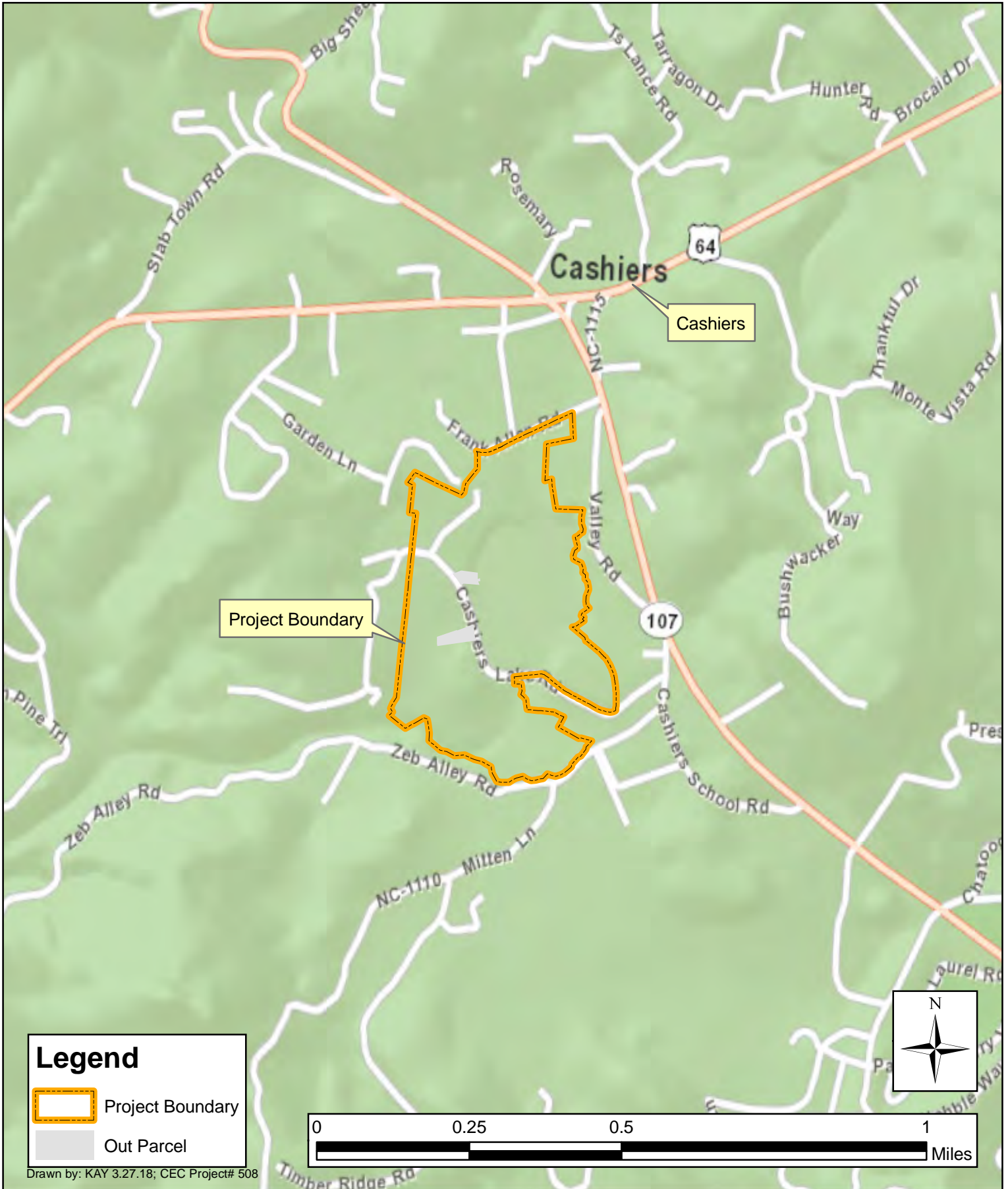


# Cashiers Lake Development (+/- 89 AC)



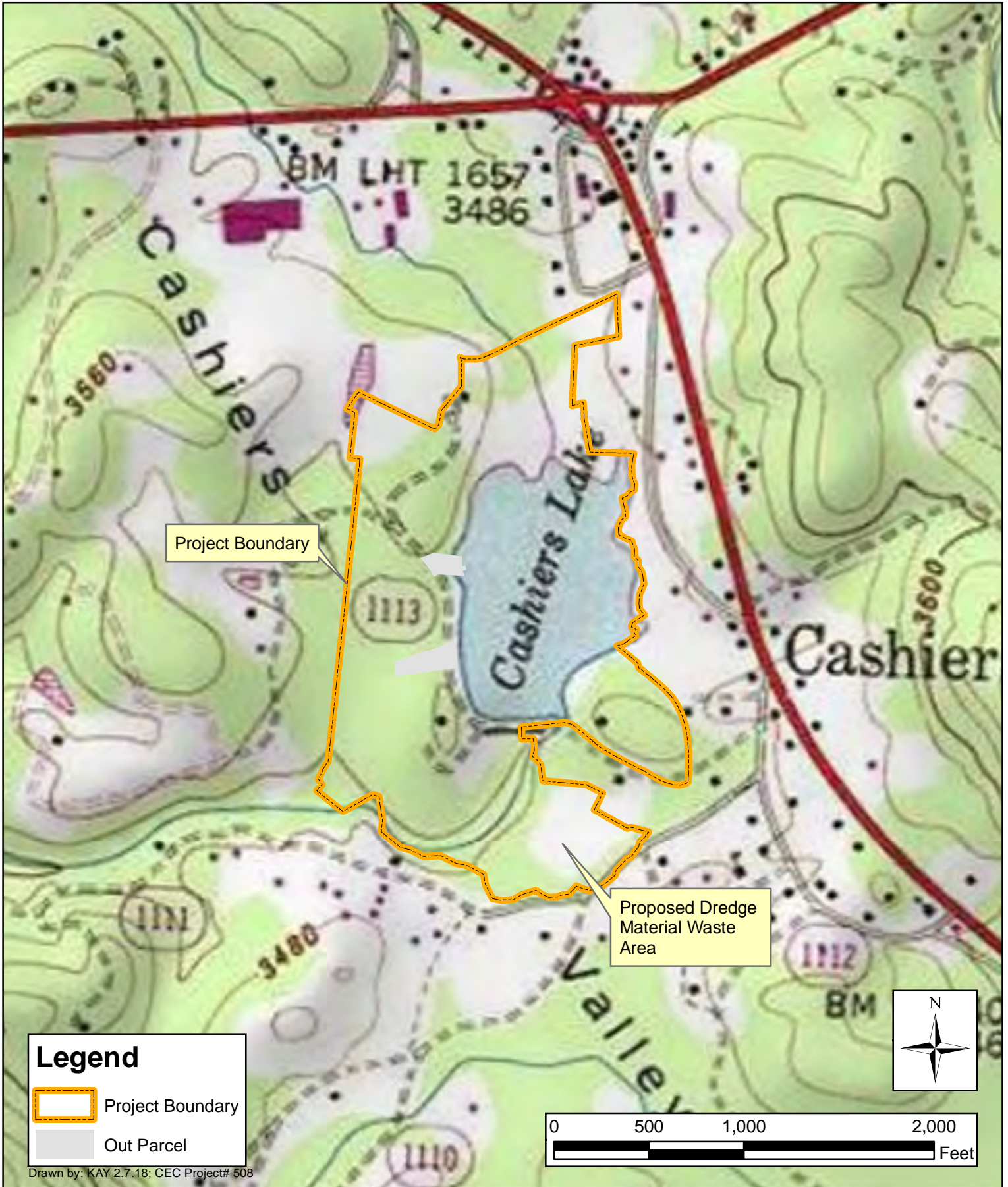
Jackson County,  
North Carolina





32 Clayton Street  
Asheville, North Carolina 28801

Site Vicinity  
Figure 1

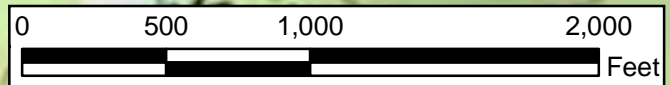
# Cashiers Lake Development (+/- 89 AC)



## Legend

-  Project Boundary
-  Out Parcel

Drawn by: KAY 2.7.18; CEC Project# 508



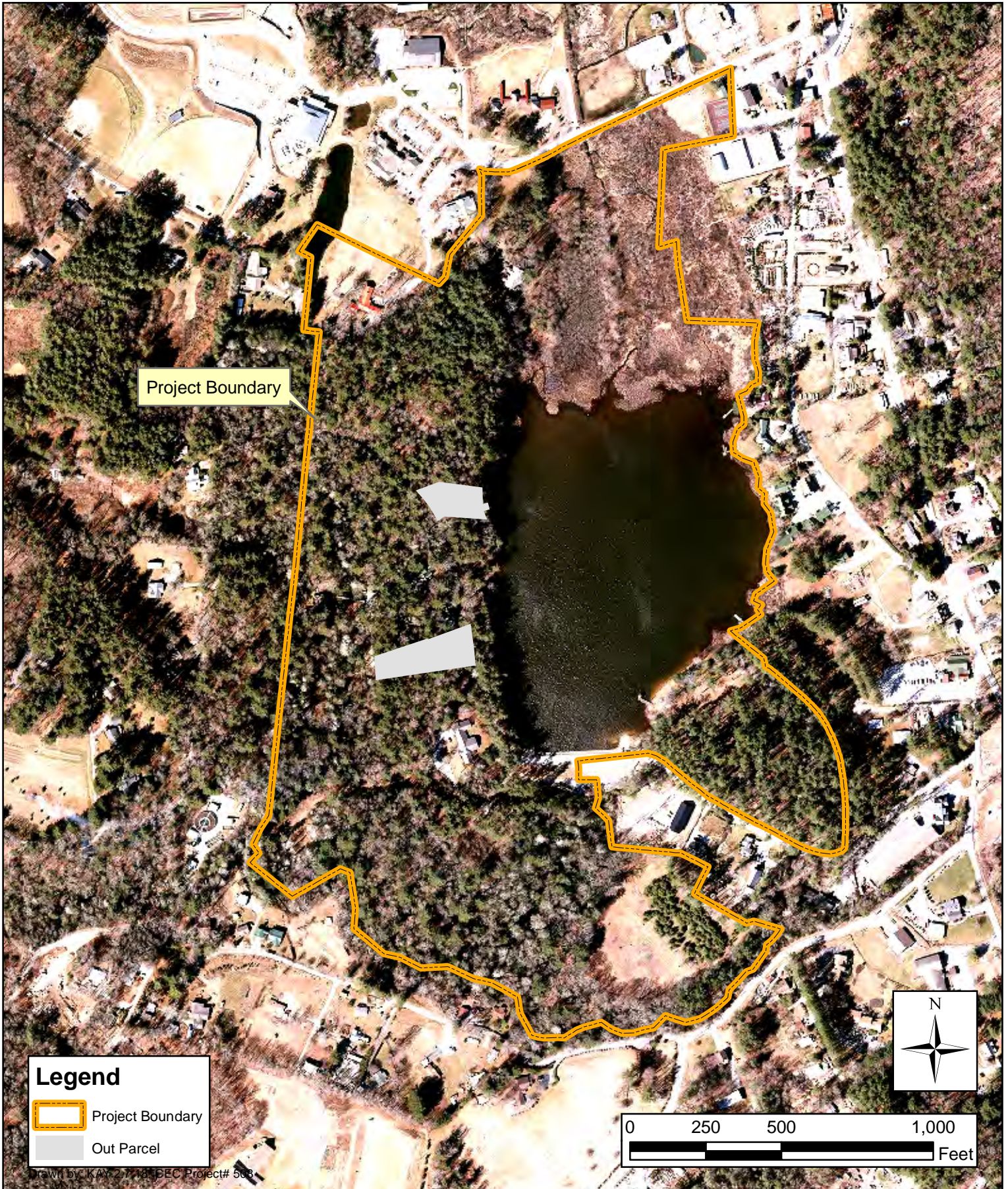
Jackson County,  
North Carolina

**ClearWater**

32 Clayton Street  
Asheville, North Carolina 28801

USGS Topographic Map  
Cashiers Quad  
Figure 2

# Cashiers Lake Development (+/- 89 AC)



Jackson County,  
North Carolina

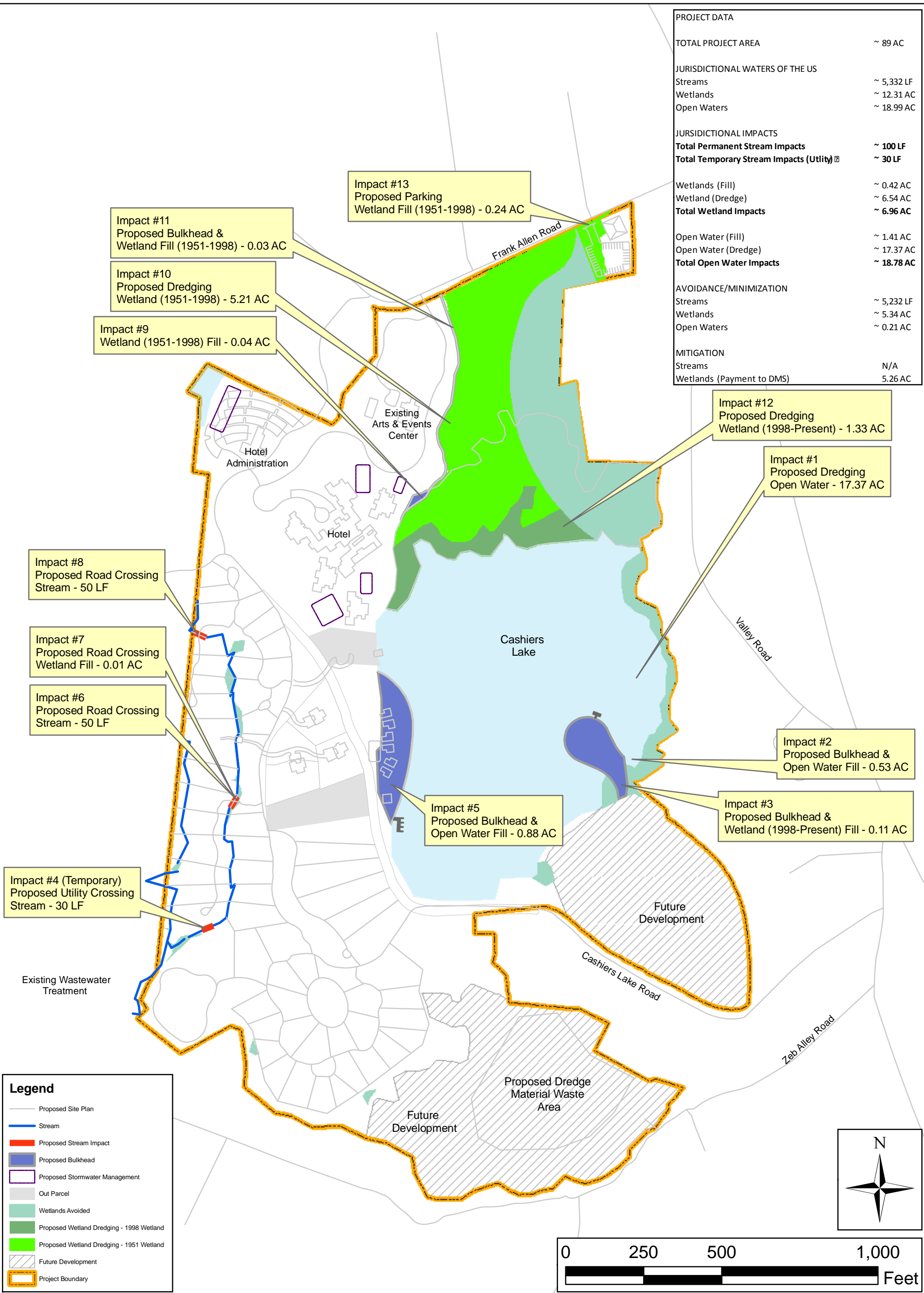
**ClearWater**

32 Clayton Street  
Asheville, North Carolina 28801

Aerial Photograph  
NCCGIA (2015)  
Figure 6

# Cashiers Lake Development ( +/- 89 AC)

PROJECT DATA	
TOTAL PROJECT AREA	~ 89 AC
JURISDICTIONAL WATERS OF THE US	
Streams	~ 5,332 LF
Wetlands	~ 12.31 AC
Open Waters	~ 18.99 AC
JURISDICTIONAL IMPACTS	
<b>Total Permanent Stream Impacts</b>	<b>~ 100 LF</b>
<b>Total Temporary Stream Impacts (Utility)</b>	<b>~ 30 LF</b>
Wetlands (Fill)	
Wetlands (Dredge)	~ 6.54 AC
<b>Total Wetland Impacts</b>	<b>~ 6.96 AC</b>
Open Water (Fill)	
Open Water (Dredge)	~ 17.37 AC
<b>Total Open Water Impacts</b>	<b>~ 18.78 AC</b>
AVOIDANCE/MINIMIZATION	
Streams	~ 5,232 LF
Wetlands	~ 5.34 AC
Open Waters	~ 0.21 AC
MITIGATION	
Streams	N/A
Wetlands (Payment to DMS)	5.26 AC



Drawn by: KAY 2.26.18; Project# 508

Jackson County,  
North Carolina

**Lofquist & Associates, Inc.**  
PLANNING ENGINEERING DESIGN  
11 Citrus Drive Sylva, NC 28779 (828) 586-1424 Firm License # C-2288

**ClearWater**  
32 Clayton Street  
Asheville, North Carolina 28801

Stream & Wetland  
Impact Map  
Figure 3.0

NOTE:  
 PRELIMINARY- DO NOT USE FOR CONSTRUCTION. THIS PLAN HAS BEEN DEVELOPED USING JACKSON COUNTY TAX MAPPING, NC LIDAR DATA AND PRELIMINARY WETLAND DATA PROVIDED BY CLEARWATER ENVIRONMENTAL. ALL INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE AND IS INTENDED FOR PRELIMINARY PLANNING PURPOSES ONLY. THIS PLAN IS NOT INTENDED TO IN ANY WAY REPRESENT A FINAL DESIGN. THIS PLAN SHOULD NOT BE USED FOR THE SALE OR CONVEYANCE OF LAND OR RIGHT OF WAYS OR FOR CONSTRUCTION PURPOSES. PLOT DATE: 1/26/18

CONTRACTOR TO INSTALL FLOATING SKIMMER INTAKE AND INSTALL PUMPED OR SIPHON DISCHARGE TO STABILIZED DISCHARGE POINT DOWNSTREAM TO DRAIN LAKE. REGULATE SKIMMER FLOW BY THROTTLING OR ON/OFF OPERATION OF SKIMMER AS REQUIRED TO MAINTAIN A MINIMUM TEMPORARY SEDIMENT BASIN SURFACE AREA OF AT LEAST 8,000 SF OR 5 SF/GPM OF SKIMMER FLOW, WHICHEVER IS GREATER. PROVIDE ADDITIONAL SEDIMENT BASIN SURFACE AREA IF NECESSARY TO MAINTAIN DOWNSTREAM TURBIDITY AT AN ACCEPTABLE LEVEL. MAINTAIN A MINIMUM WATER DEPTH IN THE SEDIMENT BASIN OF 3 FT AND MAINTAIN A 3 TO 1 LENGTH TO WIDTH RATIO, INSTALLING BAFFLE CURTAINS IF NECESSARY. IN THE EVENT OF RAIN, CEASE SKIMMER OPERATION AND ALLOW LAKE TO FILL AS NEEDED TO CAPTURE SEDIMENT AND MAINTAIN ACCEPTABLE DOWNSTREAM TURBIDITY LEVELS.

APPROXIMATE PROJECT LAND TRACT BOUNDARIES, TYPICAL

MAINTAIN TEMPORARY SEDIMENT REMOVAL BASIN. INSTALL BAFFLE CURTAINS AS NECESSARY TO MAINTAIN L/W RATIO.

DIVERT STREAM FLOW WITHIN DEWATERED LAKE BED AS NECESSARY TO ACCOMMODATE DREDGING OPERATIONS, MAINTAIN PROPER SEDIMENT BASIN CONFIGURATION AND OPERATIONS. TYPICAL

IMPACT #5: PROPOSED BULKHEAD & OPEN WATER FILL - 0.88 AC

IMPACT #1: PROPOSED DREDGING OPEN WATER - 17.37 AC

IMPACT #12: PROPOSED DREDGING WETLAND (1998-PRESENT) - 1.33 AC

IMPACT #9: WETLAND (1951-1998) FILL - 0.04 AC

IMPACT #10: PROPOSED DREDGING WETLAND (1952-1998) - 5.21 AC

IMPACT #11: PROPOSED BULKHEAD AND WETLAND FILL (1951-1998) - 0.03 AC

CASHIERS LAKE (NORMAL POOL ELEV. = 3470' ±)

EXISTING 24" SPILLWAY SIPHON TO REMAIN IN OPERATION THROUGHOUT DREDGING PROCESS. CONTRACTOR TO PROTECT FROM DAMAGE AND PREVENT BLOCKAGE. DO NOT USE FOR DRAINING AND REGULATING LAKE LEVEL.

PROPOSED STABILIZED CONSTRUCTION ACCESS ROAD WITH STAGING AREA AND ALL APPLICABLE EROSION CONTROL MEASURES. DREDGED MATERIALS TO BE TRANSPORTED TO PROPERLY PERMITTED OFFSITE WASTE AREA(S). LOCATION(S) TO BE DETERMINED.

IMPACT #3: PROPOSED BULKHEAD & WETLAND (1998-PRESENT) FILL - 0.11 AC

IMPACT #2: PROPOSED BULKHEAD & OPEN WATER FILL - 0.53 AC

PROPOSED NON-TREATED TIMBER MATTING OR RIP RAP FOR TEMPORARY CAUSEWAY AS NEEDED TO ACCESS ALL DREDGING AREAS. ALL TEMPORARY CAUSEWAY MATERIALS TO BE COMPLETELY REMOVED FOLLOWING DREDGING OPERATIONS.











EXISTING WETLANDS TO REMAIN.

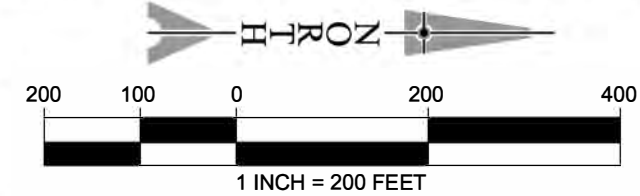
DREDGING AREA GRAVITY AND/OR PUMPED BY-PASS WITH FLEXIBLE PIPE. USE AS NEEDED DURING DRY PERIODS TO MAINTAIN MINIMUM FLOW DOWNSTREAM OF DAM.

EXISTING WETLANDS TO REMAIN

IMPACT #13: PROPOSED WETLAND (1951-1998) FILL - 0.24 AC

### Legend

-  Stream
-  Wetlands Avoided
-  Proposed Temporary Sediment Basin
-  Proposed Temporary Diversion Ditch
-  Proposed Temporary By Pass Pipe
-  Proposed Wetland Dredging - 1951 Wetland
-  Proposed Wetland Dredging - 1998 Wetland
-  Proposed Wetland and Open Water Fill Areas
-  Proposed Bulkhead
-  Project Boundary



**Jackson County,  
 North Carolina**

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**DREDGING, LAKESHORE MODIFICATIONS &  
 SEDIMENT REMOVAL MAP  
 Figure 3.1**