

November 28, 2022

Mr. Don Adams, County Manager
Jackson County
401 Grindstaff Cove Road
Sylva, North Carolina 28779
Via email

Re: **Preliminary Engineering Report for
Proposed Parking Lot Addition to Jackson County Public Library Complex
Jackson County PIN 7631-97-8476
Sylva, North Carolina**

Dear Mr. Adams:

As requested, we have completed a Preliminary Engineering Study for the addition of a parking lot at the Jackson County Library Complex to be located on the above listed property. The following paragraphs summarize the report and present preliminary recommendations.



Project Description

The purpose of this preliminary engineering report was to evaluate the feasibility and probable costs associated with constructing a new, small public parking lot on an existing residential lot that adjoins an existing Library Complex parking lot and is located immediately south of the Jackson County Public Library – Historic Courthouse Complex.



Existing Site Description

The project site is a 0.21 acre tract listed with Jackson County Land Records as PIN 7631-97-8476 and has a street address of 271 Keener Street in Sylva, NC. The site, which is owned by Jackson County, is located immediately south of the Jackson County existing Public Library and Historic Courthouse Complex. The property is bounded on the east by Keener Street, to the west by Ridgeway Street, to the north by the existing Complex public parking lot and to the south by an existing single family residence. The



property was previously a residential lot with a 700 sf ± single family residence that was partially destroyed by fire. According to tax records, the home was originally constructed in 1935 and was expanded in 1995. The residential wood frame structure is in poor repair and likely not worth salvaging. The property has a considerable amount of existing rock and masonry structures including walls, steps, walkways and other rock work features and improvements. Depending on the use and extent of re-development on this lot, there may

be limited portions of the rock work which could possibly remain and be incorporated into certain future uses of the site. There are also several, large mature trees on the property.

The site is located within the Town of Sylva and is zoned Government-Institutional. Town ordinance requirements such as setbacks, landscape buffers, steep slope protection, stormwater management, site lighting, pedestrian access, etc. will need to be properly addressed in designing the re-development of this land tract.



The property is relatively steep sloping and has a total elevation change of approximately 35 vertical feet from the highest point to the lowest point on the property. The average slope is estimated, based on Jackson County mapping topography, to be in the range of 28% to 31%.

Evaluation and Discussion

The primary challenge of developing a parking lot on this property is steepness of the natural land slope. This steepness creates difficulties in connecting a the new parking access drive to an existing road and also results in the need to construct extensive retaining walls to create a usable parking area of any significant capacity. The Town of Sylva Hillside and Steep Slope Protection Ordinance limits the amount of site





grading, which would be limited to less than that required to construct the parking lot, thus it is likely that a variance would need to be granted by the Town of Sylva to make the development of this parking lot feasible.

There are several options for vehicle access to a new parking lot on this property. Vehicle access could enter the proposed parking lot from the lower side via Keener Street, or through the existing parking lot driveway aisle through the existing parking lot, or from the upper side via Ridgeway Street. Access from Keener Street would require a steep driveway

connection, a large degree of excavation/haul off of material and major cut slope retaining walls with significant heights. Access through the existing parking lot could be made almost at grade and would better balance cut and fill retaining walls around the new parking lot, but results in



more traffic in the parking lot when full with very limited space to maneuver and turn vehicles thus creating traffic jam concerns. Entering from Ridgeway Street at the lowest point on the project site allows a near at grade driveway connection and sets parking lot grades at a range that helps to balance the heights of cut and fill retaining walls

around the new parking lot.

There are other issues that bear consideration in planning the new parking lot. Town Zoning ordinances have requirements for landscape buffer yards and street trees, so adequate space must be incorporated to accommodate these requirements. Additionally, Zoning ordinances have lighting standards, requirements for stormwater runoff, detention and water quality controls, and requirements for sidewalks. These ordinance requirements will need to be incorporated into the new parking lot, if developed.





Recommendations

Prior to commencing final design of improvements for the site, it is recommended that qualified consultants be engaged to perform environmental testing and geotechnical evaluations. Environmental testing will be needed to determine if asbestos or other hazardous materials existing within the existing structures and/or on site, which will require abatement. Geotechnical testing should include performing soil borings, evaluations and a report with recommendations related to final site design. Since it is likely some portions of existing retaining walls may be left in place, it is

recommended that a structural engineer be consulted on their condition prior to site design, as well.

Based on this preliminary evaluation, it is recommended that the proposed parking lot be enter from Ridgeway Street for the reasons previously discussed. With an extensive surround of site retaining walls, the proposed parking lot can be configured and designed to accommodate up to approximately 16 standard automobile spaces. Due to road grades, an accessible path from the new parking lot to the Library Complex will not be an option, therefore at least one new ADA compliant parking space should be added near the Library Complex building entrance if needed to maintain an acceptable ratio of ADA to standard automobile parking spaces.



The conceptual site plan for the parking lot addition is attached. To accommodate this 16 space parking lot, approximately 85% of the land tract will need to be graded and therefore would require a variance from the Town of Sylva Hillside and Steep Slope Protection Ordinance. A portion of the new parking lot construction work would need to extend into the existing parking lot land tract immediately adjacent to the north. Due to the steepness of the site, extensive site retaining walls would be needed and would basically encompass the new parking lot as shown on the attached

conceptual site plan. The retaining walls on the downhill side of the site would support earth filled area and the walls on the uphill side would retain earth cut areas. Site retaining walls would vary in height and would be in the range of 2 to 18 vertical feet above ground elevation. Fall protection guardrails would need to be provided on the tops of site retaining walls.

Although this level of detail is not illustrated on the conceptual site plan, the parking lot would include underground stormwater detention, water quality and conveyance measures and minimal site lighting. As shown on the plan, planted landscape buffers would be installed on three sides and street trees would be provided along Keener Street and Ridgeway Street.



Also attached is a preliminary project cost estimate for developing the 16 space parking lot shown. The cost of constructing this project is high. This total estimated cost equates to a unit space cost of approximately \$47,341 per parking space which is approaching the cost per space for parking decks. Given the high cost of developing this parking lot, it is recommended, first, that current and future parking needs be studied and evaluated in

detail to confirm that additional spaces are indeed necessary to meet facility usage levels. Secondly, if it is determined that additional parking is or will be needed, it is recommended that the ability to construct a parking deck in back of the library be evaluated and, if feasible, compared in estimated cost to the 16 space lot described herein. If the parking deck option is comparable in cost or less in cost per space compared to the parking lot evaluated in this report, then the parking deck option would likely be preferred due to proximity and better access to the Library Complex.

Alternative Suggestion

If further evaluation of both future parking needs and the alternative approach of a parking deck, results in the subject property not being developed as a parking lot, and alternate suggestion may be to develop the property as a public park. A public park could provide space for daily foot traffic and use, small community programs, events and gatherings. Through careful planning and a creative approach, the home and buildings could be removed but portions of the rock work and existing site features could be retained. It may be possible to incorporate portions of the home foundation into a new, open sided, public shelter. ADA parking and an accessible route to the shelter in the public park could be made through the existing parking lot to the north of the project site. Although beyond the scope of this preliminary site evaluation, a preliminary schematic for alternative public park use is also illustrated on the attached conceptual site plan.

We hope that this preliminary is helpful to Jackson County in planning a course of action. Feel free to call should you have questions or wish to discuss this report.

Sincerely,
Lofquist & Associates, Inc.

Handwritten signature of Victor Lofquist

Victor Lofquist, P.E.

PRELIMINARY SITEWORK
PROJECT COST ESTIMATE

<u>ESTIMATED CONSTRUCTION COSTS BASED ON 11/28/22 Conceptual Site Plan for Proposed Library Parking Addition</u>					
<u>Item #</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Estimated Unit Cost</u>	<u>Estimated Total Cost</u>
1	Clearing, Grubbing & Demolition	LS	n/a	n/a	\$24,000
2	Construction Stake-out Surveying Allowance	LS	n/a	n/a	\$7,000
3	Site Grading & Excavation of Earth Materials	LS	n/a	n/a	\$96,000
4	Assumed Undercut Allowance for poor soil areas (includes stabilization stone)	CY	100	\$90.00	\$9,000
5	Assumed Allowance for underdrain for wet soil conditions	LF	100	\$37.00	\$3,700
6	Retaining Walls (estimated per square ft of wall face area) - assume segmental/geogrid walls can be utilized	SF	3,950	\$52.00	\$205,400
7	Fence and/or Railing for Retaining Walls	LF	240	\$63.00	\$15,120
8	Concrete Sidewalk (4" thick) w/stone base	SY	100	\$78.00	\$7,800
9	ABC Gravel Pavement Base (8" thick preliminary estimate)	Tons	320	\$33.00	\$10,560
10	Asphalt Pavement (3" total thickness...preliminary estimate)	Tons	120	\$172.00	\$20,640
11	Erosion Control & Seeding	LS	n/a	n/a	\$17,400
12	Signage/Pavement Marking Allowance	LS	n/a	n/a	\$1,800
13	24" Concrete Curb & Gutter	LF	180	\$35.00	\$6,300
14	Wheel Chocks	EA	16	\$180.00	\$2,880
15	Storm Drain Piping (size varies)	LF	350	\$185.00	\$64,750
16	Storm Drain Structures (various types)	EA	9	\$5,200.00	\$46,800
17	Stormwater Detention and Water Quality Installation Allowance	LS	n/a	n/a	\$34,700
18	Landscaping Allowance (buffer and street tree areas with no irrigation)	LS	n/a	n/a	\$45,000
19	Site Lighting Allowance (low density security lighting only)	LS	n/a	n/a	\$19,000
Total Estimated Sitework Construction Cost:					\$637,850

PRELIMINARY SITEWORK
 PROJECT COST ESTIMATE

<u>OTHER ESTIMATED PROJECT COSTS</u>					
<u>Item #</u>	<u>Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Estimated Unit Cost</u>	<u>Estimated Total Cost</u>
20	Permit Fee Allowance	LS	n/a	n/a	\$500
21	Environmental Survey (Assumes no hazardous material abatement needed)	LS	n/a	n/a	\$2,800
22	Topographic, Location and Boundary Design Survey	LS	n/a	n/a	\$4,300
23	Geotechnical Borings, Testing and Report and Structural Evaluation of Existing Walls	LS	n/a	n/a	\$15,000
24	Civil Engineering - Site design (grading, drainage, paving, stormwater system, erosion control, permit applications, etc.)	LS	n/a	n/a	\$28,000
25	Structural Engineering Design Allowance for Site Retaining Walls	LS	n/a	n/a	\$10,000
26	Allowance for Geotechnical Site Engineering & Testing during Construction	LS	n/a	n/a	\$9,000
27	Civil Engineering - Construction Contract Administration (180 calendar day contract period)	LS	n/a	n/a	\$21,000
28	Civil Engineering - periodic site observation and engineer's certification of stormwater upon satisfactory completion.	LS	n/a	n/a	\$24,000
29	Legal Allowance	LS	n/a	n/a	\$5,000
				Total Estimated "Other" Project Costs:	\$119,600
				Total Estimated Project Cost:	\$757,450
				Unit Cost per Parking Space (Based on 16 total Spaces):	\$47,341
<u>Notes:</u>					
a. This estimate for sitework does <u>not</u> include any allowance for rock excavation.					
b. This estimate does not include estimates of costs for buildings or other amenities not specifically listed.					
c. This estimate does not include expenditures prior to the date of this preliminary cost estimate.					
d. This preliminary estimate is based on the engineer's opinion of typical, reasonable current market pricing and does not contain provisions for inflation.					
e. This estimate does not include any contingency allowance. A minimum contingency allowance of 10% is recommended.					

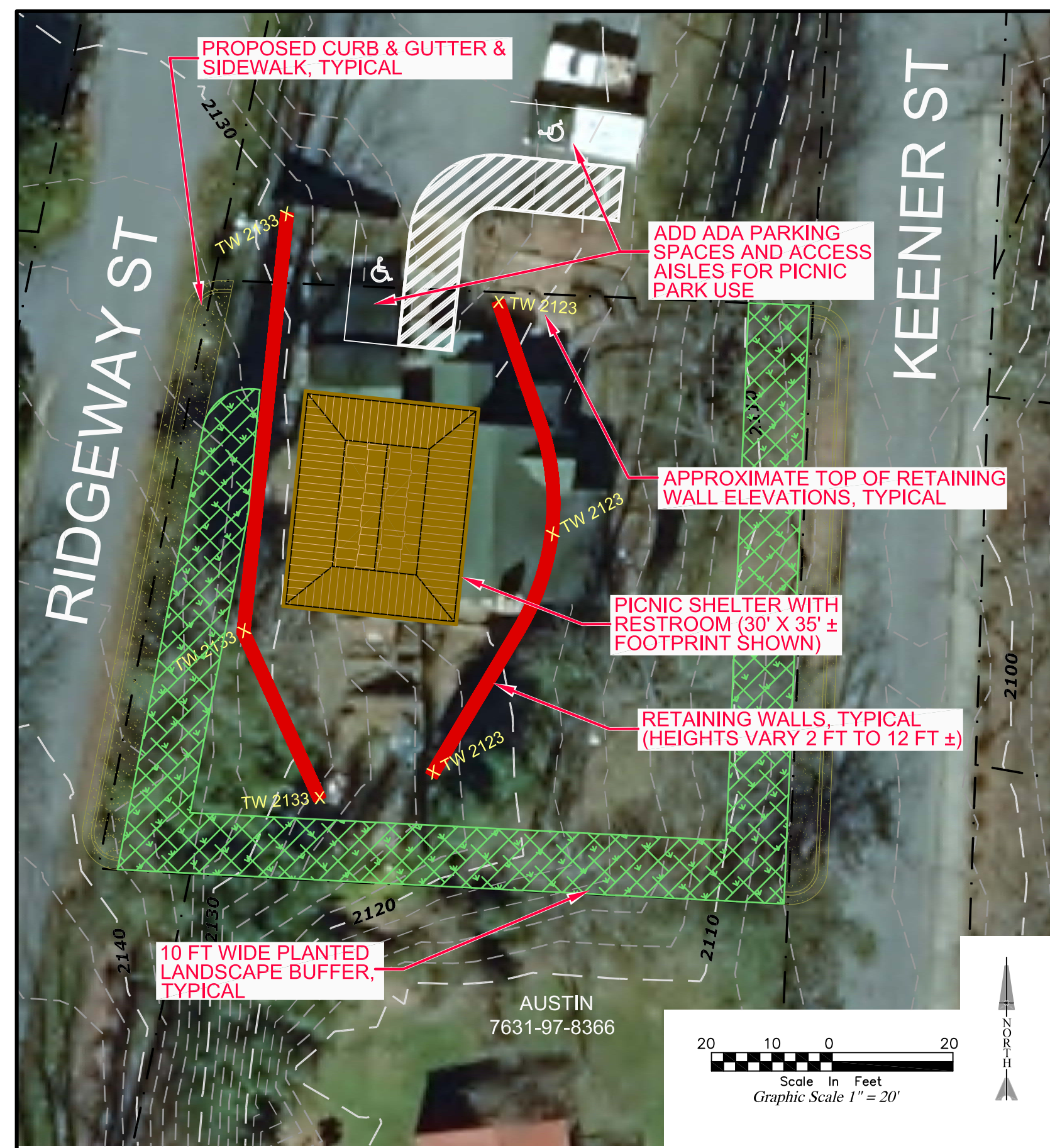
NOTE:
 THIS PLAN HAS BEEN DEVELOPED USING AVAILABLE INFORMATION
 SOURCES SUCH AS NC LIDAR DATA AND JACKSON COUNTY TAX
 MAPS. ALL INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE
 AND IS INTENDED FOR CONCEPTUAL PLANNING PURPOSES ONLY. THIS
 PLAN IS NOT INTENDED TO IN ANY WAY REPRESENT A FINAL DESIGN.
 THIS PLAN SHOULD NOT BE USED FOR THE SALE OR CONVEYANCE OF
 LAND OR RIGHT OF WAYS OR FOR CONSTRUCTION PURPOSES. DESIGNS
 WILL BE FINALIZED AT A LATER DATE AND MAY REQUIRE ADDITIONAL
 MODIFICATIONS TO THIS CONCEPTUAL SITE PLAN. THE SERVICES OF
 A QUALIFIED PROFESSIONAL WILL BE NECESSARY PRIOR TO
 PROCEEDING WITH FINAL PROJECT PLANNING AND DESIGN.

**JACKSON COUNTY
 PUBLIC LIBRARY
 & HISTORIC COURTHOUSE**

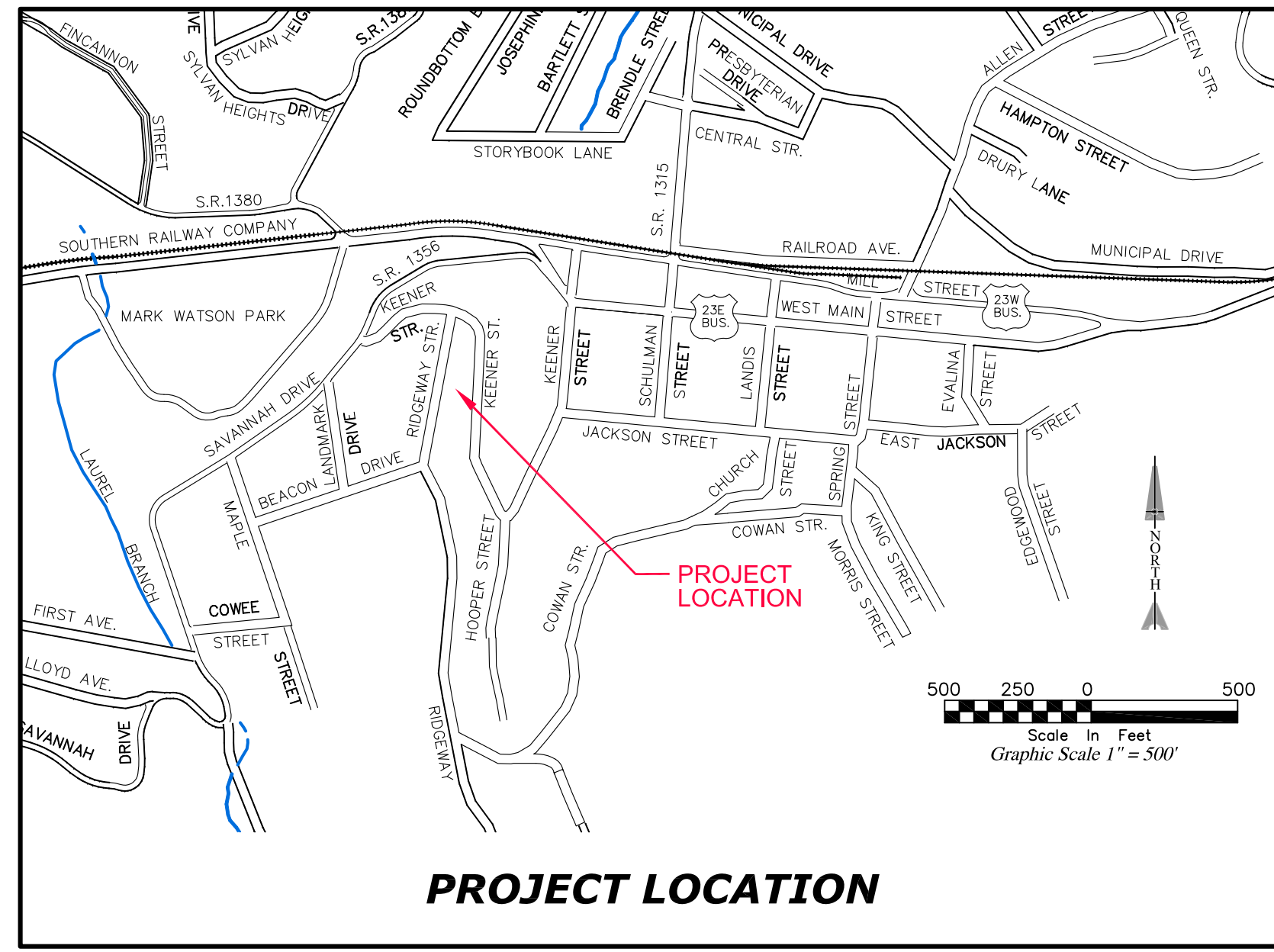


PARKING LOT PLAN

Lofquist & Associates, Inc.
 PLANNING ENGINEERING DESIGN
 11 Citrus Drive Sylva, NC 28779 (828) 586-1424
 Firm License No.: C-2288 Date: 10/28/22
 PRELIMINARY - DO NOT USE FOR CONSTRUCTION



PLAN SHOWING POTENTIAL ALTERNATE USE AS PUBLIC PARK



PROJECT LOCATION

**CONCEPTUAL SITE PLAN FOR
 PROPOSED JACKSON COUNTY LIBRARY COMPLEX
 PARKING LOT ADDITION**

Jackson County PIN: 7631-97-8476 (0.21 ac, 271 Keener St)
JACKSON COUNTY - Client
 Sylva, North Carolina