

Dog Bite Stream Restoration Site

EEP Project #92533
 Contract # D06056-A
 USACE Action ID #SAW-2008-2251
 DWQ 404 #08-1185

Monitoring Year 05 Project Type: Stream Restoration



KCI Associates of NC, Inc.
 Landmark Center II, Suite 220
 4601 Six Forks Road
 Raleigh, NC 27609



NCDENR-EEP
 1652 Mail Service Center
 Raleigh, NC 27699-1652

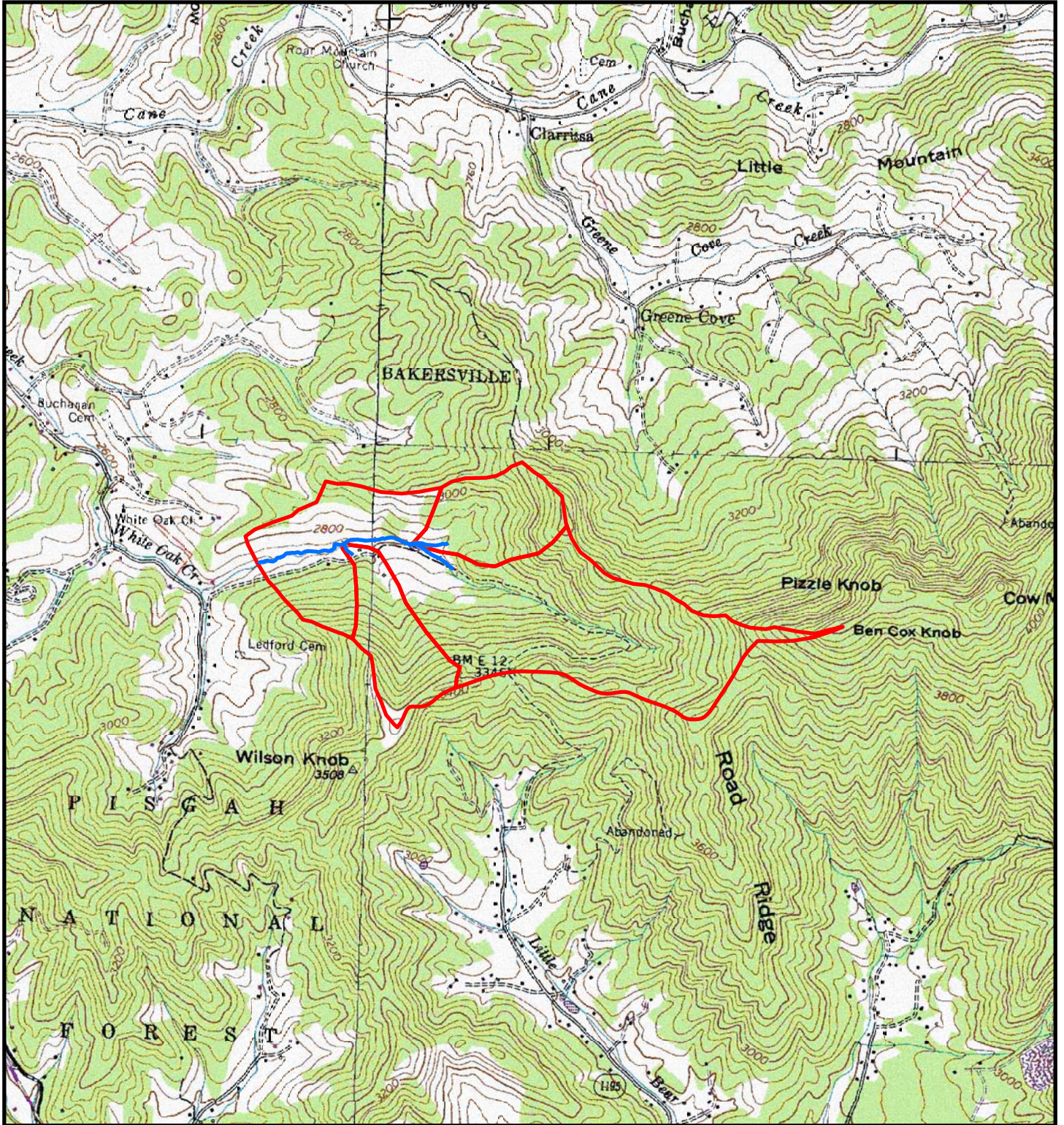
Submitted: January 2015

**Table 1a. Project Setting and Classifications
 Dog Bite Stream Restoration Site**

County	Mitchell
General Location	Bakersville
Basin	French Broad
Physiographic Region	Mountains
USGS Hydro Unit	06010108040010
NCDWQ Sub-basin	04-03-06
Trout Water	Yes
Project Performers	
Source Agency	NCEEP
Provider	KCI Technologies
Designer	KCI Associates of NC
Monitoring Firm	KCI Associates of NC
Planting	Bruton Nurseries and Landscapes
Property Interest Holder	NCEEP

**Table 1b. Project Activity and Reporting History
 Dog Bite Stream Restoration Site**

Activity or Report	Data Collection Complete	Completion or Delivery
Restoration Plan	2007/2008	Jul 08
Final Design	-	Feb 09
Construction	-	Sep 09
Planting	-	Dec 09
Baseline Monitoring (Year 0)	Oct 09 / Mar 10	Apr 10
First Year Monitoring	Oct 10	Dec 10
Second Year Monitoring	Oct 11	Dec 11
Third Year Monitoring	Aug-Sept 12	Dec 12
Supplemental Planting	-	Spring 2012
Invasive species treatment	-	Dec 13
Fourth Year Monitoring	Oct 13	Dec 13
T1 headcut repair	-	Dec 13
Supplemental Planting	-	Spring 2014
Fifth Year Monitoring	March/Aug 14	Dec 14



Project Watershed

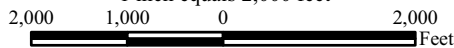
- Project Watershed
- White Oak Creek - 0.53 sq. mi.
- Tributary 1 - 0.08 sq. mi.
- Tributary 2 - 0.07 sq. mi.

~ Project Streams

Source: USGS Topographic Quadrangles
Bakersville (1978), Carvers Gap (1960),
Micaville (1978), and Spruce Pine (1978)



1:24,000
1 inch equals 2,000 feet



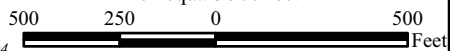


Dog Bite Site - NRCS Soil Survey

 Project Easement Boundary



1:6,000
1 inch equals 500 feet

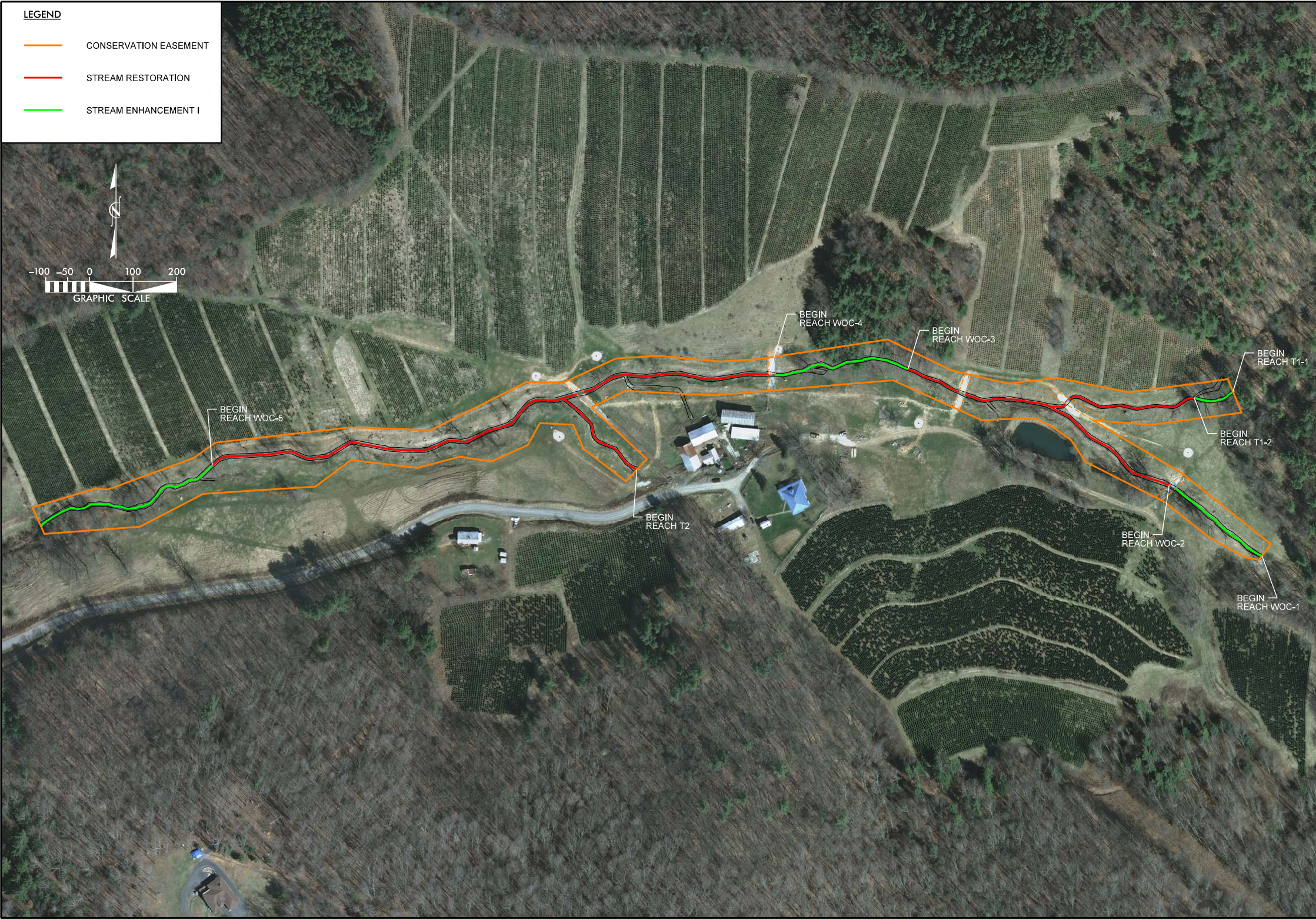
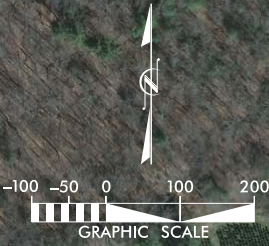


Source: Soil Survey of Mitchell County, NC, USDA NRCS, 2004.



LEGEND

- CONSERVATION EASEMENT
- STREAM RESTORATION
- STREAM ENHANCEMENT I



NO.	DESCRIPTION	DATE







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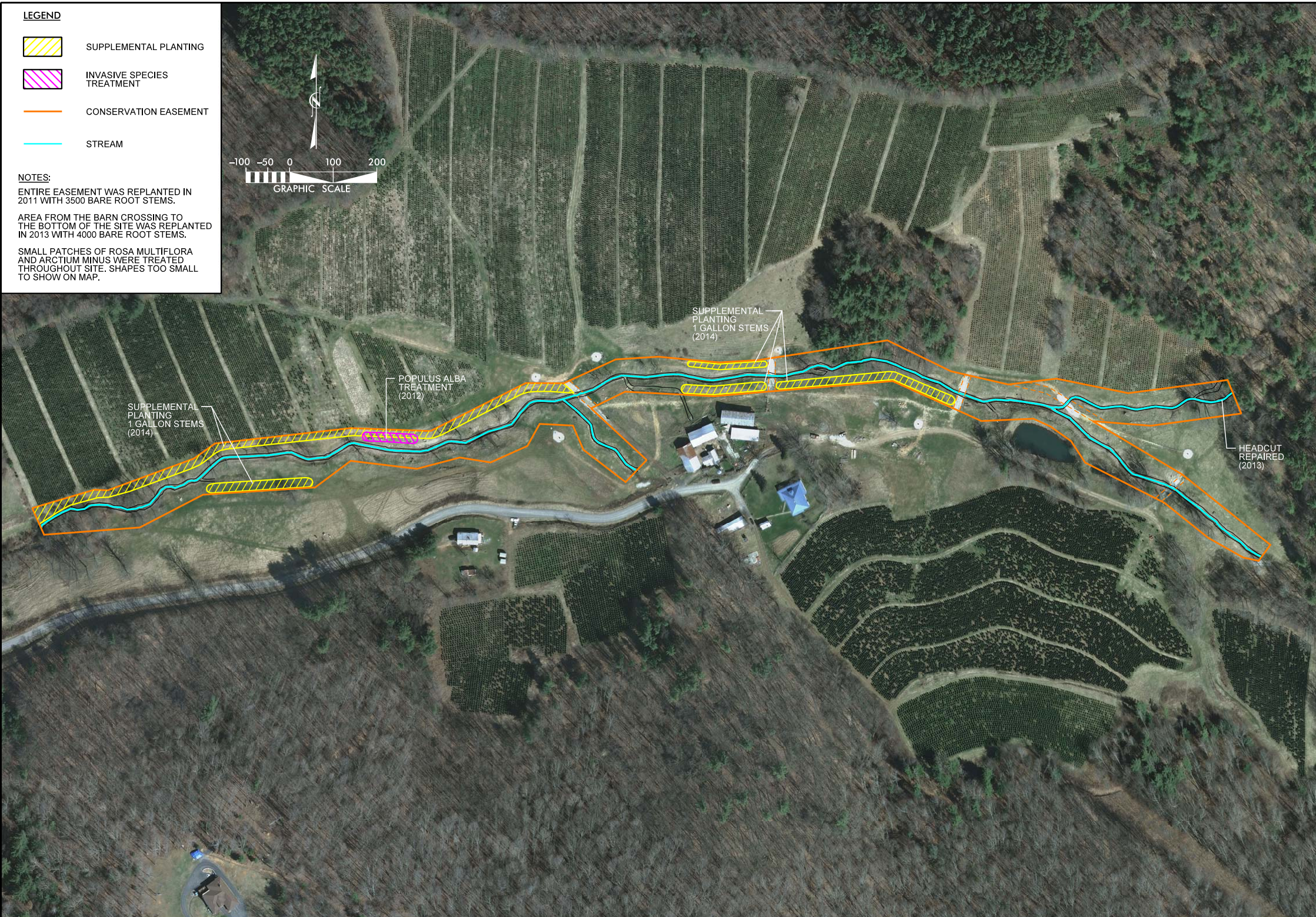
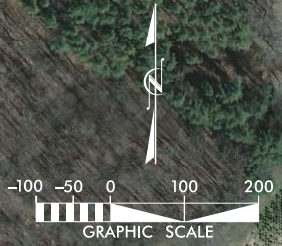
**DOG BITE
STREAM RESTORATION PROJECT**
BAKERSVILLE, MITCHELL COUNTY, NORTH CAROLINA

DATE: JAN 2015
SCALE: GRAPHIC
CURRENT
CONDITION
PLAN VIEW
FIGURE 2

LEGEND

-  SUPPLEMENTAL PLANTING
-  INVASIVE SPECIES TREATMENT
-  CONSERVATION EASEMENT
-  STREAM

NOTES:
 ENTIRE EASEMENT WAS REPLANTED IN 2011 WITH 3500 BARE ROOT STEMS.
 AREA FROM THE BARN CROSSING TO THE BOTTOM OF THE SITE WAS REPLANTED IN 2013 WITH 4000 BARE ROOT STEMS.
 SMALL PATCHES OF ROSA MULTIFLORA AND ARCTIUM MINUS WERE TREATED THROUGHOUT SITE. SHAPES TOO SMALL TO SHOW ON MAP.



SUPPLEMENTAL PLANTING 1 GALLON STEMS (2014)

POPULUS ALBA TREATMENT (2012)

SUPPLEMENTAL PLANTING 1 GALLON STEMS (2014)

HEADCUT REPAIRED (2013)

NO.	DATE	DESCRIPTION	REVISIONS



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**DOG BITE
 STREAM RESTORATION PROJECT**
 BAKERSVILLE, MITCHELL COUNTY, NORTH CAROLINA

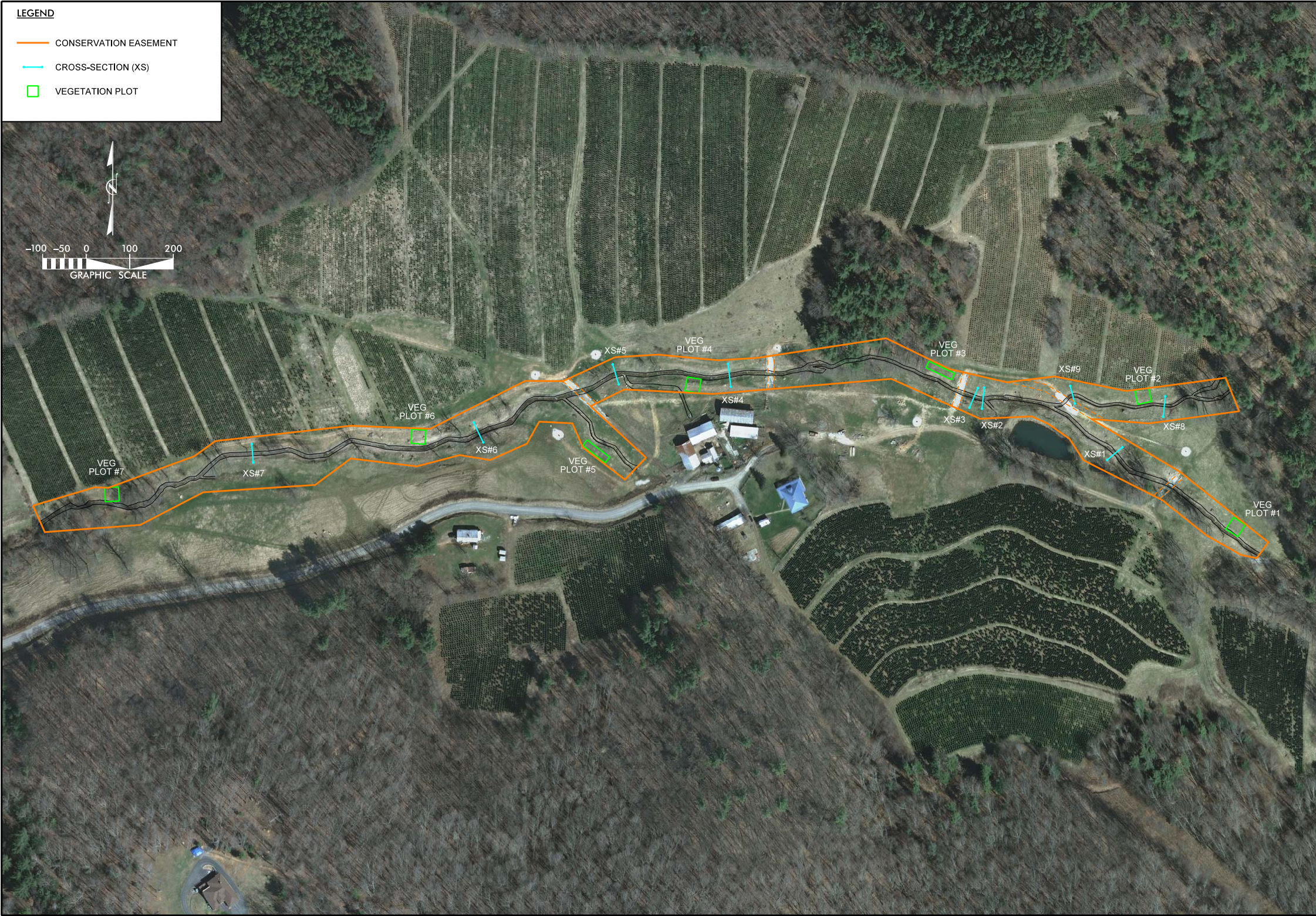
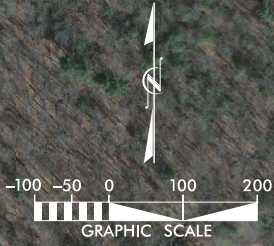
DATE: JAN 2015
 SCALE: GRAPHIC

MAINTENANCE &
 SUPPLEMENTAL
 PLANTING

FIGURE 3

LEGEND

- CONSERVATION EASEMENT
- CROSS-SECTION (XS)
- VEGETATION PLOT



NO.	DESCRIPTION	DATE



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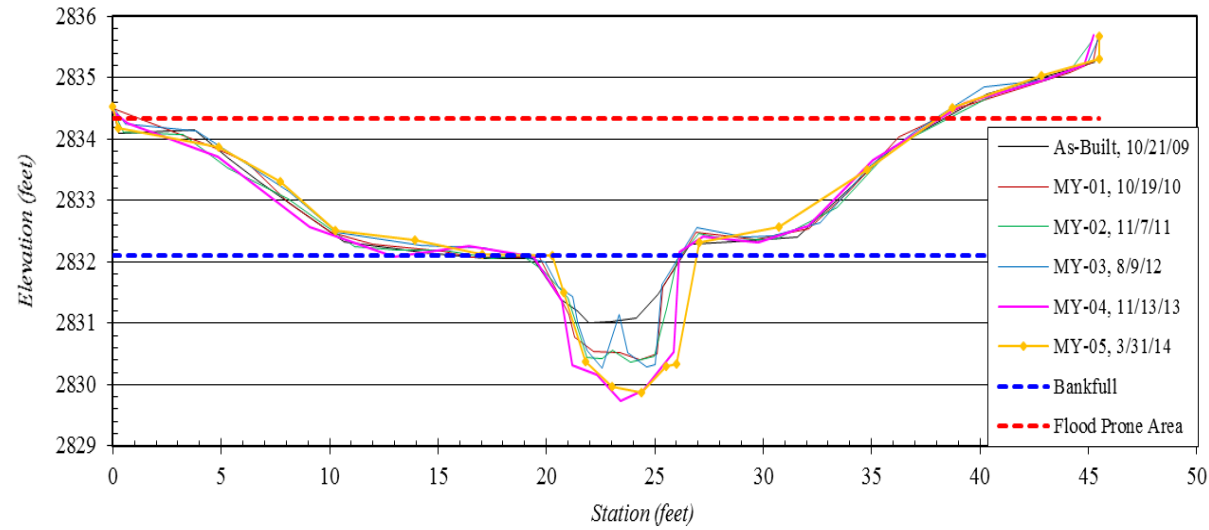
**DOG BITE
STREAM RESTORATION PROJECT**
BAKERSVILLE, MITCHELL COUNTY, NORTH CAROLINA

DATE: JAN 2015
SCALE: GRAPHIC

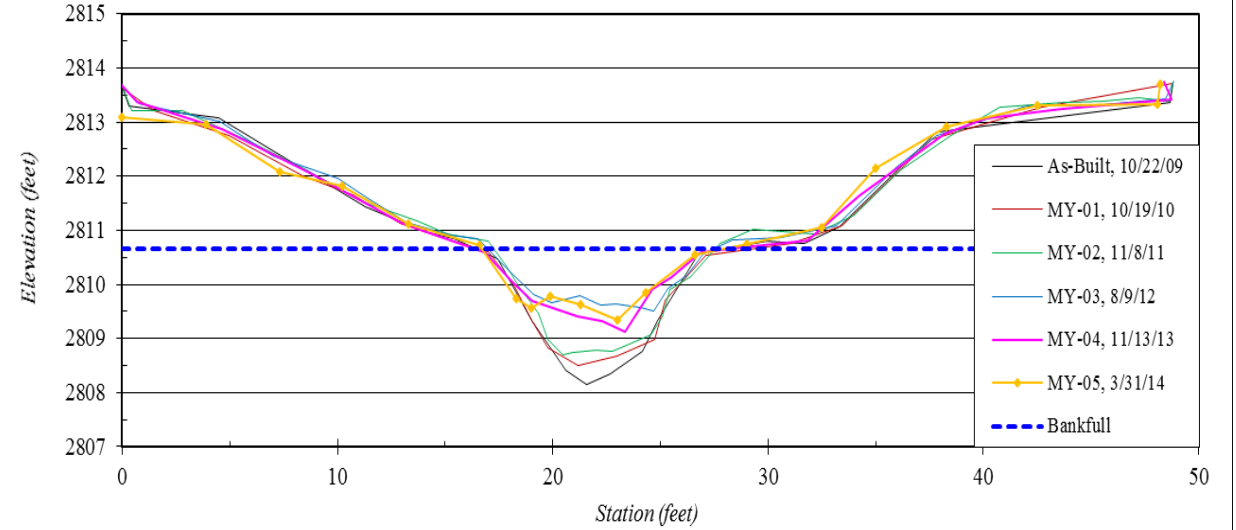
**MONITORING
FEATURES**

FIGURE 4

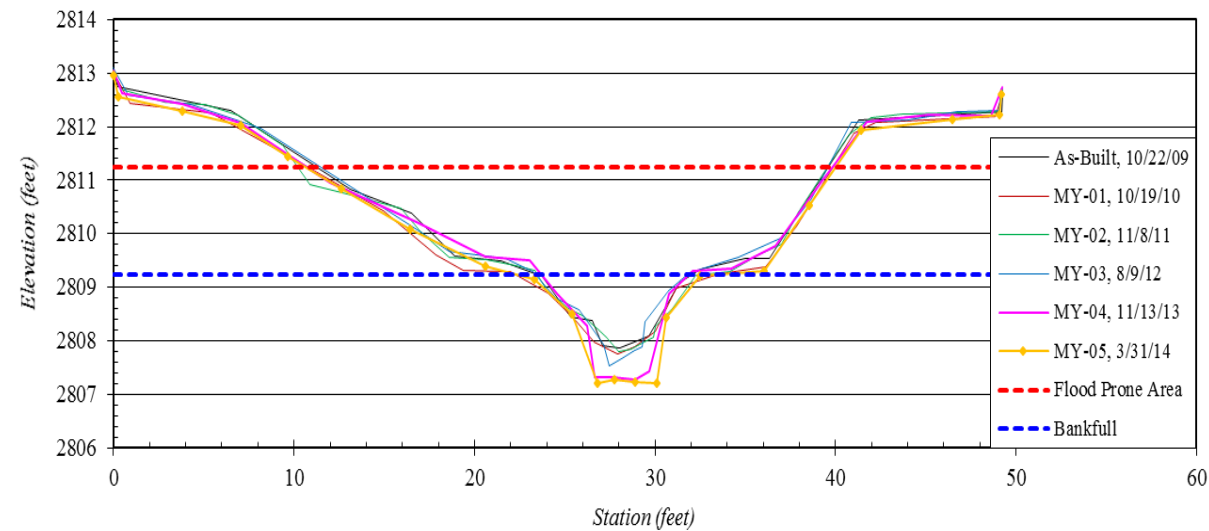
French Broad River Basin, Dog Bite, XS-1, Riffle, WOC-2



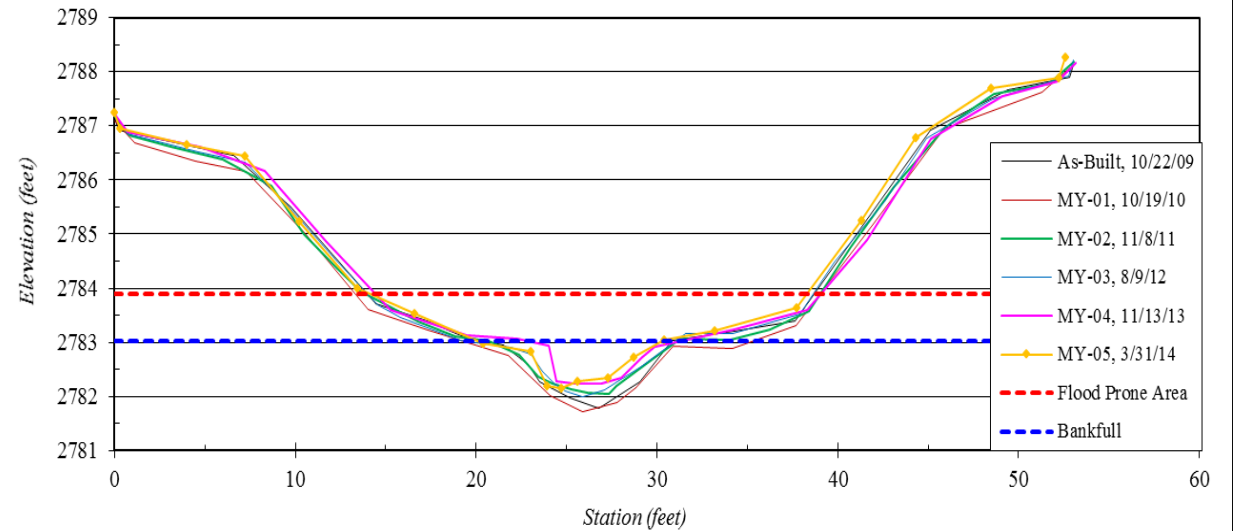
French Broad River Basin, Dog Bite, XS-2, Pool, WOC-2



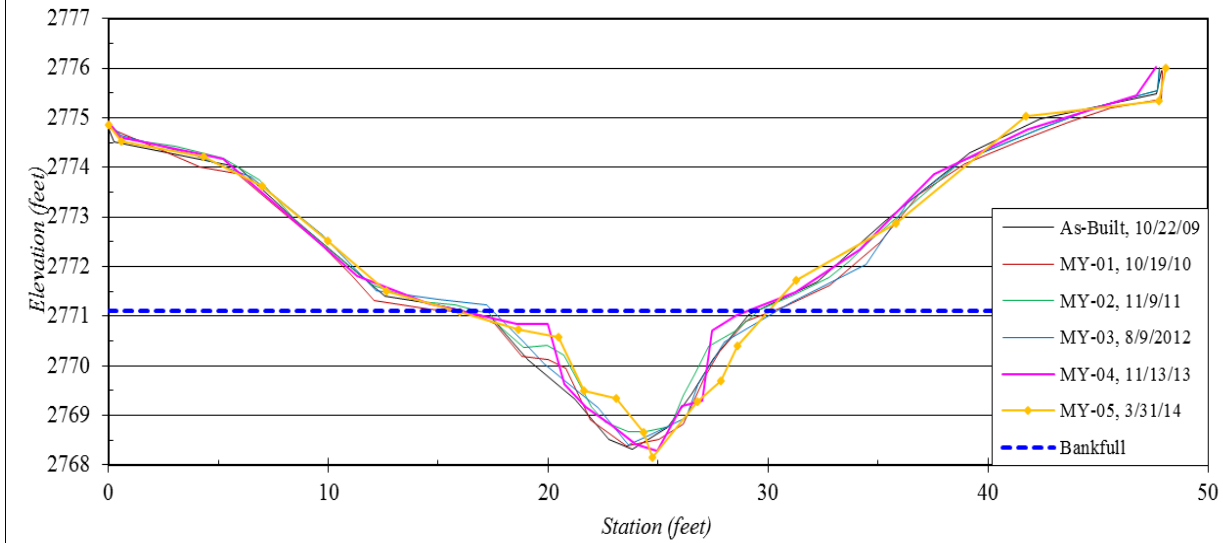
French Broad River Basin, Dog Bite, XS-3, Riffle, WOC-2



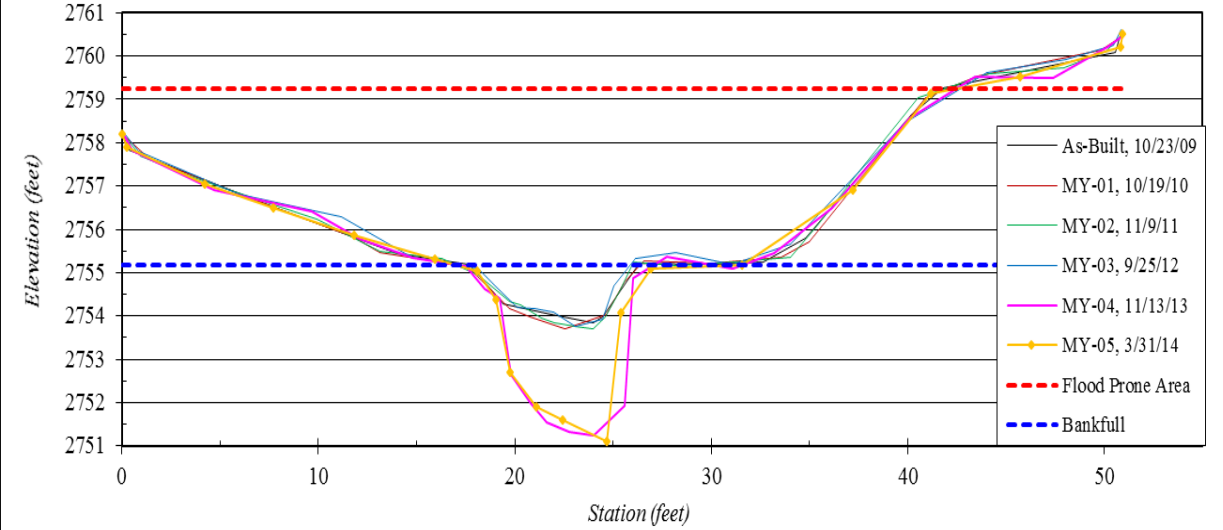
French Broad River Basin, Dog Bite, XS-4, Riffle, WOC-4



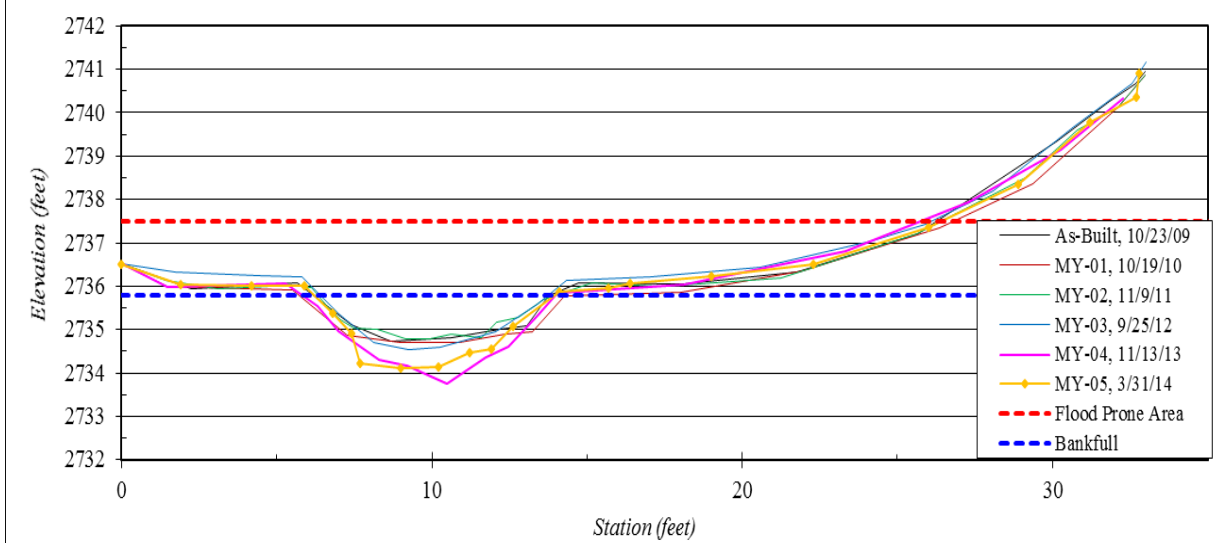
French Broad River Basin, Dog Bite, XS-5, Pool, WOC-4



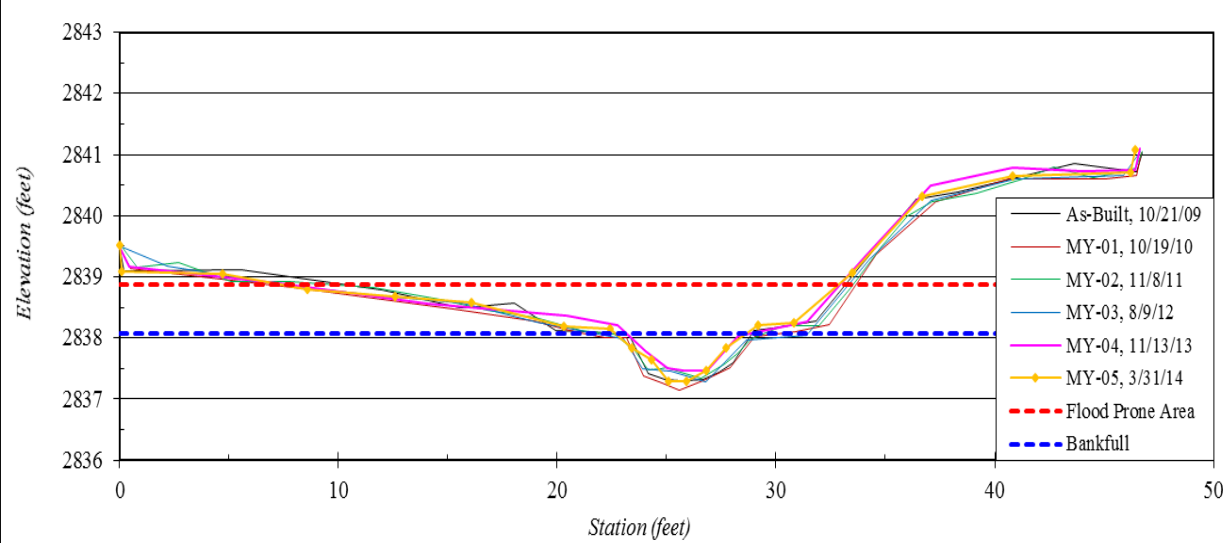
French Broad River Basin, Dog Bite, XS-6, Riffle, WOC-4



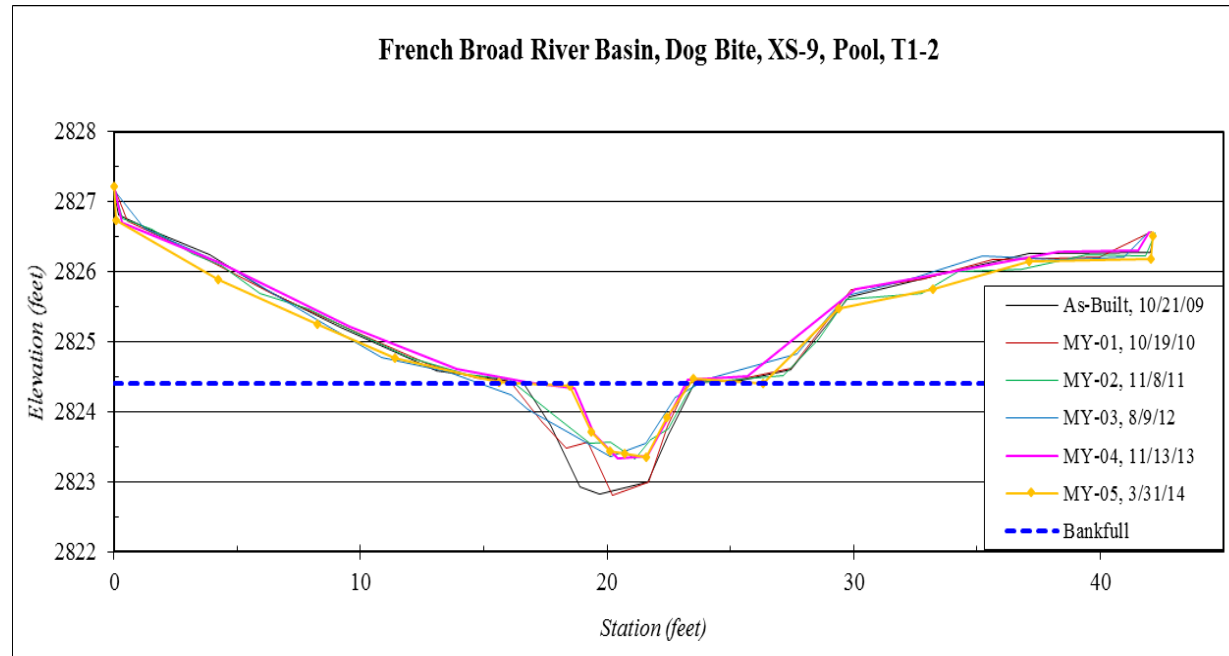
French Broad River Basin, Dog Bite, XS-7, Riffle, WOC-4

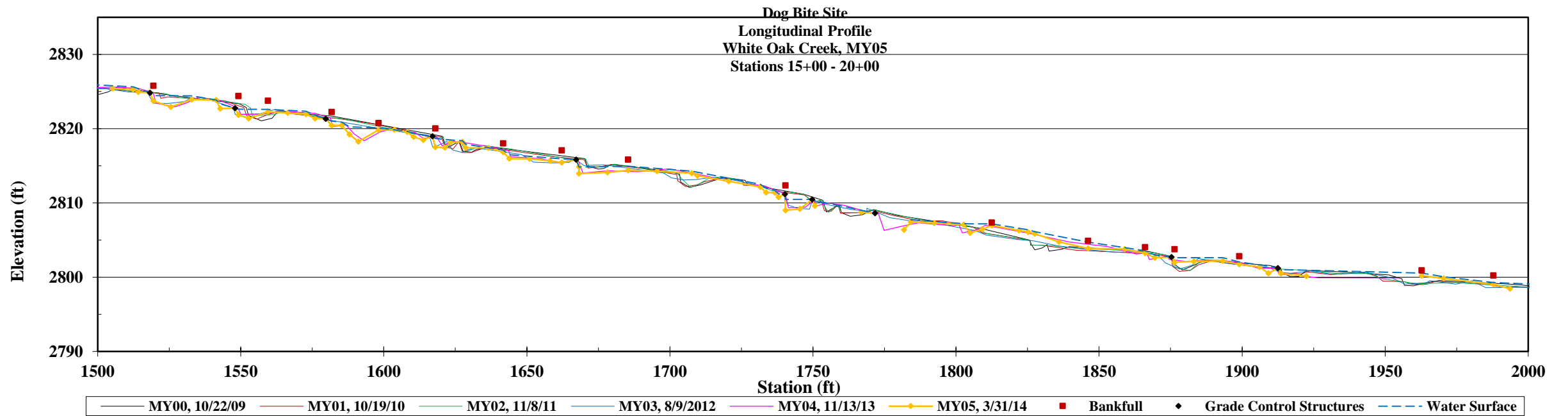
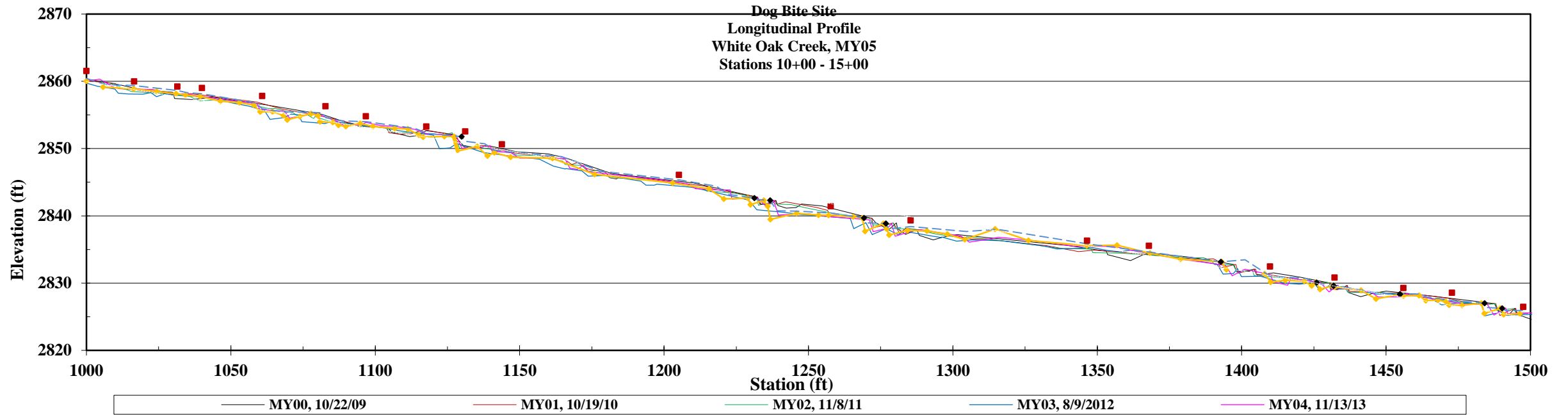


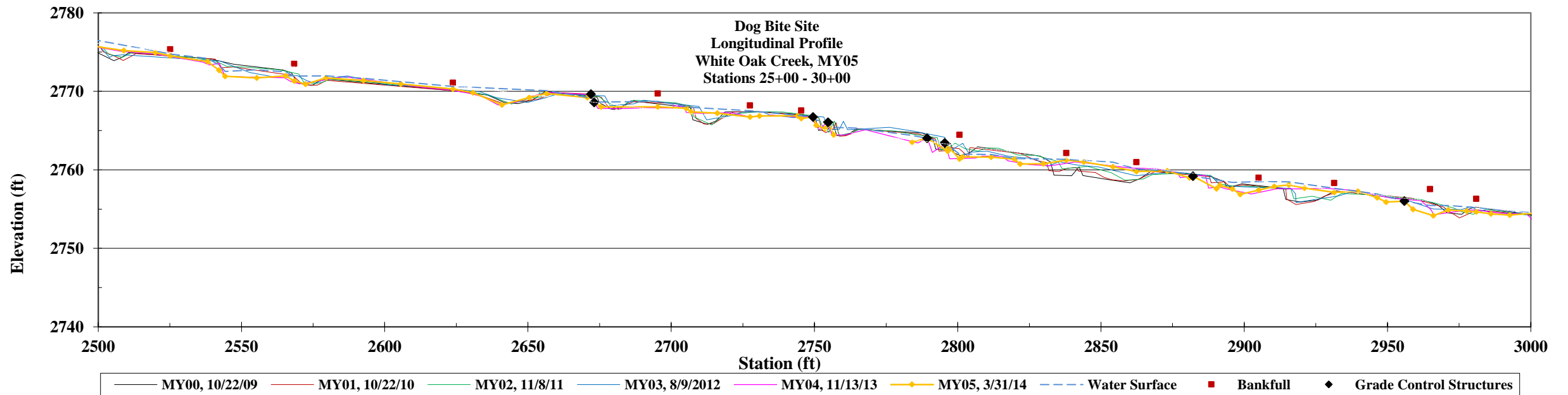
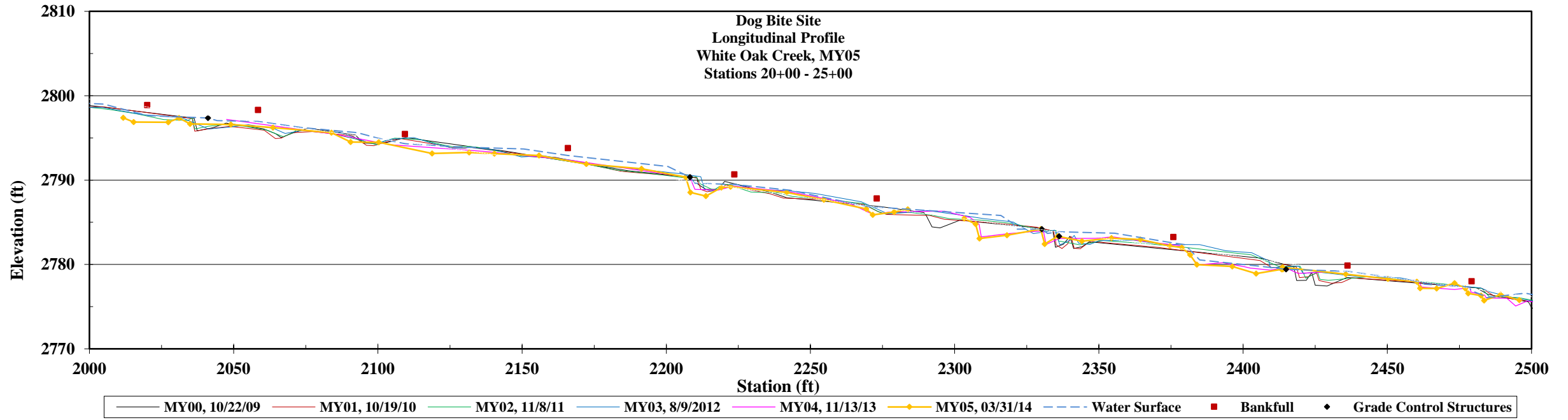
French Broad River Basin, Dog Bite, XS-8, Riffle, T1-2

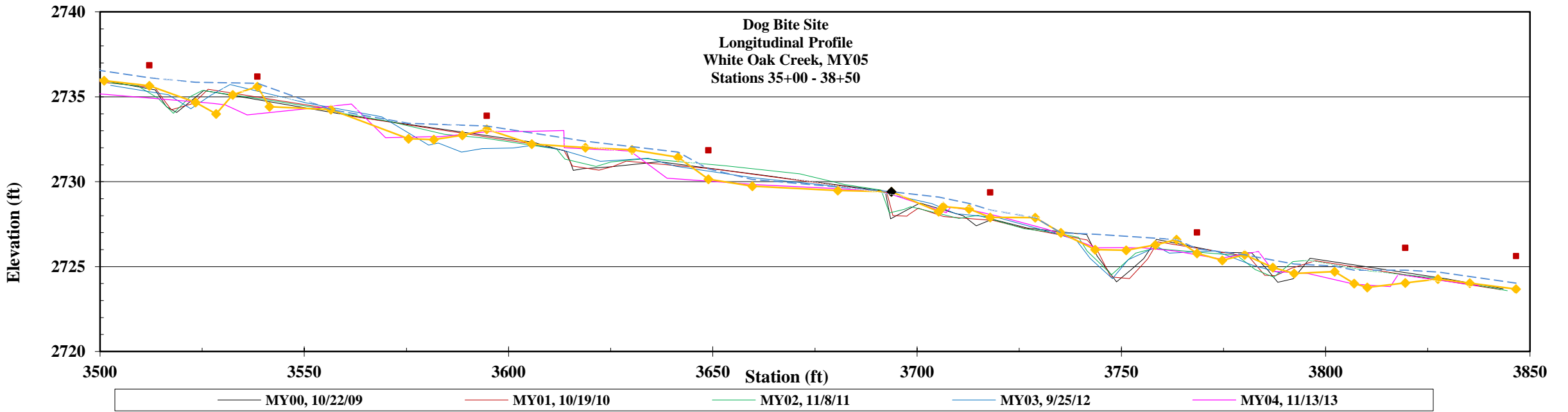
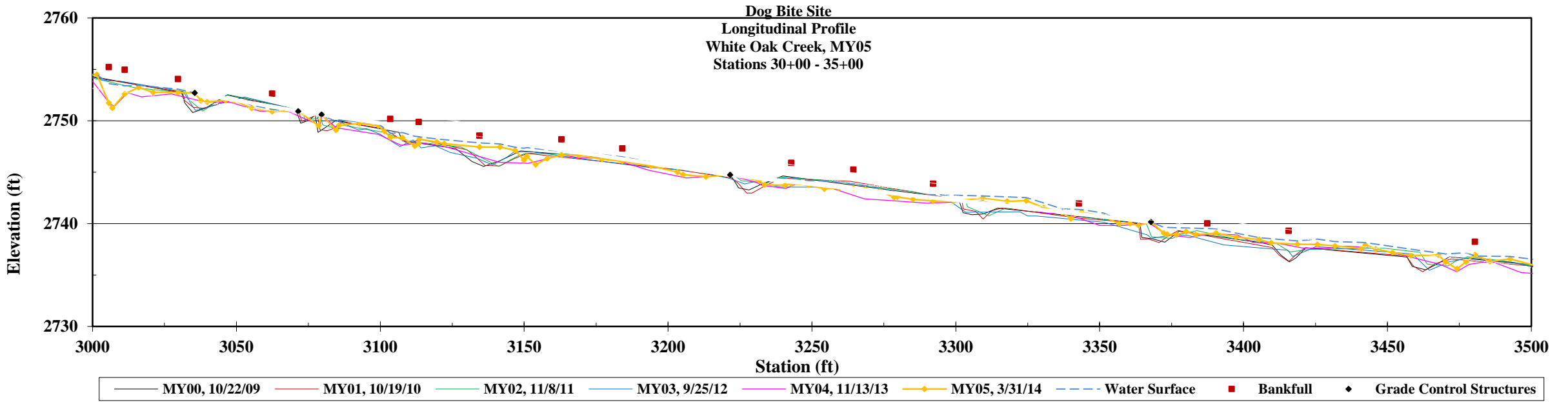


French Broad River Basin, Dog Bite, XS-9, Pool, T1-2









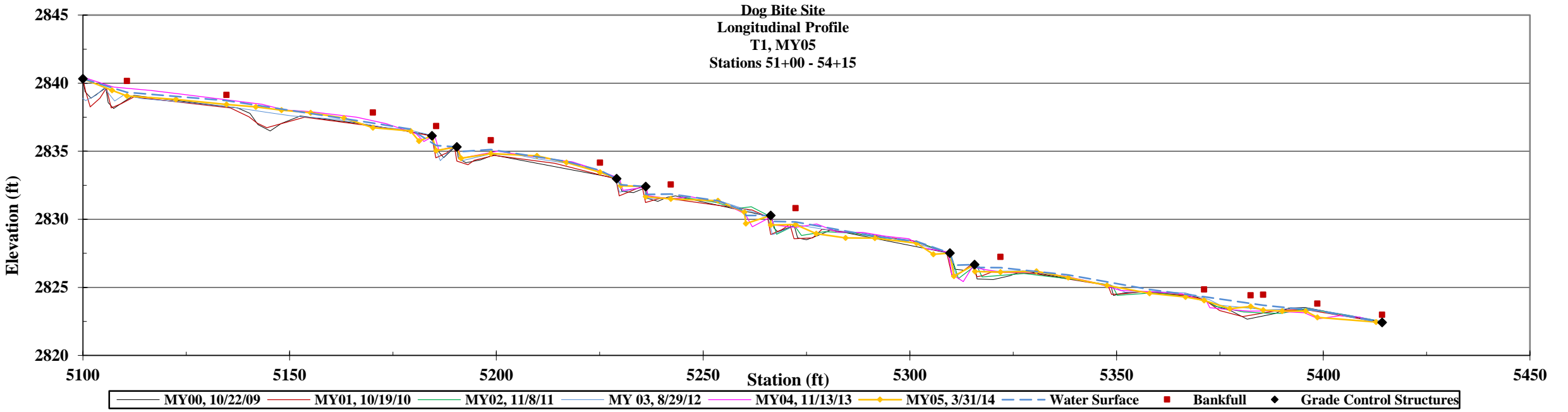


Table 4a. Morphology and Hydraulic Monitoring Summary																		
Dog Bite Stream Restoration Site																		
Parameter	Cross-Section 1 Riffle						Cross-Section 2 Pool						Cross-Section 3 Riffle					
Reach	WOC-2						WOC-2						WOC-2					
Dimension	MY0	MY1	MY2	MY3	MY4	MY5	MY0	MY1	MY2	MY3	MY4	MY5	MY0	MY1	MY2	MY3	MY4	MY5
Bankfull Width (ft)	6.8	6.4	7.3	7.5	7.0	6.8	9.1	9.6	10.1	11.3	11.6	11.2	7.4	7.4	7.9	8.3	8.1	10.8
Floodprone Width (ft)	26	29	30	32	39	38	-	-	-	-	-	-	21	22	21	26	29	29
Bankfull Cross-Sectional Area (ft ²)	4.8	7.1	7.7	6.9	10.8	10.6	12.7	11.9	12.0	9.0	8.9	8.1	5.5	5.4	5.2	6.6	9.0	10.8
Bankfull Mean Depth (ft)	0.7	1.1	1.1	0.9	1.5	1.6	1.4	1.2	1.2	0.8	0.8	0.7	0.7	0.7	0.7	0.8	1.1	1.0
Bankfull Max Depth (ft)	1.0	1.6	1.7	1.8	2.4	2.2	2.3	2.0	1.9	1.3	1.5	1.3	1.2	1.2	1.2	1.7	1.9	2.0
Width/Depth Ratio	9.6	5.8	6.9	8.2	4.5	4.4	-	-	-	-	-	-	10.0	10.1	12.0	10.4	7.3	10.8
Entrenchment Ratio	3.8	4.5	4.1	4.3	5.6	5.6	-	-	-	-	-	-	2.8	3.0	2.7	2.9	3.6	2.7
Bank Height Ratio	1.0	1.0	1.0	1.0	1.0	1.0	-	-	-	-	-	-	1.0	1.0	1.0	1.0	1.0	1.0
Substrate																		
d50 (mm)	51	44	18	32	7	0	9.6	2.7	22	66	18	7	65	15	60	26	9	5
d84 (mm)	100	87	60	64	55	8	47	50	41	120	63	17	130	120	130	86	64	17

Table 4b. Morphology and Hydraulic Monitoring Summary continued																		
Dog Bite Stream Restoration Site																		
Parameter	Cross-Section 4 Riffle						Cross-Section 5 Pool						Cross-Section 6 Riffle					
Reach	WOC-4						WOC-4						WOC-4					
Dimension	MY0	MY1	MY2	MY3	MY4	MY5	MY0	MY1	MY2	MY3	MY4	MY5	MY0	MY1	MY2	MY3	MY4	MY5
Bankfull Width (ft)	9.1	10.7	10.6	11.6	8.7	10.2	11.6	12.3	12.7	12.9	13.2	14.2	8.6	8.5	9.2	8.9	10.0	14.4
Floodprone Width (ft)	26	27	26	26	26	24	-	-	-	-	-	-	28	29	30	26	40	43
Bankfull Cross-Sectional Area (ft ²)	6.2	7.2	6.0	5.6	3.8	4.4	16.9	16.7	15.6	17.5	16.2	16.8	7.6	7.7	7.9	7.0	23.2	21.8
Bankfull Mean Depth (ft)	0.7	0.7	0.6	0.5	0.4	0.4	1.5	1.4	1.2	1.4	1.2	1.2	0.9	0.9	0.9	0.8	2.3	1.5
Bankfull Max Depth (ft)	1.2	1.2	1.0	1.0	0.8	0.9	2.6	2.6	2.4	2.7	2.8	3.0	1.3	1.4	1.5	1.4	3.9	4.1
Width/Depth Ratio	13.4	15.9	18.7	24	19.9	23.6	-	-	-	-	-	-	9.7	9.4	10.7	11.3	4.3	9.5
Entrenchment Ratio	2.8	2.5	2.5	2.2	2.9	2.4	-	-	-	-	-	-	3.3	3.4	3.3	2.9	4.0	3.0
Bank Height Ratio	1.0	1.0	1.0	1.0	1.0	1.0	-	-	-	-	-	-	1.0	1.0	1.0	1.0	1.0	1.0
Substrate																		
d50 (mm)	94	82	38	85	29	5	0.062	0.062	0.062	0.220	0.170	0.088	100	90	71	83	10	2
d84 (mm)	150	160	110	140	59	35	0.11	0.15	0.17	23.00	0.22	0.18	150	130	120	150	55	18

Table 4c. Morphology and Hydraulic Monitoring Summary continued																		
Dog Bite Stream Restoration Site																		
Parameter	Cross-Section 7 Riffle						Cross-Section 8 Riffle						Cross-Section 9 Pool					
Reach	WOC-4						T1-2						T1-2					
Dimension	MY0	MY1	MY2	MY3	MY4	MY5	MY0	MY1	MY2	MY3	MY4	MY5	MY0	MY1	MY2	MY3	MY4	MY5
Bankfull Width (ft)	9.0	8.5	8.2	8.0	8.3	7.9	5.5	5.8	6.7	9.4	5.0	5.9	6.9	7.1	7.4	8.9	6.2	5.1
Floodprone Width (ft)	26	26	25	25	25	37	21	27	21	25	20	25	-	-	-	-	-	-
Bankfull Cross-Sectional Area (ft ²)	8.1	7.0	6.1	7.7	10.1	8.9	3.0	3.3	2.9	3.1	2.0	2.5	6.8	6.2	4.5	4.8	3.3	3.3
Bankfull Mean Depth (ft)	0.9	0.8	0.7	1.0	1.2	1.1	0.5	0.6	0.4	0.3	0.4	0.4	1.0	0.9	0.6	0.5	0.5	0.6
Bankfull Max Depth (ft)	1.3	1.1	1.1	1.4	2.2	1.7	0.7	0.9	0.7	0.8	0.6	0.8	1.3	1.6	1.1	1.0	1.1	1.1
Width/Depth Ratio	10.0	10.3	11.0	8.3	6.8	7.0	10.1	10.2	15.5	28.5	12.5	13.9	-	-	-	-	-	-
Entrenchment Ratio	2.9	3.1	3.0	3.1	3.0	3.2	3.8	4.6	3.1	2.9	4.0	4.2	-	-	-	-	-	-
Bank Height Ratio	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-	-	-	-	-	-
Substrate																		
d50 (mm)	90	68	98	52	15	2	90	97	74	68	5	6	0.062	0.062	0.062	0.062	0.440	2.0
d84 (mm)	130	120	170	110	60	8	170	150	240	150	49	42	0.10	0.062	0.062	0.062	29.0	15.0

Table 5. Verification of Bankfull Events			
Dog Bite Stream Restoration Site			
Date of Data Collection	Date of Occurrence	Method	Photo Number
None in 2010 or 2011			
August 9, 2012	Unknown	Photographed on site	#1, see below
November 11, 2013	Unknown	Photographed on site	#2, see below
November 11, 2013	Unknown	Photographed on site	#3, see below
March 31, 2014	Unknown	Photographed on site	#4, see below
March 31, 2014	Unknown	Photographed on site	#5, see below



Photo #1 – Bankfull Evidence (wrack lines), 8/9/2012

Photo #2 – Bankfull Evidence on (wrack lines), 11/11/2013



Photo #3 – Bankfull Evidence on (wrack lines), 11/11/2013



Photo #4 – Bankfull Evidence on (wrack lines), 3/31/2014



Photo #5 –Bankfull Evidence on (wrack lines), 3/31/2014

Table 6. CVS Stem Count Total and Planted by Plot and Species																							
Dog Bite Stream Restoration Site																							
Scientific Name	Common Name	Species Type	Dog Bite-A-0001			Dog Bite-A-0002			Dog Bite-A-0003			Dog Bite-A-0004			Dog Bite-A-0005			Dog Bite-A-0006			Dog Bite-A-0007		
			PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T
<i>Alnus serrulata</i>	hazel alder	Shrub				2	2	2															
<i>Amelanchier arborea</i>	common serviceberry	Tree	1	1	1																		
<i>Betula nigra</i>	river birch	Tree				1	1	1	1	1	1	3	3	3		2		1	1	1	1	1	1
<i>Calycanthus floridus</i>	eastern sweetshrub	Shrub	1	1	1																		
<i>Carya alba</i>	mockernut hickory	Tree							1	1	1												
<i>Clethra alnifolia</i>	coastal sweetpepperbush	Tree																1	1	1			
<i>Cornus amomum</i>	silky dogwood	Tree																					1
<i>Fagus grandifolia</i>	American beech	Tree									6												
<i>Fraxinus pennsylvanica</i>	green ash	Tree			3		2			1		2	2	2		3							
<i>Hamamelis virginiana</i>	American witchhazel	Tree				2	2	2							1	1	1	1	1	1			
<i>Ilex verticillata</i>	common winterberry	Shrub				1	1	1															
<i>Juglans nigra</i>	black walnut	Tree							3	3	3				3	3	3			1	1	1	1
<i>Lindera benzoin</i>	Northern spicebush	Tree																					1
<i>Liriodendron tulipifera</i>	tuliptree	Tree	2	2	4	4	4	5	1	1	1	2	2	2	1	1	1	1	1	1	1	1	2
<i>Nyssa sylvatica</i>	blackgum	Tree	1	1	2				1	1	1												1
<i>Pinus strobus</i>	eastern white pine	Tree									17									1			
<i>Platanus occidentalis</i>	American sycamore	Tree	6	6	6							1	1	1		1							
<i>Quercus alba</i>	white oak	Tree	1	1	1				7	7	7	4	4	4	1	1	1	2	2	2	1	1	2
<i>Quercus montana</i>	chestnut oak	Tree							1	1	3				2	2	2	2	2	2	2	2	2
<i>Quercus palustris</i>	pin oak	Tree							1	1	1							1	1	1	1	1	1
<i>Quercus phellos</i>	willow oak	Tree			1	9	9	9															
<i>Rhus sp.</i>	sumac	Shrub									11												
<i>Robinia pseudoacacia</i>	black locust	Tree									1												
<i>Salix nigra</i>	black willow	Tree																		2			
<i>Sambucus canadensis</i>	American elderberry	Tree												2									
Stem count			12	12	19	19	19	22	16	16	54	12	12	14	8	8	14	9	9	13	7	7	12
size (ares)			1			1			1			1			1			1					
size (ACRES)			0.02			0.02			0.02			0.02			0.02			0.02					
Species count			6	6	8	6	6	7	8	8	13	5	5	6	5	5	8	7	7	10	6	6	9
Stems per ACRE			486	486	769	769	769	890	647	647	2185	486	486	567	324	324	567	364	364	526	283	283	486

Table 6. CVS Stem Count Total and Planted by Plot and Species Cont.

Dog Bite Stream Restoration Site

Scientific Name	Common Name	Species Type	MY5 (2014)			MY4 (2013)			MY3 (2012)			MY2 (2011)			MY1 (2010)			MY0 (2010)		
			PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T
<i>Aesculus flava</i>	yellow buckeye	Tree									7									
<i>Alnus serrulata</i>	hazel alder	Shrub	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3			
<i>Amelanchier arborea</i>	common serviceberry	Tree	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
<i>Betula nigra</i>	river birch	Tree	7	7	9	3	3	6	3	3	4	3	3	3	6	6	6	7	7	7
<i>Calycanthus floridus</i>	eastern sweetshrub	Shrub	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4
<i>Carpinus caroliniana var. virginiana</i>	American hornbeam	Tree														1				
<i>Carya sp.</i>	hickory	Tree						2												
<i>Carya alba</i>	mockernut hickory	Tree	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1			
<i>Clethra alnifolia</i>	coastal sweetpepperbush	Tree	1	1	1															
<i>Cornus amomum</i>	silky dogwood	Tree			1															
<i>Fagus grandifolia</i>	American beech	Tree			6			1			5									
<i>Fraxinus pennsylvanica</i>	green ash	Tree	2	2	11			8			1			1						
<i>Hamamelis virginiana</i>	American witchhazel	Tree	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3			
<i>Ilex verticillata</i>	common winterberry	Shrub	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
<i>Juglans nigra</i>	black walnut	Tree	7	7	8	7	7	8	7	7	8	7	7	7	4	4	4			
<i>Lindera benzoin</i>	northern spicebush	Shrub			1															
<i>Liriodendron tulipifera</i>	tuliptree	Tree	12	12	16	11	11	18	11	11	15	12	12	14	8	8	8			
<i>Nyssa sylvatica</i>	blackgum	Tree	2	2	4	4	4	4	5	5	7	5	5	5	6	6	6			
<i>Pinus strobus</i>	eastern white pine	Tree			18			9			6									
<i>Platanus occidentalis</i>	American sycamore	Tree	7	7	8	6	6	11	6	6	7	6	6	6	6	6	6	6	6	6
<i>Quercus</i>	oak	Tree										2	2	2	3	3	3	15	15	15
<i>Quercus alba</i>	white oak	Tree	16	16	17	14	14	16	17	17	17	16	16	16	16	16	16	6	6	6
<i>Quercus michauxii</i>	swamp chestnut oak	Tree																1	1	1
<i>Quercus montana</i>	chestnut oak	Tree	7	7	9	3	3	4	3	3	5	4	4	4	3	3	3	5	5	5
<i>Quercus palustris</i>	pin oak	Tree	3	3	3															
<i>Quercus phellos</i>	willow oak	Tree	9	9	10	9	9	10	10	10	10	8	8	8	8	8	8			
<i>Rhus glabra</i>	smooth sumac	Shrub			11															
<i>Rhus sp.</i>	sumac	shrub						4			3									
<i>Robinia pseudoacacia</i>	black locust	Tree			1			1			1									
<i>Salix nigra</i>	black willow	Tree			2															
<i>Sambucus canadensis</i>	American elderberry	Tree			2															
Unknown		Shrub or Tree													2	2	2	70	70	70
Stem count			83	83	148	66	66	111	71	71	107	73	73	76	72	72	73	114	114	114
size (ares)			7			7			7			7			7			7		
size (ACRES)			0.17			0.17			0.17			0.17			0.17			0.17		
Species count			17	17	25	14	14	20	14	14	20	15	15	16	16	16	17	8	8	8
Stems per ACRE			480	480	827	388	388	653	410	410	619	422	422	439	416	416	422	659	659	659

Table 7. Vegetation History (stems/acre)										
Dog Bite Stream Restoration Site										
Plot Number	MY-00	MY-01	MY-02		MY-03		MY-04		MY-05	
			planted	total	planted	total	planted	total	planted	total
1	809	647	567	647	526	728	526	728	486	728
2	688	647	850	850	850	890	809	849	769	890
3	647	567	567	567	567	1,416	567	1,497	647	2,185
4	567	242	202	202	162	202	162	445	486	567
5	607	324	445	445	445	445	405	607	324	567
6	728	202	40	40	40	40	0	0	364	526
7	567	283	283	324	283	607	202	324	283	486
Buffer Average			422	439	410	619	382	636	480	827

4.0 EEP RECOMMENDATIONS AND CONCLUSIONS

The stream is functioning as designed and has not developed any significant problems. The monitored cross-sections and profiles indicate some changes over the course of monitoring, but the stream in these areas is not trending towards instability.

With multiple bankfull events since construction, the stream has met the success criterion of at least two bankfull events occurring in separate years over the course of the monitoring period.

The monitored vegetation plots within the stream buffer revealed that the planted vegetation is growing well with 480 stems/acre. The planted vegetation has been doing well, with some plots experiencing more mortality than others. This mortality can be attributed to normal losses after the initial planting as well as aggressive growth from the site's herbaceous vegetation. The site also has vigorous volunteers, which will increase the overall vegetation success of the site.

Overall the stream and the site's vegetation condition indicate that it is on a path to success. The EEP recommends that this site be closed out with the requested 1,323 SMUs.

Pre-Construction Photos (2006)



Post-Construction Photos MY-05



Photo Point 1: View looking upstream, from ford crossing near Station 12+50. 3/31/14 - MY 05



Photo Point 2: View looking downstream, near Station 14+00. 3/31/14 - MY 05



Photo Point 3: View looking upstream at the confluence of WOC and T1. 3/31/14 - MY 05



Photo Point 4: View looking upstream taken near Station 20+50. 3/31/14 - MY 05



Photo Point 4: View looking downstream near Station 20+50. 3/31/14 - MY 05



Photo Point 5: View left side of stream at WOC, near Station 26+25. 3/31/14 - MY 05



Photo Point 5: View right side of stream, near Station 26+25. 3/31/14 - MY 05



Photo Point 6: View looking upstream at T2, near Station 27+75. 3/31/14 - MY 05



Photo Point 7: View looking upstream near Station 29+25. 3/31/14 - MY 05



Photo Point 7: View looking downstream near Station 29+25. 3/31/14 - MY 05



Photo Point 8: View looking upstream near Station 34+00. 3/31/14 - MY 05



Photo Point 9: View looking upstream near Station 39+25. 3/3/14 - MY 05



Photo Point 9: View looking downstream near Station 34+00. 3/31/14 - MY 05



Photo Point 10: View looking upstream on T1 near Station 51+00. 3/3/14 - MY 05



Photo Point 10: View looking downstream on T1 near Station 51+00. 3/31/14 - MY 05



Photo Point 11: View looking upstream on T1 near Station 52+50. 3/31/14 - MY 05



Photo Point 12: View looking upstream on T2 near Station 60+50. 3/31/14 - MY 05

Appendix A

Watershed Planning Summary

To be completed by the EEP Watershed Planner.

Appendix B
Land Ownership and Protection
To be completed by the EEP Property Section.

Appendix C
NCDWQ 401/USACE Section 404

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

Action ID. SAW-2008-2251 County: Mitchell

USGS Quad: Micaville and Spruce Pine

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Property Owner / Authorized Agent: Adam Spiller, KCI Technologies, Inc.

Address: 4601 Six Forks Road, Suite 220
Raleigh, NC 27609

Telephone No.: 919-783-9214

Size and location of property (water body, road name/number, town, etc.): White Oak Creek and two unnamed tributaries flowing through an approximate 7.3 acre tract located at the end of Wilson Dairy Road near Bakersville, NC (Dog Bite Stream Restoration Site).

Description of projects area and activity: To restore and enhance reaches of White Oak Creek and two unnamed tributaries. 2,580 LF of restoration and 1,156 LF of enhancement work is to be undertaken using natural channel design techniques. The work will consist of channel relocations, reforming banks and/or bed within the existing channel, installing grade control and habitat structures, stabilizing incoming seeps and drainages, installing livestock exclusion fencing, and replanting riparian buffers.

Applicable Law: Section 404 (Clean Water Act, 33 USC 1344)
 Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Number:
Nationwide Permit Number: 27

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted plans. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order and/or appropriate legal action.

Special Conditions

1. All work must be performed in strict compliance with the plans received by this office on August 1, 2008, which are a part of this permit. Any modification to the permit plans must be approved by the USACE prior to implementation
2. Failure to institute and carry out the details of these special conditions will result in a directive to cease all ongoing and permitted work within waters and/or wetlands associated with the permitted project, or such other remedies and/or fines as the District Engineer or his authorized representatives may seek.
3. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit, and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.
4. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area.
5. Conditions 1-3 and 5-9 of the attached North Carolina Wildlife Resources Commission letter of August 20, 2008 are hereby incorporated as special conditions of this permit.
6. The permittee will report any violation of these conditions or violations of Section 404 of the Clean Water Act in writing to the Wilmington District, U. S Army Corps of Engineers, within 24 hours of the permittee's discovery of the violation.

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Quality (telephone (919) 733-1786) to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact David Baker at 828-271-7980.

Corps Regulatory Official David Baker Date: **October 6, 2008**

Expiration Date of Verification: **October 6, 2010**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the attached customer Satisfaction Survey or visit <http://regulatory.usacesurvey.com/> to complete the survey online.

Determination of Jurisdiction:

- A. Based on preliminary information, there appear to be waters of the US including wetlands within the above described project area. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).
- B. There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- C. There are waters of the US and/or wetlands within the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- D. The jurisdictional areas within the above described project area have been identified under a previous action. Please reference jurisdictional determination issued ____. Action ID

Basis of Jurisdictional Determination: White Oak Creek is a tributary to the French Broad River which is a Section 10 navigable-in-fact waterway (TNW).

Appeals Information: (This information does not apply to preliminary determinations as indicated by paragraph A. above).

Attached to this verification is an approved jurisdictional determination. If you are not in agreement with that approved jurisdictional determination, you can make an administrative appeal under 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Program
Attn: David Baker, Project Manager
151 Patton Avenue, Room 208
Asheville, North Carolina 28801

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address within 60 days from the *Issue Date* below.

****It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.****

Corps Regulatory Official: David Baker

Issue Date: **October 6, 2008**

Expiration Date: **October 6, 2013**

SURVEY PLATS, FIELD SKETCH, WETLAND DELINEATION FORMS, PROJECT PLANS, ETC., MUST BE ATTACHED TO THE FILE COPY OF THIS FORM, IF REQUIRED OR AVAILABLE.

Permit Number: SAW-2008-2251
Permit Type: NW27
Name of County: Mitchell
Name of Permittee: **Adam Spiller, KCI Technologies, Inc.**
Date of Issuance: October 6, 2008
Project Manager: David Baker

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Attention: CESAW-RG-A
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date



Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins, Director
Division of Water Quality

August 14, 2008

DWQ Project # 08-1185
Mitchell County

KCI Technologies, Inc.
Attn: Adam Spiller
4601 Six Forks Road, Suite 220
Raleigh, NC 27609

Subject Property: **Dog Bite Site Stream Restoration**
UT to White Oak Creek [040306, 7-2-59-9, C;Tr]

Approval of 401 Water Quality Certification with Additional Conditions

Dear Mr. Spiller:

You have our approval, in accordance with the attached conditions and those listed below, to place fill within or otherwise impact 3,718 feet of streams for the purpose of stream restoration at the subject property, as described within your application dated July 31, 2008 and received by the N.C. Division of Water Quality (DWQ) on August 1, 2008. After reviewing your application, we have decided that the impacts are covered by General Water Quality Certification Number 3689 (GC 3689). The Certification allows you to use Nationwide Permit(s) 27 when issued by the US Army Corps of Engineers (USACE). In addition, you should obtain or otherwise comply with any other required federal, state or local permits before you go ahead with your project including (but not limited to) Erosion and Sediment Control, and Non-discharge regulations. **Also, this approval to proceed with your proposed impacts or to conduct impacts to waters as depicted in your application shall expire upon expiration of the 404 or CAMA Permit.**

This approval is for the purpose and design that you described in your application. If you change your project, you must notify us and you may be required to send us a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter and is thereby responsible for complying with all conditions. If total fills for this project (now or in the future) exceed one acre of wetland or 150 linear feet of stream, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h). This approval requires you to follow the conditions listed in the attached certification and any additional conditions listed below.

The Additional Conditions of the Certification are:

1. Impacts Approved

The following impacts are hereby approved as long as all of the other specific and general conditions of this Certification (or Isolated Wetland Permit) are met. No other impacts are approved including incidental impacts:

	Amount Approved (Units)	Plan Location or Reference
Stream	3,718 (feet)	PCN page 9 of 13
404/CAMA Wetlands	0 (acres)	NA
Waters	0 (acres)	NA
Buffers	0 (square ft.)	NA

2. Erosion & Sediment Control Practices

Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:

- a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
- b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

3. No Waste, Spoil, Solids, or Fill of Any Kind

No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the footprint of the impacts depicted in the Pre-Construction Notification. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control Best Management Practices, shall be performed so that no violations of state water quality standards, statutes, or rules occur.

4. No Sediment & Erosion Control Measures w/n Wetlands or Waters

Sediment and erosion control measures shall not be placed in wetlands or waters without prior approval from the Division. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. All sediment and erosion control devices shall be removed and the natural grade restored within two (2) months of the date that the Division of Land Resources or locally delegated program has released the project.

5. Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return the attached certificate of completion to the 401 Oversight/Express Review Permitting Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650.

6. Stream and Buffer Restoration

You have our approval for your proposed final stream and wetland restoration plans. The stream and wetland restoration must be constructed, maintained, and monitored according to the plans approved by this Office. Any repairs or adjustments to the site must be made according to the approved plans or must receive written approval from this Office to make the repairs or adjustments.

7. Vegetation Monitoring and Success Criteria

DWQ supports the proposed CVS-EEP monitoring protocol, and expects that planting and success evaluation at the site will reflect not only stem counts, but also the diversity of the targeted community types described in section 5.3 of the plan.

8. Harvesting of Stream Bed Materials

As part of the construction of the restored stream channel, bed material should be harvested from riffles in the existing stream channel for use in the riffles in the new channel.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. The authorization to proceed with your proposed impacts or to conduct impacts to waters as depicted in your application and as authorized by this Certification shall expire upon expiration of the 404 or CAMA Permit.

If you do not accept any of the conditions of this Certification (associated with the approved wetland or stream impacts), you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition, which conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This certification and its conditions are final and binding unless you ask for a hearing.

This letter completes the review of the Division of Water Quality under Section 401 of the Clean Water Act. If you have any questions, please telephone Cyndi Karoly in the Central Office in Raleigh at 919-733-9721 or Kyle Barnes in the DWQ Washington Regional Office at 336-771-5000.

Sincerely,


Coleen H. Sullins.

CHS/EWK

Enclosures: GC 3689
Certificate of Completion

cc: USACE Asheville Regulatory Field Office
DWQ Asheville Regional Office
DLR Asheville Regional Office
File Copy
Central Files

Water Quality Certification N°. 3689

GENERAL CERTIFICATION FOR STREAM RESTORATION, ENHANCEMENT AND STABILIZATION PROJECTS AND WETLAND AND RIPARIAN RESTORATION AND CREATION ACTIVITIES INCLUDING THOSE ELIGIBLE FOR U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBERS 13 (BANK STABILIZATION) AND 27 (WETLAND AND RIPARIAN RESTORATION AND CREATION), AND REGIONAL PERMIT 197800080 (BULKHEADS AND RIPRAP) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

Water Quality Certification Number 3689 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality Regulations in 15A NCAC 2H .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters as described in 33 CFR 330 Appendix A (B) (13) and (27) of the Corps of Engineers regulations (i.e., Nationwide Permit Numbers 13 and 27) and Regional Permit 197800080. The category of activities shall include stream bank stabilization or stream restoration activity as long as impacts to waters or significant wetlands are minimized; wetland and riparian restoration or creation; and the construction and maintenance of bulkheads on non-Federal Energy Regulatory Commission (FERC) lakes.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions set forth.

All proposed fill or modification of wetlands and/or waters, including streams and streambanks, under this General Certification requires application to, and written approval from the Division of Water Quality (the "Division"), regardless of the purpose of the restoration, enhancement, stabilization, or creation activity.

Bank Stabilization projects qualifying for Nationwide Permit 13 for erosion protection of up to 500 feet of stream banks to protect property are exempt from the requirement for written approval.

Any impacts to riparian buffers associated with this work in the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application [in accordance with 15A NCAC 2B .0200]) will require written approval, *unless* the activities are listed as "EXEMPT" from these Rules.

In accordance with North Carolina General Statute Section 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. If a project also requires a CAMA Permit, then one payment to both agencies shall be submitted and will be the higher of the two fees.

Conditions of Certification:

1. Activities shall meet the definitions, design, and monitoring protocols specified within the US Army Corps of Engineers Wilmington District *Regulatory Guidance Letter* (RGL02-02) and the *Stream Mitigation Guidelines* (April 2003) or any subsequent updates to these documents.
2. No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the footprint of the impacts depicted in the Pre-construction Notification and/or those authorized by this Certification, including incidental impacts. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control

Water Quality Certification N°. 3689

Best Management Practices, shall be performed so that no violations of state water quality standards, statutes, or rules occur.

3. Standard Erosion and Sediment Control Practices

Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices:

- a. Design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- b. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- c. Reclamation measures and implementation must comply with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.
- d. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times, except for publicly funded linear transportation projects when materials can be accessed offsite in a timely manner..
- e. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNA's), Trout (Tr), SA, WS-I, WS-II, High Quality (HQW), or Outstanding Resource (ORW) waters, then the sediment and erosion control requirements contained within *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) supercede all other sediment and erosion control requirements.

4. No Sediment and Erosion Control Measures in Wetlands or Waters

Sediment and erosion control measures should not be placed in wetlands or waters outside of the permitted impact areas without prior approval by the Division. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. All sediment and erosion control devices shall be removed and the natural grade restored within two (2) months of the date that the Division of Land Resources or locally delegated program has released the project.

5. Construction Stormwater Permit NCG010000

Upon the approval of an Erosion and Sedimentation Control Plan issued by the Division of Land Resources (DLR) or a DLR delegated local erosion and sedimentation control program, an NPDES General stormwater permit (NCG010000) administered by the Division is automatically issued to the project. This General Permit allows stormwater to be discharged during land disturbing construction activities as stipulated by conditions in the permit. If your project is covered by this permit [applicable to construction projects that disturb one (1) or more acres], full compliance with permit conditions including the sedimentation control plan, self-monitoring, record keeping and reporting requirements are required. A copy of this permit and monitoring report forms may be found at http://h2o.enr.state.nc.us/su/Forms_Documents.htm.

The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit.

Water Quality Certification N°. 3689

6. Construction Moratoriums and Coordination

If activities must occur during periods of high biological activity (i.e. sea turtle or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. This condition can be waived through written concurrence on a case by case basis upon reasonable justification.

All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) to lessen impacts on trout, anadromous fish, larval/post-larval fishes and crustaceans, or other aquatic species of concern shall be implemented. This condition can be waived through written concurrence on a case by case basis upon reasonable justification.

Work within the twenty-five (25) designated trout counties or identified state or federal endangered or threatened species habitat shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

NC Wildlife Resources Commission will not object to construction of Natural Resources Conservation Service (NRCS) 'urgent and compelling' sites during the spawning period provided these projects are, to the extent appropriate and practical, constructed by:

- a. Using flow diversion structures such as sandbags;
- b. Placing large-size rock toes and filter cloth backing for stabilization sites before backfilling; and
- c. Excavating new channel alignments in dry areas.

Construction at non-'urgent and compelling' sites shall not occur during the spawning period to minimize the potential adverse effects of multiple construction activities on trout or anadromous fish resources in this stream.

7. Work in the Dry

All work in or adjacent to stream waters shall be conducted in a dry work area. Approved best management practices from the most current version of the NC Sediment and Erosion Control Manual, or the NC DOT Construction and Maintenance Activities Manual, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require submittal to, and approval by, the Division.

8. Riparian Area Protection (Buffer) Rules

Activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman, Catawba (or any other basin with buffer rules), shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0233, .0259, .0250 and .0243, and shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices. All buffer rule requirements, including diffuse flow requirements, must be met.

9. Water Supply Watershed Buffers

The 100-foot wide (high-density development) or the 30-foot wide vegetative buffer (all other development) must be maintained adjacent to all perennial waters except for allowances as

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provided in the Water Supply Watershed Protection Rules [15A NCAC 2B .0212 through .0215].

10. If concrete is used during the construction, then a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life/fish kills.
11. Any rip-rap shall be of such a size and density so as not to be able to be carried off by wave or current action and consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. If rip-rap is to be installed within the streambed, the amount and location must be approved in writing by the Division of Land Resources and Division of Water Quality. However, rock vanes, wing deflectors, and similar structures for grade control and bank protection are acceptable.
12. If an environmental document is required under NEPA or SEPA, then this General Certification is not valid until a Finding of No Significant Impact or Record of Decision is issued by the State Clearinghouse.
13. Additional site-specific conditions may be added to the written approval attached to this Certification in order to ensure compliance with all applicable water quality and effluent standards.
14. This Certification shall expire three (3) years from the date of the approval letter from DWQ or on the same day as the corresponding Nationwide Permit. In accordance with General Statute 136-44.7B, certifications issued to the NCDOT shall expire only upon expiration of the federal 404 Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. If the construction process for approved activities will overlap the expiration and renewal date of the corresponding 404 Permit and the Corps allows for continued use of the 404 Permit, then the General Certification shall also remain in effect without requiring re-application and re-approval to use this Certification for the specific impacts already approved.
15. The applicant/permittee and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If the Division determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then the Division may reevaluate and modify this General Water Quality Certification.

16. Certificate of Completion

When written authorization is required for use of this certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return the certificate of completion attached to the approval. One copy of the certificate shall be sent to the DWQ Central Office in Raleigh at 1650 Mail Service Center, Raleigh, NC, 27699-1650.

Non-compliance with or violation of the conditions herein set forth by a specific project shall result in revocation of this Certification for the project and may also result in criminal and/or civil penalties.

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The Director of the North Carolina Division of Water Quality may require submission of a formal application for Individual Certification for any project in this category of activity if it is determined that the project is likely to have a significant adverse effect upon water quality including state or federally listed endangered or threatened aquatic species or degrade the waters so that existing uses of the wetland or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date:

November 1, 2007

DIVISION OF WATER QUALITY

By



Coleen H. Sullins

Director

History Note: Water Quality Certification Number 3689 replaces Water Quality Certification (WQC) Number 3399 issued March 2003, Water Quality Certification (WQC) Number 3495 issued December 31, 2004, and Water Quality Certification (WQC) Number 3626 issued March 2007. This WQC is rescinded when the Corps of Engineers reauthorizes Nationwide Permits 13 or 27 or Regional Permit 197800080 or when deemed appropriate by the Director of the Division of Water Quality.

Certification of Completion

DWQ Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of Wetland Permit: _____

Certificate of Completion

Upon completion of all work approved within the **401 Water Quality Certification and Buffer Rules**, and any subsequent modifications, the applicant is required to return this certificate to the 401 Oversight/Express Permitting Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to DWQ by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the **401 Water Quality Certification and Buffer Rules**, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the **401 Water Quality Certification and Buffer Rules**, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

If this project was designed by a Certified Professional

I, _____, as a duly registered Professional _____ (i.e., Engineer, Landscape Architect, Surveyor, etc.) in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the **401 Water Quality Certification and Buffer Rules**, the approved plans and specifications, and other supporting materials.

Signature: _____ Registration No. _____ Date: _____

Appendix D
Debit Ledger
Closeout Coordinator to obtain.