

Jackson County Planning Board Planning Department Staff Report – October 20, 2022

Project: E.B.C.I. Camp Creek Housing Development
Applicant: Eastern Band of Cherokee Indians
Property Location: 1955 Camp Creek Road; Qualla Township; PIN 7624-10-5375

Project Summary:

The Eastern Band of Cherokee Indians is proposing a major subdivision that will consist of up to 495 dwelling units on 188.38 +/- acres in four phases. Access to this proposed subdivision will be from Camp Creek Road which is an NCDOT maintained roadway (S.R. 1406) and has an approximate average pavement width of 20'. Phase 1 of this development will consist of 74 dwelling units of mixed types (see table), two community buildings, a sales office and a post office. This phase will be served by three roads all 20' in width and two one-way roadways, 12' in width that serve individual cottage dwellings. The proposed single-family home lots will range from 0.06 to 0.18 acres in land area. Site amenities for phase 1 will include community buildings (meetings/conference), community garden with garden shed, bus shelter, playground and walking trails. Site grading (cut and fill) will be moderate for infrastructure improvement as the submitted plans indicate that the proposed road network will take advantage of the existing topography while site grading for structures will be built by graded pads and walls. The submitted plans indicate responsible storm water and erosion control measures which have been designed by a registered engineer. Water and sewer services for this proposed major subdivision will be provided by E.B.C.I. Tribal Utilities and fire protection will be provided by the Qualla Fire Department. This property is not located within a designated flood hazard area (Floodway/100-year flood plain). The total land area of this property is 188.38 +/- acres; however, Camp Creek Road artificially subdivides this property creating two tracts, 28.81 +/- acres to the west and 159.57 +/- acres to the east. The average slope of the west side tract is 21%, which does not prompt the administration of *Mountain and Hillside Development Ordinance* (density standard). The average slope of the east side tract is 45%; however, 70.97 +/- acres of this tract will be maintained as "protected/non-buildable", in so doing, reducing the average slope of the remaining east tract (88.60 acres +/-) to 31%, which does not prompt the administration of *Mountain and Hillside Development Ordinance* (density standard). The protected/non-buildable areas cannot be developed and are required to be recorded with the Jackson County Register of Deeds Office. This subdivision is required to provide a minimum of 20% open space overall and the applicant is providing approximately 38% of open space for this development. The applicant is hopeful of entering into a Development Agreement with Jackson County which will come before the Planning Board for review and recommendation.

This development is subject to review under the county's subdivision ordinance as a major subdivision, tier 2 and this subdivision type includes a development with more than 99 lots/structures. The role of the Planning Board in this review is to assure the submitted Principal Concept Plan complies with the standards established in the subdivision ordinance. The subdivision ordinance establishes standards for road design and construction, site grading, storm water management, provision of water and wastewater treatment, and other matters related to the proposed development. Other County ordinances, notably the erosion and sediment control and water recharge ordinances, address other matters related to the development of the project. Staff will assure these standards are met with plans meeting specifications established by Jackson County ordinances having to be approved prior to commencement of construction activities. The Planning Board will be kept informed of the status of approval of the plans, and schedule for construction activities.

Summary of Project Phasing:

EBCI Camp Creek Subdivision - Phase 1:

Proposed Use	Approximate Number of Buildings / Lots	Approximate Square Feet Total
Non-Residential		
Post Office	1	1,600 +/-
Community Meeting Building	2	2,084 +/-
Sales office	1	2,400 +/-
Residential		
Multi-Family	10	N/A
Cottage	13	N/A
Shotgun Style Home	8	N/A
Single Family home Lots	17	N/A

EBCI Camp Creek Subdivision – Phase 2:

Proposed Use	Approximate Number of Buildings / Lots	Approximate Square Feet
Non-Residential		
Community Meeting Building	1	550 +/-
Residential		
Townhome	25	N/A
Single Family home lots	51	N/A

EBCI Camp Creek Subdivision – Phase 3:

Proposed Use	Approximate Number of Buildings / Lots	Approximate Square Feet
Non-Residential		
Daycare	1	4,500 +/-
Clubhouse/Pool	1	3,867 +/-
Office Buildings	2	3,160 +/-
Residential		
Townhome	8	N/A
Single Family home lots	110	N/A
Multi-family	62	N/A

EBCI Camp Creek Subdivision – Phase 4:

Proposed Use	Approximate Number of Buildings / Lots	Approximate Square Feet
Non-Residential		
Mixed Use – Offices/apartments	2 with 6 apartments	6,065 +/-
Clubhouse/Pool	1	3,128 +/-
Residential		
Multi-family	120	N/A

Comments:

This proposed Subdivision was reviewed on October 20, 2022 applying the *Jackson County Subdivision ordinance*. The below review comments from staff are indicated in *Blue*.

Article IV – Subdivisions (UDO)

- **Section 4.3.5.c Street Standards – Private Roads:**

- (i) Design Criteria

- 1) Private subdivision roads shall connect to an existing state-maintained road and shall be constructed in accordance with the standards contained in the North Carolina Department of Transportation’s most recent version of Subdivision Roads Minimum Construction Standards (if dedicated to the NCDOT).

- This proposed subdivision is “split” by Camp Creek Road (S.R. 1406) a state roadway maintained by the NCDOT and both sides of the subdivision will have direct connection to Camp Creek Road.*

- 2) Roads that are not required to be constructed to state standards will be privately maintained, and maintenance responsibilities shall be noted on the final plat. Regardless of the designation of the road, every lot shall have access to a road that is sufficient to provide a means of ingress and egress for emergency vehicles as well as all those likely to need or desire access to the property for its intended use.

- The proposed roadways within this subdivision will be constructed per the standards set forth in this article.*

- 3) Roads shall be designed by a registered professional engineer or professional land surveyor licensed to work in North Carolina, as provided for by NCGS 89C-3. Prior to approval of a final plat for a subdivision the engineer or land surveyor who designed the roads shall certify that the roads have been constructed in accordance with the approved plans. If a surety bond or other financial guarantee is provided in lieu of constructing roads prior to approval of the final plat, the financial guarantee shall not be considered to be satisfied until the engineer or land surveyor who designed the roads has certified that the roads have been constructed in accordance with the approved plans.

The submitted plans have been prepared by an NC Registered Engineer, Charlie Deep, P.E. of 4D Engineering.

- 4) Minimum Private roads proposed to serve lots and/or home sites in subdivisions shall comply with the following minimum design standards in Table 4.2.
All roadways designed for this subdivision will be a minimum of 20' in width with exception to the one-way alleys which are designed to be 12' wide.

- Turnouts. The turnouts must be a minimum of 50 feet long and provide for a total travelway width of 18 feet with an additional three feet width cleared of trees, brush, and undergrowth. If the turnout is located on the fill side of the road, it shall have a total travelway width of 20 feet with an additional three feet width cleared of trees, brush, and undergrowth. The location of turnouts on shared drives and minor residential roads shall be approved by the Planning Board. Items to be considered in the review of turnout locations shall include the road grade, slope of the bank (if turnout to be located on fill side of the road), width of the turnout, vertical and horizontal curves, and compaction of the subsoil and base as set forth in Table 4.3.
Turnouts are not proposed for this subdivision.

- 5) The maximum length for road types shall be as follows.
The submitted plans for this subdivision indicate that the provided roadway types will meet this ordinance standard for maximum road lengths.

- 6) Maximum cut slope: 1 1/2:1; maximum fill slope: 2:1. Steeper slopes may be permitted if certified by a professional engineer and approved by the Subdivision Ordinance Enforcement Officer. A bench with a minimum width of 5 feet shall be provided at the toe of all fill slopes greater than 10 feet in vertical height. All cut and fill slopes greater than 20 feet in vertical height shall have a bench with a minimum width of 5 feet for every 10 feet in vertical height. An illustration depicting the benching of cut and fill slopes is available on the County Planning Department website <https://www.planning.jacksonnc.org/> and from the Planning Department office.
The Plan and Profile sheets submitted indicate that the proposed graded slopes ("cut" and "fill") will meet this ordinance standard.

- 7) Development access roads in subdivisions with more than 100 lots and/or dwelling units proposed and sections of roads within a subdivision providing access to more than 100 lots shall be constructed to NC DOT subdivision roads minimum construction standards.
The road system within this proposed subdivision is designed per NCDOT subdivision roadway standards; however, these roadways will not be dedicated to the NCDOT for future state maintenance.

- 8) All lots in a residential subdivision shall abut an access road meeting one of the classifications identified in the Table 4.2: Subdivision Road Requirements.
The access roads proposed for this subdivision will meet or exceed the required road type for the number of lots/units served.

- 9) Subdivisions shall abut and be accessed from a public road or have a deeded right-of-way (minimum width of 45 feet) to a public road. If access is provided by a deeded right-of-way,

an access road meeting the road construction standards for the number of lots served shall be constructed within the deeded right-of-way.

The access to this subdivision will have legal ingress/egress connection to a public right-of-way, Camp Creek Road which is an NCDOT maintained road (S.R. 1406).

- 10) Sections of road, including shared drives, with a grade in excess of 15 percent shall be paved, with the pavement extending 100 feet from the section of road with a grade in excess of 15 percent. The length of road sections with a grade greater than 15 percent shall not exceed 300 feet in length, and a leveling area shall be provided at each end of the road segment with a grade exceeding 15 percent. The grade of the leveling area shall not exceed 12 percent and shall be at least 100 feet in length.

The proposed roadways for this subdivision will be paved and maximum slope for any road will not exceed 15.46% or 300' in length.

- 11) The grade of residential roads and major residential roads may be increased up to a grade of 20 percent upon approval of the Planning Board in order to minimize grading and/or vegetation removal. The section of road with a grade in excess of 15 percent shall be paved, shall not exceed 300 feet in length, and a leveling area shall be provided at each end of the road segment with a grade exceeding 15 percent. The grade of the leveling area shall not exceed 12 percent and it shall be at least 100 feet in length.

The proposed roadways for this subdivision will be paved and maximum slope for any road will not exceed 15.46% or 300' in length.

- 12) The grade of collector roads may be increased up to a grade of 18 percent upon approval of the Planning Board in order to minimize grading and/or vegetation removal. The section of road with a grade in excess of 15 percent shall be paved, shall not exceed 300 feet in length, and a leveling area shall be provided at each end of the road segment with a grade exceeding 15 percent. The grade of the leveling area shall not exceed 12 percent and it shall be at least 100 feet in length.

The proposed roadways for this subdivision will be paved and maximum slope for any road will not exceed 15.46% or 300' in length.

- 13) A two-foot wide shoulder shall be provided on each side of shared driveways, minor residential, and residential roads. A three-foot-wide shoulder shall be provided on each side of major residential and collector roads. The shoulder shall be at approximately the same finish grade as the road bed and shall be compacted to a minimum compaction rating of 95% proctor. Shoulders may be grassed, graveled, or paved.

The design for all proposed roadways will have the minimum shoulder width required per roadway type.

- 14) The travelway width for all roads except collector and development access roads may be reduced to one lane (minimum width nine feet) in areas with steep slopes to reduce grading and preserve existing vegetation upon approval of the Planning Board. The maximum length of the one lane segment shall be 1,000 feet and a pull out(s) meeting the standards set forth above shall be provided. A road shoulder with a minimum width of two feet shall be maintained on each side of the one lane road segments.

Phase one of this subdivision will have two 12' wide paved one-way alleys that serve the individual cottage units and do not exceed 1,000' in length.

15) Leveling areas must be provided for all roads at all intersections. The leveling area shall have a maximum grade of five percent extending 50 feet from the intersection.

Leveling areas are provided at all internal intersections for this project.

16) The travelway width shall be increased when the road centerline radius is less than 90 feet. For centerline radii between 90 feet and 70 feet, the travelway width shall be increased 25 percent; for centerline radii between 70 feet and 60 feet, increase the travelway width 35 percent; for centerline radii between 60 feet and 50 feet, increase the travelway width 45 percent; and for centerline radii less than 50 feet, increase the travelway width 50 percent.

The proposed roadways for this subdivision do not exceed this centerline radius standard.

17) The width of the corridor cleared/graded for road construction shall not exceed 90 feet for 80 percent of the length of the road. For 20 percent of the length of the road, the corridor may be cleared/graded to a maximum width of 135 feet for the road construction. The maximum height of the corridor (combined cut and fill slopes) shall be 60 feet.

The cleared/graded corridor for road construction in this subdivision should be minimal; however, due to proposed on-street parking and graded building pads, there will be an appearance of a wider than usual roadway corridor in some areas.

18) An overhead clearance of 14 feet shall be provided on all roads.

Due to proposed grading limits, it appears that this ordinance standard would be met.

19) Alternatives and modifications to these standards that reduce land disturbance and vegetation removal, such as one-way roads and loop roads, and/or that are necessitated by the natural physical features of the property and not otherwise provided for in these standards may be approved by the Planning Board. The request for such alternative or modification shall be submitted by the property owner/developer to the planning department for review and conveyance to the Planning Board.

The applicant is not seeking an approval for alternate designs or modifications from the subdivision ordinance standards.

20) Vertical Curves. Formula for determination of length of vertical curve required to provide minimum sight distances.

a) $[L = KA]$

L = Length of vertical curve in feet

K = Rate of vertical curvature in feet per percent of A

A = Algebraic difference in grades in percent

Table 4.5: Vertical Curvature Standards	
Crest	10
Sag	10
Stop	5

Vertical curves for the proposed roadways meet or exceed this ordinance standard.

Minimum private roads proposed to serve lots and/or home sites in subdivisions shall comply with the following minimum construction standards:

Road Type	Base Course	Pavement Surface
Shared Drive	4" ABC ¹ or STBC ²	Not required unless grade > 15%
Minor Residential	6" ABC or STBC	AST ³
Residential	6" ABC or STBC	1 ½" SF9.5A ⁴ or S9.5B ⁵
Major Residential	8" ABC or STBC	1 ½" SF9.5A or S9.5B
	Or 6" ABC or STBC	2" SF9.5 or S9.5B
Collector	8" ABC or STBC	2" SF9.5A or S9.5B

Table 4.6: Private and Subdivision Road Construction Standards

¹ ABC Aggregate Base Course

² STBC Soil Type Base Course

³ AST Asphalt Surface Treatment, Mix design to be approved by Planning Board

⁴ SF9.5A Asphalt Concrete Surface Treatment, Type SF9.5A

⁵ S9.5B Asphalt Concrete Surface Course, Type S9.5B

All roadways proposed for this subdivision will be paved.

21) Approved pervious paving materials are encouraged to be used in lieu of the paving materials listed above. Pervious paving materials shall be approved by the Planning Board.

Pervious pavement materials are not proposed for this project.

22) Base and subsoil shall be compacted to a minimum rating of 95% proctor.

All proposed roadway sections for this subdivision will meet or exceed this ordinance standard and verified by the engineer of record.

- **Section 4.3.5.d – Dead End Roads:**

- (i) Dead end roads shall provide a turnaround at the end of the road to permit general traffic, emergency vehicles, and general service vehicles to turn. If a bulb turnaround is provided, the turnaround shall meet the following standards:

- 1) Minimum ROW radius: 45 feet.

- 2) Minimum pavement radius: 30 feet.

- 3) T-turnarounds and hammerhead turnarounds may be used in lieu of a bulb turnaround on dead end roads. The minimum length of the maneuvering segment shall be 45 feet and the minimum width shall be 18 feet.

Cul-da-sac's and "T" turns have been identified on the submitted plans and will meet this ordinance standard.

- **Section 4.3.5.e – Driveways:**

- (i) Curb cuts, where provided in the subdivision, shall begin not less than three feet from lot lines as projected to meet the line of the pavement edge. Design and construction of portions of driveways within rights-of-way shall be constructed in accordance with the requirements of the NCDOT. The approving authority may permit the establishment of shared driveways on property lines provided that mutual access easements are delineated upon the subdivision plat and all relevant deeds.

Curb and gutter sections and driveway aprons will meet this ordinance standard.

- (ii) If extraordinary surface or subsurface conditions, terrain, the general drainage pattern in the area, existing or probable development in the vicinity, or other circumstances

exist or occur, the Planning Director, upon making supporting written findings, may establish greater requirements in particular cases.

N/A

- **Section 4.3.5.f – Access to Public Lands:**

- (i) Cemeteries and gravesites shall be identified during the application process and protected during development of subdivisions by a 20-foot buffer, and family members shall be assured reasonable access thereto during development and thereafter. Anyone subdividing properties containing roads, trails and other travel ways which have historically provided public access to national forests and other public lands is encouraged to provide for continued public access thereto.

This property is not adjacent to public lands.

- **Section 4.3.5.g – Traffic Control:**

- (i) All subdivision road intersections including those with existing state maintained roadways shall be constructed using traffic control standards as designated in the "Manual on Uniform Traffic Control Devices" (MUTCD), "North Carolina Supplement to the Manual on Uniform Traffic Control Devices." All signage shall meet the requirements of the MUTCD.

MUTCD standards (stop signs, stop bars, etc.) will be used at the interior neighborhood intersections.

- **Section 4.3.5.h – Intersections:**

- (i) The most desirable intersections are those with angles of 75 to 90 degrees. Intersections with angles from 60 to 75 degrees are acceptable under extreme conditions.

The proposed interior intersections for this subdivision meet this ordinance standard.

- (ii) Minimum sight triangle for stop condition when connecting new local residential roads or residential collector roads to existing state maintained roads is 70 feet along the existing road right-of-way and 10 feet along the new road right-of-way.

Sight triangles at the proposed intersections appear to meet this regulation.

- (iii) All internal intersections shall have minimum 20 feet radii.

The submitted plans appear to meet or exceed this ordinance standard.

- **Section 4.3.5.i – Sidewalks and Ramps:**

- (i) General. Sidewalks may be provided for all major subdivisions to access a pedestrian destination point, such as a school, park, etc., and may constitute part of the open space requirements.

- (ii) All sidewalks shall meet requirements of the "Americans with Disabilities Act." In accordance with G.S. 136-44.14, all street curbs in the state being constructed or reconstructed for maintenance procedures, traffic operations, repairs, correction of utilities or altered for any reason after September 1, 1973, shall provide wheel chair ramps for the physically handicapped at all intersections where curb and gutter is provided and at other major points of pedestrian flow. Wheel chair ramps and depressed curbs shall be constructed in accordance with details contained in the department of transportation, division of highways' publication entitled, Guidelines, Curb Cuts and Ramps for Handicapped Persons.

Sidewalks are proposed for this subdivision and will be required to meet all ADA requirements.

Section 4.4.a Stormwater Drainage Standards – General Requirements:

- (i) Drainage systems shall be designed utilizing low-impact design to limit disruption of natural water flows by eliminating stormwater runoff, increasing on-site infiltration and eliminating contaminants.

The proposed stormwater and erosion control measures for this overall project will meet or exceed this ordinance regulation and is in accordance with local/State standards for erosion control measures (BMP's) and for future conveyance of stormwater run-off from impervious surfaces. Erosion Control plans will be reviewed by the Jackson County Erosion Control Department prior to the issuance of EC permits.

- (ii) This system design shall be rendered in a drainage plan, which is a written or graphic concept plan of the proposed post-development stormwater management system. The drainage plan shall, at a minimum, include the following: preliminary selection and location of proposed structural stormwater controls; low impact design elements; location of existing and proposed conveyance systems such as grass channels, swales, and storm drains; flow paths; location of flood plain/floodway limits; relationship of site to upstream and downstream properties and drainages; and preliminary location of proposed stream channel modifications, such as bridge or culvert crossings.

The proposed stormwater and erosion control measures for this overall project will meet or exceed this ordinance regulation and is in accordance with local/State standards for erosion control measures (BMP's) and for future conveyance of stormwater run-off from impervious surfaces. Erosion Control plans will be reviewed by the Jackson County Erosion Control Department prior to the issuance of EC permits.

- (iii) The approval of the drainage plan of any subdivision shall require an enforceable restriction on property usage that runs with the land, such as recorded deed restrictions or protective covenants, to ensure that future development and redevelopment maintains the site consistent with the approved project plans.

The applicant will be responsible for maintaining the stormwater system (swales, pipes, structures, etc.) for this subdivision.

- (iv) Where major new drainage ways are required in a subdivision, they shall be coordinated with existing and proposed general drainage systems and designed with due regard for safety, appearance and geological effects.

The proposed stormwater and erosion control measures for this overall project will meet or exceed this ordinance regulation and is in accordance with local/State standards for erosion control measures (BMP's) and for future conveyance of stormwater run-off from impervious surfaces. Erosion Control plans will be reviewed by the Jackson County Erosion Control Department prior to the issuance of EC permits.

- (v) Aboveground drainage ways shall be:

- 1) Located and constructed to maintain a natural appearance;

- 2) Limited to safe water depths in easily accessible areas; and
- 3) Designed to avoid excessive rates of flow, erosion, or overflow into developed areas subject to damage.

The proposed stormwater and erosion control measures for this overall project will meet or exceed this ordinance regulation and is in accordance with local/State standards for erosion control measures (BMP's) and for future conveyance of stormwater run-off from impervious surfaces. Erosion Control plans will be reviewed by the Jackson County Erosion Control Department prior to the issuance of EC permits.

- (vi) Watercourses and natural water areas downstream, from any land disturbing activity shall be protected from increased degradation by accelerated erosion caused by increased velocity of runoff from the land disturbing activity in accordance with the County sediment control provision. In circumstances where the impact of new drainage would be likely to damage or destroy significant existing natural water areas, such drainage shall not be discharged through or into such areas.

The proposed stormwater and erosion control measures for this overall project will meet or exceed this ordinance regulation and is in accordance with local/State standards for erosion control measures (BMP's) and for future conveyance of stormwater run-off from impervious surfaces. Erosion Control plans will be reviewed by the Jackson County Erosion Control Department prior to the issuance of EC permits. This project does have several environmentally sensitive areas and the plans indicate required and responsible measures for their protection.

- (vii) The development area of any lot shall conform with subsection (iii) of this section.

The applicant will be responsible for maintaining the stormwater system (swales, pipes, structures, etc.) for this overall development. Specific site/home development of individual properties will be required to have an approved building permit and proper erosion control measures installed during construction activities and until approved groundcover is established.

- **Section 4.4.b Stormwater Drainage Standards – Low Density Projects:**

- (i) Stormwater runoff from the development area shall be transported from the development by vegetated conveyances to the maximum extent practicable.

Proposed stormwater design will incorporate vegetated conveyances where possible.

- **Section 4.4.c Stormwater Drainage Standards – High Density Projects:**

- (i) The measures shall control and treat the difference in stormwater runoff volume leaving the development area between the pre- and post-development conditions for, at a minimum, the ten-year, 24-hour storm. This standard refers to the surface runoff resulting from a 24-hour rainfall of an intensity expected to be equaled or exceeded, on average, once in ten years. Runoff volume drawdown time shall be a minimum of 24 hours, but not more than 120 hours.

This development will have up to 495 dwelling lots/units and supporting non-residential uses on a total of 188.38 acres 0.38 acres per dwelling. This subdivision is considered high density and will comply with this ordinance standard for stormwater design.

- (ii) All structural stormwater treatment systems used to meet the requirements of this section shall be designed to have a minimum of 85 percent average annual removal for total suspended solids (TSS).

State and local standards require average 85% removal of suspended solids and supporting documentation will be required for the final erosion control plan review.

- **Section 4.4.d Stormwater Drainage Standards – Stormwater Drainage Facilities:**

- (i) The application shall be accompanied by a description of the proposed method of providing stormwater drainage. The subdivider shall provide a drainage system that diverts stormwater runoff away from surface waters and incorporates best management practices to minimize water quality impacts. Consistent with Section 5.3.9 (Stormwater Provisions), subdivisions qualifying for the special intensity allocation shall provide non-structural methods of managing stormwater runoff.

The proposed stormwater system for this overall development will need to meet or exceed this ordinance regulation, be in accordance with local/State standards for erosion control measures (BMP's) and for future conveyance of stormwater run-off from impervious surfaces. During final erosion control/stormwater plan review, the applicant will be required to provide supporting calculations regarding basin areas, run-off, pipe sizing, etc.

- **Section 4.4.e Stormwater Drainage Standards – Erosion and Sedimentation Control:**

- (i) The application shall, where required, be accompanied by a written statement that a sedimentation and erosion control plan has been submitted to and approved by the State Division of Land Quality.

This project is required to be submitted to the State Division of Land Quality and that process will be managed by the Jackson County Erosion Control Department during the time of erosion control plan review.

- **Section 4.4.f Stormwater Drainage Standards – Critical Areas and Watershed Buffer Areas:**

- (i) Where possible, roads should be located outside of critical areas and watershed buffer areas. Roads constructed within these areas shall be designed and constructed so to minimize their impact on water quality.

This subdivision is not located within the County Watershed Area, however, the submitted plans do identify stream buffers, wetlands and springheads which will be observed during construction activities.

- **Section 4.4.g Stormwater Drainage Standards – Erosion Protection of topsoil/vegetation:**

- (i) In general, during the preparation of the subdivision and installation of improvements, appropriate measures shall be taken to prevent erosion and damaging siltation on the property and on adjoining land or water areas in accord with the Article V, Section 5.3, Erosion and Sedimentation Control.

The proposed stormwater system for this overall development will need to meet or exceed this ordinance regulation, be in accordance with local/State standards for erosion control measures (BMP's) and for future conveyance of stormwater run-off from impervious surfaces. During final erosion control/stormwater plan review, the applicant will be required to provide supporting calculations regarding basin areas, run-off, pipe sizing, etc.

- (ii) In any grading or filling operations, desirable topsoil shall be conserved and redistributed as such, particularly to cover exposed subsoils.

This practice is common for site construction operations.

- (iii) Trees, shrubs and ground cover existing at the beginning of development operations shall be preserved to the maximum extent reasonably feasible where they are of species and in locations likely to add amenity to the completed development.

The applicant is committed to preserving as much existing/native vegetation as possible which includes a protected/non-buildable area of 70.97 +/- acres.

- (iv) Ground cover. All land within the subdivision right-of-way which is not used for structures, vehicular or pedestrian traffic, or for other approved landscaping shall be provided with grass or other ground cover, appropriately installed, and consistent with the requirements of the County sediment control regulations. Ground cover may include appropriate plant materials preserved in place.

State and local erosion control standards require ground cover for all disturbed areas during and after construction.

- (v) The Planning Director may require preservation of specified trees or other vegetation in connection with a particular development, except upon findings that such preservation is not feasible in view of the requirements for the installation of public utilities and facilities.

At this time, Planning Staff is not requesting any additional specific preservation requirements.

- (vi) The Planning Director may grant a conditional approval of a preliminary subdivision plat, provided that an erosion control plan approval letter is submitted to the Planning Department within 90 days and prior to commencement of site preparation or other land-disturbing activities.

N/A

- **Section 4.4.h Stormwater Drainage Standards – Adequacy:**

- (i) All storm drainage shall be adequate so that the road may be maintained without excessive cost, and not cause flooding on private property from storm runoff of the design frequency. The minimum design frequency shall be as follows:
 - 1) Storm sewer collector and lateral ditches: ten years.
 - 2) Cross drainage: 25 years.
 - 3) Minimum cross pipe diameter is 18 inches; minimum driveway pipe diameter is 15 inches.
 - 4) All drainage shall be consistent with criteria found in NCDOT Guidelines for Drainage Studies and Hydraulic Design.
 - 5) In areas where ditch grades or quantities of flow make it impracticable to establish and maintain vegetation, an erosive resistant lining such as paving, matting or rip rap shall be required. Subsurface drainage shall be adequate to maintain a stable subgrade.

The proposed stormwater system for this overall development will need to meet or exceed this ordinance regulation, be in accordance with local/State standards for erosion control measures (BMP's) and for future conveyance of stormwater run-off from impervious surfaces. During final erosion control/stormwater plan review, the applicant will be required to provide supporting calculations regarding basin areas, run-off, pipe sizing, etc.

- **Section 4.4.h Stormwater Drainage Standards – Structures:**
 - (i) Design, construction, and installation of culverts, dams, and retaining walls shall comply with NCDOT standards as set forth in NCDOT Subdivision Roads Minimum Construction Standards, unless other standards are approved by the planning board. Bridges shall have a travelway width equal to that required for the road type (including required shoulder width) and shall comply with the requirements of the U.S. Army Corps of Engineers and other permitting agencies. All bridge designs shall be prepared and/or approved by a licensed professional engineer registered in the state. The planning board shall review permit documentation for bridges to assure that all required approvals have been obtained prior to construction.
All storm water structures, pipe, etc. will be engineered for traffic bearing capacities. The proposed roadways for this development are not intended to be conveyed to the NCDOT.

- **Section 4.5.a Utility and Infrastructure Standards:**
 - (i) Subdivision development shall comply with the standards established by the utility company or agency providing the utility service and with the standards of the NCDOT as set forth in NCDOT's Subdivision Roads Minimum Construction Standards (latest edition).
Water and sewer services for this subdivision will be provided by EBCI Tribal Utilities.

- **Section 4.5.b Utility and Infrastructure Standards – Above Ground Utilities:**
 - (i) Poles and other above-ground utilities which are to remain inside the right-of-way shall be located at or as near as practical to the right-of-way line. As a minimum, above-ground utilities shall be located outside the shoulder/ditch for the road section involved.
This practice is common for site construction and utility operations.

 - (ii) Where there are curbed sections, above-ground utilities should be located as far as practical behind sidewalks. There is no single minimum dimension for setback of poles, fire hydrants, etc., behind curbs; however, where there are curbed sections and no sidewalks, six feet will be used as a design safety concept guide. Where dimensional or other characteristics of such land are such that they could not be used for other purposes under the zoning applying in the district, the plan shall indicate and restrict use to easement or substation purposes, and requirements generally applicable to access, dimensions or other characteristics of that land shall not apply. Departmental reports in such cases shall include findings as to the effect of the proposed location in adjacent uses, preservation of areas of major ecological importance, and as to whether sites for substations, if involved, are adequate to provide required screening.
The submitted plans indicate that this ordinance standard has been met.

- **Section 4.5.c Utility and Infrastructure Standards – Public Water Supply:**
 - (i) Public water supply is required in a subdivision as follows:
 - 1) Any subdivision, including estate, family, minor and major, which has public water system lines available shall be required to extend the public water system throughout the subdivision to each lot located therein.
 - 2) All required water line extensions shall include appropriate valves, hydrants, taps and service to the property line of each lot as required by the standards of the provider of the service.

- 3) For subdivisions located within the jurisdiction of this section, the term "available" shall mean that there is an existing water line of adequate size and water flow and/or pressure, as determined by the water provider, abutting the property and/or right-of-way, provided there are no legal or documented topographic constraints which prevent the subdivider from connecting onto and extending the existing system to the subdivision.
- 4) Every lot in a major subdivision shall be served by a permitted public or community water system or served by individual wells approved by the County division of environmental health.

Public water service for this subdivision will be provided by EBCI Tribal Utilities and will be required to meet design and construction standards of that agency as well as any State permitting requirements.

- **Section 4.5.d Utility and Infrastructure Standards – Public Sanitary Sewer:**

(i) Public sanitary sewer is required as follows:

- 1) Any subdivision, including estate, family, minor and major subdivisions, which has public sewer system lines available shall be required to extend the public sewer system throughout the subdivision to each lot located therein.
- 2) All required sewer line extensions shall include appropriate manholes, lift stations, pumps, cleanouts, taps and service to the property line of each lot as required by the standards of the provider of the service.
- 3) For subdivisions located within the jurisdiction of this section, the term "available" shall mean that there is an existing sewer line of adequate size and flow, as determined by the utility provider, abutting the property and/or right-of-way, provided there are no legal or topographic constraints which prevent the subdivider from connection onto and extending the existing system to the subdivision.

Public sewer service for this subdivision will be provided by EBCI Tribal Utilities and will be required to meet design and construction standards of that agency as well as any State permitting requirements.

(ii) Every lot in a major subdivision shall be served by a public sewer or, where public sewer is not required, by a permitted community sewer system or an individual on-site septic system approved by the County Public Health Department.

Public sewer service for this subdivision will be provided by EBCI Tribal Utilities and will be required to meet design and construction standards of that agency as well as any State permitting requirements.

- **Section 4.5.e Utility and Infrastructure Standards – Exceptions:**

(i) Where subdivisions are proposed, and no public or community sewer is available, the applicant should review a soils map of the property and be knowledgeable of the suitability of ground absorption systems for the development.

Public sewer service for this subdivision will be provided by EBCI Tribal Utilities and will be required to meet design and construction standards of that agency as well as any State permitting requirements

- **Section 4.5.f Utility and Infrastructure Standards – Fire Protections:**

(i) All lots served by a municipal public water supply system in a subdivision shall also be afforded fire protection by means of hydrants, installed under uniform standards and

specifications. Final plats shall indicate that any qualified water ponds shall be made available to emergency personnel for the purpose of pumping water.

Public water service for this subdivision will be provided by EBCI Tribal Utilities and will be required to meet design and construction standards of that agency as well as any State permitting requirements. Fire protection will be provided by the Qualla Fire Department.

Staff Recommendation:

Approve the *Camp Creek Subdivision* under the condition that all proposed site construction be in accordance the *Jackson County Unified Development Ordinance*, all other applicable County ordinances, final engineered site construction plans and Development Agreement when approved by the Jackson County Board of Commissioners. Also, that the applicant complies with any requirements set forth by the NCDOT, State of North Carolina, Army Corps of Engineers, Duke Energy and any other agency with jurisdiction.