

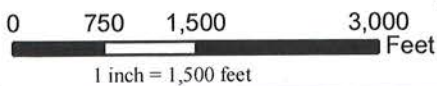


**LEGEND**

- PROJECT AREA
- FEMA FLOOD HAZARD ZONES**
- ZONE AE - 1 PCT ANNUAL CHANCE FLOOD HAZARD
- ZONE A - 1 PCT ANNUAL CHANCE FLOOD HAZARD
- 1 PCT FUTURE CONDITIONS
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD

FEMA FIRM PANEL 0735, MAP NUMBER 3720073500J (EFFECTIVE DATE: 5/2/2006)  
 LAT: 35.833632 N, LONG: -78.886663 W

NC OneMap, NC Board



**ALSTON TOWNE CENTER**  
**INDIVIDUAL PERMIT APPLICATION**  
**FIGURE 4. FLOODPLAIN EXHIBIT**  
**PROJECT #: AAC-13020**  
**CARY, NORTH CAROLINA**





WAKE COUNTY BOARD OF  
EDUCATION  
ZONING: PECP  
USE: SCHOOL  
PIN: 0735278154  
AACCP: McCRIMMON

CARY CREEK LTD PTNRP  
ZONING: ORDCU  
USE: VACANT  
PIN: 0735383152  
AACCP: McCRIMMON

JURISDICTIONAL WETLAND  
FEATURE W4 5,033 SF  
(.12 AC)

JURISDICTIONAL WETLAND  
FEATURE W3 2,505 SF  
(.06 AC)

CARY CREEK  
LTD PTNRP  
ZONING: ORDCU  
USE: VACANT  
PIN: 0735485345  
AACCP

CARY CREEK  
LTD PTNRP  
ZONING: R40  
USE: VACANT  
PIN: 0735582204  
AACCP

INTERMITTENT  
JURISDICTIONAL STREAM  
FEATURE S3-1 383 LF

INTERMITTENT  
JURISDICTIONAL STREAM  
FEATURE S4 27 LF

INTERMITTENT  
JURISDICTIONAL STREAM  
FEATURE S3-2 28 LF

ISOLATED WETLAND FEATURE  
ISO-2 2,182 SF (.05 AC)

JURISDICTIONAL WETLAND FEATURE  
W5 2,644 SF (.06 AC)

CARY CREEK  
LTD PTNRP  
ZONING: TC  
USE: VACANT  
PIN: 0735492751  
AACCP

CARY CREEK  
LTD PTNRP  
ZONING: TC  
USE: VACANT  
PIN: 0735398050  
AACCP

NANCY BRANCH PERENNIAL  
JURISDICTIONAL STREAM  
FEATURE S2 2,413 LF

INTERMITTENT  
JURISDICTIONAL STREAM  
FEATURE S1 257 LF

ZONE 3  
UTB

INTERMITTENT JURISDICTIONAL  
STREAM FEATURE S5 573 LF

JURISDICTIONAL WETLAND  
FEATURE W2 2,253 SF  
(.05 AC)

ZONE 1  
UTB

ZONE 2  
UTB

JURISDICTIONAL WETLAND FEATURE W1  
15,963 SF, (.37 AC)

EXISTING  
1-540  
(VARIABLE WIDTH PUBLIC R/W)

INTERMITTENT  
JURISDICTIONAL STREAM  
FEATURE S6 483 LF





EXISTING 1-540 OFF-RAMP

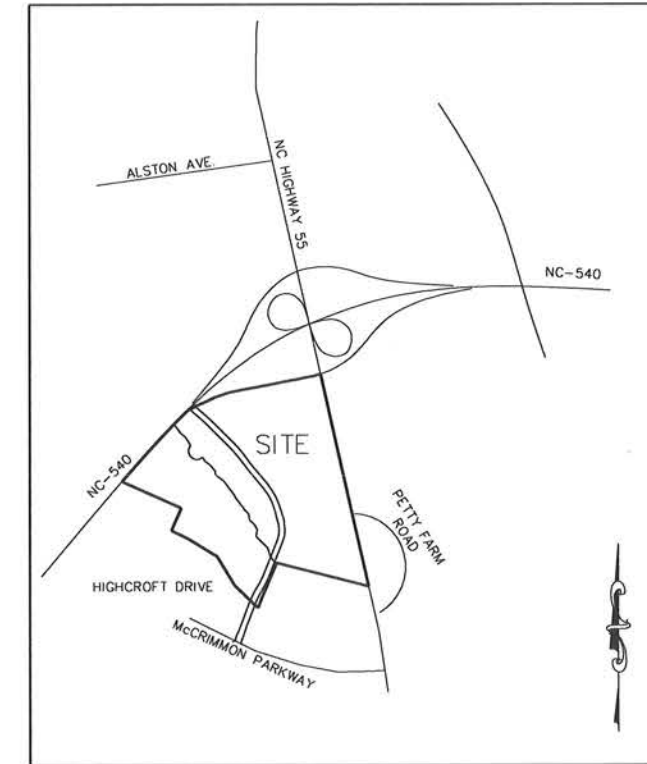
CARY CREEK  
LTD PTNRP  
ZONING: TC  
USE: VACANT  
PIN: 0736309096  
AACCP

ISOLATED WETLAND FEATURE  
ISO-1 4,942 SF (.11 AC)

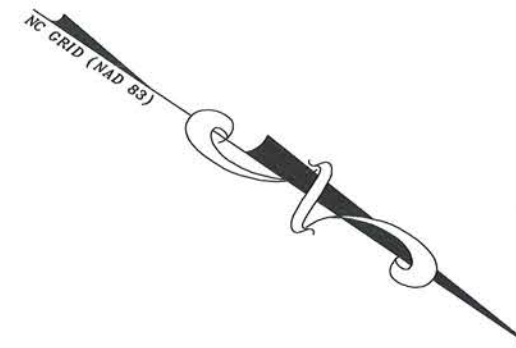
EXISTING  
NC HWY 55  
(VARIABLE WIDTH PUBLIC R/W)

**LEGEND:**

-  PROJECT SITE: 109.24 AC.
-  STREAM FEATURES:  
(TOTAL 4,164 LF)
-  WETLAND FEATURES:  
(TOTAL 35,522 SF, 0.81 AC.)
-  TOWN OF CARY URBAN TRANSITION  
BUFFERS (UTB):  
ZONE 1 UTB (TOTAL 256,908 SF, 5.9 AC)  
ZONE 2 UTB (TOTAL 150,871 SF, 3.46 AC)  
ZONE 3 UTB (TOTAL 235,460 SF, 5.40 AC)



**VICINITY MAP  
NTS**



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PROJECT No. AAC-13020  
FILENAME: AAC-13020  
SCALE: 1" = 300'  
DATE: 02-10-15

**ALSTON TOWN CENTER  
INDIVIDUAL PERMIT  
FIGURE 3.1, EXISTING CONDITIONS  
CARY, NORTH CAROLINA**



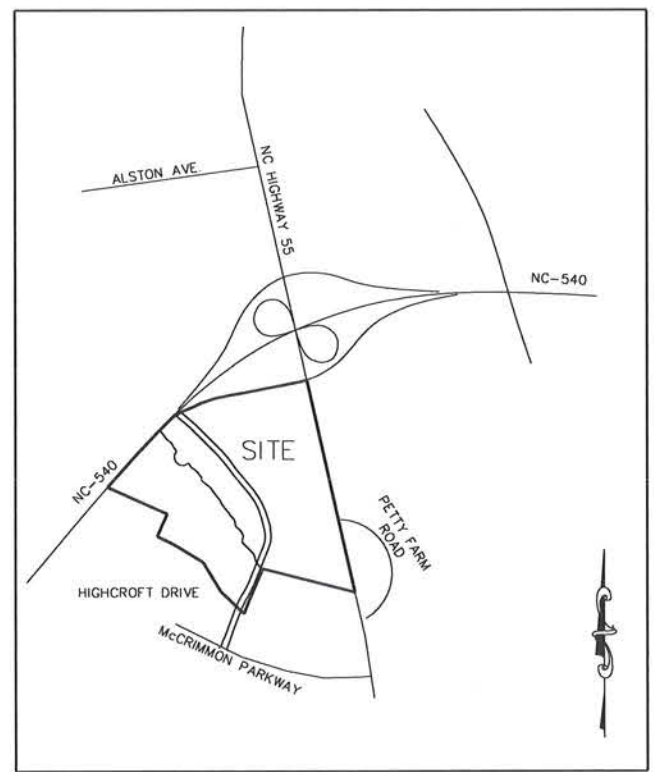
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2905 Meridian Parkway  
Durham, North Carolina 27713  
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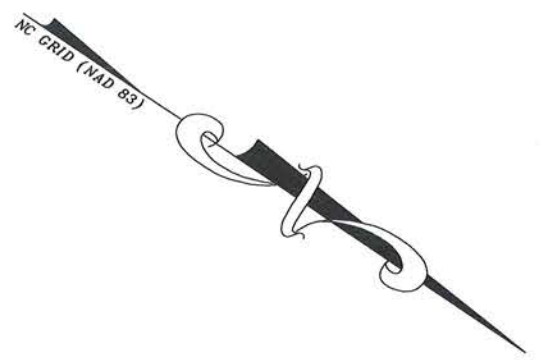


**LEGEND:**

- SUBJECT PROPERTY: 109.24 AC.
- STREAM FEATURES: (TOTAL 4,164 LF)
- WETLAND FEATURES: (TOTAL 35,522 SF, 0.81 AC.)
- TOWN OF CARY URBAN TRANSITION BUFFERS (UTB):
  - ZONE 1 UTB (TOTAL 256,908 SF, 5.9 AC)
  - ZONE 2 UTB (TOTAL 150,871 SF, 3.46 AC)
  - ZONE 3 UTB (TOTAL 235,460 SF, 5.40 AC)








**VICINITY MAP**  
**NTS**





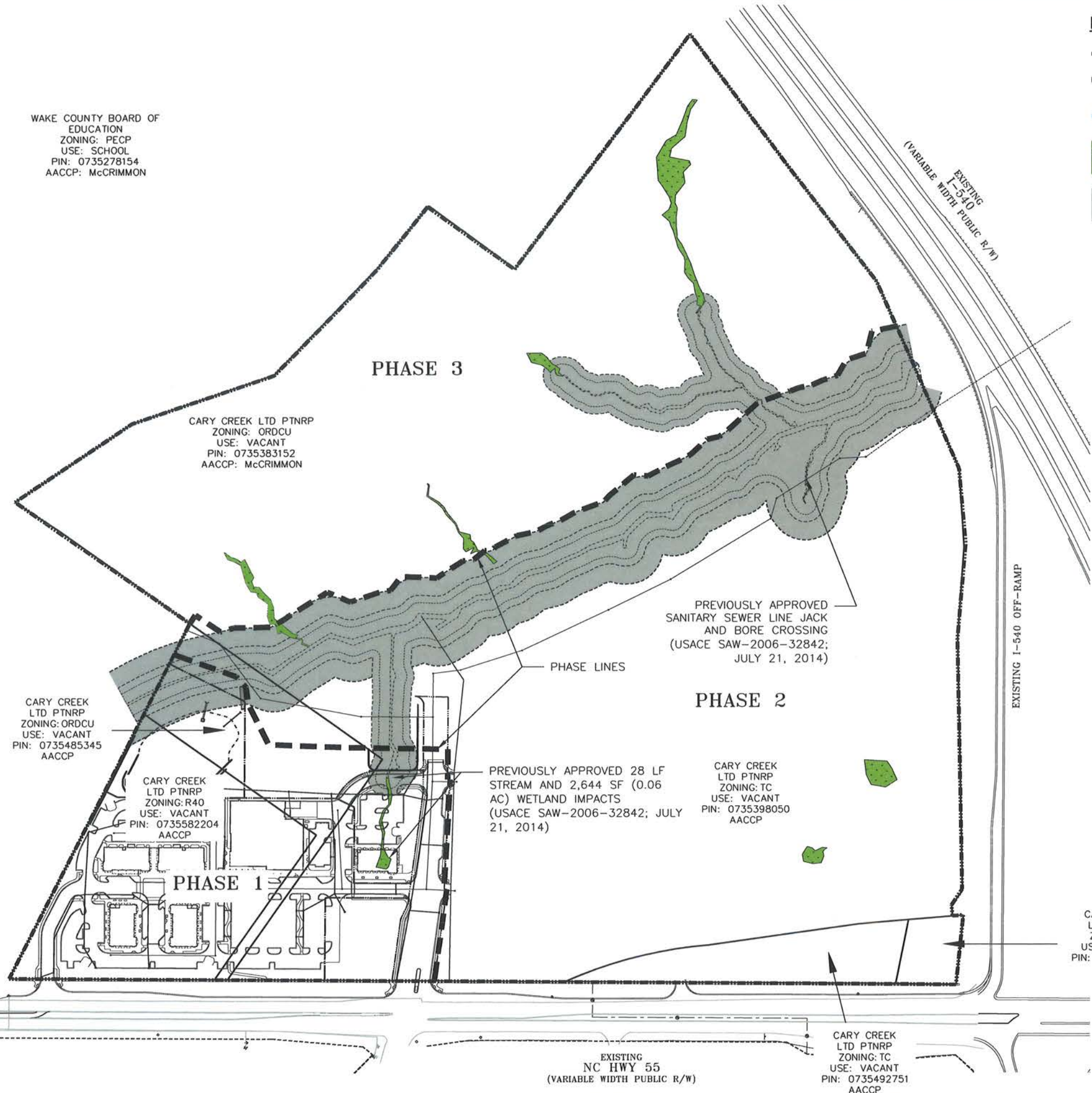
WAKE COUNTY BOARD OF  
EDUCATION  
ZONING: PECP  
USE: SCHOOL  
PIN: 0735278154  
AACCP: McCRIMMON

**LEGEND:**

-  PROJECT SITE: 109.24 AC.
-  PHASE LINES
-  STREAM FEATURES:  
(TOTAL 4,164 LF)
-  WETLAND FEATURES:  
(TOTAL 35,522 SF, 0.81 AC.)
-  TOWN OF CARY URBAN TRANSITION  
BUFFERS (UTB):  
ZONE 1 UTB (TOTAL 256,908 SF, 5.9 AC)  
ZONE 2 UTB (TOTAL 150,871 SF, 3.46 AC)  
ZONE 3 UTB (TOTAL 235,460 SF, 5.40 AC)

**NOTES:**

WAKE COUNTY PIN NUMBERS: 0735383152, 0735485345,  
0735582204, 0735398050, 0735492751, 0736309096  
HUC: CAPE FEAR RIVER BASIN 03030002  
LAT: 35.833632 LONG: -78.886663  
DWR STREAM CLASSIFICATION (NANCY BRANCH): WS-1V; NSW  
  
USACE ISSUED JURISDICTIONAL DETERMINATION  
SAW-2006-32842; FEBRUARY 4, 2014  
SAW-2014-01187; JULY 1, 2014  
SAW-2006-32842; JULY 21, 2014  
  
PHASE I SITE PLANE CURRENTLY UNDER REVIEW THROUGH  
TOWN OF CARY SITE PLAN APPROVAL PROCESS



CARY CREEK  
LTD PTNRP  
ZONING: ORDCU  
USE: VACANT  
PIN: 0735485345  
AACCP

CARY CREEK  
LTD PTNRP  
ZONING: R40  
USE: VACANT  
PIN: 0735582204  
AACCP

CARY CREEK LTD PTNRP  
ZONING: ORDCU  
USE: VACANT  
PIN: 0735383152  
AACCP: McCRIMMON

PREVIOUSLY APPROVED 28 LF  
STREAM AND 2,644 SF (0.06  
AC) WETLAND IMPACTS  
(USACE SAW-2006-32842; JULY  
21, 2014)

PREVIOUSLY APPROVED  
SANITARY SEWER LINE JACK  
AND BORE CROSSING  
(USACE SAW-2006-32842;  
JULY 21, 2014)

CARY CREEK  
LTD PTNRP  
ZONING: TC  
USE: VACANT  
PIN: 0735398050  
AACCP

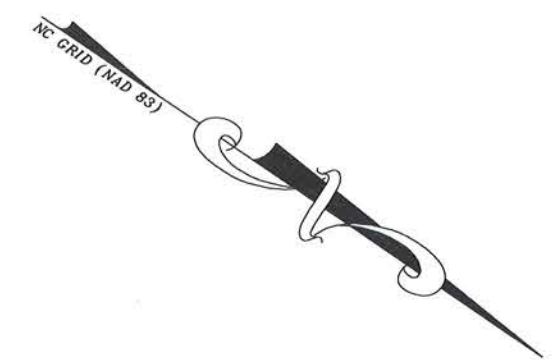
CARY CREEK  
LTD PTNRP  
ZONING: TC  
USE: VACANT  
PIN: 0736309096  
AACCP

CARY CREEK  
LTD PTNRP  
ZONING: TC  
USE: VACANT  
PIN: 0735492751  
AACCP

EXISTING  
NC HWY 55  
(VARIABLE WIDTH PUBLIC R/W)

EXISTING  
I-540  
(VARIABLE WIDTH PUBLIC R/W)

EXISTING I-540 OFF-RAMP



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**ALSTON TOWN CENTER**  
INDIVIDUAL PERMIT  
**FIGURE 3.3, PHASING EXHIBIT**  
CARY, NORTH CAROLINA




PROJECT NO. AAC-13020
FILENAME: AAC-13020
SCALE: 1" = 300'
DATE: 02-10-15






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**LEGEND:**

-  PROJECT SITE: 109.24 AC.
-  STREAM FEATURES (TOTAL 4,164 LF)
-  WETLAND FEATURES (TOTAL 35,522 SF, .81 AC.)

**TOWN OF CARY URBAN TRANSITION BUFFERS (UTB)**

-  ZONE 1 UTB (TOTAL 251,244 SF , 5.77 AC)  
(5,664 SF, 0.13 AC UNDER SITE PLAN REVIEW; SEE NOTES)
-  ZONE 2 UTB (TOTAL 145,181 SF , 3.33 AC)  
(5,690 SF, 0.13 AC UNDER SITE PLAN REVIEW; SEE NOTES)
-  ZONE 3 UTB (TOTAL 220,040 SF , 5.05 AC)  
(15,420 SF, 0.35 AC UNDER SITE PLAN REVIEW; SEE NOTES)

**NOTES:**

WAKE COUNTY PIN NUMBERS: 0735383152, 0735485345, 0735582204, 0735398050, 0735492751, 0736309096  
 HUC: CAPE FEAR RIVER BASIN 03030002  
 LAT: 35.833632 LONG: -78.886663  
 DWR STREAM CLASSIFICATION (NANCY BRANCH): WS-IV; NSW  
 USACE ISSUED JURISDICTIONAL DETERMINATION  
 SAW-2006-32842; FEBRUARY 4, 2014  
 SAW-2014-01187; JULY 1, 2014  
 SAW-2006-32842; JULY 21, 2014

PHASE I SITE PLANE CURRENTLY UNDER REVIEW THROUGH TOWN OF CARY SITE PLAN APPROVAL PROCESS

**IMPACTS:**

**PREVIOUSLY AUTHORIZED:** STREAM (28 LF) AND WETLAND (2,644 SF [0.06 AC])  
 IMPACTS UNDER NWP 39 AND WQC 3890 FOR PHASE 1 (USACE SAW-2006-32842, JULY 21, 2014; DWR# 06-1496v3, JULY 17, 2014)

**PROPOSED IMPACTS:**

- PERMANENT STREAM IMPACTS (CULVERT): 765 LF
- PERMANENT STREAM IMPACTS (DISSIPATOR PAD): 62 LF
- TEMPORARY STREAM IMPACTS: 81 LF
- TOTAL STREAM IMPACTS: 908 LF
- SECTION 404 AND 401 WETLAND IMPACTS: 25,005 SF (0.58 AC)
- ISOLATED WETLAND IMPACTS: 7,124 SF (0.16 AC)
- TOTAL WETLAND IMPACTS: 32,179 (0.74)
- TOWN OF CARY ZONE 1 UTB IMPACTS: 55,379 SF (1.27 AC)
- TOWN OF CARY ZONE 2 UTB IMPACTS: 40,307 SF (0.94 AC)
- TOWN OF CARY ZONE 3 UTB IMPACTS: 99,668 SF (2.29 AC)

**INSET 6**

**INSET 7**

**INSET 5**

CARY CREEK LTD PTNRP  
 ZONING: TC  
 USE: VACANT  
 PIN: 0736309096  
 AACCP

CARY CREEK LTD PTNRP  
 ZONING: TC  
 USE: VACANT  
 PIN: 0735492751  
 AACCP

EXISTING NC HWY 55  
 (VARIABLE WIDTH PUBLIC R/W)

MAHAL AVENUE  
 (VARIABLE WIDTH PUBLIC R/W)

EXISTING I-540 OFF-RAMP

EXISTING I-540  
 (VARIABLE WIDTH PUBLIC R/W)

CARY CREEK LTD PTNRP  
 ZONING: ORDCU  
 USE: VACANT  
 PIN: 0735383152  
 AACCP: McCRIMMON

CARY CREEK LTD PTNRP  
 ZONING: R40  
 USE: VACANT  
 PIN: 0735582204  
 AACCP

CARY CREEK LTD PTNRP  
 ZONING: ORDCU  
 USE: VACANT  
 PIN: 0735485345  
 AACCP

CARY CREEK LTD PTNRP  
 ZONING: TC  
 USE: VACANT  
 PIN: 0735398050  
 AACCP

WAKE COUNTY BOARD OF EDUCATION  
 ZONING: PECP  
 USE: SCHOOL  
 PIN: 0735278154  
 AACCP: McCRIMMON

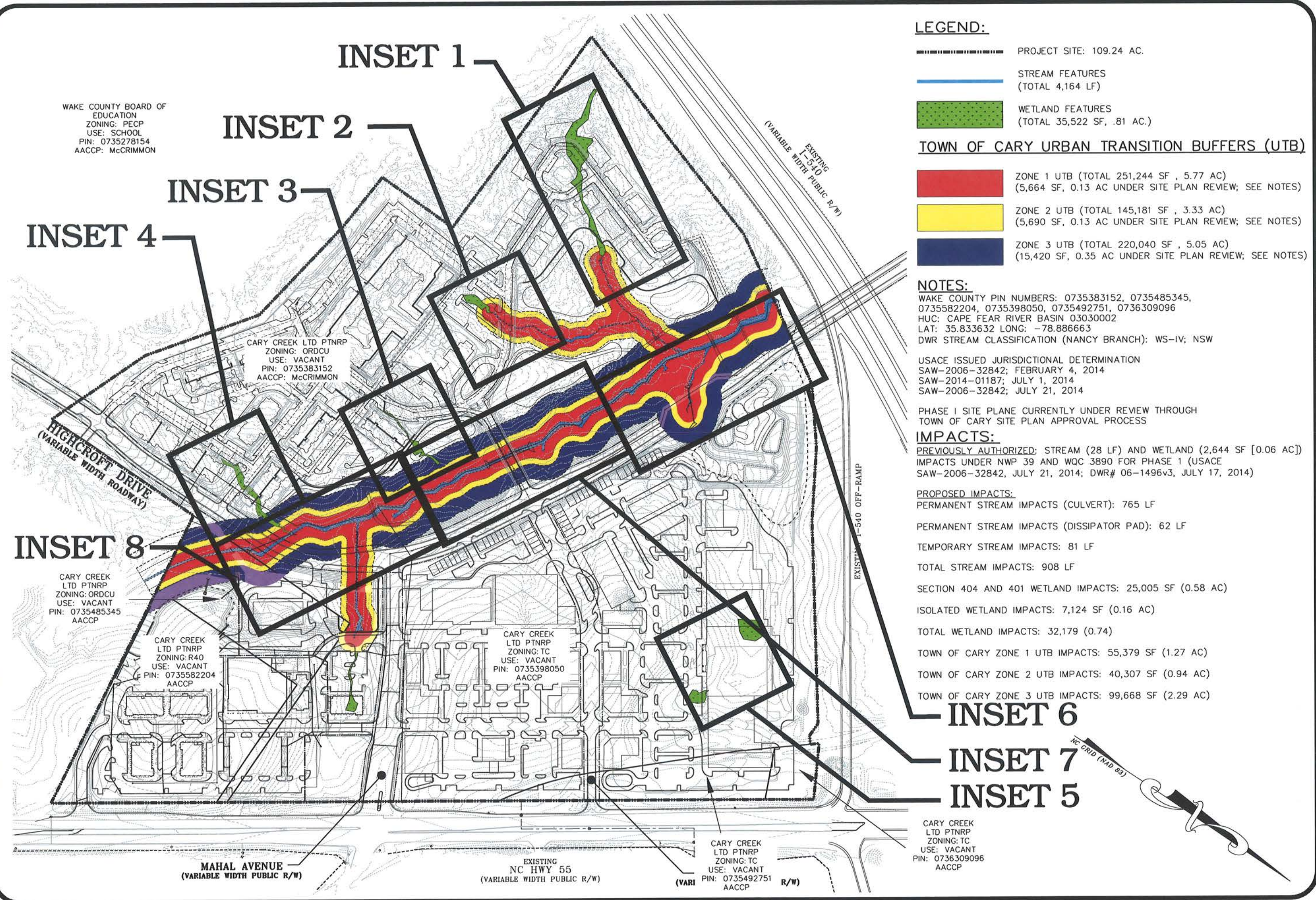
**INSET 1**

**INSET 2**

**INSET 3**

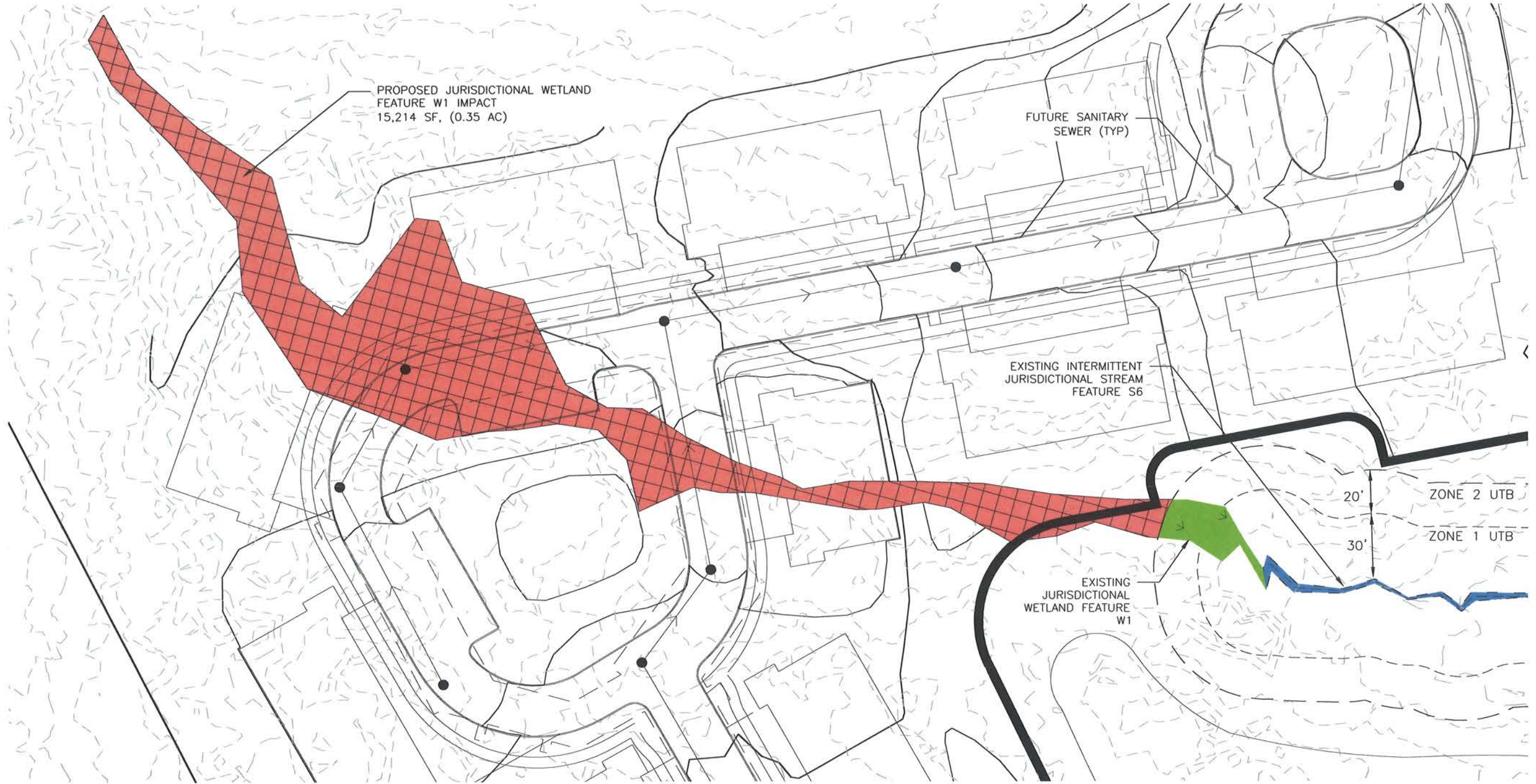
**INSET 4**

**INSET 8**



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**IMPACT AREA 1:**

- PERMANENT STREAM IMPACT (CULVERT): 0 LF
- WETLAND IMPACT: 15,214 SF (0.35 AC)
- ZONE 1 TOC UTB IMPACT: 0 SF (0 AC)
- ZONE 2 TOC UTB IMPACT: 0 SF (0 AC)
- ZONE 3 TOC UTB IMPACT: 0 SF (0 AC)

**LEGEND:**

- EXISTING JURISDICTIONAL STREAM FEATURES
- EXISTING JURISDICTIONAL WETLAND FEATURES



**ALSTON TOWN CENTER**  
 INDIVIDUAL PERMIT  
 INSET 1 - IMPACT AREA 1  
 CARY, NORTH CAROLINA

PROJECT NO.	AAC-13020
FILENAME:	AAC-13020
SCALE:	1" = 50'
DATE:	02-10-15

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**IMPACT AREA 2:**

- PERMANENT STREAM IMPACT (CULVERT): 112 LF
- TEMPORARY JURISDICTIONAL STREAM IMPACT: 9 LF
- TOTAL STREAM IMPACTS = 121 LF**
- WETLAND IMPACT: 2,253 SF (0.05 AC)
- ZONE 1 TOC UTB IMPACT: 8,694 SF (0.20 AC)
- ZONE 2 TOC UTB IMPACT: 7,227 SF (0.17 AC)
- ZONE 3 TOC UTB IMPACT: 0 SF (0 AC)

**LEGEND:**

- EXISTING JURISDICTIONAL STREAM FEATURES
- EXISTING JURISDICTIONAL WETLAND FEATURES



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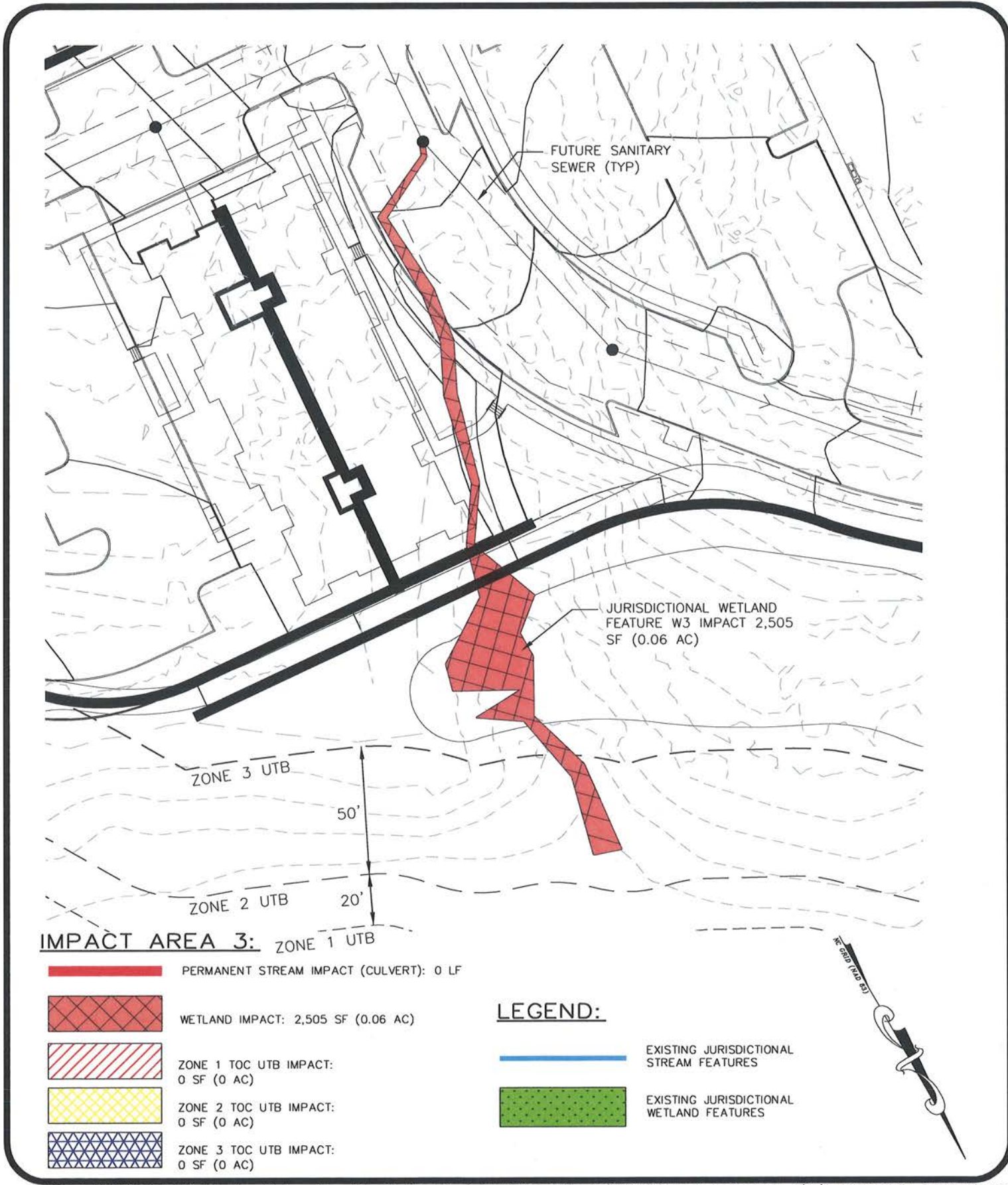
<b>MCADAMS</b>	PROJECT NO. AAC-13020
	FILENAME: AAC13020-IE-01
	SCALE: 1"=50'
	DATE: 02-10-15

**ALSTON TOWN CENTER  
INSET 2 - IMPACT AREA 2  
PLAN VIEW  
CARY, NORTH CAROLINA**



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**IMPACT AREA 3:** ZONE 1 UTB

- PERMANENT STREAM IMPACT (CULVERT): 0 LF
- WETLAND IMPACT: 2,505 SF (0.06 AC)
- ZONE 1 TOC UTB IMPACT: 0 SF (0 AC)
- ZONE 2 TOC UTB IMPACT: 0 SF (0 AC)
- ZONE 3 TOC UTB IMPACT: 0 SF (0 AC)

- LEGEND:**
- EXISTING JURISDICTIONAL STREAM FEATURES
  - EXISTING JURISDICTIONAL WETLAND FEATURES

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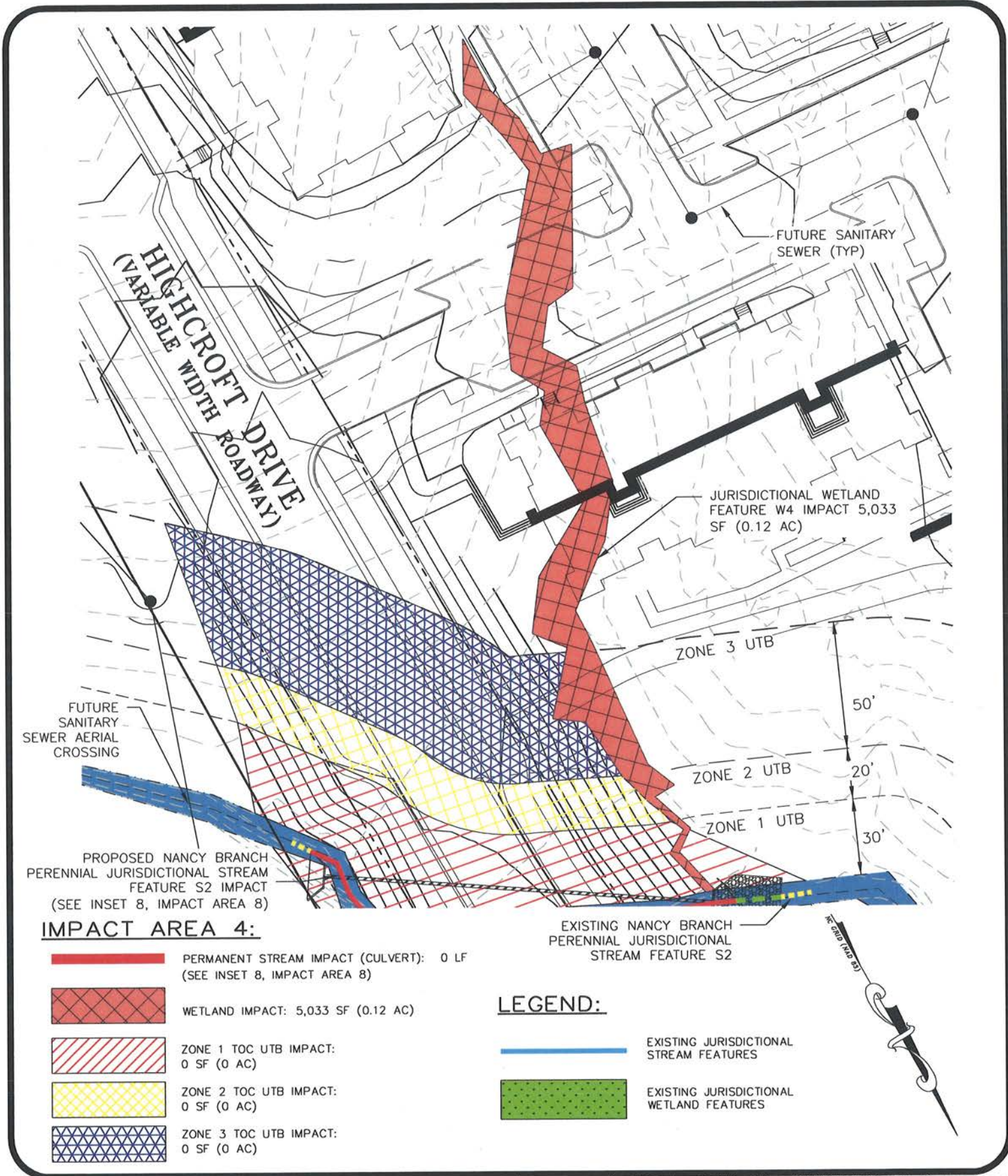
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	FILENAME: AAC13020-IE-01
	SCALE: 1"=50'
	DATE: 02-10-15

**ALSTON TOWN CENTER  
INSET 3 - IMPACT AREA 3  
PLAN VIEW  
CARY, NORTH CAROLINA**

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	SCALE:	1"=50'
	DATE:	02-10-15

**ALSTON TOWN CENTER  
INSET 4 - IMPACT AREA 4  
PLAN VIEW  
CARY, NORTH CAROLINA**



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**IMPACT AREA 5:**

- PERMANENT STREAM IMPACT (CULVERT): 0 LF
- ISOLATED WETLAND IMPACT: 7,124 SF (0.16 AC)
- ZONE 1 TOC UTB IMPACT: 0 SF (0 AC)
- ZONE 2 TOC UTB IMPACT: 0 SF (0 AC)
- ZONE 3 TOC UTB IMPACT: 0 SF (0 AC)

**LEGEND:**

- EXISTING JURISDICTIONAL STREAM FEATURES
- EXISTING JURISDICTIONAL WETLAND FEATURES



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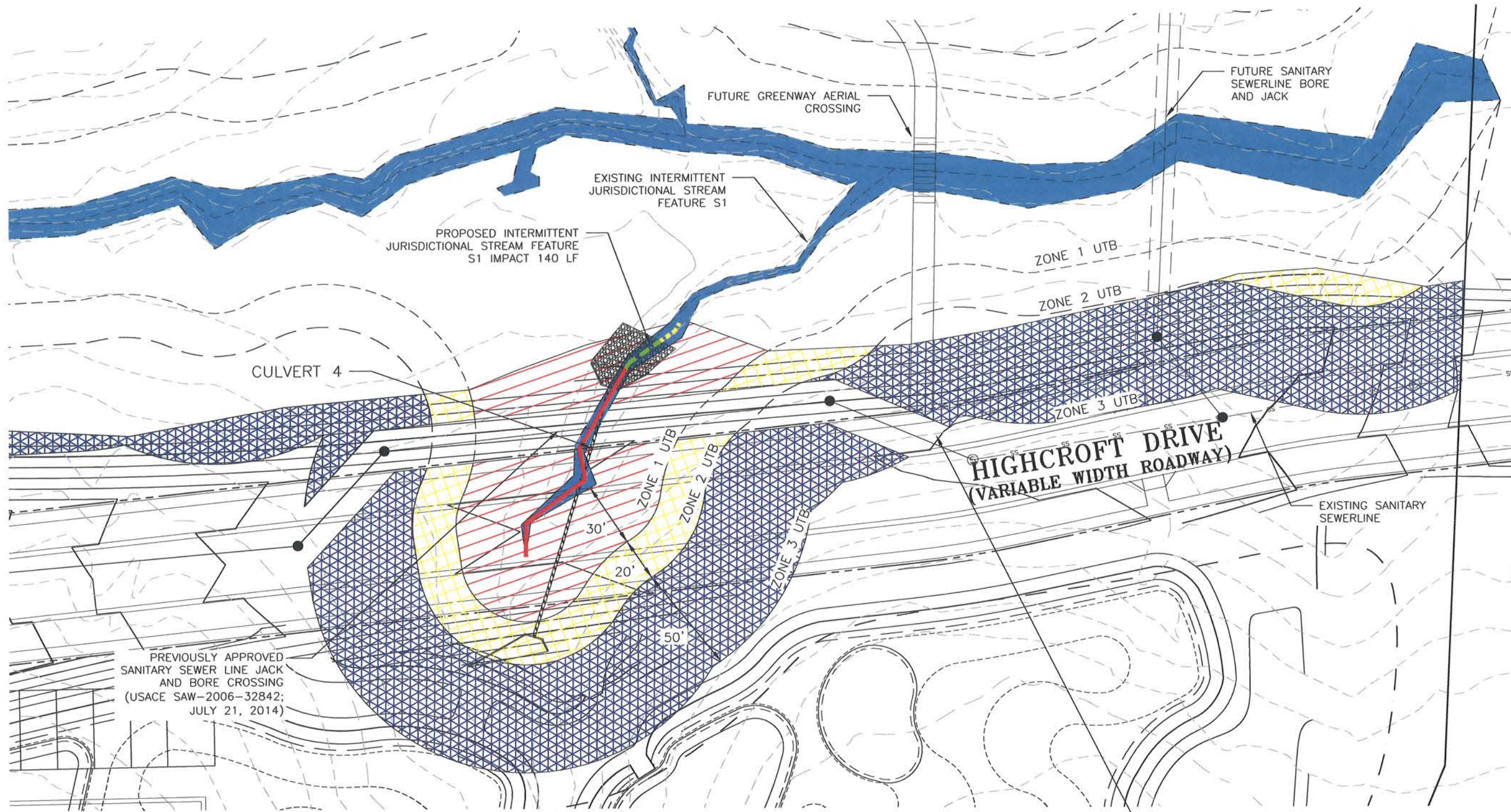
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	FILENAME: AAC13020-IE-01
	SCALE: 1" = 50'
	DATE: 02-10-15

**ALSTON TOWN CENTER  
INSET 5 - IMPACT AREA 5  
PLAN VIEW  
CARY, NORTH CAROLINA**



**THE JOHN R. McADAMS COMPANY, INC.**  
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**IMPACT AREA 6:**

- PERMANENT STREAM IMPACT (CULVERT): 107 LF
- PERMANENT STREAM IMPACT (DISSIPATOR PAD): 21 LF
- TEMPORARY STREAM IMPACT: 12 LF
- TOTAL STREAM IMPACTS = 140 LF**
- WETLAND IMPACT: 0 SF (0 AC)
- ZONE 1 TOC UTB IMPACT: 8,402 SF (0.19 AC)

- ZONE 2 TOC UTB IMPACT: 6,827 SF (0.16 AC)
- ZONE 3 TOC UTB IMPACT: 33,270 SF (0.76 AC)

- LEGEND:**
- JURISDICTIONAL STREAM FEATURES
  - JURISDICTIONAL WETLAND FEATURES

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Phase 1 Land/Individual Permit Exhibits-01.dwg, 4/14/2015 12:29:29 PM, Buchholz, George

PROJECT NO. AAC-13020  
FILENAME: AAC-13020  
SCALE: 1" = 50'  
DATE: 02-10-15

ALSTON TOWN CENTER

INDIVIDUAL PERMIT

INSET 6 - IMPACT AREA 6

CARY, NORTH CAROLINA

PROJECT NO. AAC-13020  
FILENAME: AAC-13020  
SCALE: 1" = 50'  
DATE: 02-10-15

N.C. GRID (NAD 83)

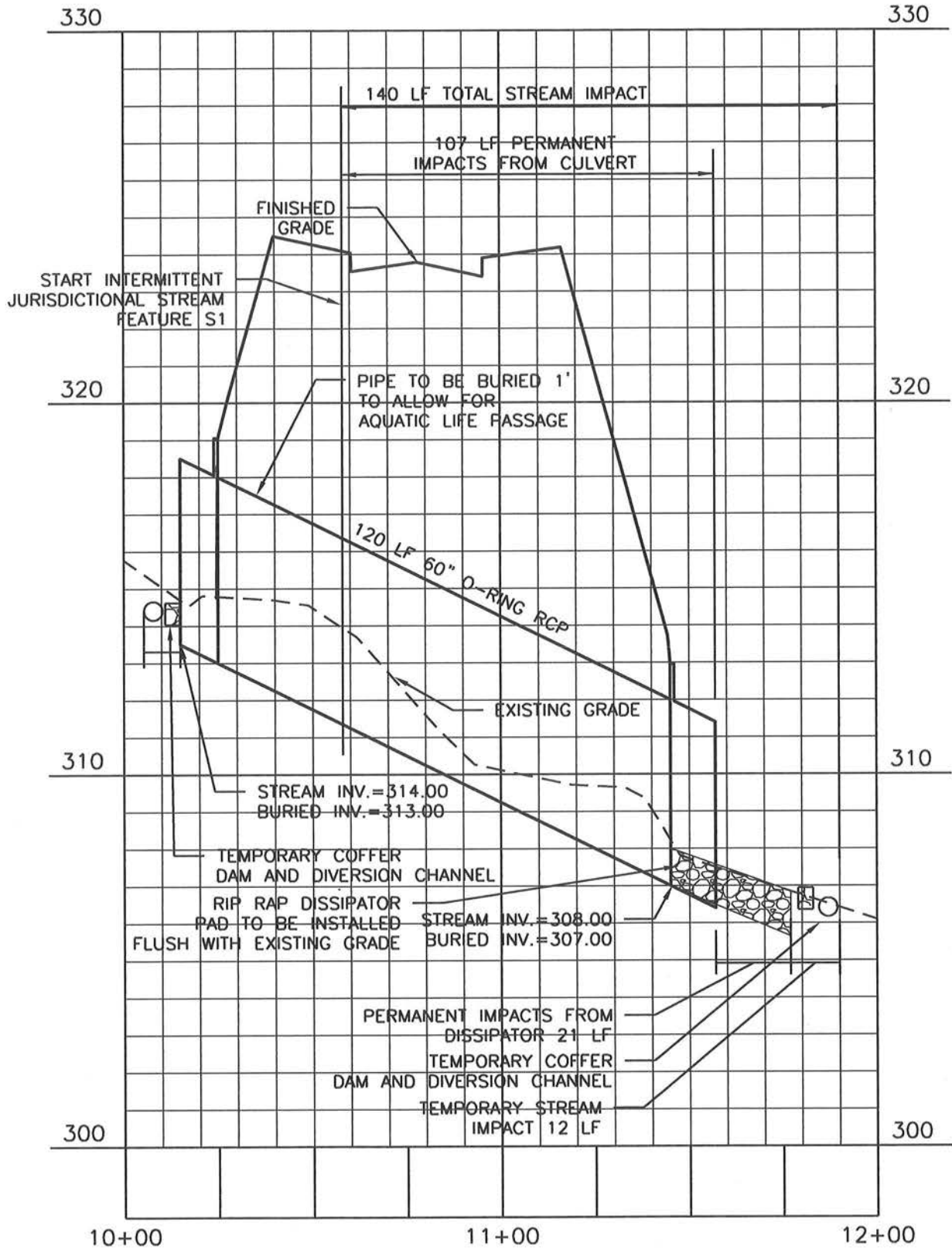
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FILENAME: AAC-13020  
SCALE: 1" = 50'  
DATE: 02-10-15

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PAGE 11 OF 25



# CULVERT 4



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M CADAMAS

PROJECT NO. AAC-13020  
 FILENAME: AAC-13020  
 SCALE: 1" = 40'  
 DATE: 02-11-15

## ALSTON TOWN CENTER INSET 6 - IMPACT AREA 6 PROFILE CARY, NORTH CAROLINA



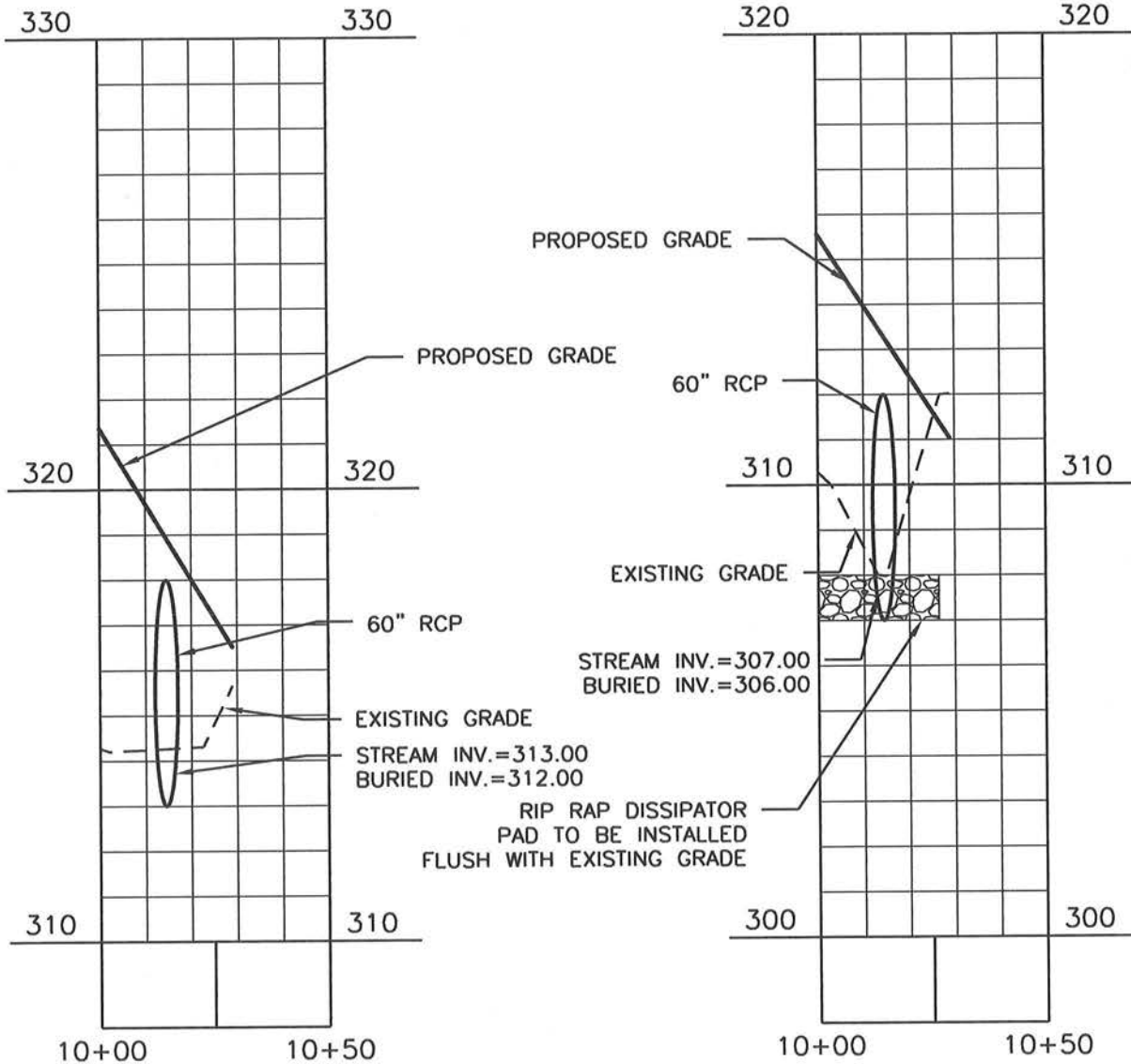
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# CULVERT 4

## UPSTREAM

## DOWNSTREAM



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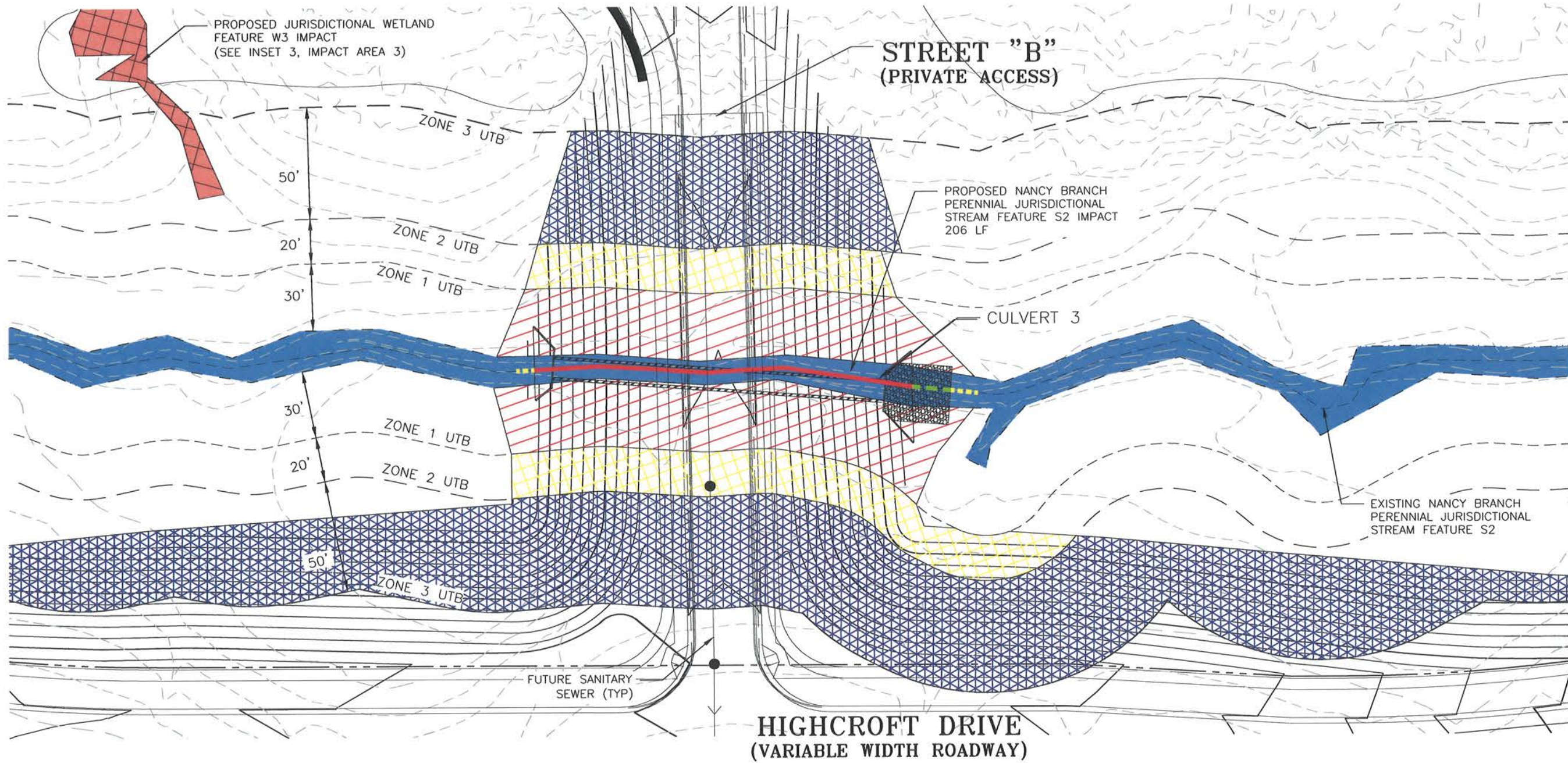
<b>MCADAMS</b>	PROJECT NO.	AAC-13020
	FILENAME:	AAC-13020
	SCALE:	1" = 40'
	DATE:	02-11-15

### ALSTON TOWN CENTER INSET 6 - IMPACT AREA 6 CROSS SECTIONS CARY, NORTH CAROLINA








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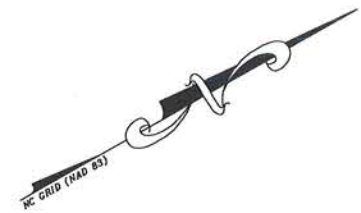
**IMPACT AREA 7:**

-  PERMANENT STREAM IMPACT (CULVERT): 169 LF
  -  PERMANENT STREAM IMPACT (DISSIPATOR PAD): 17 LF
  -  TEMPORARY STREAM IMPACT: 20 LF
- TOTAL STREAM IMPACTS = 206 LF**

-  WETLAND IMPACT: 0 SF (0 AC)  
(SEE INSET 3, IMPACT AREA 3)
-  ZONE 1 TOC UTB IMPACT:  
11,866 SF (0.27 AC)
-  ZONE 2 TOC UTB IMPACT:  
8,146 SF (0.19 AC)
-  ZONE 3 TOC UTB IMPACT:  
36,099 SF (0.83 AC)

**LEGEND:**

-  EXISTING JURISDICTIONAL STREAM FEATURES
-  EXISTING JURISDICTIONAL WETLAND FEATURES



X:\Projects\AAC\AAC-13020 Alston Town Center - Phase 1\Land\Individual Permit Exhibits\Current Drawings\AAC13020-ImpactExhibits-01.dwg, 4/14/2015 12:29:16 PM, Buchholz, George

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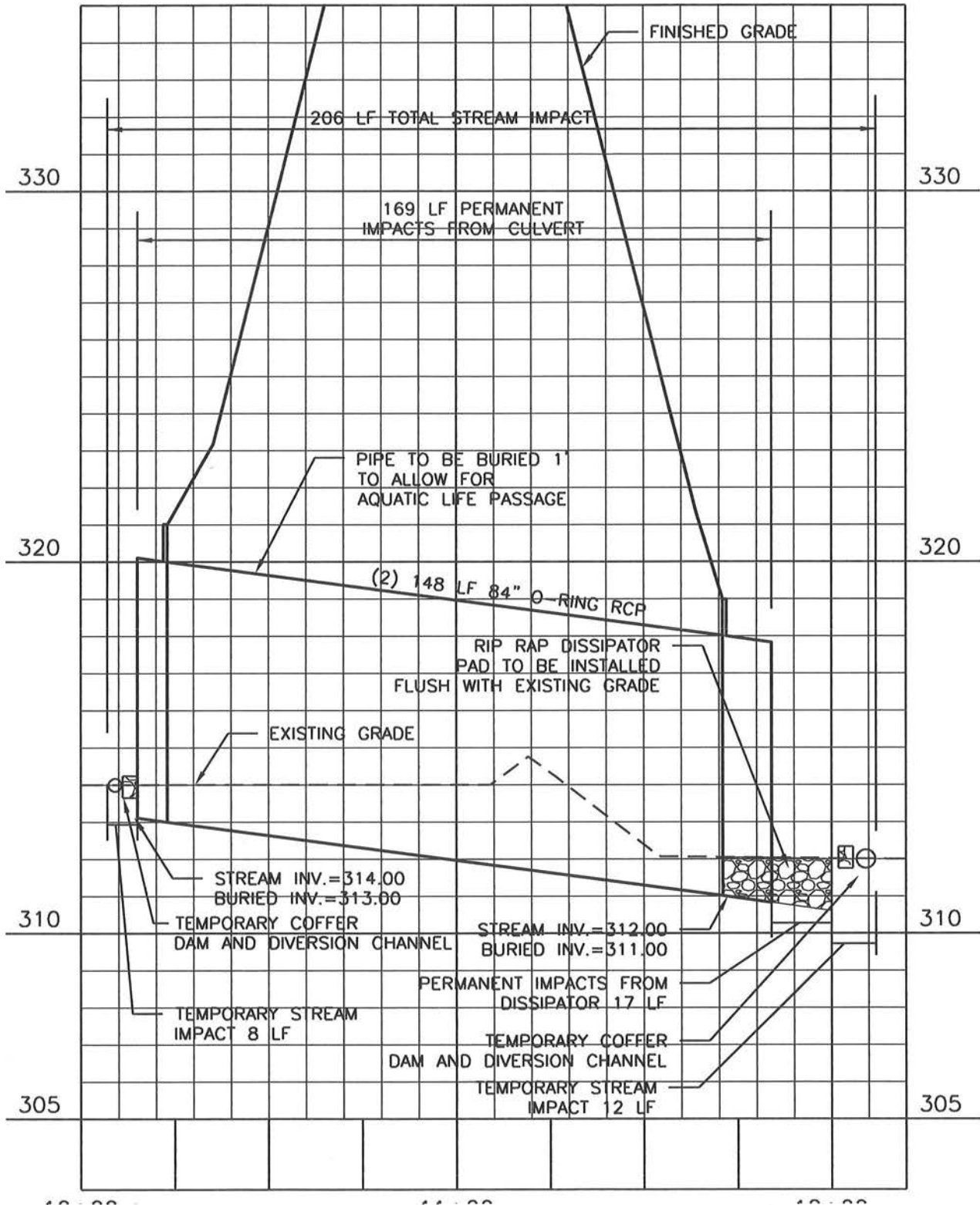
**ALSTON TOWN CENTER**  
INDIVIDUAL PERMIT  
INSET 7 - IMPACT AREA 7  
CARY, NORTH CAROLINA

PROJECT No. AAC-13020  
FILENAME: AAC-13020  
SCALE: 1" = 50'  
DATE: 02-10-15





# CULVERT 3



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	FILENAME:	AAC-13020
	SCALE:	1"=40'
	DATE:	02-11-15

## ALSTON TOWN CENTER INSET 7 - IMPACT AREA 7 PROFILE CARY, NORTH CAROLINA



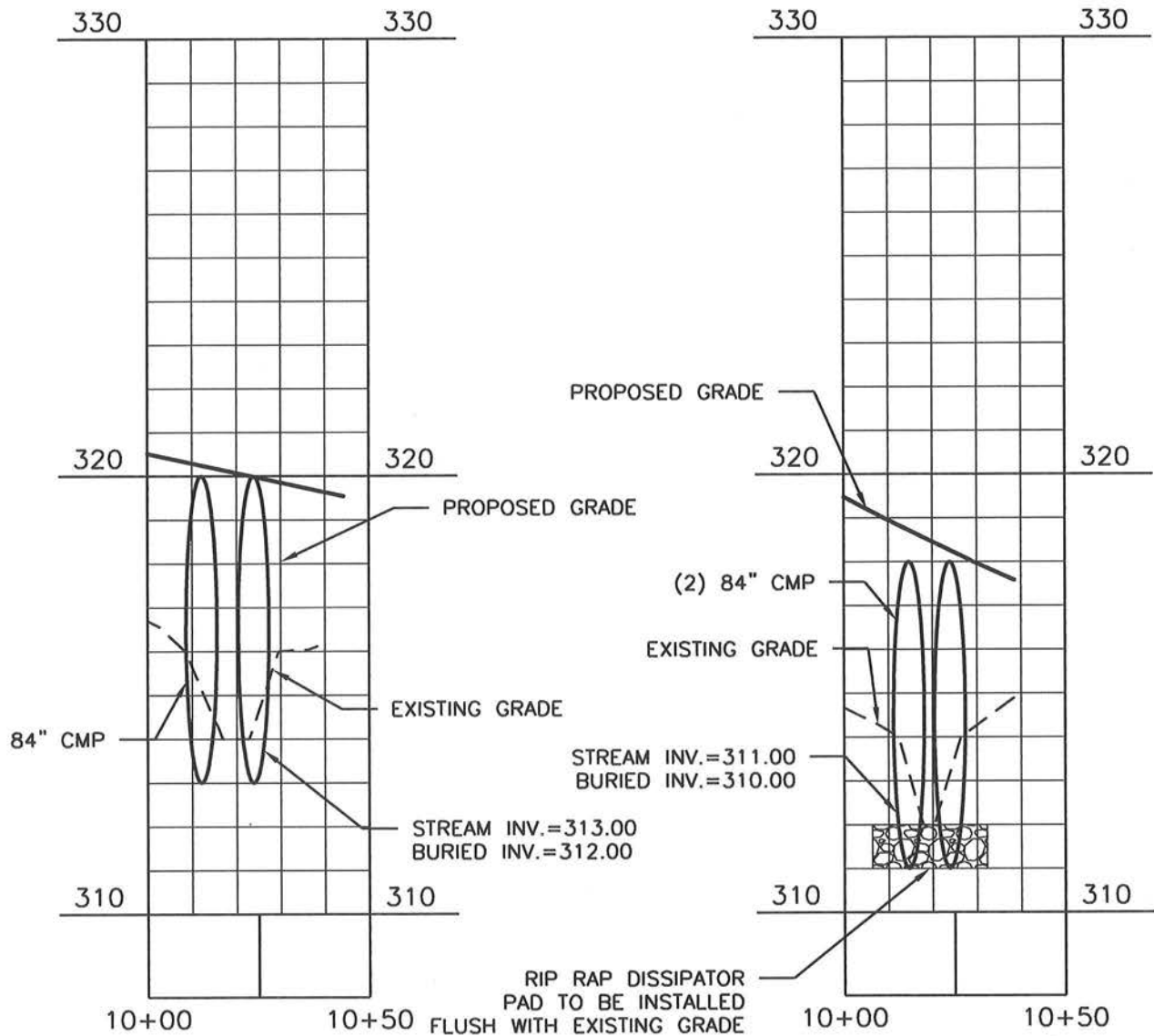
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# CULVERT 3

## UPSTREAM

## DOWNSTREAM



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PROJECT NO. AAC-13020  
FILENAME: AAC-13020  
SCALE: 1"=40'  
DATE: 02-11-15

**ALSTON TOWN CENTER**  
**INSET 7 - IMPACT AREA 7**  
**CROSS SECTIONS**  
**CARY, NORTH CAROLINA**

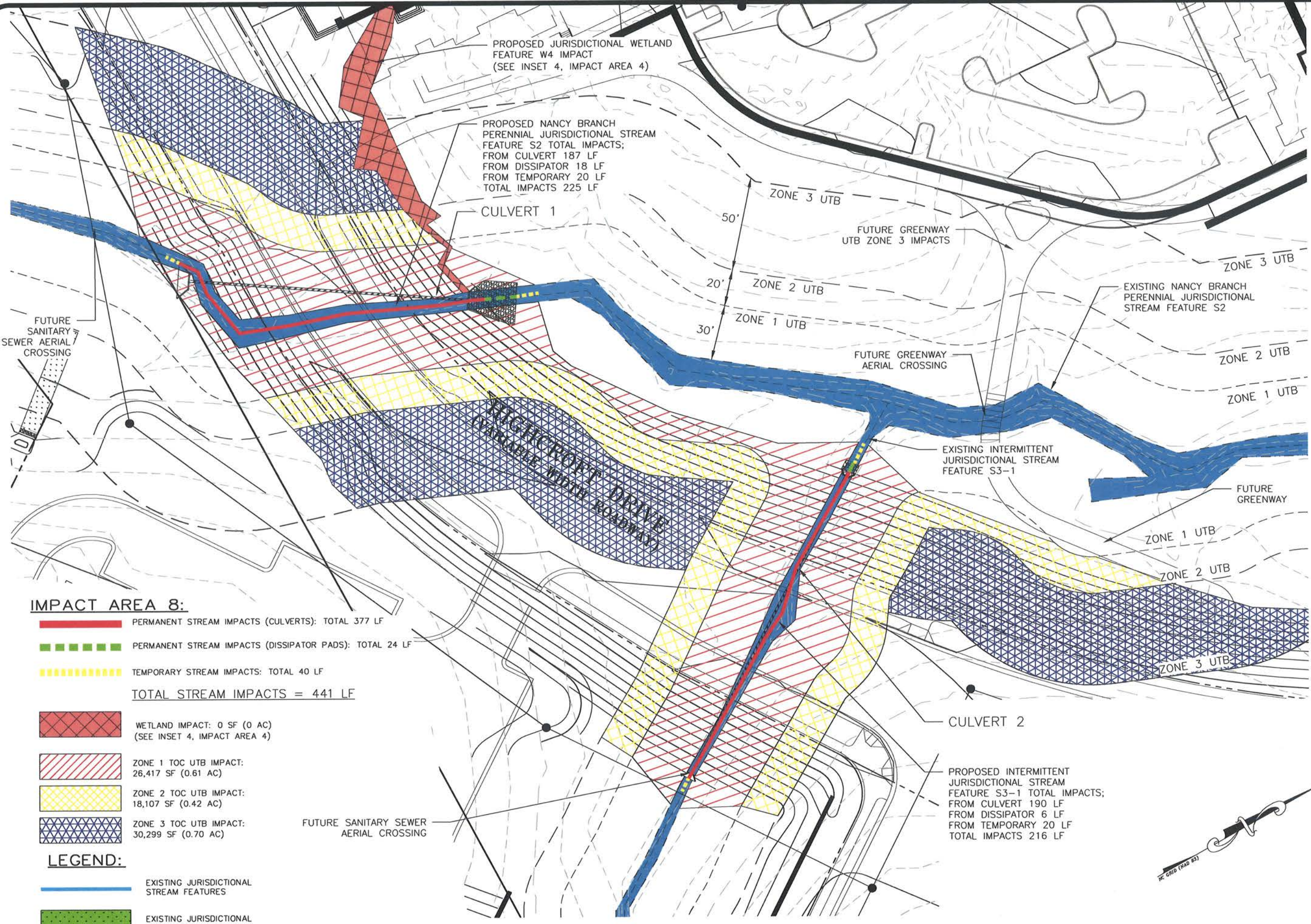
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**ALSTON TOWN CENTER**  
 INDIVIDUAL PERMIT  
**INSET 8 - IMPACT AREA 8**  
 CARY, NORTH CAROLINA

PROJECT NO. AAC-13020  
 FILENAME: AAC-13020  
 SCALE: 1" = 50'  
 DATE: 02-10-15



**IMPACT AREA 8:**

-  PERMANENT STREAM IMPACTS (CULVERTS): TOTAL 377 LF
-  PERMANENT STREAM IMPACTS (DISSIPATOR PADS): TOTAL 24 LF
-  TEMPORARY STREAM IMPACTS: TOTAL 40 LF
- TOTAL STREAM IMPACTS = 441 LF**
-  WETLAND IMPACT: 0 SF (0 AC)  
(SEE INSET 4, IMPACT AREA 4)
-  ZONE 1 TOC UTB IMPACT:  
26,417 SF (0.61 AC)
-  ZONE 2 TOC UTB IMPACT:  
18,107 SF (0.42 AC)
-  ZONE 3 TOC UTB IMPACT:  
30,299 SF (0.70 AC)

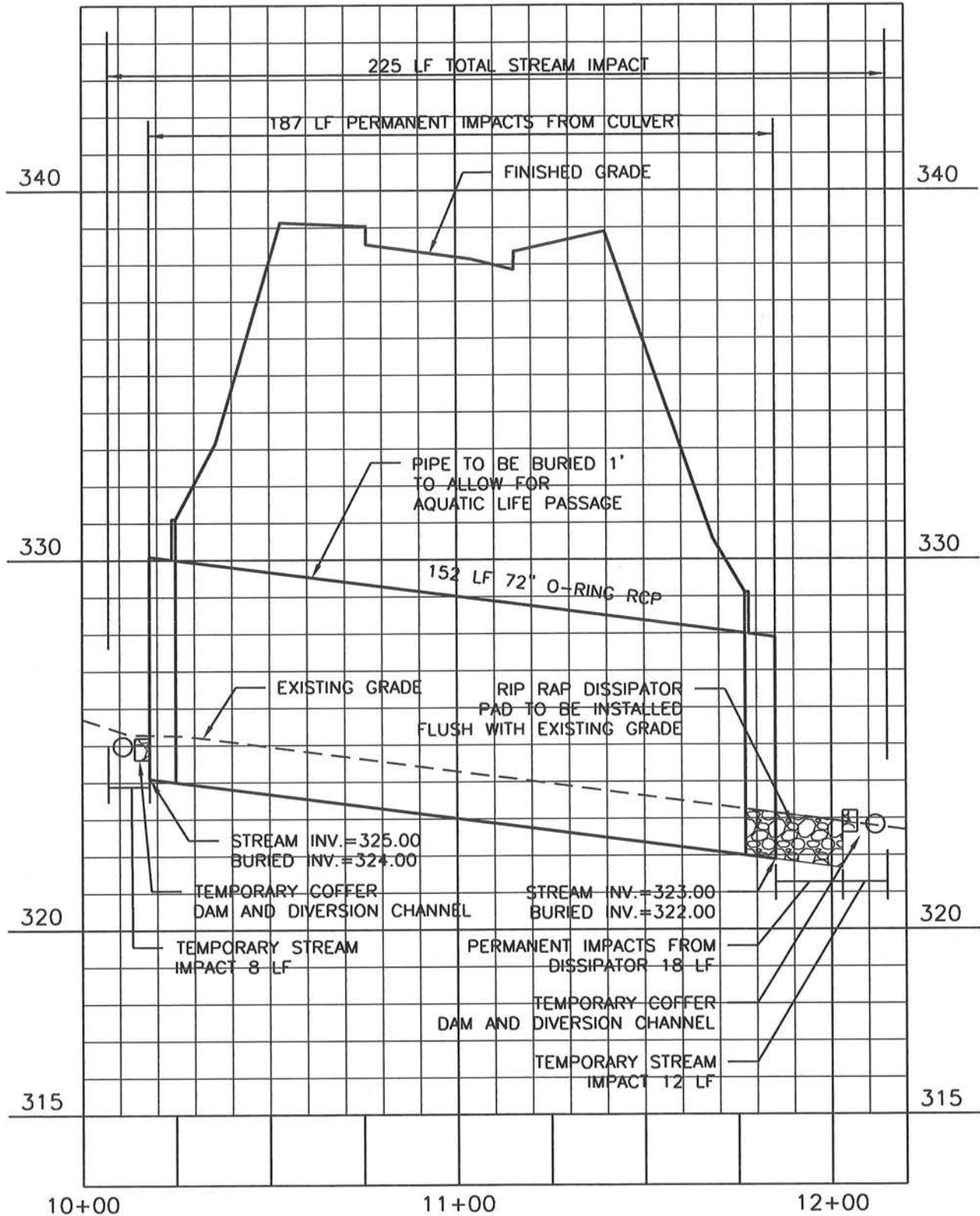
**LEGEND:**

-  EXISTING JURISDICTIONAL STREAM FEATURES
-  EXISTING JURISDICTIONAL WETLAND FEATURES

X:\Projects\AAC\AAC-13020\Alston Town Center - Phase 1\Land\Individual Permit Exhibits\Current Drawings\AAC13020-impact\exhibits-01.dwg, 4/14/2015, 12:28:50 PM, Buchholz, George



# CULVERT 1



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	FILENAME:	AAC-13020
	SCALE:	1" = 40'
	DATE:	02-11-15

## ALSTON TOWN CENTER INSET 8 - IMPACT AREA 8 PROFILE CARY, NORTH CAROLINA



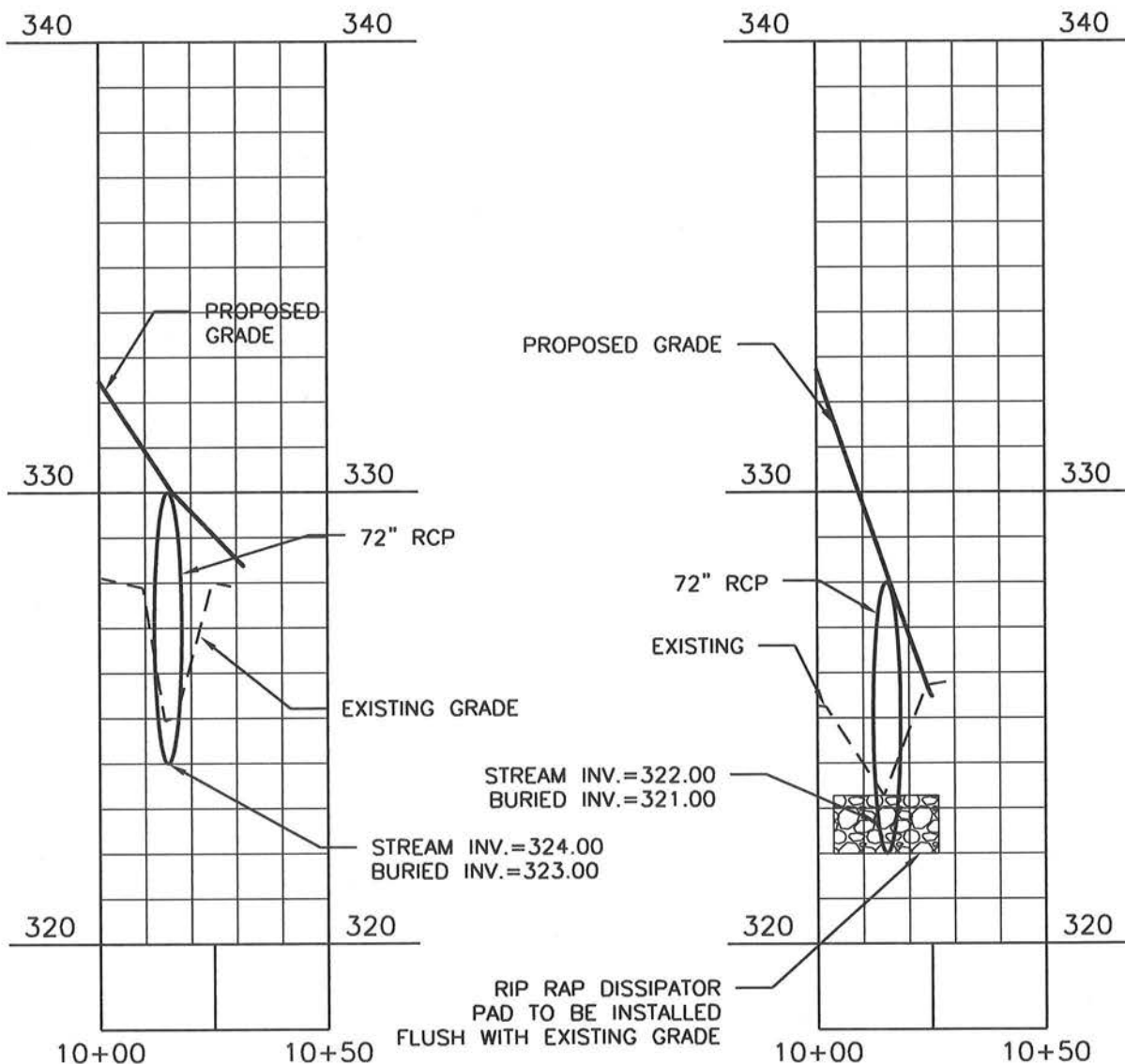
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# CULVERT 1

## UPSTREAM

## DOWNSTREAM



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PROJECT NO. AAC-13020  
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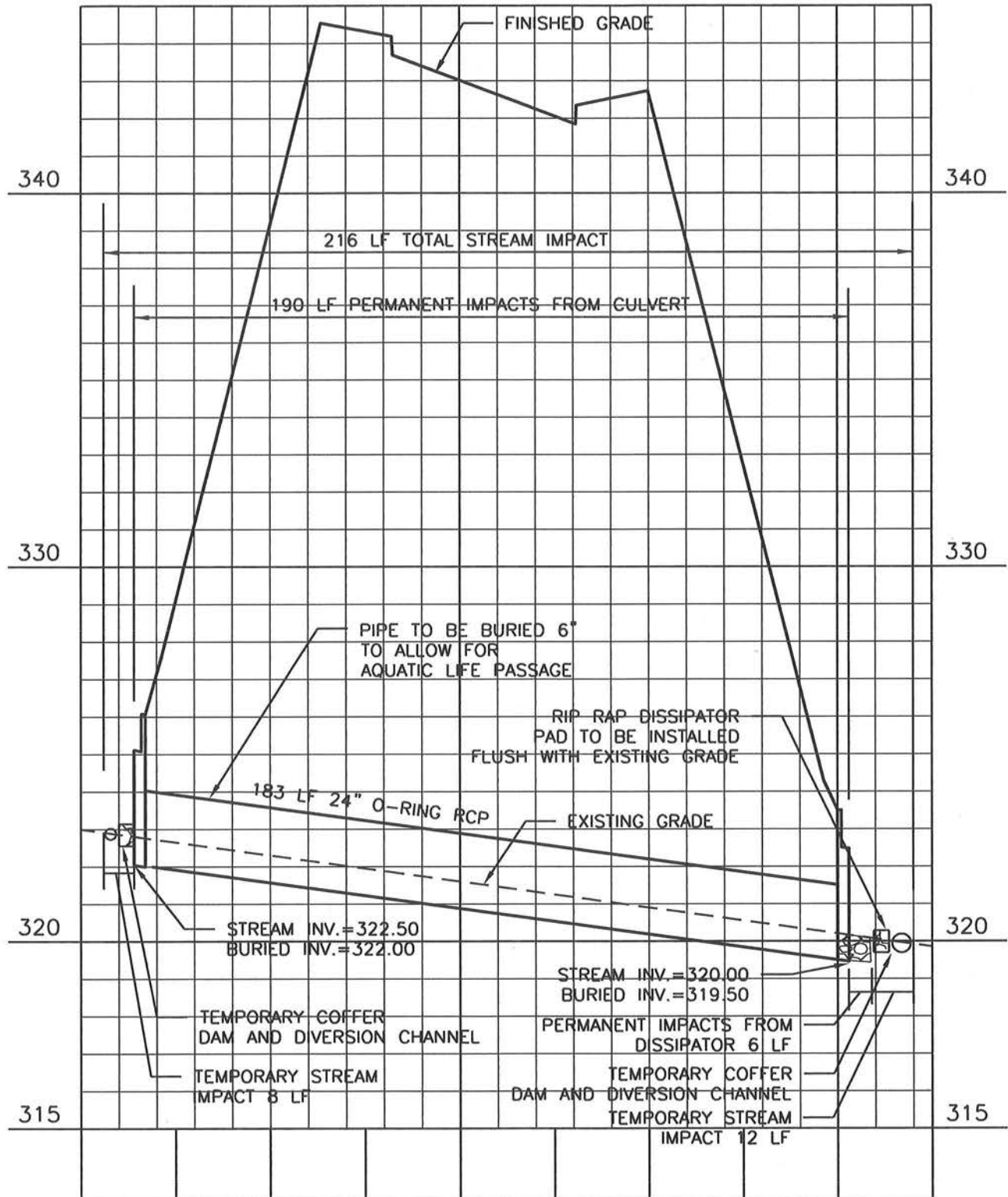
**ALSTON TOWN CENTER**  
**INSET 8 - IMPACT AREA 8**  
**CROSS SECTIONS**  
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# CULVERT 2



X:\Projects\AAC\AAC-13020 Alston Town Center - Phase 1\Land\Individual Permit Exhibits\Current Drawings\AAC13020x-C3D.dwg, 4/14/2015 12:47:31 PM, Buchholz, George

<b>MCADAMS</b>	PROJECT NO.	AAC-13020
	FILENAME:	AAC-13020
	SCALE:	1"=40'
	DATE:	02-11-15

## ALSTON TOWN CENTER INSET 8 - IMPACT AREA 8 PROFILE CARY, NORTH CAROLINA

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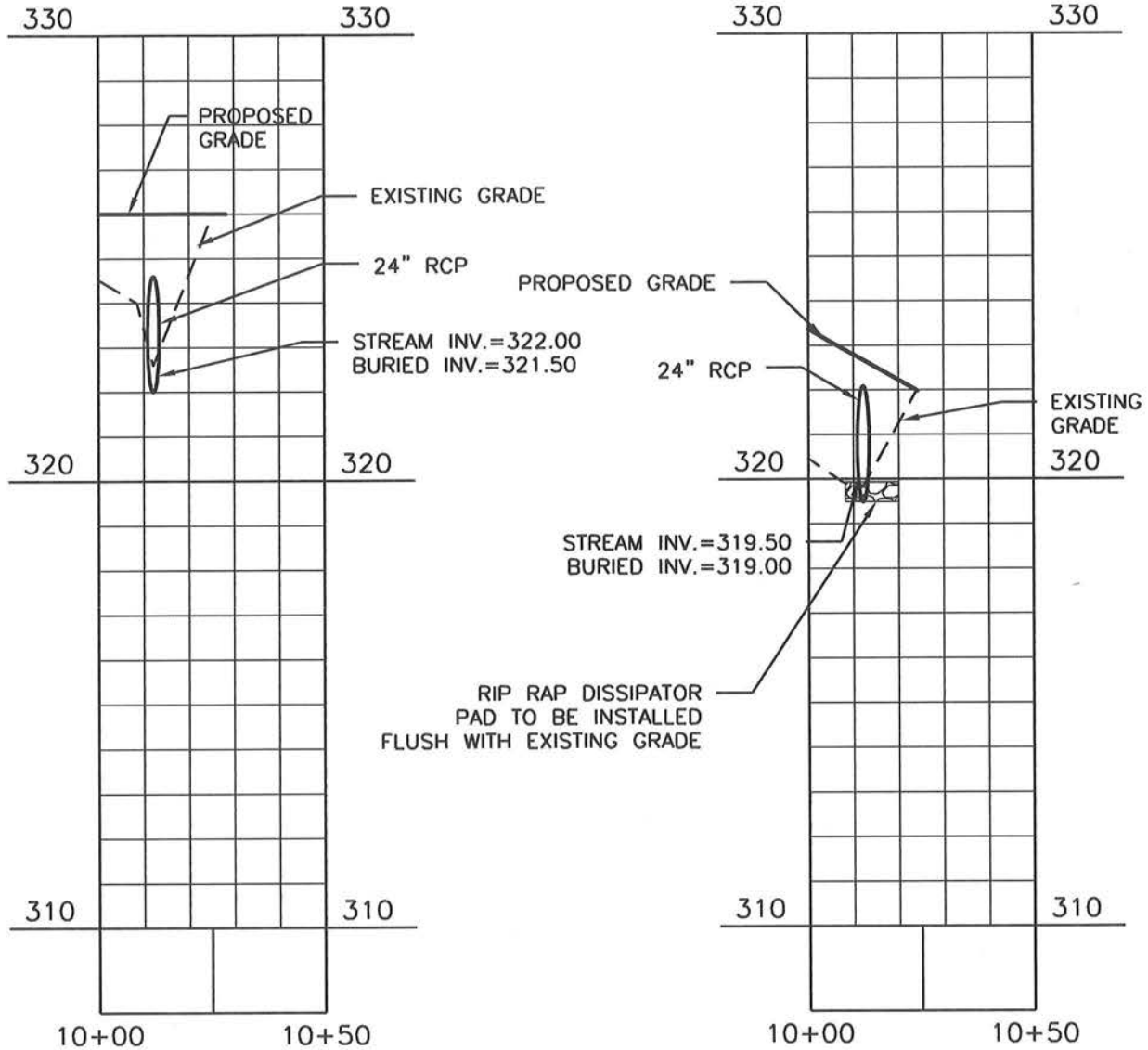
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# CULVERT 2

## UPSTREAM

## DOWNSTREAM



X:\Projects\AAC\AAC-13020 Alston Town Center - Phase 1\Land\Individual Permit Exhibits\Current Drawings\AAC13020x-C3D.dwg, 4/14/2015 12:52:14 PM, Buchholz, George

MCDADAMS

PROJECT NO. AAC-13020  
 FILENAME: AAC-13020  
 SCALE: 1" = 40'  
 DATE: 02-11-15

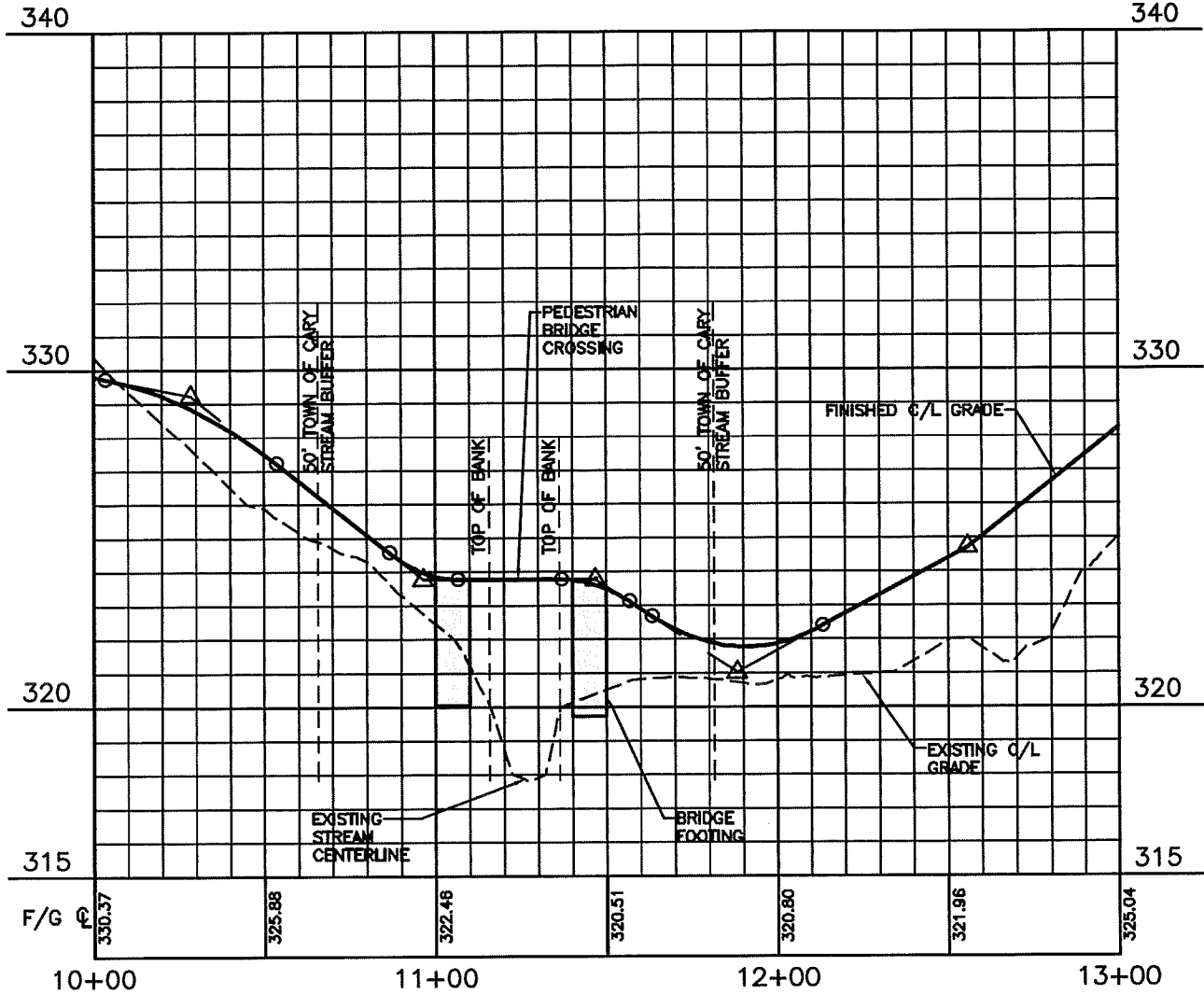
**ALSTON TOWN CENTER**  
**INSET 8 - IMPACT AREA 8**  
**CROSS SECTIONS**  
 CARY, NORTH CAROLINA



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# TYPICAL GREENWAY AERIAL CROSSING



X:\Projects\AAC\AAC-13020 Alston Town Center - Phase 1\Land\Individual Permit Exhibits\Current Drawings\Greenway Bridge.dwg, 4/15/2015 2:38:52 PM, Harrell, Gray

<b>McADAMS</b>	PROJECT NO.	AAC-13020
	FILENAME:	AAC-13020
	SCALE:	1" = 50'
	DATE:	04-15-15

**ALSTON TOWN CENTER**  
**TYPICAL GREENWAY AERIAL**  
**CROSSING**  
 CARY, NORTH CAROLINA



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**TABLE 6. PROPOSED STREAM AND WETLAND IMPACTS**

STREAM IMPACTS								
Impact Number	Inset/Impact Area	Impact Type	Existing Feature	Designation	LINEAR FEET			
					Permanent Impacts		Temporary Impacts <sup>2</sup>	Total Impacts
					Culvert Impacts	Dissipator Pad <sup>1</sup>		
1	2	Fill	S5	Intermittent	112	NA	9	121
2	6	Culvert	S1	Intermittent	107	21	12	140
3	7	Culvert	Nancy Branch S2	Perennial	169	17	20	206
4	8	Culvert	S3-1	Intermittent	187	18	20	225
5	8	Culvert	Nancy Branch S2	Perennial	190	6	20	216
<b>Total for Phases II and III</b>					<b>765</b>	<b>62</b>	<b>81</b>	<b>908</b>
WETLAND IMPACTS								
Impact Number	Inset/Impact Area	Impact Type	Existing Feature	Cowardin/NCWAM Classification	Jurisdiction Type	Impact Area in Square Feet (Acres)		
1	1	Fill	W1	PFO1A/Headwater Forest	404 & 401	15,214 (0.35)		
2	2	Fill	W2	PFO1A/Headwater Forest	404 & 401	2,253 (0.05)		
3	3	Fill/Excavation	W3	PFO1A/Bottomland Hardwood Forest	404 & 401	2,505 (0.06)		
4	4	Fill	W4	PFO1A/Bottomland Hardwood Forest	404 & 401	5,033 (0.12)		
5	5	Fill	ISO-1	PSS1A/Basin	401	4,942 (0.11)		
6	5	Fill	ISO-1	PSS1A/Basin	401	2,182 (0.05)		
<b>Total 404 and 401 Combined</b>						<b>25,005 (0.58)</b>		
<b>Total 401 Only</b>						<b>7,124 (0.16)</b>		
<b>Total of All Wetland Features for Phases II and II</b>						<b>32,129 (0.74)</b>		

- Notes:**
- 1: Culverts will require the installation of a dissipator pad, or riprap curtain, to reduce erosive velocity. Installation of dissipator pads will be buried, or “keyed in”, such that original streambed elevations are restored to allow for continued aquatic organism passage.
  - 2: Culvert installation will occur within the dry and will require a temporary coffer dam and diversionary channel to allow for continued aquatic organism passage. All temporary stream impacts will be removed and returned to natural conditions within 60 days of the determination that the temporary impact is no longer necessary.
  - 3: Alston Town Center Phase I was previously issued under NWP 39 (USACE Action ID: SAW-2006-32842; July 21, 2014) authorization to impact 28 linear feet of intermittent stream (Stream Feature S-2) and 2,644 square feet (0.06 ac) of PFO1/A/Headwater wetlands (Wetland Feature W5).



**TABLE 8. PROPOSED STREAM AND WETLAND MITIGATION**

404 STREAM MITIGATION REQUIREMENTS <sup>2</sup>								
Impact Number	Inset/Impact Area	Impact Type	Existing Feature	Permanent Culvert Impacts - Linear Feet	Mitigation Ratio	Mitigation Required - Linear Feet		
1	2	Fill	S5	112	2:1	224		
2	6	Culvert	S1	107	2:1	214		
3	7	Culvert	Nancy Branch S2	169	2:1	338		
4	8	Culvert	S3-1	187	2:1	374		
5	8	Culvert	Nancy Branch S2	190	2:1	380		
<b>TOTAL</b>				<b>765</b>		<b>1,530</b>		
401 STREAM MITIGATION REQUIREMENTS <sup>2</sup>								
Impact Number	Inset/Impact Area	Impact Type	Existing Feature	Permanent Impacts - Linear Feet			Mitigation Ratio	Mitigation Required - Linear Feet
				Culvert Impacts	Dissipator Pad <sup>1</sup>	Total		
1	2	Fill	S5	112	NA	112	1:1	112
2	6	Culvert	S1	107	21	128	1:1	128
3	7	Culvert	Nancy Branch S2	169	17	186	1:1	186
4	8	Culvert	S3-1	187	18	205	1:1	205
5	8	Culvert	Nancy Branch S2	190	6	196	1:1	196
<b>TOTAL</b>				<b>765</b>	<b>62</b>	<b>827</b>		<b>827</b>
404 WETLAND MITIGATION REQUIREMENTS								
Impact Number	Inset/Impact Area	Impact Type	Existing Feature	Impact Area – Square Feet (Acres)	Mitigation Ratio	Mitigation Required – Square Feet (Acres)		
1	1	Fill	W1	15,214 (0.35)	2:1	30,428 (0.70)		
2	2	Fill	W2	2,253 (0.05)	2:1	4,506 (0.10)		
3	3	Fill	W3	2,505 (0.06)	2:1	5,010 (0.12)		
4	4	Fill	W4	5,033 (0.12)	2:1	10,066 (0.23)		
<b>TOTAL</b>				<b>25,005 (0.58)</b>		<b>50,010 (1.15)</b>		
401 WETLAND MITIGATION REQUIREMENTS								
Impact Number	Inset/Impact Area	Impact Type	Existing Feature	NCWAM Classification	Impact Area – Square Feet (Acres)	Mitigation Ratio	Mitigation Required – Square Feet (Acres)	
1	1	Fill	W1	Headwater Forest	15,214 (0.35)	1:1	15,214 (0.35)	
2	2	Fill	W2	Headwater Forest	2,253 (0.05)	1:1	2,253 (0.05)	
3	3	Fill	W3	Bottomland Hardwood Forest	2,505 (0.06)	1:1	2,505 (0.06)	
4	4	Fill	W4	Bottomland Hardwood Forest	5,033 (0.12)	1:1	5,033 (0.12)	
5	5	Fill	ISO-1	Basin	4,942 (0.11)	2:1	9,884 (0.23)	
6	5	Fill	ISO-1	Basin	2,182 (0.05)	2:1	4,364 (0.10)	
<b>TOTAL</b>					<b>32,129 (0.74)</b>		<b>39,253 (0.91)</b>	

- Notes:**
- 1: Culverts will require the installation of a dissipator pad, or riprap curtain, to reduce erosive velocity. Installation of dissipator pads will be buried, or “keyed in”, such that original streambed elevations are restored to allow for continued aquatic organism passage.
  - 2: Culvert installation will occur within the dry and will require a temporary coffer dam and diversionary channel to allow for continued aquatic organism passage. All temporary stream impacts will be removed and returned to natural conditions within 60 days of the determination that the temporary impact is no longer necessary.



**TABLE 9. PROPOSED TOWN of CARY URBAN TRANSITION BUFFER MITIGATION**

Impact Number	Inset/Impact Area	Impact Type	Buffer Mitigation Required (Y/N)	UTB ZONE						Total Mitigation Required - Square Feet (AC)
				Zone 1 – Square Feet (Acres)			Zone 2 – Square Feet (Acres)			
				Impact Area	Mitigation Ratio	Mitigation Required	Impact Area	Mitigation Ratio	Mitigation Required	
1	2	Road Crossing	Y	8,694 (0.20)	3:1	26,082 (0.6)	7,227 (0.17)	2:1	14,454 (0.33)	40,536 (0.93)
2	6	Road Crossing	Y	8,402 (0.19)	3:1	25,206 (0.58)	6,827 (0.16)	2:1	13,654 (0.31)	38,860 (0.89)
3	7	Road Crossing	Y	11,866 (0.27)	3:1	35,598 (0.82)	8,146 (0.19)	2:1	16,292 (0.37)	51,890 (1.19)
4	8	2 Road Crossings	Y	26,417 (0.61)	3:1	79,251 (1.82)	18,107 (0.42)	2:1	36,214 (0.83)	115,465 (2.65)
<b>Total</b>									<b>246,751 (5.66)</b>	