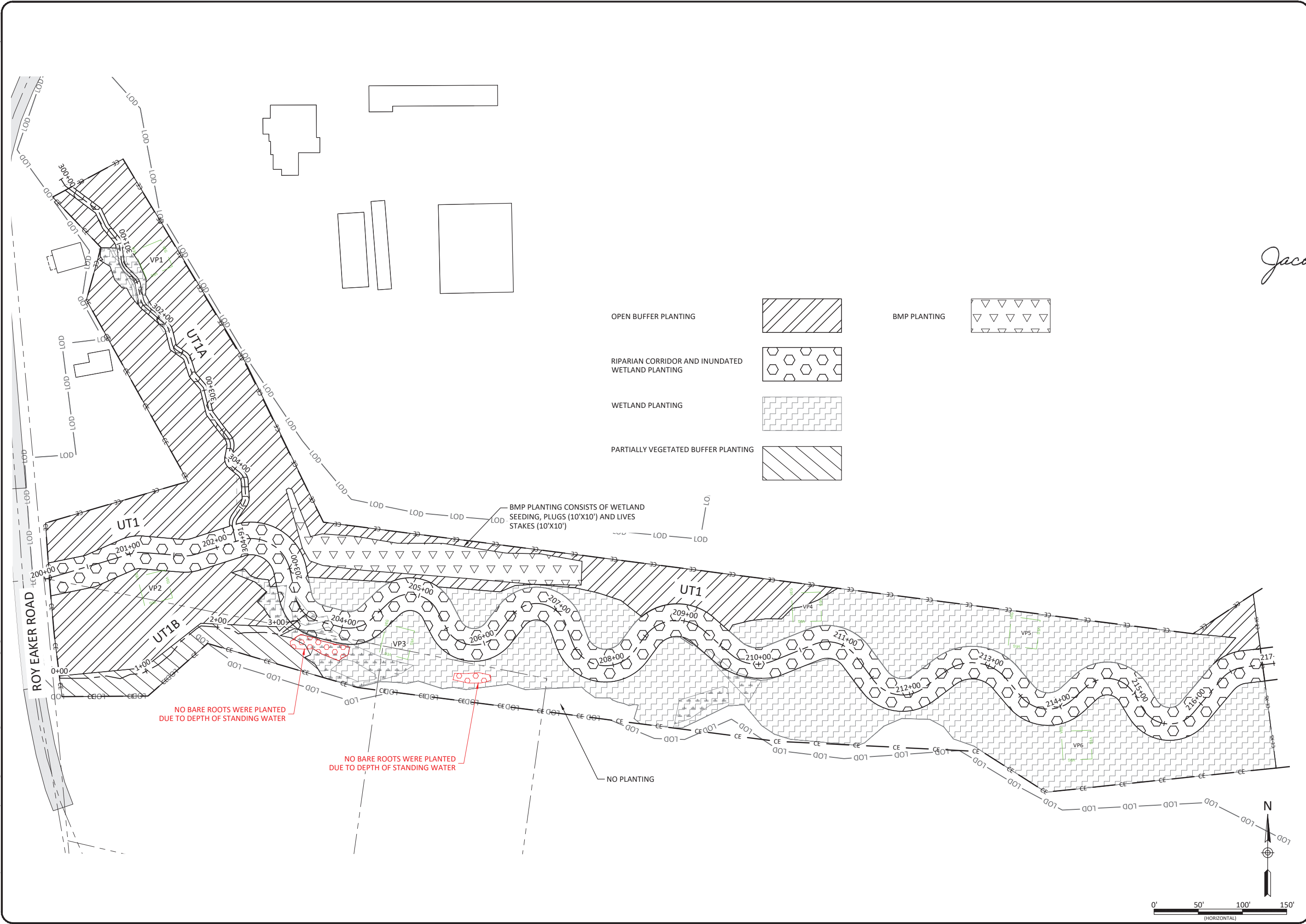
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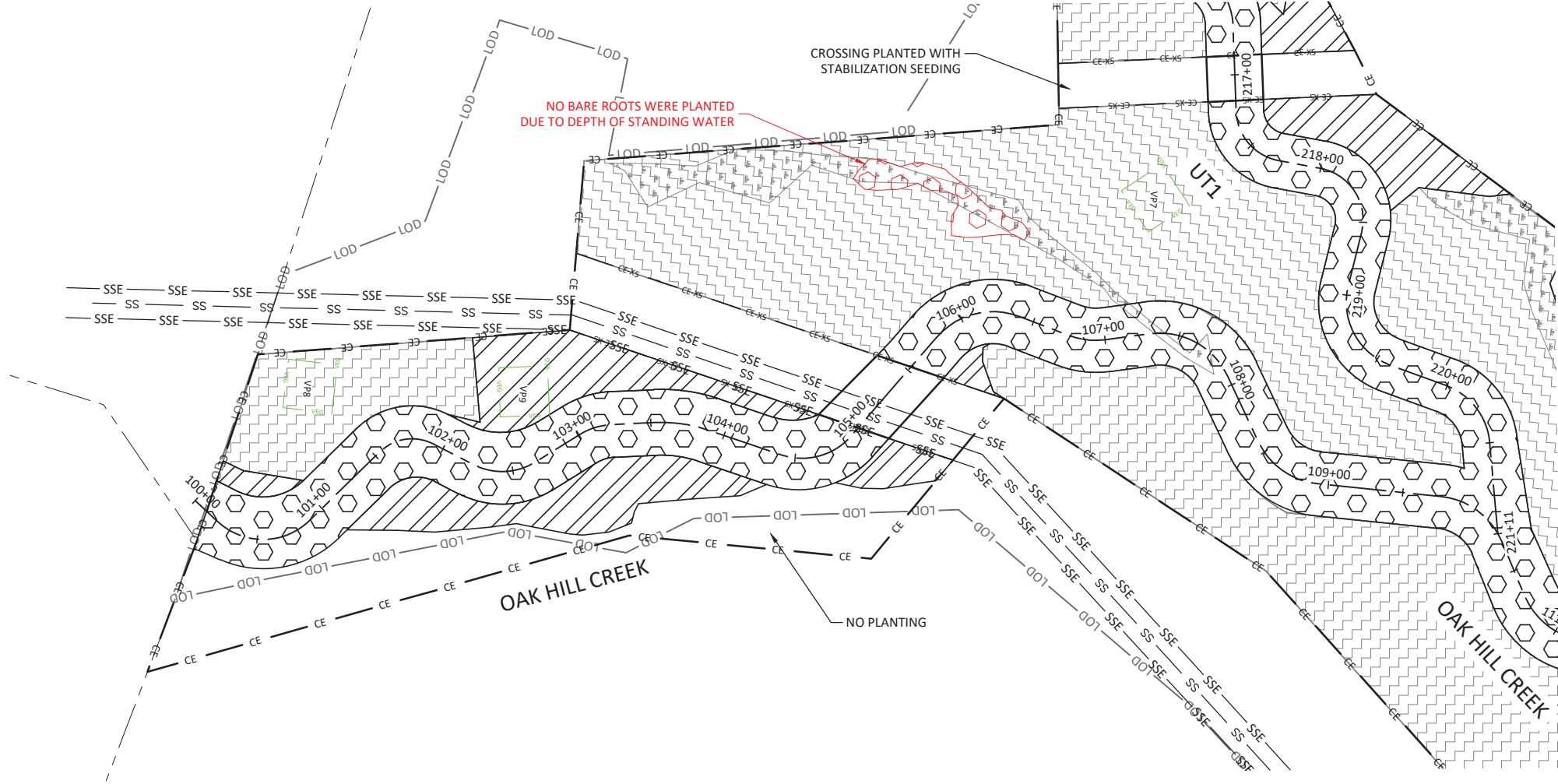
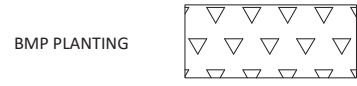
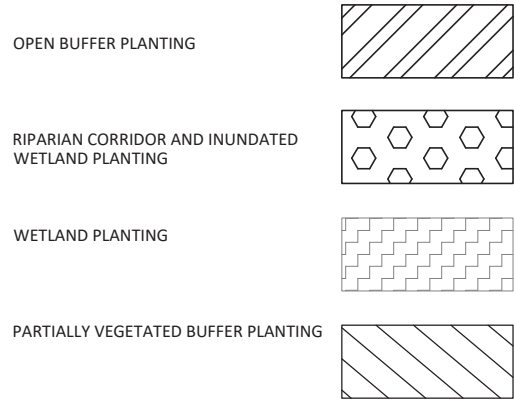
Oak Hill Dairy Mitigation Site Record Drawings
 Gaston County, North Carolina

Planting Plan

Revisions:

Date: April 18, 2023
 Job Number: 005-02182
 Project Engineer: JM
 Drawn By: AMR/JCK
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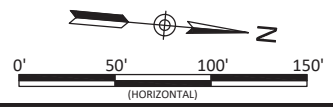
Oak Hill Dairy Mitigation Site Record Drawings
Gaston County, North Carolina


Planting Plan


Revisions:


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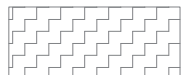
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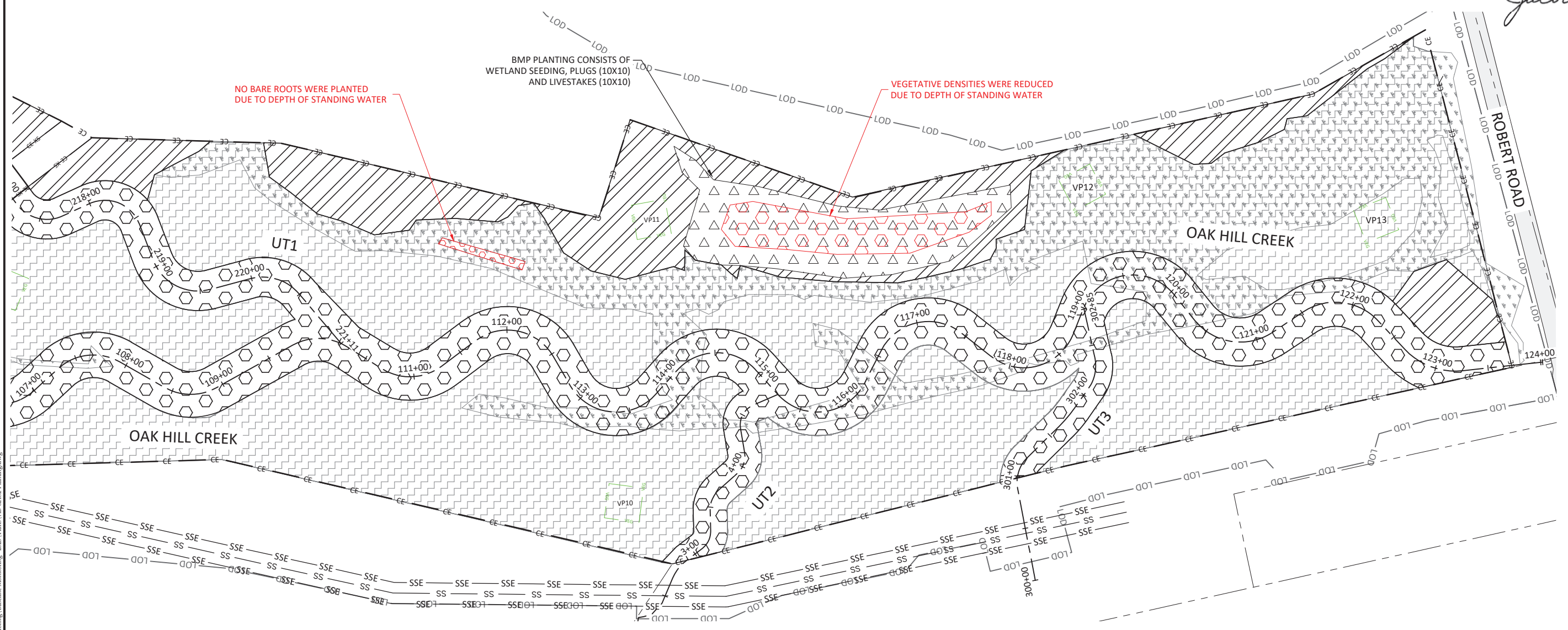
OPEN BUFFER PLANTING 

BMP PLANTING 

RIPARIAN CORRIDOR AND INUNDATED WETLAND PLANTING 

WETLAND PLANTING 

PARTIALLY VEGETATED BUFFER PLANTING 



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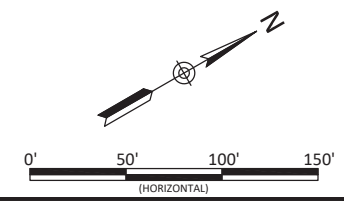
Oak Hill Dairy Mitigation Site Record Drawings
Gaston County, North Carolina

Planting Plan

Revisions:

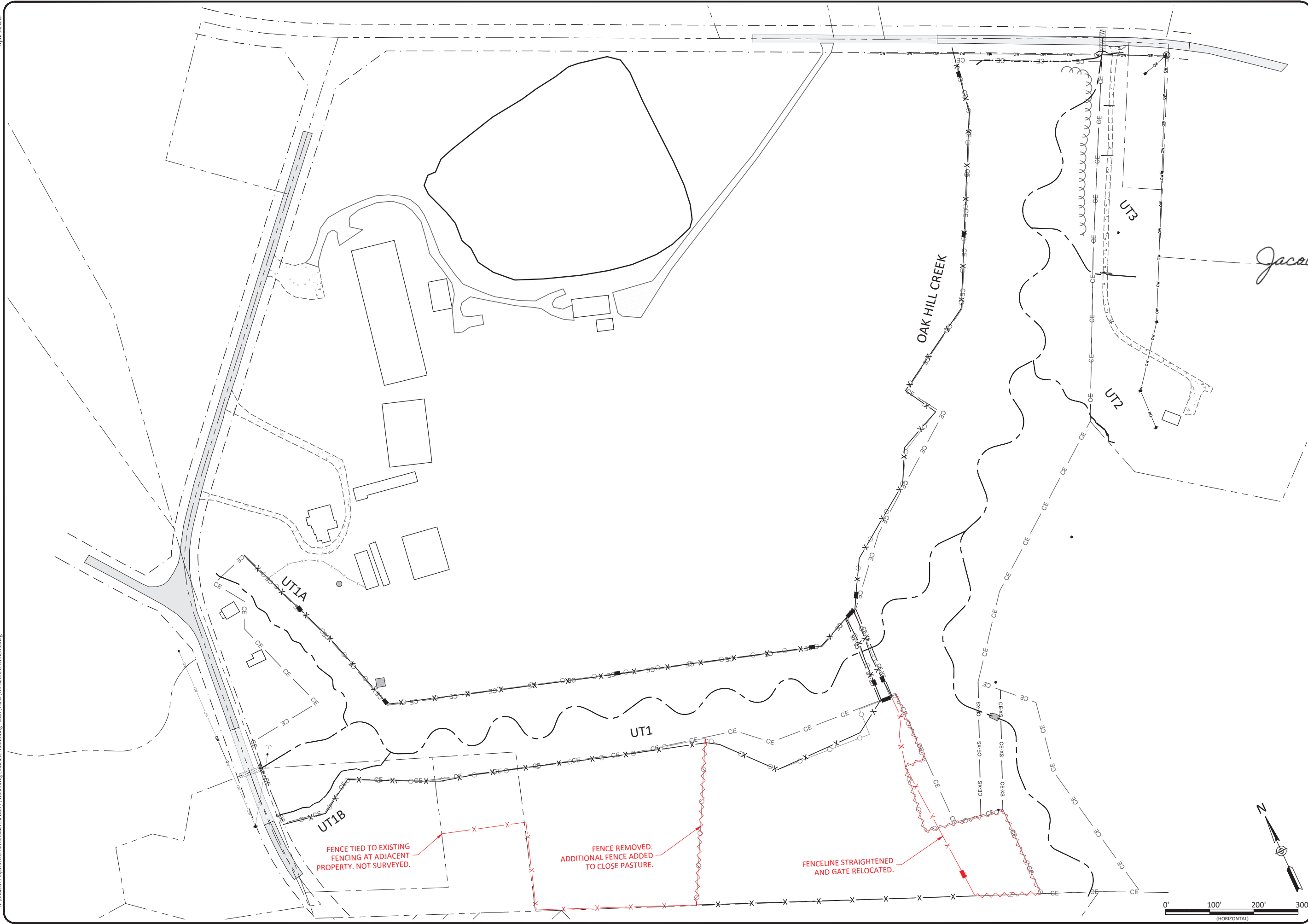
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Job Number: 005-02182
Project Engineer: JM
Drawn By: AMR/JCK
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April 18, 2023

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Gaston County, North Carolina

Farm Plan

Revisions:

Date: April 18, 2023
Job Number: 005-02182
Project Engineer: JM
Drawn By: AMR/JCK
Checked By: JCK

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