

Comparison of Alternate Conceptual Plan Drafts

For the

June 11, 2010 Meeting of the Chatham-Cary Joint Issues Committee

This memo compares the acreage and buildout characteristics for the three plan drafts presented at the May 18, 2010, committee meeting: Plan 6, Plan 6A, and Plan 6B.

Plan 6

Plan 6 was prepared for the May 18, 2010, Committee meeting. Plan 6 reflects changes to Plan 5 that were approved by the Committee at meetings in March and April 2010. The changes included: re-designating the Verde Rd. Subdivision from 2 units per 1 acre, to 1 unit per 3 acres; removing greenways from the map; removing symbols for parks and schools from the map; reducing the ATT buffer to 50 ft. outside of the trail right-of-way, and adjusting the map note to verify that approved subdivisions and rezonings are exempt from the buffer.

Plan 6A

Plan 6A was proposed by Committee members Kost and Lucier at the May 18, 2010, committee meeting. Plan 6A differs from Plan 6 in that it:

- Shifts the location of the mixed use node eastward along Lewter Shop Road, adjacent to and immediately west of the Chatham/Wake County Line. Three different size options are offered for the mixed use node: 483 acres, 391 acres, and 238 acres.
- Caps the residential component of the mixed use node at 2 dwellings per acre, calculated over both the residential and nonresidential node area (for an effective density of about 4 dwellings per acre over the node's residential portions), and not to exceed 1,000 dwellings total.
- Adds a 200 ft. vegetated buffer between the node and any adjacent residential uses, not including thoroughfare or collector frontage.
- Re-designates all 452 acres of the area covered by Plan 6's mixed use node to Residential, 1 dwelling per acre.
- Shifts the Rural Buffer boundary in the vicinity of Hollands Chapel Road eastward to NC Hwy 751.
- Proposes to resolve the Ferrell Family property request on Green Level West Road by allowing 2 dwellings per acre in the area beyond a 400 ft. buffer from the Corps of Engineers property, and above the 255 ft. elevation contour, whichever is greater.
- Proposes to resolve the Horil/Hodge property requests on New Hope Church Road by re-designating the area as 1 dwelling per 3 acres, including the existing Woods of Chatham Subdivision, but leaving the Rural Buffer as it is in Plan 6.

Plan 6B

Plan 6B was proposed by the Town of Cary at the May 18, 2010, committee meeting. Plan 6B differs from Plan 6 in that it:

- Shrinks the size of the mixed use node at NC 751 and Lewter Shop Rd., from 452 acres down to 144-228 acres and then adds a second mid-sized mixed use node on Lewter Shop Road/Morrisville Parkway, straddling the Chatham/Wake County Line. The new node also has a range of size options, varying from 30-74 acres in Chatham County, with an additional 113-142 acres in Wake County, for a total node size of 143-216 acres.
- Re-designates the portions of the Plan 6 mixed use node that are no longer included in the smaller Plan 6B node as: 1 dwelling per 5 acres west of NC 751, 1 dwelling per 1 acre north of Lewter Shop Road, and 2 dwellings per acre south of Lewter Shop Road and east of NC 751.

- Re-designates all of the area designated as 1 dwelling per acre west of NC 751 to 1 dwelling per 5 acres.
- As proposed in Plan 6A, this plan shifts the Rural Buffer boundary in the vicinity of Hollands Chapel Road eastward to NC Hwy 751.
- As proposed in Plan 6A, this plan also proposes to resolve the Ferrell Family property request on Green Level West Road by allowing 2 dwellings per acre in the area beyond a 400 ft. buffer from the Corps of Engineers property, and above the 255 ft. elevation contour, whichever is greater.
- Proposes to resolve the Horil/Hodge property requests on New Hope Church Road by re-designating the area as 1 dwelling per 1 acre, including the existing Woods of Chatham Subdivision.
- Moves the Rural Buffer boundary westward to encompass the Horil/Hodge Properties.
- Moves the Rural Buffer boundary northwestward between Ernest Jones Road and W. Ferrell Rd., up to Mt. Pisgah Church Rd. as the boundary.
- Converts some areas of 1 dwelling per acre and 2 dwellings per acre, south of the Plan 6 mixed use node, on the east side of NC 751, to 1 dwelling per 5 acres, and removes it from within the Rural Buffer.
- Re-designates the area east of Luther Road and south of Green Level West Road from 2 dwellings per acre to 1 dwelling per 5 acres, and removes the area from the Rural Buffer; and then “swaps” that by re-designating some land on the west side of Luther Road to 2 dwellings per acre and located within the Rural Buffer.

Comparative Analysis

The following tables provide comparative matrices of the land use characteristics of each of the above plan drafts:

Table 1a compares the amount of acreage by land use category for each plan. The table summarizes only those parts of the plan maps that are currently in unincorporated areas of Chatham County.

Table 1b is a variation on Table 1a. Table 1b compares Plans 6A and 6B with Plan 6 in terms of the change in acreage for each land use category, compared to Plan 6. Values in the yellow-shaded and green-shaded columns show the number of acres by which Plan 6A or 6B is greater than or less than that in Plan 6 for each land use category.

Table 2a compares the long-term buildout potential for each of the plan options, including estimates of housing, population, student population, and employment. The table summarizes only those parts of the plan maps that are currently in unincorporated areas of Chatham County. Note that the table reports the *maximum* possible number of housing units and population for each of the plan options. The ultimate actual number of housing units and population will likely be lower than these hypothetical maximums.

Since Plans 6A and 6B each propose several different options for the size of the mixed use node, Tables 1a, 1b, 2a, and 2b provide two sets of comparisons. The first comparison is in the yellow-shaded columns, which is based on the largest possible mixed use node from each plan. The second comparison is in the green-shaded columns, and uses the smallest possible mixed use node from each plan.

Table 2b is a variation on Table 2a. Table 2b compares Plans 6A and 6B with Plan 6 in terms of the change in long-term buildout potential compared to Plan 6 (i.e., the change in housing, population, student population, floorspace, and employment). Values in the

yellow-shaded and green-shaded columns show the value by which Plan 6A or 6B is greater than or less than that in Plan 6, for each buildout metric.

Table 3 provides figures for the total parcel acreage located west of the Rural Buffer vs. acreage east of the Rural Buffer, for Plans 6, 6A, and 6B. (Areas west of the Rural Buffer are not eligible for public utilities; areas east of the Rural Buffer might potentially be eligible to be served by public utilities.)

Table 4 provides the acreage by land use category for the portion of the plan maps that is already located within Cary's municipal limits.

Table 5 provides estimates of the build-out potential for the portion of the plan maps that is already located within Cary's municipal limits, including estimated population, employment, etc.

Appendix A contains detailed statistics for each of the plan options, for the unincorporated map areas. The Appendix has five tables:

Table 6 provides the maximum projected number of dwelling units at buildout for each land use category, for each plan option.

Table 7 provides the maximum projected population at buildout for each land use category, for each plan option.

Table 8 provides the maximum projected K-12 student population at buildout for each land use category, for each plan option.

Table 9 provides the projected amounts of nonresidential floorspace at buildout for each nonresidential land use category, for each plan option.

Table 10 provides the projected level of employment at buildout for each nonresidential land use category, for each plan option.

Appendix B contains detailed statistics for the incorporated plan area. It contains a single table, **Table 11**, which provides the maximum projected number of dwelling units, population, student population, as well as project nonresidential floorspace and employment, for each land use category within the incorporated area.

Table 1a. Comparison of Acres by Land Use Category (Figures apply only to the unincorporated areas of the Plan Map)

| Land Use Category | Acres ¹ by Land Use Category | | | | |
|---|---|------------------------|---------------|-------------------------|---------------|
| | Plan 6 | Using Largest MXD Area | | Using Smallest MXD Area | |
| | | Plan 6a | Plan 6b | Plan 6a | Plan 6b |
| Residential – 1 dwelling per 5 acres | 7,296 | 7,023 | 7,607 | 7,023 | 7,607 |
| Residential – 1 dwelling per 3 acres | 255 | 496 | 255 | 496 | 255 |
| Residential – 1 dwelling per 1 acre | 716 | 1,168 | 541 | 1,168 | 586 |
| Residential – 2 dwellings per acre | 1,525 | 1,074 | 1,539 | 1,319 | 1,622 |
| Residential – 4 dwellings per acre | 0 | 0 | 0 | 0 | 0 |
| Commercial (existing ac.) | 26 | 26 | 26 | 26 | 26 |
| Industrial (existing ac.) | 24 | 24 | 24 | 24 | 24 |
| Office & Institutional (existing ac.) | 15 | 15 | 15 | 15 | 15 |
| Mixed Use Node - commercial/retail portion ² | 24 | 24 | 24 | 24 | 24 |
| Mixed Use Node – office/employment portion | 214 | 230 | 139 | 107 | 75 |
| Mixed Use Node – residential portion | 214 | 229 | 139 | 107 | 75 |
| Parks/Open Space/Golf | 408 | 408 | 408 | 408 | 408 |
| Total (official unincorporated plan area): | 10,717 | 10,717 | 10,717 | 10,717 | 10,717 |

Table 1b. Acres by Land Use Category: Comparison With Plan 6 (Figures apply only to the unincorporated areas of the Plan Map)

| Land Use Category | Plan 6 (acres) | Change in Acres from Plan 6 | | | |
|---|----------------|-----------------------------|----------|-------------------------|----------|
| | | Using Largest MXD Area | | Using Smallest MXD Area | |
| | | Plan 6a | Plan 6b | Plan 6a | Plan 6b |
| Residential – 1 dwelling per 5 acres | 7,296 | - 273 | + 311 | - 273 | + 311 |
| Residential – 1 dwelling per 3 acres | 255 | + 241 | 0 | + 241 | 0 |
| Residential – 1 dwelling per 1 acre | 716 | + 452 | - 175 | + 452 | - 130 |
| Residential – 2 dwellings per acre | 1,525 | - 451 | + 14 | - 206 | + 97 |
| Residential – 4 dwellings per acre | 0 | 0 | 0 | 0 | 0 |
| Commercial (existing ac.) | 26 | 0 | 0 | 0 | 0 |
| Industrial (existing ac.) | 24 | 0 | 0 | 0 | 0 |
| Office & Institutional (existing ac.) | 15 | 0 | 0 | 0 | 0 |
| Mixed Use Node - commercial/retail portion | 24 | 0 | 0 | 0 | 0 |
| Mixed Use Node – office/employment portion | 214 | + 16 | - 75 | - 107 | - 139 |
| Mixed Use Node – residential portion | 214 | + 15 | - 75 | - 107 | - 139 |
| Parks/Open Space/Golf | 408 | 0 | 0 | 0 | 0 |
| Total (official unincorporated plan area): | 10,717 | 0 | 0 | 0 | 0 |

Table 2a. Comparison of Maximum Buildout Estimates (Figures apply only to the unincorporated areas of the Plan Map)

| Metric | Projected Buildout Potential | | | | |
|---|------------------------------|------------------------|-----------|-------------------------|---------|
| | Plan 6 | Using Largest MXD Area | | Using Smallest MXD Area | |
| | | Plan 6a | Plan 6b | Plan 6a | Plan 6b |
| Maximum number of dwellings ³ | 7,021 | 5,801 | 6,336 | 5,803 | 6,036 |
| Maximum estimated population ⁴ | 19,453 | 16,258 | 17,506 | 16,265 | 16,780 |
| Maximum estimated K-12 student pop. ⁵ | 1,998 | 1,683 | 1,794 | 1,683 | 1,727 |
| Total estimated nonresidential floor space ⁶ | 2,051,022 | 2,172,990 | 1,479,297 | 1,235,361 | 991,425 |
| Total estimated employment ⁷ | 7,417 | 7,881 | 5,244 | 4,318 | 3,391 |

Table 2b. Comparison of Buildout Estimates with Plan 6 (Figures apply only to the unincorporated areas of the Plan Map)

| Metric | Plan 6 Buildout | Change in Buildout Potential from Plan 6 | | | |
|--|-----------------|--|-----------|-------------------------|-------------|
| | | Using Largest MXD Area | | Using Smallest MXD Area | |
| | | Plan 6a | Plan 6b | Plan 6a | Plan 6b |
| Maximum number of dwellings | 7,021 | - 1,220 | - 685 | - 1,218 | - 985 |
| Maximum estimated population | 19,453 | - 3,195 | - 1,947 | - 3,189 | - 2,673 |
| Maximum estimated K-12 student pop. | 1,998 | - 315 | - 204 | - 315 | - 271 |
| Total estimated nonresidential floor space | 2,051,022 | + 121,968 | - 571,725 | - 815,661 | - 1,059,597 |
| Total estimated employment | 7,417 | + 464 | - 2,173 | - 3,099 | - 4,026 |

Other Plan Characteristics:

- The above figures do not account for land that might be used for public schools or parks. Land for schools and parks would need to be subtracted from the table's land use category acreages, which would in turn result in lower figures for housing, population, floor space, and/or employment. The average size for a Chatham County elementary/middle school is 26 acres. The NC Department of Public Instruction recommended size is 65 acres for high schools.

Table 3. Comparison of Land Area East or West of the Rural Buffer

(East of = no public utilities; West of = potential for public utilities)

(Figures apply only to the unincorporated areas of the Plan Map)

| West or East of Rural Buffer | Total Acres | | | Change in Acres from Plan 6 | |
|---|---------------|---------------|---------------|-----------------------------|---------|
| | Plan 6 | Plan 6A | Plan 6B | Plan 6A | Plan 6B |
| West of Rural Buffer (no public utilities) | 7,479 | 8,008 | 7,878 | + 529 | + 399 |
| East of Rural Buffer (potential for public utilities) | 3,238 | 2,709 | 2,839 | - 529 | - 399 |
| Total Acres | 10,717 | 10,717 | 10,717 | | |

Table 4. Area by Land Use Category for Incorporated Area

(Figures apply to only the incorporated areas of the Plan Map)

| Land Use Category | Acres (figures below are same for all plan options) |
|--|--|
| Residential – 1 dwelling per acre | 46 |
| Residential – 2 dwellings per acre | 292 |
| Residential – 4 dwellings per acre ⁸ | 334 |
| Institutional (private school and church) | 54 |
| Public Town Parks | 74 |
| Total (unofficial, incorporated plan area): | 800 |

Table 5. Maximum Buildout Estimates for Incorporated Area

(Figures apply to only the incorporated areas of the Plan Map)

| Metric | (figures below are same for all plan options) |
|--|---|
| Maximum number of dwellings ⁹ | 1,847 |
| Maximum estimated population ¹⁰ | 4,107 |
| Maximum estimated K-12 student pop. ¹¹ | 168 |
| Total estimated nonresidential floor space ¹² | 240,000 sq. ft. |
| Total estimated employment ¹³ | 272 |

Table Endnotes/Footnotes:

- ¹ All of the acreage figures given in this report are based on total parcel acreage, exclusive of land owned by the U.S. Army Corps of Engineers, and exclusive of land contained in public road rights-of-way.
- ² For Plan Drafts 6, 6A, and 6B, 24 acres were assigned for commercial/retail uses, with the balance of the Mixed Use Node acreage split equally between office/employment and residential uses. For Plan 6B, it was assumed that the western mixed use node contained the 24 acres of commercial/retail, but that for the eastern node there was no commercial/retail acreage in Chatham County. The eastern mixed use node in Plan 6B contains substantial acreage in Wake County as well, however only the Chatham County acreage within the plan study area is reported.
- ³ Figure given is the maximum number possible, if all plan areas were to be built to the maximum allowed densities.
- ⁴ Figure given is based on the maximum possible number of dwellings. For single family dwellings, the figures assume 2.86 persons per dwelling, with an average occupancy rate of 98%. For multifamily dwellings, the figures assume 2.23 persons per dwelling, with an average occupancy rate of 92%. Based on U.S. Census figures for the area.
- ⁵ Based on 0.29 students per single family house and 0.16 students per multifamily dwelling, per the Chatham County Education Impact Fee Study. Figure includes public school and charter school students only.
- ⁶ Figure given is based on an average floor-to-area ratio (FAR) of 0.18 for commercial/retail, and 0.175 for office, which are the typical suburban FAR's found in Cary. The floorspace contribution from the commercial/mixed-use node varies by plan draft. However, for the existing commercial, industrial, and office/institutional acreage (property that has already been zoned to those uses by Chatham County), lower FAR's were used to reflect limits imposed by restricted public utility access. For county commercial and industrial areas, only half of the suburban FAR's were used. For county office/institutional uses, only a third of the suburban FAR was used.
- ⁷ Figure is based on 3.80 employees per 1,000 sq. ft. of office space, and 2.50 employees per 1,000 sq. ft. of retail space. (Source: ITE *Trip Generation Manual*, and ULI's *Dollars and Cents of Shopping Centers*.)
- ⁸ This portion of the plan area is the "active retirement" portion of Amberly ("Carolina Preserve by Del Webb"), and the gross density is actually 3.22 units/acre. In keeping with the whole numbers used elsewhere in the draft plans, this area has been rounded up to a category of "4 dwellings per acre".
- ⁹ All but about 37 acres of the residential area is either already developed, under construction, or has active or approved development plans. Therefore, except for the 37 acres, the number of dwellings is based on actual existing lots and approved subdivisions. For the remaining 37 acres, the number of units was based on comparable densities on adjacent phases of the development that have approved subdivisions.
- ¹⁰ For the active retirement portion of Amberly, a figure of 2.0 persons per dwelling was used, along with the standard single family occupancy rate of 0.98.
- ¹¹ The student figure is low due to the fact that the active retirement portion of Amberly, which includes 1,269 dwellings, will not generate any students.
- ¹² Taken from the approved Weldon Ridge PDD master plan. Floorspace is for K-8 school, a high school, and a church.
- ¹³ Employment was estimated by using employment for comparable facilities: Cary Elementary (80), Cary High (166), and St. Michael's Catholic Church in Cary (26).

Appendix A: Detailed Statistics for Each Plan Option, Unincorporated Plan Map Areas

Table 6.

| Land Use Category | Dwelling Units by Land Use Category | | | | |
|---|-------------------------------------|------------------------|--------------|-------------------------|--------------|
| | Plan 6 | Using Largest MXD Area | | Using Smallest MXD Area | |
| | | Plan 6a | Plan 6b | Plan 6a | Plan 6b |
| Residential – 1 dwelling per 5 acres | 1,459 | 1,404 | 1,521 | 1,404 | 1,521 |
| Residential – 1 dwelling per 3 acres | 85 | 165 | 85 | 165 | 85 |
| Residential – 1 dwelling per 1 acre | 716 | 1,168 | 541 | 1,168 | 586 |
| Residential – 2 dwellings per acre | 3,050 | 2,148 | 3,078 | 2,638 | 3,244 |
| Mixed Use Node – residential portion | 1,711 | 916 | 1,111 | 428 | 600 |
| Total (official unincorporated plan area): | 7,021 | 5,801 | 6,336 | 5,803 | 6,036 |

Table 7.

| Land Use Category | Population Estimate by Land Use Category | | | | |
|---|--|------------------------|---------------|-------------------------|---------------|
| | Plan 6 | Using Largest MXD Area | | Using Smallest MXD Area | |
| | | Plan 6a | Plan 6b | Plan 6a | Plan 6b |
| Residential – 1 dwelling per 5 acres | 4,089 | 3,935 | 4,263 | 3,935 | 4,263 |
| Residential – 1 dwelling per 3 acres | 238 | 462 | 238 | 462 | 238 |
| Residential – 1 dwelling per 1 acre | 2,007 | 3,274 | 1,516 | 3,274 | 1,642 |
| Residential – 2 dwellings per acre | 8,549 | 6,020 | 8,627 | 7,394 | 9,092 |
| Mixed Use Node – residential portion | 4,570 | 2,567 | 2,862 | 1,200 | 1,545 |
| Total (official unincorporated plan area): | 19,453 | 16,258 | 17,506 | 16,265 | 16,780 |

Table 8.

| Land Use Category | K-12 Student Estimate by Land Use Category | | | | |
|---|--|------------------------|--------------|-------------------------|--------------|
| | Plan 6 | Using Largest MXD Area | | Using Smallest MXD Area | |
| | | Plan 6a | Plan 6b | Plan 6a | Plan 6b |
| Residential – 1 dwelling per 5 acres | 423 | 407 | 441 | 407 | 441 |
| Residential – 1 dwelling per 3 acres | 25 | 48 | 25 | 48 | 25 |
| Residential – 1 dwelling per 1 acre | 208 | 339 | 157 | 339 | 170 |
| Residential – 2 dwellings per acre | 885 | 623 | 893 | 765 | 941 |
| Mixed Use Node – residential portion | 457 | 266 | 278 | 124 | 150 |
| Total (official unincorporated plan area): | 1,998 | 1,683 | 1,794 | 1,683 | 1,727 |

Table 9.

| Land Use Category | Nonresidential Floor Space by Land Use Category | | | | |
|---|---|------------------------|------------------|-------------------------|----------------|
| | Plan 6 | Using Largest MXD Area | | Using Smallest MXD Area | |
| | | Plan 6a | Plan 6b | Plan 6a | Plan 6b |
| Commercial (existing ac.) | 101,930 | 101,930 | 101,930 | 101,930 | 101,930 |
| Industrial (existing ac.) | 91,476 | 91,476 | 91,476 | 91,476 | 91,476 |
| Office & Institutional (existing ac.) | 38,115 | 38,115 | 38,115 | 38,115 | 38,115 |
| Mixed Use Node - commercial/retail portion | 188,179 | 188,179 | 188,179 | 188,179 | 188,179 |
| Mixed Use Node – office/employment portion | 1,631,322 | 1,753,290 | 1,059,597 | 815,661 | 571,725 |
| Total (official unincorporated plan area): | 2,051,022 | 2,172,990 | 1,479,297 | 1,235,361 | 991,425 |

Table 10.

| Land Use Category | Employment Estimate by Land Use Category | | | | |
|---|--|------------------------|--------------|-------------------------|--------------|
| | Plan 6 | Using Largest MXD Area | | Using Smallest MXD Area | |
| | | Plan 6a | Plan 6b | Plan 6a | Plan 6b |
| Commercial (existing ac.) | 255 | 255 | 255 | 255 | 255 |
| Industrial (existing ac.) | 348 | 348 | 348 | 348 | 348 |
| Office & Institutional (existing ac.) | 145 | 145 | 145 | 145 | 145 |
| Mixed Use Node - commercial/retail portion | 470 | 470 | 470 | 470 | 470 |
| Mixed Use Node – office/employment portion | 6,199 | 6,663 | 4,026 | 3,100 | 2,173 |
| Total (official unincorporated plan area): | 7,417 | 7,881 | 5,244 | 4,318 | 3,391 |

Appendix B: Detailed Statistics for Incorporated Plan Map Areas

(Statistics Do Not Change for Scenarios 6, 6a, 6b)

Table 11.

| Land Use Category | Est. Dwelling Units | Est. Population | Est. K-12 Student Pop. | Nonresid. Floor Space | Employment |
|---|----------------------------|------------------------|-------------------------------|------------------------------|-------------------|
| Residential – 1 dwelling per 1 acre | 45 ¹⁴ | 126 | 13 | | |
| Residential – 2 dwellings per acre | 533 ¹⁵ | 1,494 | 155 | | |
| Residential – 4 dwellings per acre | 1,269 ¹⁶ | 2,487 | 0 ¹⁷ | | |
| School and Church | | | | 240,000 ¹⁸ | 272 ¹⁹ |
| Total (official unincorporated plan area): | 1,847 | 4,107 | 168 | 240,000 | 272 |

¹⁴ Figure taken from approved subdivision plan.

¹⁵ Figure based on approved and/or built subdivision plans for all but 37 acres. Buildout for the 37 acres was based on average density in adjacent approved phases that do have subdivision plans.

¹⁶ Figure based on actual approved and/or built subdivisions and on in-review subdivision plans.

¹⁷ This table row represents the active retirement portion of Amberly (“Carolina Preserve by Del Webb”); no students.

¹⁸ Taken from the approved Weldon Ridge PDD master plan. Floorspace is for K-8 school, a high school, and a church.

¹⁹ Employment was estimated by using employment for comparable facilities: Cary Elementary (80), Cary High School (166), and St. Michael’s Catholic Church in Cary (26).