

## **REQUEST FOR BOARD ACTION**

### **HENDERSON COUNTY BOARD OF COMMISSIONERS**

**MEETING DATE:** August 21st, 2019

**SUBJECT:** Kunz Farm Park

**PRESENTER:** Christine Brown

**ATTACHMENTS:** Yes,  
**1. Kunz Farm Park Presentation**  
**2. 2019 Kunz Farm Park McGill Study**

#### **SUMMARY OF REQUEST:**

In 1996, 27.82 acres of land was donated to the Community Foundation of Henderson County by the Cadgene family and subsequently deeded to Henderson County. As stipulated in the donation, the property, adjacent to Broadpointe Industrial Park and the French Broad River, was to be developed into a community park or designated for outdoor recreation.

On July 20, 2016, the concept of the Kunz Farm Project was introduced to the Board, and during the October 1, 2018 meeting, an agreement with McGill and Associates was approved to analyze the construction and cost of the first two phases. Phase 1 has been defined as the planning and engineering phase for the second phase which consists of additional parking at Westfeldt Park and a pedestrian bridge from Westfeldt to Kunz Farm Park over the French Board River. The third phase of the park includes construction of a Riverwalk along the property.

McGill's analysis, completed in May 2019, provided staff with the two most feasible options: bridge location from Westfeldt Park (Option 1) and an alternate access from Old Fanning Bridge Road (Option 2).

#### **Option 1: Westfeldt Pedestrian Bridge:**

Proceed with the construction of the Pedestrian Bridge from Westfeldt Park to Kunz Farm Park. The total cost of Phase 1 and Phase 2 is \$1,155,000 with secured funding of \$550,000, including the county's match toward the DEQ Water Resources Development (WRD) grant and local sponsorship. The bridge would be an architectural feature that highlights our parks and county. It also provides a grand bike and ADA accessible pedestrian entrance to Henderson County and supports recreational fishing off the bridge. The project would have plenty of parking and connects to multiple proposed greenways on the desired side of the river. Additional funding sources include pursuing sponsorships and applying for a one-year extension to the WRD grant so the county can apply for a PARTF grant next Spring.

**Option 2: Old Fanning Bridge Road Access:**

Proceed with alternative access off Old Fanning Bridge Rd to Kunz Farm Park property. The alternate access includes a parking lot with a stone trail and a culvert crossing over McDowell Creek. The total cost for Phase 1 and 2 is \$340,300.00 with secured funding of \$50,000 in local sponsorship. Unfortunately, this option significantly deviates from the project DEQ originally reviewed and is ineligible for the Water Resources Development grant, requiring staff to terminate the grant contract. This option would also require a formal agreement from NCSU from their main office. NCSU is aware of this potential project and has given staff verbal approval.

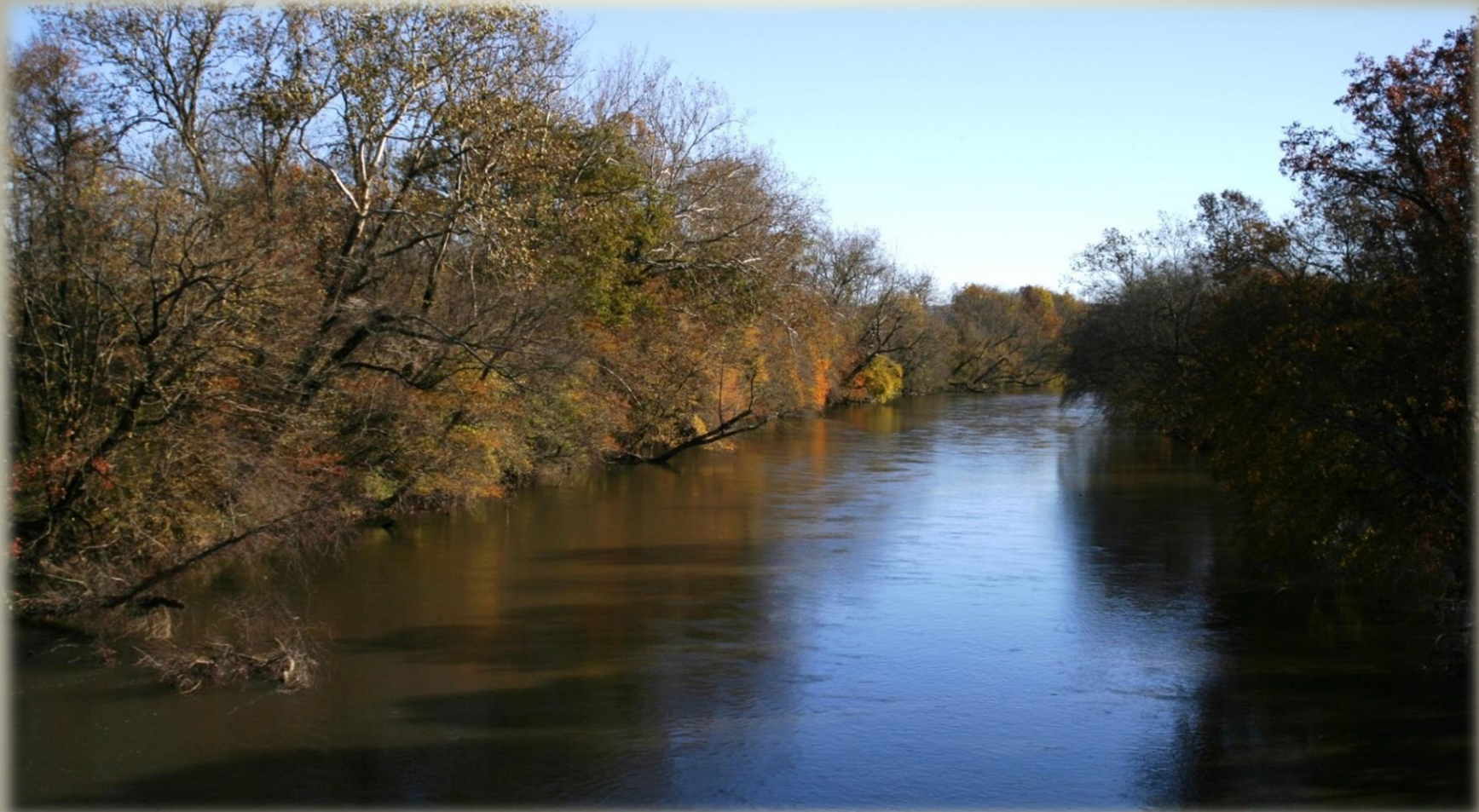
**BOARD ACTION REQUESTED:**

It is requested that the Board approve [Westfeldt Pedestrian Bridge, Old Fanning Bridge Road Access] and direct staff to continue the project with this access option.

**Suggested Motion:**

*I move that the Board approve [Westfeldt Pedestrian Bridge, Old Fanning Bridge Road Access] and direct staff to continue the project with this access option.*

# Kunz Farm Park



Henderson County Engineering • Henderson County Planning  
Henderson County Parks and Recreation  
August 21<sup>st</sup>, 2019

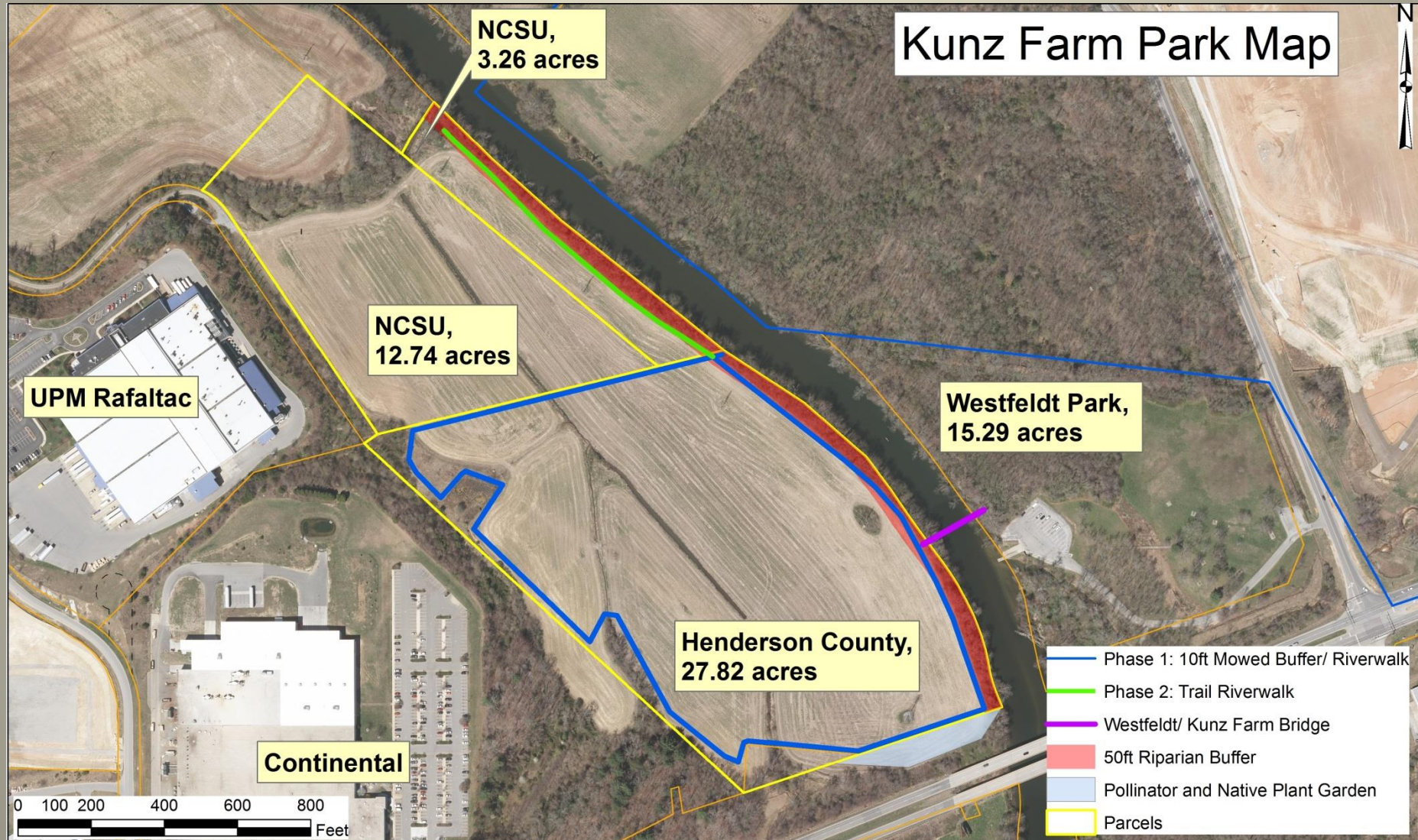


# Park Concept

- ❖ **Design and implement** a riverwalk trail along the perimeter of the Henderson County parcel and along the NCSU parcel to connect with the Westfeldt Park trails across the French Broad River via pedestrian bridge
- ❖ **Partner** with NCSU's Mountain Horticultural Crops Research Station to allow farming and crops research to take place on the adjoining parcels, creating unique natural and educational opportunities for visitors, citizens, students, nearby employees



# Project Location



# Project Development

## PHASE 1

*Henderson County parcel*

Identify & establish partnerships with local industries, organizations, and community groups

Stakeholder initial involvement

Identify funding opportunities and apply for grants

Pre-construction design & permitting



## PHASE 2

*Henderson County parcel + NCSU parcel*

Finalize design/ permitting for pedestrian bridge; installation

Begin riverwalk development to connect the two parcels

Continue with grant applications and reporting

Further stakeholder involvement



## PHASE 3

*both parcels + further enhancements*

Begin site development: stake pollinator/ native plant gardens, invasive species removal, other land enhancement activities

Riverwalk pavement installation

Sign installation

Project completion & ribbon cutting

# Project Updates

- **October 1<sup>st</sup>, 2018** – agreement with McGill and Associates was approved by the board to analyze the construction and cost of the first two phases.
- **May 7<sup>th</sup> 2019** – McGill completed the analysis of potential park accesses.

# Option 1 - Westfeldt Pedestrian Bridge

- Construction of the Pedestrian Bridge
- Phase 1 & 2 estimated cost: \$1,155,000
- Secured funding: \$550,000
- ADA accessible
- Supports recreational fishing off bridge
- Connects to multiple proposed greenways
- Additional funding sources:
  - Sponsorships
  - Option to apply for a one-year extension for the DWR grant so the county can apply for a PARTF grant Spring 2020.



*Conceptual bridge design over the French Broad River, connecting Westfeldt Park to Kunz Farm Park*





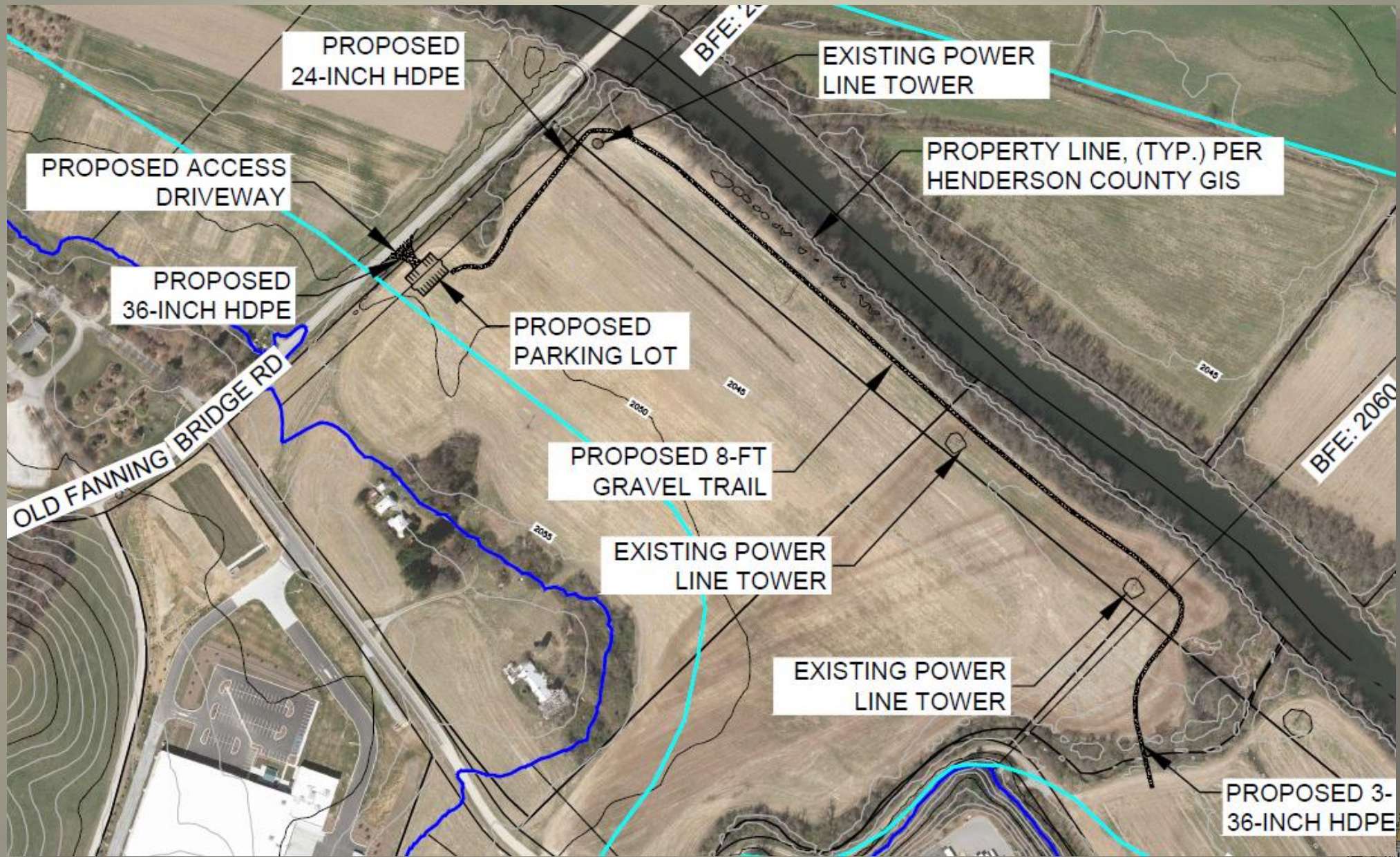
# Option 1 – Current Funding Sources

Source	Amount
Lease proceeds <ul style="list-style-type: none"><li>• property was granted to the County</li><li>• \$33,000 used for McGill study</li></ul>	\$0
Continental Partnership	\$25,000
GF Linamar Partnership	\$25,000
DEQ Water Resources Development Grant <ul style="list-style-type: none"><li>• requires \$250,000 match</li><li>• Project must have a water-based recreational element</li></ul>	250,000 + match = \$500,000
<b>TOTAL</b>	<b>\$550,000</b>
<b>Remaining County Funds</b>	<b>\$605,000</b>



# Option 2 - Old Fanning Bridge Road

- Construction of a parking lot and trail off Old Fanning Bridge Road to Kunz Farm Park
- Phase 1 & 2 estimated cost: \$340,300
- Secured funding: \$50,000
- Ineligible for the current DEQ Water Resources Development grant



# Option 2 Funding Sources

Source	Amount
Lease proceeds <ul style="list-style-type: none"><li>• property was granted to the County</li><li>• \$33,000 used for McGill study</li></ul>	\$0
Continental Partnership	\$25,000
GF Linamar Partnership	\$25,000
DEQ Water Resources Development Grant <ul style="list-style-type: none"><li>• requires \$250,000 match</li><li>• Project must have a water-based recreational element</li></ul>	N/A
<b>TOTAL</b>	<b>\$50,000</b>
<b>Remaining County Funds</b>	<b>\$290,300</b>



# Thank You!



**Christine Brown**

Environmental Programs Coordinator

[cbrown@hendersoncountync.gov](mailto:cbrown@hendersoncountync.gov)

(828) 694-6524



## MEMORANDUM

TO: Marcus Jones, Director of Engineering, Henderson County  
FROM: McGill Associates  
DATE: May 7, 2019  
RE: Kunz Farm Park Pedestrian Bridge (Updated with Alternative Analysis)

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McGill Associates has performed a preliminary feasibility analysis to determine the most effective location for a pedestrian bridge on the Kunz Farm Park property in north Henderson County. The bridge will cross the French Broad River to connect the existing Westfeldt Park with the planned Kunz Farm Park. McGill Associates analyzed three bridge layout alternatives for this project: Alternative 1 within the North Carolina Department of Transportation (NCDOT) Right-of-Way (ROW) directly adjacent to NC-280, Alternative 2 just outside the NCDOT ROW downstream of NC-280, and Alternative 3 downstream of the boat ramp in Westfeldt Park and approximately 850 feet downstream of NC-280. The following summarizes McGill's findings and provides a recommendation on the bridge layout.

### **Existing Condition Investigation and Proposed Site Plan**

The Alternative 1 bridge (see Figure 1) is located within the NCDOT ROW and has a proposed length of 705-feet. This option would include a trail within the NCDOT ROW that runs parallel to NC-280 from the entrance of Westfeldt Park to the Kunz Farm Park property west of the river. The pedestrian bridge mimics the NCDOT bridge height, span, and pier placement to minimize floodplain impacts. Alternative 1 would impact the least wetland area of any alternatives, but a culvert would need to be installed under the western end of the trail. The Alternative 2 bridge (see Figure 2) is just downstream of the NCDOT ROW and has a proposed length of 705-feet. The pedestrian bridge mimics the NCDOT bridge height, span, and pier placement to minimize floodplain impacts. This alternative would result in significant impacts to existing wetlands and result in the Westfeldt Park existing driveway needing relocation. The Alternative 3 bridge (see Figure 3) is approximately 850 feet downstream of the NC-280 bridge and has a length of 180-feet. This option would require earthen embankments and abutments to raise the bottom of the proposed pedestrian bridge above the base flood elevation. Hydraulically Alternative 3 benefits from the ability to orient the approach ramps in the direction of flow and an overly wide floodplain with a high tolerance for encroachment. The challenges with Alternative 1 include the high price of a 705-foot bridge and obtaining NCDOT approval for constructing within their ROW. Alternative 2 challenges include the cost of a 705-foot bridge, redesign of the Westfeldt Park driveway, and significant wetland impacts. Based on the layouts and the challenges described above, Alternative 3 was the obvious choice assuming the hydraulic analysis showed that the flood permitting would be achievable.

## Hydraulics

We focused our efforts for the hydraulic modeling task on evaluating impacts that Alternative 3, the 180-foot bridge option, would have on the French Broad River. A detailed existing and proposed model was developed in HEC-RAS for this alternative. The proposed model included the 180-foot pedestrian bridge with 15-foot high earthen embankments meeting ADA standards on each side of the French Broad River. Table 1 shows a water surface elevation comparison between existing and proposed for Alternative 3 for each hydraulic section used in the analysis. Results between the existing and proposed model show a maximum base flood elevation (BFE) rise of 0.05-feet on County property due to the bridge. The rise extends past the NC-280 bridge for approximately 2,914-feet upstream. These results are preliminary. Additional design and model refinements may allow a reduction in the magnitude and distance of the BFE rise. Figure 4 shows the layout with aerial imagery of the hydraulic sections.

Table 1: Alternative 3 WSEL Comparison

River Station	Existing WSEL (FT)	Proposed WSEL (FT)	Rise due to Bridge (FT)
882046.2	2056.17	2056.17	0.00
880666.8	2055.88	2055.89	0.01
880277.0	2055.60	2055.60	0.00
879372.0	2055.52	2055.52	0.00
878841.3	2055.09	2055.10	0.01
878197.2	2054.14	2054.16	0.02
877881.0	2053.30	2053.32	0.02
877753.3	2053.03	2053.05	0.02
Existing NC-280 Bridge			
877649.1	2052.55	2052.57	0.02
877561.0	2052.80	2052.82	0.02
877198.0	2052.67	2052.68	0.01
877063.0	2052.60	2052.61	0.01
876810.6	2052.32	2052.37	0.05
Proposed Pedestrian Bridge			
876775.8	2052.30	2052.35	0.05
876317.8	2051.66	2051.66	0.00
875182.6	2050.49	2050.49	0.00

See Figure 4 for River Station layout

## Environmental

On the east side of the French Broad River, there is an upland natural berm in the immediate riparian zone that slopes into a large seasonally emergent forested wetland on the landward side



of the berm. This wetland is of high quality. No streams or wetlands have been identified on the west side of the river. Alternative 3 avoids any permanent impacts to streams. Wetland impacts will occur in one location on the east side of the river associated with the approach fill to the bridge. It is estimated that wetland impacts would be less than 0.25 acres. The French Broad River is classified as a Section 10 navigable water of the United States and any structure proposed on, in, over, or under a Section 10 water is considered a potential impact and must be evaluated. Anticipated permitting requirements will include Clean Water Act (CWA) Section 404 and 401 permits, Section 10 Rivers and Harbors Act permit or exemption, and coordination with US Fish and Wildlife Service (USFWS) and NC Wildlife Resources Commission (WRC) on impacts to habitat. Because all proposed impacts (streams and wetlands, temporary and permanent) will likely exceed 0.1 acre and occur in regulated floodplains, and the total fill volume below ordinary high water (OHW) is anticipated to exceed 25 cubic yards, an Individual Permit from the US Army Corps of Engineers will likely be required. The Individual Permit application will also cover the required Section 10 permit and 401 Permit from the NC DEQ. Mitigation for anticipated wetland impact is expected to be moderate with this alternative and will depend on final design and detailed analysis of the impact area. The Individual Permit process may include additional coordination with FWS and WRC regarding potential impacts to the emergent wetland habitat. Permitting and mitigation requirements may be reduced during final design once the jurisdictional limits are determined.

### **Preliminary Cost Estimate**

As discussed earlier, the anticipated costs for Alternative 1 and Alternative 2 were excessive and, therefore, Alternative 3 was the only option that was estimated. The total estimated project cost for the Alternative 3 bridge design is \$1,155,000.00. This price includes the construction and consulting services costs with the bridge and parking lot extension. An environmental and geotechnical site investigation will need to be performed to determine the extents of wetlands on-site and soil characteristics. Survey services will include topographic survey of the County property by the proposed bridge and parking lot extension and channel survey for future hydraulic modeling tasks. A Conditional Letter of Map Revision (CLOMR) will need to be completed prior to the bridge construction, and a Letter of Map Revision (LOMR) will need to be completed after the bridge is constructed. McGill Associates coordinated with multiple bridge manufactures to estimate the preliminary total bridge cost. We anticipated a single span steel bridge with a concrete deck can be used. Due to the site's proximity to the river, we anticipated a high amount of alluvial soil may be on site. Therefore, foundation improvements at the bridge will be necessary to avoid settlement. Abutment structural support will also need to be significant due to the bridge's location within the floodway. The extents of the foundation and structural support will be finalized during the design stage. Table 2 shows the preliminary breakdown of the construction and consulting services tasks to be performed.

### **Alternative Analysis**

McGill analyzed the costs of two additional alternatives that would provide access to Kunz Farm Park on the western side of the French Broad River. Alternative 4 (Figure 5) included



roadway improvements to Broadpointe Drive and the pump station access road, along with a parking lot on the Kunz Farm Park property. Due to multiple challenges such as topography, utility conflicts, potential soils issues, flood permitting, and environmental permitting, McGill determined this option was not practical to pursue. Due to these multiple unknowns, a detailed estimate for this option was not performed, but as an order of magnitude, we believe this option would exceed \$500,000. Furthermore, this access road and parking lot would be rather obscure from the general public and could present a safety concern for park patrons and law enforcement.

Alternative 5 (Figure 6) included a parking lot adjacent to and accessed from Old Fanning Bridge Road with an 8-foot stone trail from the parking area to the Kunz Farm Park property. The trail is located in the flood way for the French Broad River and will include a crossing over McDowell Creek. McGill anticipates a No Rise for the river and a map revision for McDowell Creek. Due to cost, a culvert crossing was estimated for this creek crossing. This alternative allows for easier access to the parking lot and is the most cost-efficient option analyzed. Table 4 shows the preliminary engineer's construction and consulting services cost estimate for Alternative 5.

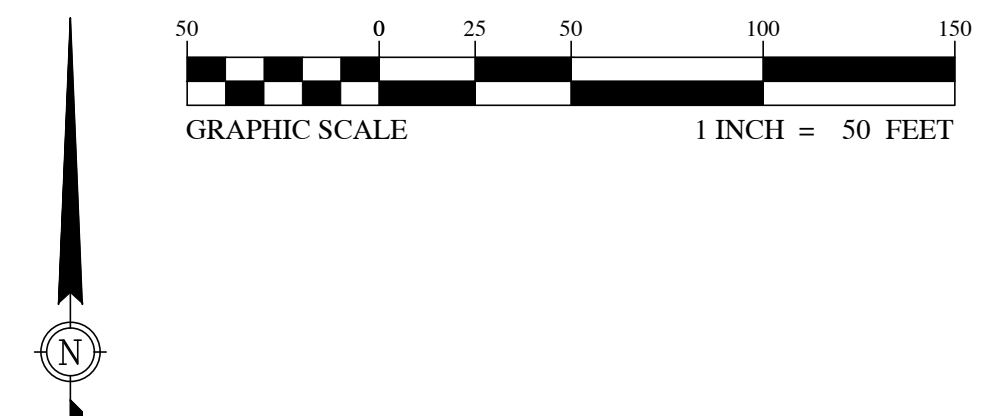
**TABLE 2- CONCEPTUAL CONSTRUCTION COST ESTIMATE 180-FT PEDESTRIAN BRIDGE (ALT 3)**

ITEM #	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL AMOUNT
<b>CONSTRUCTION COSTS</b>					
1	Mobilization/ General Requirements	LS	1	\$25,000.00	\$25,000.00
2	Erosion Control Measures	LS	1	\$15,000.00	\$15,000.00
3	Storm Water Treatment	LS	1	\$20,000.00	\$20,000.00
4	Clearing and Grubbing	LS	1	\$9,000.00	\$9,000.00
5	Western Driveway Access Improvements/Restoration	LS	1	\$10,000.00	\$10,000.00
6	Grading - Import and Placement	LS	1	\$30,000.00	\$30,000.00
7	Bridge Foundation Improvements	LS	1	\$60,000.00	\$60,000.00
8	Bridge Abutment (Steel Reinforcement, Concr. Walls)	LS	1	\$100,000.00	\$100,000.00
9	Bridge Footings	LS	1	\$50,000.00	\$50,000.00
10	Bridge Structure with Installation	LS	1	\$350,000.00	\$350,000.00
11	Concrete Bridge Deck	LS	1	\$40,000.00	\$40,000.00
12	Fine Grading	LS	1	\$5,000.00	\$5,000.00
13	10-FT Concrete Trail	LS	1	\$8,000.00	\$8,000.00
14	Trail Guard-Rail/Fencing	LS	1	\$60,000.00	\$60,000.00
15	Parking Lot Extension (15 Spaces)	LS	1	\$20,000.00	\$20,000.00
16	Restoration of Surfaces and Landscaping	LS	1	\$12,000.00	\$12,000.00
17	Westfeldt Park Entry Repairs	LS	1	\$5,000.00	\$5,000.00
<b>CONSULTING SERVICES</b>					
18	Engineering Design/Bidding	LS	1	\$45,000.00	\$45,000.00
19	Geotechnical Investigation	LS	1	\$7,500.00	\$7,500.00
20	Structural Engineering Design	LS	1	\$10,000.00	\$10,000.00
21	Environmental Investigation and Wetland Delineation	LS	1	\$22,000.00	\$22,000.00
22	Environmental Permitting Fee	LS	1	\$1,000.00	\$1,000.00
23	Construction Observation/ Administration	LS	1	\$36,000.00	\$36,000.00
24	Surveying for Flood Permitting	LS	1	\$10,000.00	\$10,000.00
25	CLOMR Modeling and Permitting	LS	1	\$18,000.00	\$18,000.00
26	LOMR Modeling and Permitting	LS	1	\$8,000.00	\$8,000.00
27	LOMR/CLOMR Regulatory Review Fees	LS	1	\$14,000.00	\$14,000.00
<b>CONSTRUCTION SUBTOTAL</b>					\$819,000.00
<b>CONTINGENCY (20%)</b>					\$164,000.00
<b>TOTAL CONSTRUCTION COST</b>					\$983,000.00
<b>CONSULTING SERVICES SUBTOTAL</b>					\$172,000.00
<b>TOTAL ESTIMATED PROJECT COST</b>					\$1,155,000.00
<b>NOTES:</b>					
1. The ENGINEER maintains no control of labor costs, materials, equipment or services furnished by others, the Contractor(s)' methods for determining prices, or competitive or market conditions. The estimates herein for project and construction costs represent the ENGINEER'S best judgment, and are based on his experience and qualifications as a Professional Engineer who possesses familiarity with the construction industry. The ENGINEER does not guarantee the accuracy of the cost estimates, which may vary from bids or actual project and construction costs. 2. The above consulting services are an estimate and may change with a more defined scope 3. This estimate does not account for any subsurface utilities that may be on the project site.					

**TABLE 3- OLD FANNING BRIDGE ROAD ENTRANCE (ALT 5)**

ITEM #	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL AMOUNT
<b>CONSTRUCTION COSTS</b>					
1	Mobilization/ General Requirements	LS	1	\$15,000.00	\$15,000.00
2	Erosion Control Measures	LS	1	\$8,000.00	\$8,000.00
3	Storm Water Treatment	LS	1	\$15,000.00	\$15,000.00
4	Clearing and Grubbing (Parking Lot, Entry Drive, and Channel Crossing)	LS	1	\$5,000.00	\$5,000.00
5	Grading - Import and Placement	LS	1	\$12,000.00	\$12,000.00
6	Fine Grading (Parking lot and Driveway)	LS	1	\$5,000.00	\$5,000.00
7	8-FT Gravel Trail	LF	2,680	\$20.00	\$53,600.00
8	Proposed Parking Lot, 15 Spaces (Stone Base, Asphalt, Striping) and Entry Drive	SY	805	\$40.00	\$32,200.00
9	Restoration of Surfaces and Landscaping	LS	1	\$8,000.00	\$8,000.00
10	36-Inch HDPE Pipe	LS	1	\$7,500.00	\$7,500.00
11	24-Inch HDPE Pipe	LS	1	\$2,000.00	\$2,000.00
12	3- 36-Inch HDPE Pipe with Headwalls	LS	1	\$50,000.00	\$50,000.00
<b>CONSULTING SERVICES</b>					
13	Engineering Design/Bidding	LS	1	\$20,000.00	\$20,000.00
14	Geotechnical Investigation	LS	1	\$2,500.00	\$2,500.00
15	Environmental Investigation and Wetland Delineation	LS	1	\$8,000.00	\$8,000.00
16	Environmental Permitting Fee	LS	1	\$3,000.00	\$3,000.00
17	Construction Observation/ Administration	LS	1	\$8,000.00	\$8,000.00
18	Surveying for Flood Permitting	LS	1	\$5,000.00	\$5,000.00
19	Hydraulic No-Rise Modeling Analysis (French Broad River)	LS	1	\$9,000.00	\$9,000.00
20	CLOMR Modeling and Permitting (McDowell Creek)	LS	1	\$7,000.00	\$7,000.00
21	LOMR Modeling and Permitting (McDowell Creek)	LS	1	\$7,000.00	\$7,000.00
22	LOMR/CLOMR Regulatory Review Fees	LS	1	\$14,000.00	\$14,000.00
<b>CONSTRUCTION SUBTOTAL</b>					\$213,300.00
<b>CONTINGENCY (20%)</b>					\$43,000.00
<b>TOTAL CONSTRUCTION COST</b>					\$256,300.00
<b>CONSULTING SERVICES SUBTOTAL</b>					\$84,000.00
<b>TOTAL ESTIMATED PROJECT COST</b>					\$340,300.00
<b>NOTES:</b>					
<p>1. The ENGINEER maintains no control of labor costs, materials, equipment or services furnished by others, the Contractor(s)' methods for determining prices, or competitive or market conditions. The estimates herein for project and construction costs represent the ENGINEER'S best judgment, and are based on his experience and qualifications as a Professional Engineer who possesses familiarity with the construction industry. The ENGINEER does not guarantee the accuracy of the cost estimates, which may vary from bids or actual project and construction costs.</p> <p>2. The above consulting services are an estimate and may change with a more defined scope</p> <p>3. This estimate does not account for any subsurface utilities that may be on the project site.</p>					

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PROPOSED BRIDGE ALTERNATIVE 1  
BRIDGE LENGTH: 705 FT  
LOW CHORD ELEVATION: 2062.5 FT  
BASE FLOOD ELEVATION (BFE): 2061.5 FT

NOTE: THE ENTIRE EXTENTS OF THE EXHIBIT IS WITHIN THE 100-YEAR FLOODPLAIN ON THE FRENCH BROAD RIVER.

FOR REVIEW ONLY

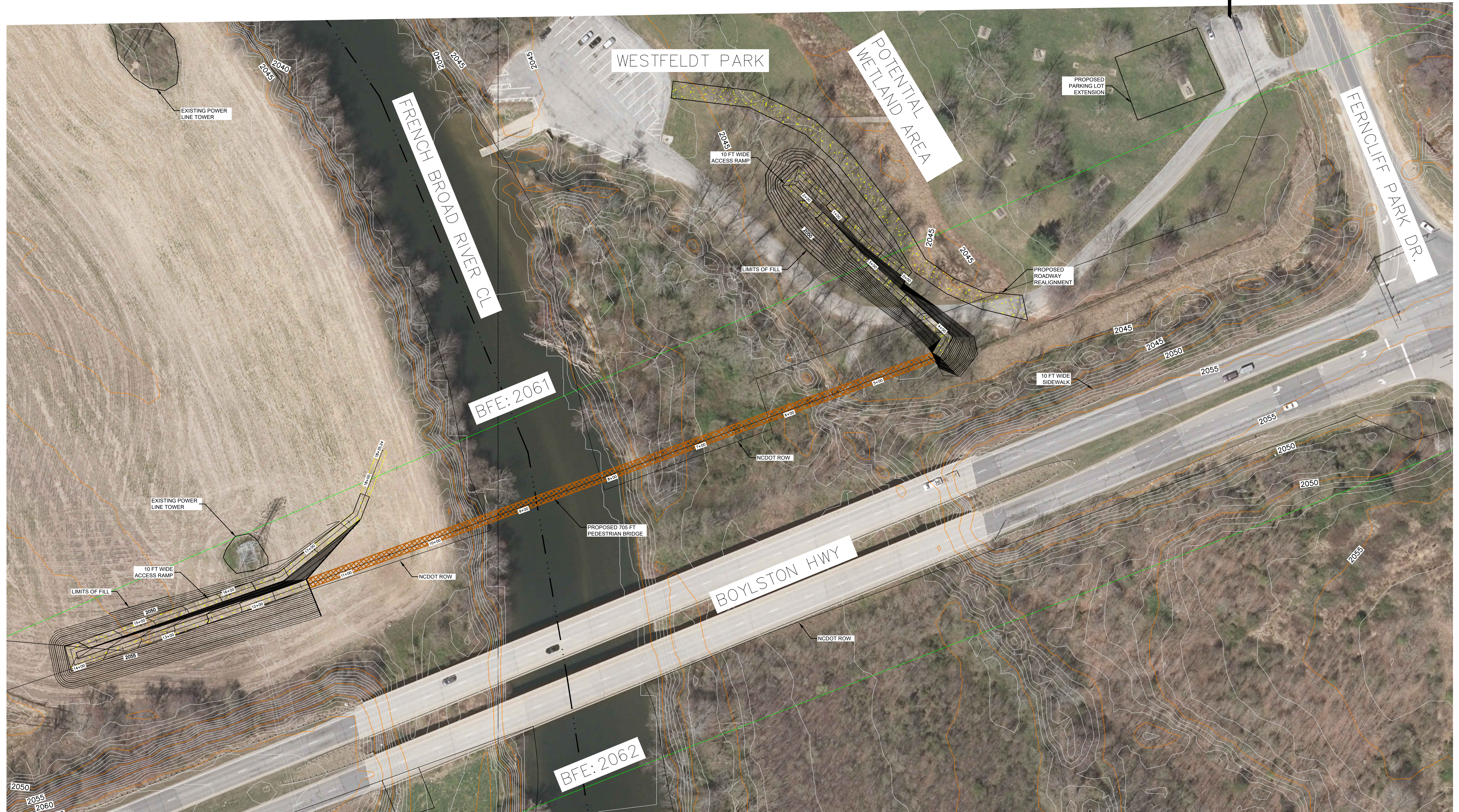
KUNZ FARM PARK  
**HENDERSON COUNTY**  
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 18.00127  
DATE: NOVEMBER 2018  
DESIGNED BY: WGP  
CADD BY: WGP  
DESIGN REVIEW: \_\_\_\_\_  
CONST. REVIEW: \_\_\_\_\_  
FILE NAME: 18.00127 - Alternative 1  
Design.dwg

FIGURE 1  
BRIDGE ALTERNATIVE 1

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PROPOSED BRIDGE ALTERNATIVE 2  
 BRIDGE LENGTH: 705 FT  
 LOW CHORD ELEVATION: 2062.5 FT  
 BASE FLOOD ELEVATION (BFE): 2061.4 FT

NOTE: THE ENTIRE EXTENTS OF THE  
 EXHIBIT IS WITHIN THE 100-YEAR  
 FLOODPLAIN ON THE FRENCH BROAD  
 RIVER.

FOR  
 REVIEW  
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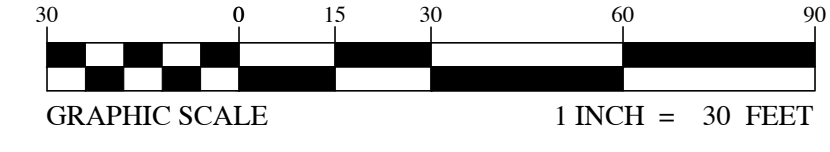
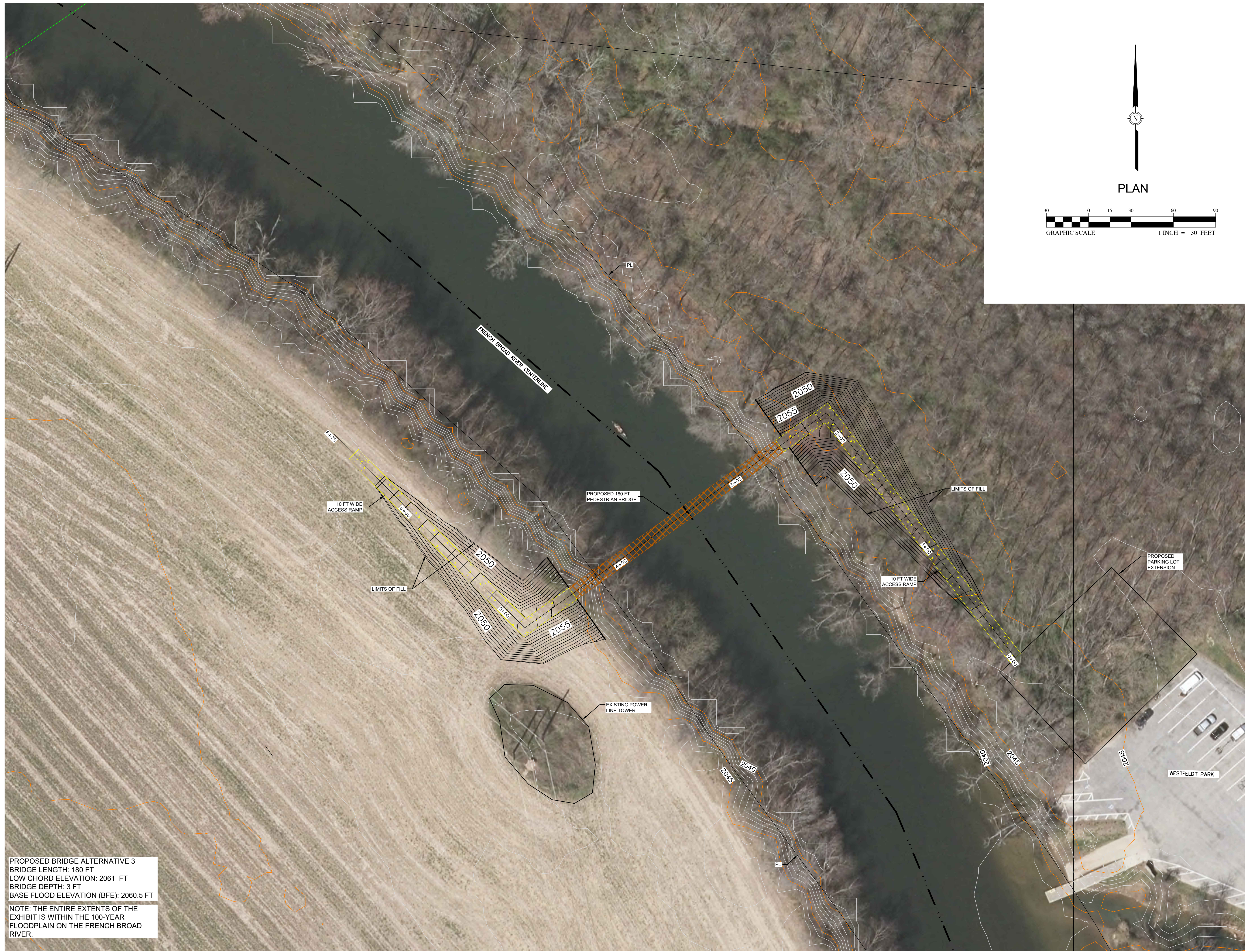
KUNZ FARM PARK  
**HENDERSON COUNTY**  
 HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 18.00127  
 DATE: NOVEMBER 2018  
 DESIGNED BY: WGP  
 CADD BY: WGP  
 DESIGN REVIEW:  
 CONST. REVIEW:  
 FILE NAME:  
 18.00127 - Alternative 2  
 Design.dwg

FIGURE 2  
 BRIDGE ALTERNATIVE 2

SHEET  
 2

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PROPOSED BRIDGE ALTERNATIVE 3  
 BRIDGE LENGTH: 180 FT  
 LOW CHORD ELEVATION: 2061 FT  
 BRIDGE DEPTH: 3 FT  
 BASE FLOOD ELEVATION (BFE): 2060.5 FT

NOTE: THE ENTIRE EXTENTS OF THE EXHIBIT IS WITHIN THE 100-YEAR FLOODPLAIN ON THE FRENCH BROAD RIVER.

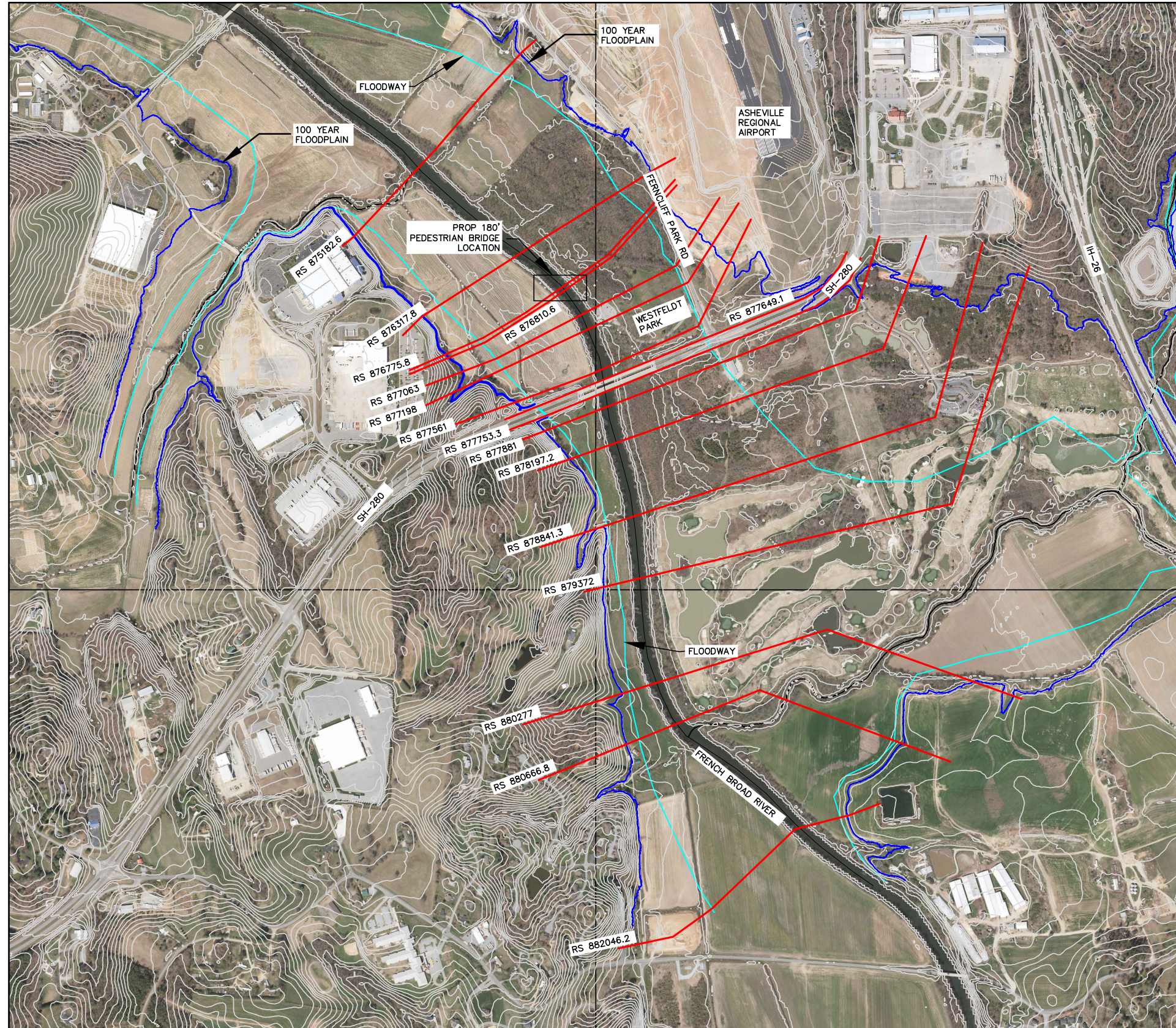
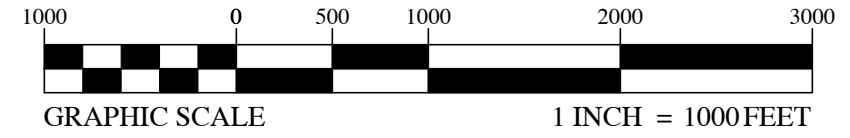
FOR REVIEW ONLY

KUNZ FARM PARK  
**HENDERSON COUNTY**  
 HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 18.00127  
 DATE: NOVEMBER 2018  
 DESIGNED BY: WGP  
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**FIGURE 3**  
 BRIDGE ALTERNATIVE 3

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SEE TABLE 1 FOR BASE FLOOD ELEVATION (BFE) ASSOCIATED WITH EACH CROSS-SECTION

**180-FT PEDESTRIAN BRIDGE ALT. 3  
 KUNZ FARM PARK**

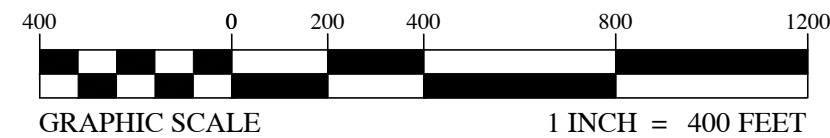
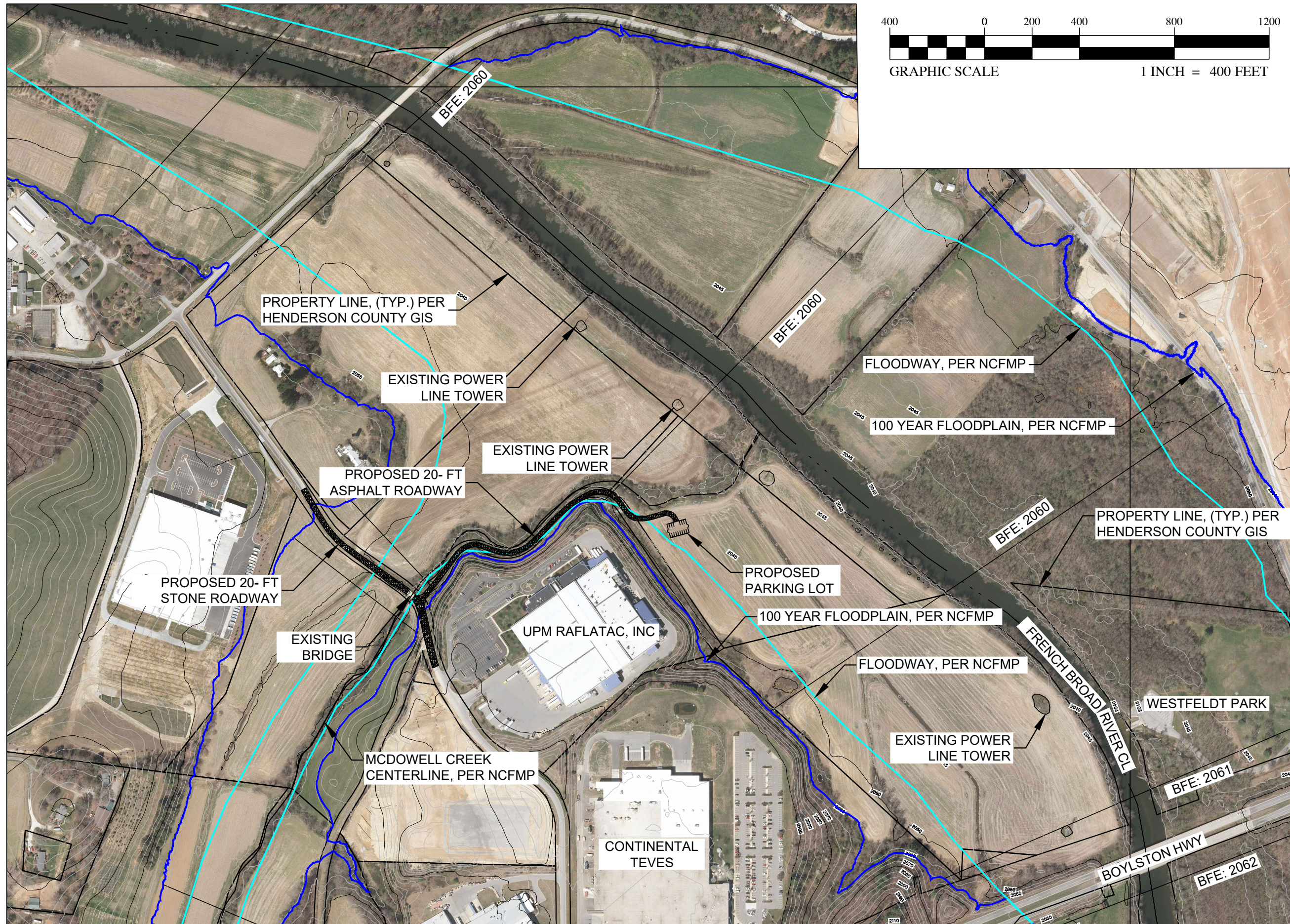
HENDERSON COUNTY, NORTH CAROLINA

JOB NO.: 18.00126  
 DATE: DEC. 2018  
 EXHIBIT BY: WGP

**EXHIBIT 1- VICINITY MAP**



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