Duke-Energy – Calvander-Eubanks Substation

Developer's Program
March 20, 2013

Overview
The Calvander-Eubanks substation is a long range plan substation that will serve a load center located between I-40 and Dairyland Road. It will provide load relief to James St Retail. It will also provide circuits ties between White Cross Retail, James St Retail and Homestead Retail. White Cross Ret 1202 currently has no viable circuit ties.

History
In 2009 the development of the Calvander substation was proposed just north of the "Calvander" intersection on Old NC 86 at the 44kV White Cross Tap Line. Since that time a more suitable site has been placed under contract just south of Eubanks Rd. off Genestu Dr.

Existing Conditions
The current 10.94 acre site, referred to as Calvander-Eubanks, is located just south of the Orange County Animal Shelter, east of the Orange County landfill, north and west of the White Cross Duke Energy transmission easement and west of the railroad spur serving UNC. The site is well suited for the development of this facility.

The site is accessed off of Eubanks Rd. via Genestu Dr., a private gravel drive within a 60' access easement. It is bisected by two 200 ft. Duke-Energy transmission easements serving five separate transmission lines and lies adjacent to the existing tie station located within these transmission easements.

Slopes are less than 10% and generally less than 5% in the area of the proposed facility. Existing vegetation is a mixture of pines and hardwoods. The portion of the site proposed for development is situated on a small knoll that drains evenly in all directions and eventually to Old Field Creek within the Jordan Watershed. There are no creeks, wetlands or flood zones within the proposed development site.

The site is currently zoned R-1, which allows for essential public service facilities of this type where adequate security of the site, by means of fencing or otherwise, is provided.

Public Need
The projected growth of residential, retail, businesses, and schools combine to make this facility a critical component in Duke-Energy's infrastructure. Duke-Energy must close on the property in 2013 and in order to do so it must procure the necessary Special Use Permit entitlement for its eventual development. Actual installation is not scheduled until 2022. The applicant will request and extended sunset date in the SUP timeline stipulation to provide for this need.

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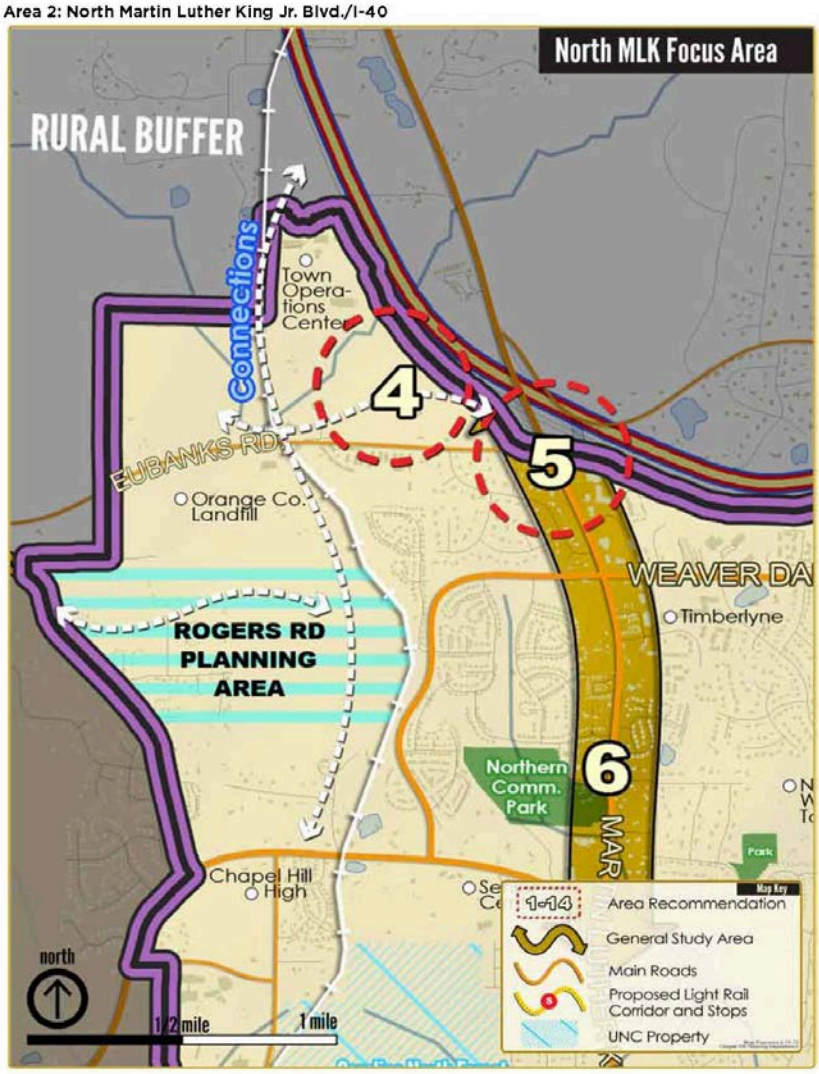
Statement of Compliance - Comprehensive Plan
March 20, 2013

The recent adoption of the 2020 Comprehensive Plan, took a long range view of growth within the Town's Urban Services Boundaries. It focused on a more balanced growth of residential and non-residential uses focusing density along critical transportation corridors. This strategy is essential to maintaining efficient transportation systems, public utilities and preserving the green corridors that combine to create the quality of life Chapel Hill residents desire.

Area 2: North Martin Luther King Jr. Blvd./I-40



66 | Future Focus Discussion Areas

The North Martin Luther King Jr. Blvd/I-40 identified future focus areas north of Eubanks Rd., at the I-40 MLK Jr. Blvd. Interchange in addition to the background growth of residential and commercial areas already underway. This facility is needed to provide adequate infrastructure for this projected growth.

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Statement of Compliance- Design Guidelines
March 20, 2013

The requirements for the construction and operation of a power substation largely determine the location and the site layout. That notwithstanding, the applicant has undertaken to secure a site that poses minimal environmental constraints and one whose visual impact to the surrounding community is minimized.

The Town's Design Guidelines are primarily intended to provide guidance for development of structures and related support facilities however several design objectives are applicable to the proposed development. These objectives and guidelines are included below along with an explanation of how the proposed development responds to them.

Design Objective 1:

Where overhead lines are necessary, they should be located in a manner that minimizes their visual impact.

Design Response1:

The site selected for the Calvander-Eubanks substation is surrounded entirely by land uses that are very minimally impacted by its development. These adjacent properties include the Orange County Landfill to the west; the Orange County Animal Shelter to the north; commercial mini-storage, railroad and 200 ft. Duke-Energy transmission easements to the east; and a 200 ft. Duke-Energy transmission easement to the south.

Design Objective 2:

Prime Buildable: Land with littIe or no building restrictions which occur as a consequence of slope conditions. These areas are defined as slopes of less than 10 percent.

Grading should blend gently with contours of adjacent properties, with smooth gradations around all proposed cut-and-fill slopes, both horizontally and vertically. All sites should be developed according to' their natural characteristics. Flat, open areas on the site arc the most desirable for parking areas and large buildings, thus minimizing disruption to site contours and vegetation.

Design Response 2:

The area within the 13.24 ac site proposed for development is a small knoll with slopes less than 10%. Only minimal grading will be required to accommodate the facility and access drive.

Design Objective 3:

PRESERVATION OF NATURAL DRAINAGE PATTERNS

Capitalize on natural drainage ways through innovative building and site design that transforms steep slopes and edges into major site amenities. Preserve natural drainage patterns where practical.

Whenever possible, road location and design should avoid difficult topography-including stream crossings, steep valleys, and greenways. If one of these must be crossed, the developer should explore the feasibility of a bridge crossing, with provisions for pedestrian movement under the bridge structure. If a bridge is not appropriate, the developer should consider an innovative means of stream crossing such as an arched culvert

Design Response 3:

As a result of careful site selection the natural drainage patterns will be preserved. Only minimal grading is needed to provide the proposed stone access drive to the site. The lack of streams on the building site avoid the need for any stream crossings.