

# ORANGE COUNTY BOARD OF COMMISSIONERS

## AGENDA

BOCC Regular Work Session  
January 28, 2014  
Meeting – 7:00 p.m.  
Southern Human Services Center  
2501 Homestead Road  
Chapel Hill, NC

- |                |    |   |
|----------------|----|---|
| (7:00 – 8:30)  | 1. | Discussion with Triangle Transit Regarding Orange County Bus and Rail Investment Plan Annual Report, Preview of Updates & Additional Revenue from One-Half (1/2) Cent Sales Tax for Transit |
| (8:30 – 9:00)  | 2. | Tower Study   |
| (9:00 – 9:30)  | 3. | Draft Emergency Services Strategic Plan   |
| (9:30 – 10:00) | 4. | County Commissioners – Boards and Commissions Assignments   |

**ORANGE COUNTY  
BOARD OF COMMISSIONERS  
ACTION AGENDA ITEM ABSTRACT  
Meeting Date: January 28, 2014**

**Action Agenda  
Item No. 1**

**SUBJECT:** Discussion with Triangle Transit Regarding Orange County Bus and Rail Investment Plan Annual Report, Preview of Updates & Additional Revenue from One-Half (1/2) Cent Sales Tax for Transit

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**DEPARTMENT:** Planning and Inspections

**PUBLIC HEARING: (Y/N)**

No

**ATTACHMENT(S):**

**INFORMATION CONTACT:**

A) Update on Implementation of the Orange County Bus and Rail Improvement Plan Memo from Triangle Transit with Attachments A(1)-A(7)

Michael Talbert, Orange County Manager, 919-245-2300  
David King, Triangle Transit General Manager, 919-485-7424

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**PURPOSE:** To receive and discuss Triangle Transit's annual report on the Orange County Bus and Rail Investment Plan (OCBRIP), a preview of Plan updates, and additional revenue from the one-half cent sales tax for transit.

**BACKGROUND:** The Orange County Bus and Rail Investment Plan (OCBRIP) was approved by the BOCC in June 2012. The OCBRIP provides local and regional transit opportunities including expanded bus service and proposed light rail. Voters in November 2012 approved a one-half cent sales tax to fund the local portion of the Plan and collection of the sales tax began on April 1, 2013.

Additional background documents such as the adopted OCBRIP can be found via the following link, listed under Transportation Documents:

<http://www.co.orange.nc.us/planning/transportation.asp>

Attachment A is a memo from David King, General Manager of Triangle Transit (TT), which outlines its report and associated attachments.

Due to time limitations and the need to complete and distribute the work session materials, Orange County Planning Staff did not review the attached materials prior to its distribution. In addition to TT staff and upon the discretion of the Board, Orange County Planning Staff will be available at the work session to provide its input or respond to questions.

**NEXT STEPS:**

The following items will be coming to the BOCC for its approval in the future:

1) OCBRIP updates for approval in accordance with the Implementation Agreement; and

2) Five-Year Bus Service Expansion Program (including upcoming expanded TTA and Orange Public Transit service).

**FINANCIAL IMPACT:** Although this item does not have an immediate financial impact, the associated activity relates to the process to expend:

- Approximately \$6 Million per year of half-cent transit sales tax revenue;
- \$7 County vehicle registration fees;
- \$3 regional/TT vehicle registration fees (not yet implemented); and
- Existing regional/TT rental car tax revenues.

**RECOMMENDATION(S):** The Manager recommends the Board:

1. Receive the presentation; and
2. Discuss and ask questions as appropriate.

## Memorandum

**To: Michael Talbert, Interim Manager, Orange County**

**From: David King, General Manager, Triangle Transit**

**Date: January 23, 2014**

**Re: Update on Implementation of the Orange County Bus and Rail Improvement Plan**

We appreciate the opportunity to provide your Board with an update on implementation of the Orange County Transit Plan. We will report on the following issues:

- FY13 Annual Progress Report
- Draft Updates to the County Plan Financial Assumptions
- Status of Central and Rural Orange County Bus Service Expansion Program
- Hillsborough Train Station
- Durham-Orange Light Rail Transit Project

We've attached the following documents for your review:

1. Electronic version of an updated Orange County Transit Plan FY13 Annual Progress Report
2. Summary of Draft Updates to the Transit Plan Financial Assumptions
3. Graph of Forecasted Annual Closing Cash Balances
4. Tables Comparing 5-Year Bus Revenue Forecast to Adopted Plan
5. Table of Annual Revenues for Adopted Plan
6. Table of Annual Revenues with Updated Assumptions
7. Central and Rural Orange County Bus Service Expansion Program slides

We look forward to the work session next Tuesday.

# Chapel Hill Transit North Corridor Alternatives Analysis Study

Chapel Hill Transit North South Corridor Alternatives Analysis Study is the first step in the federal process that will allow CHT to compete for federal funds to build an enhanced transit service project within the corridor. The Alternatives Analysis will examine a variety of public transportation options and alignments and conclude with the identification of a Locally Preferred Alternative (LPA) for the corridor. The study will review the Columbia St./MLK Blvd transportation corridor. The study is scheduled to begin in October 2013. The anticipated study timeline is 15-18 months.

The study will expand on previous work to identify and evaluate multiple alignments for the corridor and a broad range of service delivery options in order to recommend an LPA that:

- improves accessibility, frequency, connectivity, reliability, capacity, speed, and convenience;
- improves the level of service and increases ridership to the UNC campus/hospital and provides a necessary connection to the new campus at Carolina North;
- provides access and connection to the proposed UNC Light Rail Station;
- provides more accessible, safe, and comfortable stations/stops with pedestrian connections to activity centers in the corridor;
- supports future development within the corridor and provides benefits to existing neighborhoods, including low income and minority populations; and
- generates wide public and stakeholder support and encourages partnerships among agencies, businesses and organizations in the corridor.

## Durham-Orange Light Rail Project:

Planning work continues on the proposed 17-mile Durham/Orange Light Rail Transit Project that would connect East Durham, through downtown Durham to Chapel Hill and UNC Hospital. Triangle Transit is working closely with area stakeholders and regional partners to identify and resolve issues as they work to complete an intensive environmental study of the proposed corridor. Work on the light rail has been funded by Triangle Transit's Major Transportation Investment Fund. Beginning in July 2013, additional work

on the project will be funded by the new revenue streams identified in the Transit Plan. Construction could begin by 2021 with operations underway in 2026.

## Hillsborough Amtrak Station:

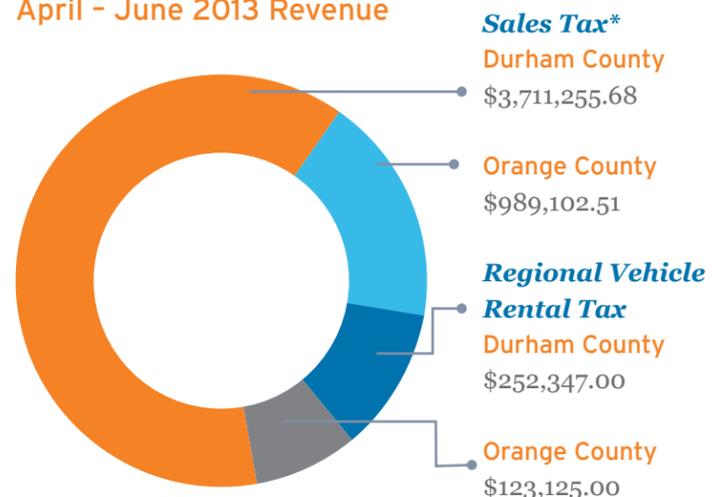
Additional work on the station awaits the result of rail corridor capacity analysis to be performed by Triangle Transit, North Carolina Railroad, and Norfolk Southern. Planning work should begin later this fall and is targeted to be completed within three to four months.

# Financial Summary

In November 2011 and November 2012, voters in Durham County and Orange County passed separate referenda that allowed each county to levy a 1/2-cent sales tax to fund the Durham and Orange County Bus and Rail Investment Plan (D-O Transit Plan). During the past fiscal year (July 2012 through June 2013), the new transit tax was in effect for three months from April 2013 through June 2013. The D-O Transit Plan is also funded through a portion of the current Regional Vehicle Rental Tax.

Triangle Transit anticipates receiving other new revenues for the D-O Transit Plan from additional funding sources including a \$7 County Vehicle Registration Tax, a \$3 Regional Vehicle Registration Tax increase, state and federal grants and customer fare payments.

## April - June 2013 Revenue



\* Readers should not assume that these values represent 1/4 of a full year's revenue. Month-to-month variability is high and April 2013 receipts were very low.

# ORANGE COUNTY

## Bus & Rail Investment Plan Progress Report

In the early summer of 2012 the Orange County Board of County Commissioners, Durham -- Chapel Hill -- Carrboro Metropolitan Planning Organization (DCHC MPO) and Triangle Transit Board of Trustees approved the Orange County Bus and Rail Investment Plan (Transit Plan). This progress report is meant to highlight some of the advancements made in the implementation of the Transit Plan over the course of Fiscal Year 2013\*

\*Fiscal Year 2013 is July 1, 2012 through June 30, 2013



# Goals of the Orange County Transit Plan

## The goals of the Transit Plan are to:

- Improve overall mobility and transportation options in the region
- Provide geographic equity
- Support improved capital facilities
- Support transit supportive land use
- Provide positive impact on air quality

## Strategies to accomplish these goals include:

1. New bus services locally, throughout the county, and across the region that:
  - Improve connectivity
  - Increase frequency in peak hours
  - Improve weekend, night services (off peak)
  - Enhance existing services
  - Maintain existing services
  - Maintain level of local funding at no less than the August 1, 2009 spending level;
2. An Amtrak Train Station in Town of Hillsborough
3. Enhanced bus service on MLK Blvd. in Chapel Hill
4. A 17 mile Light Rail connection from Chapel Hill to Durham.

All of the proposed transit improvements found in the Transit Plan require new revenue. The Orange County Board of County Commissioners authorized a referendum on a half-cent cent sales tax increase and an increase to the vehicle registration fee to help pay for these transit improvements. To the right are a series of milestones that have been achieved that help advance the implementation of the Transit Plan.

## Milestones

### June 2012

Orange County Board of County Commissioners authorize public referendum on half-cent sales tax increase to fund transit improvements

### October 2012

Approval of the Implementation Agreement

### November 2012

Citizens of Orange County vote in favor of a half-cent sales tax increase to support increased investment in transit

### December 2012

Orange County Commission authorize a seven dollar increase in vehicle registration fee and 1/2¢ sales tax to support increased investment in transit

### April 2013

One half-cent sales tax is implemented in Orange County

### July 2013

Seven dollar vehicle registration fee was implemented



## Accountability Orange County Annual Programming of Bus Service Expansions

Each December, Triangle Transit will communicate to Orange County and the Chapel Hill Transit Partners how much money will be available for bus service expansions in the upcoming year. If the amounts are not consistent with the adopted Plan, Triangle Transit will explain why. Then, Orange County, the Chapel Hill Transit Partners, and Triangle Transit will each identify which bus services from the Transit Plan will be paid for with the available money. Triangle Transit's Board of Trustees is responsible for making sure that the services funded with the 1/2-cent sales tax and the vehicle registration fees are consistent with State law, local agreements, and the County Plan.

Once reviewed and approved by Triangle Transit, the County and the Chapel Hill Transit Partners can budget for and implement the planned services.

## Next Steps Upcoming Bus Service Expansions

The following services will be implemented in the upcoming fiscal year (July 2013 through June 2014):

- More frequent weekday service between Streets at Southpoint park-and-ride and UNC-Chapel Hill on Triangle Transit Route 800 (August 2013)
- Later weekday service on Chapel Hill Transit routes CM, CW, D, F, and J (August 2013)
- Improved Saturday service on Chapel Hill Transit routes CM, CW, and JN (August 2013)

Orange County and Triangle Transit are also working cooperatively to refine a bus service expansion program for central and northern Orange County to meet growing needs for local and regional transit travel. This program of services is expected to be completed by December 2013. The schedule for service expansions will be determined through this process.

Over the upcoming five years, Chapel Hill Transit, Orange Public Transportation, and Triangle Transit will implement new or expanded bus services. Residents will also see new bus shelters, park-and-ride lots and sidewalk connections to bus stops.

## Comparison of Draft Financial Model Update Assumptions to Adopted Plans

	Adopted Plan	Draft Update
<u>Sales Tax</u>		
FY2014 in Orange	\$5,000,000	\$6,283,620
ST Growth Rate in Orange (FY15)	1.0%	3.0%
LT Growth Rate in Orange (FY16 and beyond)	3.6%	4.4%
FY2014 in Durham	\$18,956,000	\$21,730,640
ST Growth Rate in Durham (FY15)	1.5%	3.5%
LT Growth Rate in Durham (FY16 and beyond)	3.5%	4.6%
<u>\$7 Registration Fee</u>		
FY2015 in Orange	\$800,000*	\$784,488
Growth Rate in Orange	2.0%	2.0%
FY2015 in Durham	\$1,644,000	\$1,549,572
Growth Rate in Durham	2.0%	2.0%
<u>\$3 Registration Fee</u>		
FY2015 in Orange	\$350,000*	\$252,157**
Growth Rate in Orange	2.0%	2.0%
FY2015 in Durham	\$704,350	\$498,205**
Growth Rate in Durham	2.0%	2.0%
<u>%5 Rental Tax</u>		
FY2015 in Orange	\$600,000*	\$503,000
Growth Rate in Orange	4.0%	4.0%
FY2015 in Durham	\$1,081,000	\$1,030,000
Growth Rate in Durham	4.0%	4.0%
<u>Federal Participation</u>		
Section 5307	.5404 per vehicle revenue mile (grows 2.5% annually)	.5404 per vehicle revenue mile
Vehicle Purchases	80%	30%
Bus Capital Projects	80%	38%
MLK Busway	50%	50%
Hillsborough Train Station	80%	80%
D-O LRT	50%	50%
D-R Commuter Rail	50%	50%
<u>State Participation</u>		
SMAP	10% of new operating costs	7.5% of new operating costs
Vehicle Purchases	10%	5%
Bus Capital Projects	10%	8%
MLK Busway	25%	25%
Hillsborough Train Station	10%	10%
D-O LRT	25%	25%
D-R Commuter Rail	25%	25%
<u>Fare Recovery</u>		
Chapel Hill Transit	0%	0%
Orange Public Transportation	3.5%	3.5%
Triangle Transit - Orange	15%	15%
Triangle Transit - Durham	15%	15%
DATA	20%	15%
Durham County ACCESS	0%	0%
<u>FY13 Bus Operating Costs per Revenue Hour</u>		
Chapel Hill Transit	\$97	\$103
Orange Public Transportation	\$58	\$58
Triangle Transit - Orange	\$97	\$108
Triangle Transit - Durham	\$85***	\$108
DATA	\$85***	\$89
Durham County ACCESS	\$85***	\$53

\* Rounded values

\*\* Receipt of funds projected to begin on October 1, 2014 (3/4 of full fiscal year)

\*\*\* Durham Plan costs were for FY12 and were blended across three agencies.

Shaded cells show draft changes to assumptions from the adopted plans.

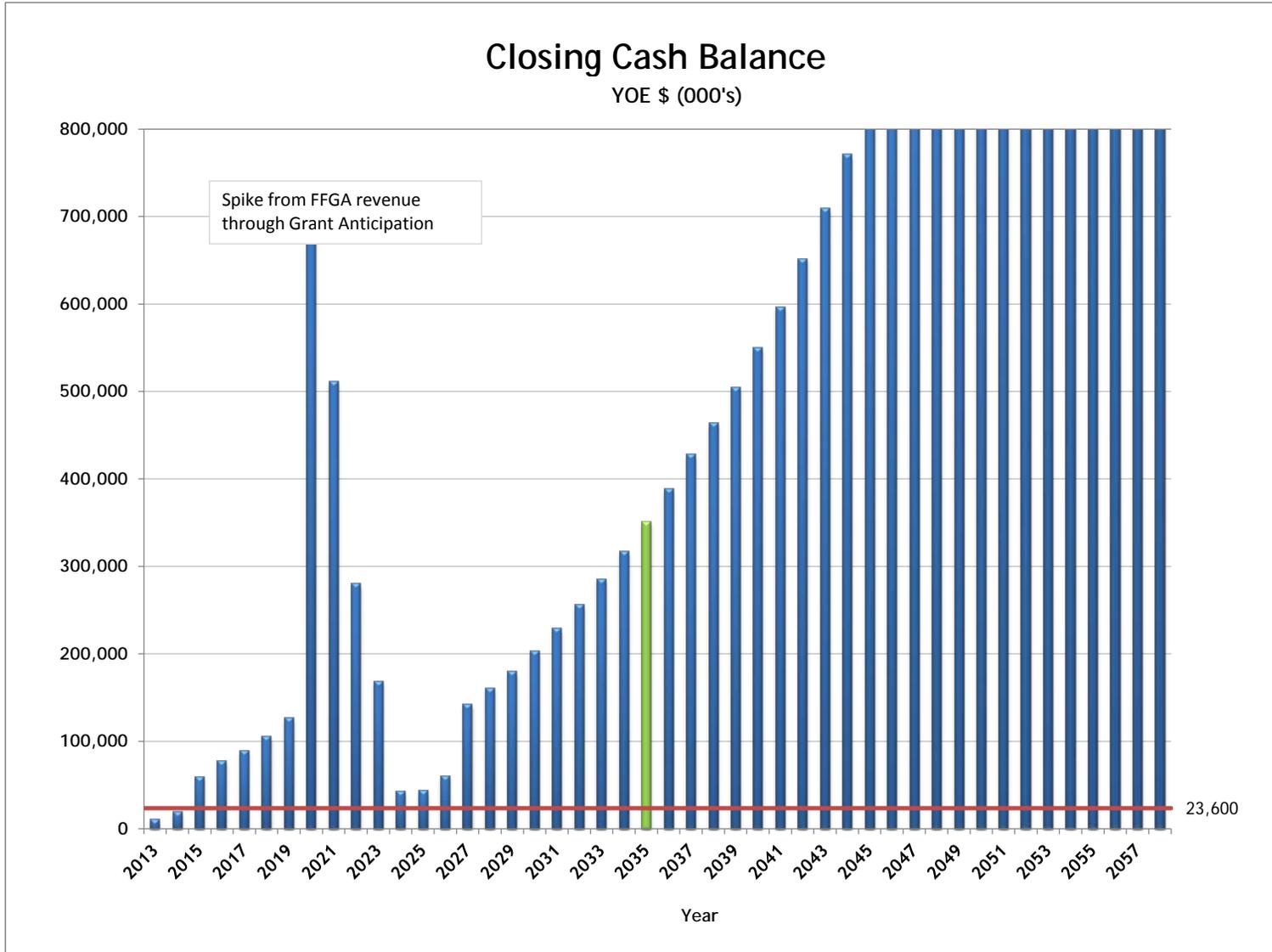
# Western Triangle Tax District Annual Cash Balance

Attachment A(3)

YOE (000's)

Orange  
Durham  
Western Triangle Tax District

	30 Jun 25	30 Jun 26	30 Jun 27	30 Jun 28	30 Jun 29	30 Jun 30	30 Jun 31	30 Jun 35
Orange	\$ (14,289)	\$ (16,045)	\$ (13,511)	\$ 2,663	\$ 3,324	\$ 5,027	\$ 8,124	\$ 11,534
Durham	\$ 57,251	\$ 59,515	\$ 74,176	\$ 139,603	\$ 157,244	\$ 174,475	\$ 195,037	\$ 217,119
Western Triangle Tax District	\$ 42,962	\$ 43,470	\$ 60,665	\$ 142,267	\$ 160,568	\$ 179,502	\$ 203,160	\$ 228,653



**Bus Operations - Updated 5-Year Forecast**  
(Dollars shown in \$1000's)

Orange		FY14	FY15	FY16	FY17	FY18	FY19	Total
<b>Total Hours - Orange County</b>		7,685	20,292	30,199	34,568	35,301	35,601	163,645
Total Cost		\$ 736	\$ 1,884	\$ 2,904	\$ 3,509	\$ 3,650	\$ 3,788	\$ 16,471
Federal Share	2.3%	\$ -	\$ -	\$ 35	\$ 70	\$ 114	\$ 160	\$ 379
State Share	5.1%	\$ -	\$ 44	\$ 125	\$ 194	\$ 235	\$ 245	\$ 844
Local Share	81.8%	\$ 736	\$ 1,758	\$ 2,622	\$ 3,101	\$ 3,154	\$ 3,233	\$ 13,466
Farebox	3.9%	\$ -	\$ 82	\$ 122	\$ 144	\$ 146	\$ 150	\$ 644
<b>TTA OBRIP New Hours (FY14 \$108/hr)</b>		1,102	4,603	6,961	7,926	8,224	8,306	37,121
Total Cost		\$ 119	\$ 513	\$ 799	\$ 967	\$ 1,004	\$ 1,045	\$ 4,446
Federal Share		\$ -	\$ -	\$ 10	\$ 19	\$ 31	\$ 44	\$ 104
State Share	7.5%	\$ -	\$ 9	\$ 38	\$ 60	\$ 73	\$ 75	\$ 255
Local Share		\$ 119	\$ 422	\$ 629	\$ 744	\$ 754	\$ 776	\$ 3,444
Farebox	15.0%	\$ -	\$ 82	\$ 122	\$ 144	\$ 146	\$ 150	\$ 644
<b>CHT OBRIP New Hours (FY14 \$103/hr)</b>		4,575	10,929	16,355	19,219	19,457	19,625	90,160
Total Cost		\$ 471	\$ 1,161	\$ 1,791	\$ 2,169	\$ 2,264	\$ 2,355	\$ 10,211
Federal Share		\$ -	\$ -	\$ 25	\$ 51	\$ 83	\$ 116	\$ 275
State Share	7.5%	\$ -	\$ 35	\$ 87	\$ 134	\$ 163	\$ 170	\$ 589
Local Share		\$ 471	\$ 1,125	\$ 1,678	\$ 1,984	\$ 2,019	\$ 2,069	\$ 9,347
Farebox	0.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>OPT OBRIP New Hours (FY14 \$44/hr)</b>		2,008	4,759	6,883	7,424	7,620	7,670	36,364
Total Cost		\$ 88	\$ 211	\$ 315	\$ 372	\$ 382	\$ 388	\$ 1,756
Federal Share		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
State Share		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Local Share	100.0%	\$ 88	\$ 211	\$ 315	\$ 372	\$ 382	\$ 388	\$ 1,756
Farebox	0.0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**Bus Capital - Bus Acquisitions - Updated Assumptions**

Orange		FY14	FY15	FY16	FY17	FY18	FY19	Total
<b>TTA Bus Acquisitions (2 buses)</b>		0.00	458.45	0.00	487.31	0.00	0.00	945.76
Federal Share	30.0%	0.00	137.54	0.00	146.19	0.00	0.00	283.73
State Share	5.0%	0.00	22.92	0.00	24.37	0.00	0.00	47.29
Local Share	65.0%	0.00	297.99	0.00	316.75	0.00	0.00	614.75
<b>CHT Bus Acquisitions (8 buses)</b>		0.00	0.00	1,417.99	1,461.94	1,004.84	0.00	3,884.77
Federal Share	30.0%	0.00	0.00	425.40	438.58	301.45	0.00	1,165.43
State Share	5.0%	0.00	0.00	70.90	73.10	50.24	0.00	194.24
Local Share	65.0%	0.00	0.00	921.69	950.26	653.15	0.00	2,525.10
<b>OPT Bus Acquisitions (2 buses)</b>		0.00	150.41	0.00	0.00	164.84	0.00	315.25
Federal Share	30.0%	0.00	45.12	0.00	0.00	49.45	0.00	94.58
State Share	5.0%	0.00	7.52	0.00	0.00	8.24	0.00	15.76
Local Share	65.0%	0.00	97.77	0.00	0.00	107.15	0.00	204.91
<b>Totals - Orange County</b>		0.00	608.86	1,417.99	1,949.26	1,169.68	0.00	5,145.79
Total Federal Share	30.0%	0.00	182.66	425.40	584.78	350.90	0.00	1,543.74
Total State Share	5.0%	0.00	30.44	70.90	97.46	58.48	0.00	257.29
Total Local Share	65.0%	0.00	395.76	921.69	1,267.02	760.29	0.00	3,344.76

**Bus Capital - Facilities - Updated Assumptions**

Orange		FY14	FY15	FY16	FY17	FY18	FY19	Total
<b>Total Cost</b>		25.00	950.05	1,541.75	2,467.95	2,222.24	0.00	7,206.99
Federal Share Bus Facility	38.0%	0.00	361.02	585.86	937.82	844.45	0.00	2,729.16
State Share Bus Facility	8.0%	0.00	76.00	123.34	197.44	177.78	0.00	574.56
Local Share Bus Facility	54.0%	25.00	513.03	832.54	1,332.69	1,200.01	0.00	3,903.27

**Bus Operations - Adopted Plan**  
(Dollars shown in \$1000's)

Orange		2014	2015	2016	2017	2018	2019	Total
<b>Total Hours - Orange County</b>		15,750	24,750	34,650	34,650	34,650	34,650	179,100
Total Cost		\$ 1,608	\$ 2,565	\$ 3,702	\$ 3,817	\$ 3,935	\$ 4,057	\$ 19,684
Federal Share	8.9%	\$ 143	\$ 228	\$ 329	\$ 340	\$ 350	\$ 361	\$ 1,752
State Share	10.0%	\$ 161	\$ 257	\$ 370	\$ 382	\$ 394	\$ 406	\$ 1,968
Local Share	77.6%	\$ 1,248	\$ 1,990	\$ 2,873	\$ 2,962	\$ 3,054	\$ 3,148	\$ 15,275
Farebox	3.5%	\$ 56	\$ 90	\$ 130	\$ 134	\$ 138	\$ 142	\$ 689
<b>TTA OBRIP New Hours</b>		1,607	3,240	5,320	7,450	7,450	7,450	32,517
Total Cost		\$ 386	\$ 616	\$ 888	\$ 916	\$ 944	\$ 974	\$ 4,724
Federal Share	8.9%	\$ 34	\$ 55	\$ 79	\$ 82	\$ 84	\$ 87	\$ 420
State Share	10.0%	\$ 39	\$ 62	\$ 89	\$ 92	\$ 94	\$ 97	\$ 434
Local Share	77.6%	\$ 299	\$ 478	\$ 689	\$ 711	\$ 733	\$ 756	\$ 3,666
Farebox	3.5%	\$ 14	\$ 22	\$ 31	\$ 32	\$ 33	\$ 34	\$ 165
<b>CHT OBRIP New Hours</b>		4,786	8,890	14,600	20,440	20,440	20,440	89,596
Total Cost		\$ 1,029	\$ 1,642	\$ 2,369	\$ 2,443	\$ 2,518	\$ 2,596	\$ 12,598
Federal Share	8.9%	\$ 92	\$ 146	\$ 211	\$ 217	\$ 224	\$ 231	\$ 1,121
State Share	10.0%	\$ 103	\$ 164	\$ 237	\$ 244	\$ 252	\$ 260	\$ 1,260
Local Share	77.6%	\$ 799	\$ 1,274	\$ 1,839	\$ 1,896	\$ 1,954	\$ 2,015	\$ 9,776
Farebox	3.5%	\$ 36	\$ 57	\$ 83	\$ 86	\$ 88	\$ 91	\$ 441
<b>OPT OBRIP New Hours</b>		1,501	2,940	4,830	6,760	6,760	6,760	29,551
Total Cost		\$ 193	\$ 308	\$ 444	\$ 458	\$ 472	\$ 487	\$ 2,362
Federal Share	8.9%	\$ 17	\$ 27	\$ 40	\$ 41	\$ 42	\$ 43	\$ 210
State Share	10.0%	\$ 19	\$ 31	\$ 44	\$ 46	\$ 47	\$ 49	\$ 217
Local Share	77.6%	\$ 150	\$ 239	\$ 345	\$ 355	\$ 366	\$ 378	\$ 1,833
Farebox	3.5%	\$ 7	\$ 11	\$ 16	\$ 16	\$ 17	\$ 17	\$ 83

**Bus Capital - Bus Acquisitions - Plan**

Orange		2013	2014	2015	2016	2017	2018	Total
<b>Total</b>		1,606.00	1,222.00	1,654.00	1,876.00	0.00	0.00	6,358.00
Federal Share	80.0%	1,284.80	977.60	1,323.20	1,500.80	0.00	0.00	5,086.40
State Share	10.0%	160.60	122.20	165.40	187.60	0.00	0.00	635.80
Local Share	10.0%	160.60	122.20	165.40	187.60	0.00	0.00	635.80

**Bus Capital - Facilities - Plan**

Orange		2013	2014	2015	2016	2017	2018	Total
<b>Total</b>		656.00	2,664.00	3,379.00	0.00	0.00	0.00	6,699.00
Federal Share	80.0%	524.80	2,131.20	2,703.20	0.00	0.00	0.00	5,359.20
State Share	10.0%	65.60	266.40	337.90	0.00	0.00	0.00	669.90
Local Share	10.0%	65.60	266.40	337.90	0.00	0.00	0.00	669.90

## Attachment A(5)

## Orange County Plan Revenues

## Total Orange County Revenues by Year (\$YOE millions)

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1/2-Cent Sales Tax*	\$ 3.9	\$ 5.0	\$ 5.0	\$ 5.2	\$ 5.4	\$ 5.6	\$ 5.8	\$ 6.0	\$ 6.2	\$ 6.5	\$ 6.7	\$ 6.9
\$7 Vehicle Registration Fee*	\$ 0.6	\$ 0.8	\$ 0.8	\$ 0.8	\$ 0.9	\$ 0.9	\$ 0.9	\$ 0.9	\$ 0.9	\$ 0.9	\$ 1.0	\$ 1.0
\$3 Vehicle Registration Fee*	\$ 0.3	\$ 0.3	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4
Car Rental Tax (existing)	\$ 0.6	\$ 0.6	\$ 0.6	\$ 0.7	\$ 0.7	\$ 0.7	\$ 0.7	\$ 0.8	\$ 0.8	\$ 0.8	\$ 0.9	\$ 0.9
FTA Formula Funds	\$ 2.3	\$ 2.4	\$ 2.4	\$ 2.5	\$ 2.6	\$ 2.6	\$ 2.7	\$ 2.8	\$ 2.8	\$ 2.9	\$ 3.0	\$ 3.0
Federal Projects Share	\$ 4.5	\$ 8.0	\$ 12.2	\$ 7.0	\$ 5.7	\$ 4.6	\$ 8.4	\$ 14.3	\$ 15.6	\$ 34.5	\$ 60.4	\$ 48.4
State Projects Share	\$ 1.4	\$ 1.9	\$ 3.5	\$ 3.3	\$ 3.2	\$ 2.7	\$ 4.6	\$ 7.6	\$ 8.2	\$ 17.7	\$ 30.7	\$ 24.7
Fares	\$ 0.0	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.2	\$ 0.2	\$ 0.2	\$ 0.2
Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.8	\$ 17.6
<b>Total Revenue By Year</b>	<b>\$ 14.4</b>	<b>\$ 20.2</b>	<b>\$ 26.2</b>	<b>\$ 21.1</b>	<b>\$ 20.2</b>	<b>\$ 18.9</b>	<b>\$ 24.9</b>	<b>\$ 34.1</b>	<b>\$ 36.5</b>	<b>\$ 65.2</b>	<b>\$ 110.4</b>	<b>\$ 104.5</b>

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	TOTAL
1/2-Cent Sales Tax	\$ 7.2	\$ 7.4	\$ 7.7	\$ 8.0	\$ 8.3	\$ 8.6	\$ 8.9	\$ 9.2	\$ 9.5	\$ 9.9	\$ 10.2	\$ 162.9
\$7 Vehicle Registration Fee	\$ 1.0	\$ 1.0	\$ 1.0	\$ 1.1	\$ 1.1	\$ 1.1	\$ 1.1	\$ 1.1	\$ 1.2	\$ 1.2	\$ 1.2	\$ 22.5
\$3 Vehicle Registration Fee	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 9.7
Car Rental Tax (existing)	\$ 0.9	\$ 1.0	\$ 1.0	\$ 1.0	\$ 1.1	\$ 1.1	\$ 1.2	\$ 1.2	\$ 1.3	\$ 1.3	\$ 1.4	\$ 21.3
FTA Formula Funds	\$ 3.1	\$ 3.2	\$ 3.3	\$ 3.4	\$ 3.4	\$ 3.5	\$ 3.6	\$ 3.7	\$ 3.8	\$ 3.9	\$ 4.0	\$ 70.9
Federal Projects Share	\$ 17.3	\$ 1.4	\$ 1.9	\$ 2.2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.7	\$ 247.9
State Projects Share	\$ 8.5	\$ 1.2	\$ 1.3	\$ 1.4	\$ 1.1	\$ 1.1	\$ 1.2	\$ 1.2	\$ 1.3	\$ 1.3	\$ 1.7	\$ 130.6
Fares	\$ 0.2	\$ 1.2	\$ 1.2	\$ 1.3	\$ 1.3	\$ 1.4	\$ 1.4	\$ 1.4	\$ 1.5	\$ 1.5	\$ 1.6	\$ 15.6
Bond Proceeds	\$ 1.2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 24.5
<b>Total Revenue By Year</b>	<b>\$ 41.2</b>	<b>\$ 18.3</b>	<b>\$ 19.4</b>	<b>\$ 20.2</b>	<b>\$ 18.3</b>	<b>\$ 18.9</b>	<b>\$ 19.5</b>	<b>\$ 20.1</b>	<b>\$ 20.7</b>	<b>\$ 21.3</b>	<b>\$ 24.1</b>	<b>\$ 706.0</b>

## Total Orange County Transit Plan \$YOE Revenue to Year 2035

\$ 706,000,000

\*Revenue in first year is 75% of full value because revenue source is anticipated to be active on 4/1/2013, not 1/1/2013

**Orange County Plan Revenues - Updated Forecast**

**Total Orange County Revenues by Year (\$YOE millions)**

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1/2-Cent Sales Tax	\$ -	\$ 6,284	\$ 6,472	\$ 6,757	\$ 7,054	\$ 7,365	\$ 7,689	\$ 8,027	\$ 8,380	\$ 8,749	\$ 9,134	\$ 9,536
\$7 Vehicle Registration Fee	\$ -	\$ 577	\$ 784	\$ 800	\$ 816	\$ 833	\$ 849	\$ 866	\$ 883	\$ 901	\$ 919	\$ 938
\$3 Vehicle Registration Fee	\$ -	\$ -	\$ 252	\$ 343	\$ 350	\$ 357	\$ 364	\$ 371	\$ 379	\$ 386	\$ 394	\$ 402
Car Rental Tax (existing)	\$ 233	\$ 484	\$ 503	\$ 523	\$ 544	\$ 566	\$ 589	\$ 612	\$ 637	\$ 662	\$ 689	\$ 716
FTA Formula Funds *	\$ -	\$ -	\$ -	\$ 37	\$ 99	\$ 144	\$ 168	\$ 168	\$ 167	\$ 167	\$ 166	\$ 166
Federal Projects Share **	\$ -	\$ 582	\$ 1,748	\$ 8,608	\$ 6,647	\$ 8,690	\$ 6,803	\$ 5,869	\$ 16,120	\$ 22,950	\$ 22,950	\$ 22,950
State Projects Share **	\$ 303	\$ 1,165	\$ 1,375	\$ 1,072	\$ 1,942	\$ 3,647	\$ 3,402	\$ 2,934	\$ 8,415	\$ 17,166	\$ 21,832	\$ 15,477
Fares	\$ -	\$ 30	\$ 80	\$ 121	\$ 146	\$ 150	\$ 155	\$ 159	\$ 164	\$ 170	\$ 175	\$ 180
Bond Proceeds ***	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 126,523	\$ -	\$ -	\$ 8,161
Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,161
GAN Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 126,523	\$ -	\$ -	\$ -
<b>Total Revenue By Year</b>	<b>\$ 535</b>	<b>\$ 9,121</b>	<b>\$ 11,215</b>	<b>\$ 18,262</b>	<b>\$ 17,598</b>	<b>\$ 21,751</b>	<b>\$ 20,018</b>	<b>\$ 19,007</b>	<b>\$ 161,669</b>	<b>\$ 51,150</b>	<b>\$ 56,258</b>	<b>\$ 58,525</b>

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
1/2-Cent Sales Tax	\$ 9,955	\$ 10,393	\$ 10,851	\$ 11,328	\$ 11,826	\$ 12,347	\$ 12,890	\$ 13,457	\$ 14,049	\$ 14,668	\$ 15,313	\$ 222,523
\$7 Vehicle Registration Fee	\$ 956	\$ 975	\$ 995	\$ 1,015	\$ 1,035	\$ 1,056	\$ 1,077	\$ 1,098	\$ 1,120	\$ 1,143	\$ 1,166	\$ 20,804
\$3 Vehicle Registration Fee	\$ 410	\$ 418	\$ 426	\$ 435	\$ 444	\$ 452	\$ 462	\$ 471	\$ 480	\$ 490	\$ 500	\$ 8,585
Car Rental Tax (existing)	\$ 745	\$ 775	\$ 805	\$ 838	\$ 871	\$ 906	\$ 942	\$ 980	\$ 1,019	\$ 1,060	\$ 1,102	\$ 16,800
FTA Formula Funds *	\$ 165	\$ 165	\$ 164	\$ 164	\$ 164	\$ 163	\$ 163	\$ 162	\$ 162	\$ 162	\$ 161	\$ 3,076
Federal Projects Share **	\$ 22,950	\$ 22,950	\$ 23,213	\$ 22,550	\$ 844	\$ 506	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 216,931
State Projects Share **	\$ 21,014	\$ 2,642	\$ 791	\$ 687	\$ 141	\$ 84	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 104,090
Fares	\$ 186	\$ 2,178	\$ 2,246	\$ 2,315	\$ 2,387	\$ 2,461	\$ 2,537	\$ 2,616	\$ 2,697	\$ 2,781	\$ 2,867	\$ 26,801
Bond Proceeds ***	\$ 21,627	\$ 428	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 156,739
Bond Proceeds	\$ 21,627	\$ 428	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,216
GAN Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 126,523
<b>Total Revenue By Year</b>	<b>\$ 78,008</b>	<b>\$ 40,925</b>	<b>\$ 39,492</b>	<b>\$ 39,331</b>	<b>\$ 17,711</b>	<b>\$ 17,976</b>	<b>\$ 18,071</b>	<b>\$ 18,785</b>	<b>\$ 19,528</b>	<b>\$ 20,303</b>	<b>\$ 21,109</b>	<b>\$ 776,347</b>

\* Includes revenues from 5307 for bus operations only

\*\* Includes expense from bus capital, rail capital (including Hillsborough train station), and bus acquisitions and replacements

\*\*\* Includes proceeds from grant anticipation notes

# What is the Central and Rural Orange County Bus Service Expansion Program?

1

- Joint five-year program between Orange County and Triangle Transit
- Year-by-year list of bus operating and capital projects for services provided by Orange County (OPT) and Triangle Transit to areas outside of Chapel Hill/Carrboro
- Bus program will be referenced in updated Orange County Transit Plan (Spring 2014)

# Public Involvement

2

- Held four joint County/TTA public outreach meetings in Hillsborough, Cedar Grove, Efland, and Mebane
  - ▣ 83 attendees total
- Received 230 surveys at public meetings, on board buses, and online
- Conducted survey of Duke employees who live in Orange/Alamance Counties
- Met with various stakeholders:
  - ▣ OUTBoard
  - ▣ Department on Aging
  - ▣ Department of Social Services

# Bus Services and Projects

3

- Continued funding of Hillsborough Circulator
- New OPT services and bus stop improvements
- New Triangle Transit service connecting western Orange County, Hillsborough and Durham
  - Narrowing short and long term options for a Park-and-Ride facility along US-70 in Hillsborough
  - Still determining potential stop location(s) in western Orange County/eastern Alamance County
  - Potential funding/service coordination opportunities with PART and Burlington-Graham MPO

# Timeline

4

- February:* Completion of draft Five-Year Bus Service Expansion Program
- March:* Presentation of draft Program to BOCC, TTA Board, and Hillsborough Town Council
- April:* Requested approval or endorsement of final Program by BOCC and TTA Board
- Fall 2014:* Earliest implementation of services

**ORANGE COUNTY  
BOARD OF COMMISSIONERS**

**ACTION AGENDA ITEM ABSTRACT**

**Meeting Date:** January 28, 2014

**Action Agenda  
Item No.   2**

**SUBJECT:** Tower Study

---

**DEPARTMENT:** Emergency Services

**PUBLIC HEARING: (Y/N)**

No

---

**ATTACHMENT(S):**

A) Radio Communication Tower and  
System Infrastructure Upgrade

**INFORMATION CONTACT:**

Jim Groves, 245-6140

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**PURPOSE:** To receive the findings from a study by Federal Engineering relating current radio coverage and proposed enhancements to the radio infrastructure.

**BACKGROUND:** The State-owned Voice Interoperability Plan for Emergency Responders (VIPER) 800 MHz Radio System has been used by Orange County emergency response agencies for several years. During that time, several complaints have been raised by law enforcement, fire, and emergency medical services (EMS) relating to coverage issues. This study took a look at our existing coverage under the VIPER system, and provides several suggestions for new tower sites to help improve coverage and building penetration. In addition, the study looked at the VHF Paging coverage, and provides recommendations to consider for improving VHF Paging coverage. The VHF paging system is used to activate pagers for fire departments as well as EMS when there is an emergency call.

**FINANCIAL IMPACT:** This presentation is for informational purposes. Tower construction is currently included in the Emergency Services Capital Investment Plan (CIP). Any action based on the recommendations of this report will be presented to the Board at a regular meeting.

**RECOMMENDATION(S):** The Manager recommends that the Board receive the presentation for informational purposes.



# Orange County, NC Radio Communication Tower and System Infrastructure Upgrade

## RF Site Coverage and Sites/Towers

August 30, 2013

Prepared by:



Federal Engineering, Inc.  
10600 Arrowhead Dr, Suite 160  
Fairfax, VA 22030  
703-359-8200

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Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

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## 1. Introduction

An RF Coverage Workshop was held with Orange County and the law enforcement, fire, and emergency medical services within Orange County on May 20, 2013. At this workshop, Federal Engineering (**FE**) presented RF coverage maps showing coverage provided by the existing VIPER sites, along with RF coverage improvements the County could realize from various additional sites. Workshop participants were able to see what RF coverage improvements were produced from multiple sets of site configurations.

As a result of this RF Coverage Workshop, Orange County selected a set of four additional sites to improve VIPER coverage within the County. These four sites are existing sites, and the County decided to investigate colocation on the following four sites.

- Northeast portion of County – Caldwell area – existing guyed tower
- South-Central portion of County – Chapel Hill – existing monopole
- Southwest portion of County – Chapel Hill – existing monopole
- Southeast portion of County – Chapel Hill – existing monopole (two sites possible in this area, where either site would provide coverage)

The RF Workshop also presented Fire Station Paging RF coverage from the existing sites, along with RF coverage improvements from various additional sites.

For Fire Station Paging RF coverage improvements, the County selected two additional sites to improve coverage within the County. They are:

- North portion of County – Cedar Grove Fire Station on Hawkins Road.
- Southwest portion of County – Orange Grove Fire Station at 6800 Orange Grove Rd. The Orange Grove Fire Station will require a new tower.



## 2. RF Coverage

For each of the additional sites identified, FE predicted RF coverage, combined the predicted coverage of these additional sites with the existing VIPER RF coverage provided to Orange County, and plotted the resultant total coverage. Figures 2 through 12 shows these RF coverage plots, which can be found in Section 2.1.7. Figure 2 depicts the current VIPER RF coverage. Additionally, high-resolution plots have been generated and will be provided in separate electronic format, due to the large file size.

### 2.1 800 MHz VIPER System

Tables 1 and 2 list RF coverage percentages for Orange County, and can be found in Section 2.1.8 Table 1 lists the coverage percentages for the existing system, and Table 2 lists the percentages with the four proposed new sites.

Table 3 lists the proposed antenna mounting heights for 800 MHz antennas, and can be found in Section 2.1.9.

#### 2.1.1 Northeast - Caldwell Area Site (New Sharon Church Rd.)

This site could provide 800 MHz VIPER coverage in the northeast portion of the County.

The Crown Castle database lists this site as an existing 400 ft. guyed tower. Investigations showed that this tower was dismantled; however, American Tower Corporation (ATC) has proposed a new 195 ft. monopole tower for commercial use by AT&T and potentially other commercial

Figures 3 through 8 in Section 2.1.7 shows the predicted 800 MHz RF coverage from this site. Please note that the site is labeled as Bill Poole Rd (this is the proposed ATC New Sharon Church Rd. site).

The County should consider pursuing use of this tower following its use approval.

In the event no space is available in the shelter, or the carrier will not permit use of the carrier's shelter, Orange County will need to procure and install a shelter for its own use. Orange County may also be required to procure a generator with associated fuel tank.

### **2.1.1.1 Site/Tower Details**

Address: 7505 New Sharon Church Rd.

Coordinates: 36-11-25.05, 78-58-31.78

Tower Type: Monopole

Tower Height: 195 ft.

Proposed VIPER antenna heights:

- 1-800 MHz Tx antenna – DB809 (max 12.2 ft.), 130 ft. centerline
- 1-800 MHz Tx transmission line – 1 ¼ inch
- 1-800 MHz Rx antenna – DB809 (max 12.2 ft.), 150 ft. centerline
- 1-800 MHz TTA – 16”H x 12”W x 7.5”D, 39#, 384 ft. (or close to base of Rx antenna)
- 1-800 MHz Rx transmission line – 7/8 inch
- 1-Microwave dish - Comscope WHP6-65-P1A/K, 6 ft., 177 or 75 ft. level, azimuth [Laws, Eno]
- 1-Microwave transmission line – EWP63S jacketed, approx.1” x 2” elliptical waveguide

Site Contact: American Tower (ATC)

### **2.1.2 South-central – GTE Wireless Site**

This site could provide 800 MHz VIPER coverage in the south-central portion of the County.

**FE** investigations show that this site, #42 on the County Telcom List, is now owned by Crown Castle.

In the event that no space is available in the shelter, or the carrier prohibits use of the carrier’s shelter by others, Orange County will need to procure and install a shelter for its own use. Orange County may also be required to procure and a generator with associated fuel tank.

800 MHz RF coverage has been predicted from this site, and is shown in Figures 3 through 8, which can be found in Section 2.1.7.

The County should consider pursuing use of this tower.

### **2.1.2.1 Site/Tower Details**

Address: 1403 New Hope Trace, Chapel Hill, NC  
 Coordinates: 36-00-46.7, 79-04-45

Tower Type: Monopole

Tower Height: 195 ft.

Proposed VIPER antenna heights:

- 1-800 MHz Tx antenna – DB809 (max 12.2 ft.), 162 ft. centerline desired (147 ft. available)
- 1-800 MHz Tx transmission line – 1 ¼ inch
- 1-800 MHz Rx antenna – DB809 (max 12.2 ft.), 178 ft. centerline desired (157 ft. available)
- 1-800 MHz TTA – 16”H x 12”W x 7.5”D, 39#, 157 ft. or close to bottom of Rx antenna
- 1-800 MHz Rx transmission line – 7/8 inch
- 1-Microwave dish – Comscope WHP6-65-P1A/K, 6 ft., 95 or 115 ft., [Chatham, Camden]
- 1-Microwave transmission line – EWP63S jacketed, approx.1” x 2” elliptical waveguide

Site Contact: Crown Castle, Site #817094, Tania Fusco, 704-405-6558,  
[Tania.Fusco@crowncastle.com](mailto:Tania.Fusco@crowncastle.com)

### **2.1.3 Southwest – SBA Site**

This site could provide 800 MHz VIPER coverage in the southwest portion of the County. A second existing site could provide RF coverage in the area. Both were investigated, but only one has available space on the tower. SBA owns both sites investigated. One was found in the Crown Castle Database, and one (#41) was listed on the County Telcom List... The latter site, #41 appears to have tower space available

800 MHz RF coverage has been predicted from this site, and is shown in Figure 3 through 8, which can be found in Section 2.1.7...

The County should consider pursuing use of this tower.

### **2.1.3.1 Site/Tower Details**

Address: 4900 NC 54 W, Chapel Hill, NC  
 Coordinates: 35-56-01.4, 79-12-55.4

Tower Type: Monopole

Tower Height: 199 ft.

Proposed VIPER antenna heights:

- 1-800 MHz Tx antenna – DB809 (max 12.2 ft.), 130 ft. centerline
- 1-800 MHz Tx transmission line – 1 ¼ inch
- 1-800 MHz Rx antenna – DB809 (max 12.2 ft.), 150 ft. centerline
- 1-800 MHz TTA – 16”H x 12”W x 7.5”D, 39#, 150 ft. or close to bottom of Rx antenna
- 1-800 MHz Rx transmission line – 7/8 inch
- 1-Microwave dish - Comscope WHP6-65-P1A/K, 6 ft., 141 or 138 ft., [Chatham, Cane]
- 1-Microwave transmission line – EWP63S jacketed, approx.1” x 2” elliptical waveguide

Site Contact: SBA, Elaine Tarkington, 919-868-0426, [etarkington@sbsite.com](mailto:etarkington@sbsite.com)

### **2.1.4 Southeast – Vilcomm Site (WCHL)**

This site could provide 800 MHz VIPER coverage in the southeast portion of the County.

This site is owned by VilComm Interactive Media and is used by WCHL AM. Investigations have shown that this is an AM broadcast location, and that the towers themselves are the antenna. This is referred to as a “hot” tower. There are two towers at this location, as the WCHL uses two different radiation patterns, one for daylight hours, and one for nighttime hours. Since the towers are very close to each other, either tower would provide the coverage desired.

Since these are “hot” towers, isolation equipment is required between the radio equipment and the transmission lines and antennas that are mounted on the towers. Detailed engineering will be required to use this site, and will include designing the insolation equipment based on specific frequencies to be used, as well as ensuring that the AM broadcast pattern is not affected.



Contact with the tower owner has been established through the Chapel Hill Police Department, and discussions with the tower owner have taken place.

A physical inspection of the tower revealed that it was installed in 1968. Since the tower uses hollow tube steel legs, a structural analysis would need to include inspection of the inside of the tubular tower legs to check for the amount of corrosion. Also, it is **FE's** subcontractor's opinion that the tower would fail the most current TIA/EIA guidelines. Following discussion with Orange County, it was agreed that a structural analysis on this tower at this time was not to be performed.

Alternate locations in the same area as the WCHL towers should be investigated. At the direction of Orange County, **FE** reviewed the possible alternate locations for a site in this area. A site approximately 1,000 ft. to the south of WCHL could possibly be pursued. This alternative site is described in Section 2.1.5.

**FE** predicted 800 MHz RF coverage for this site, and is shown in Figures 3 through 8, which can be found in Section 2.1.7.

#### **2.1.4.1 Site/Tower Details**

Address: E Franklin Street, Chapel Hill, NC  
 Coordinates: 35-56-15.9, 79-01-35.2, and 35-56-19.0, 79-01-36.1

Tower Type: guyed

Tower Height: 200 ft.

Proposed VIPER antenna heights:

- 1-800 MHz Tx antenna – DB809 (max 12.2 ft.), 170 ft. centerline
- 1-800 MHz Tx transmission line – 1 ¼ inch
- 1-800 MHz Rx antenna – DB809 (max 12.2 ft.), 187 ft. centerline
- 1-800 MHz TTA – 16"H x 12"W x 7.5"D, 39#, 187 ft. or close to bottom of Rx antenna
- 1-800 MHz Rx transmission line – 7/8 inch
- 1-Microwave dish - Comscope WHP6-65-P1A/K, 6 ft., 167 or 157 ft., [Chatham, Camden]
- 1-Microwave transmission line – EWP63S jacketed, approx.1" x 2" elliptical waveguide

Site Contact: Mr. James Davis, Chief Engineer, WCHL 919-271-4133, [jwdc@nc.rr.com](mailto:jwdc@nc.rr.com)



### **2.1.5 Southeast - Alternate to WCHL Site**

An alternate to the WCHL site may be a parcel of land about 1,000 ft. to the south of the WCHL property – Figure 1 shows an aerial view of this site. **FE** identified this as part of the Eastgate Shopping Center parcel, PIN # 9799255527.

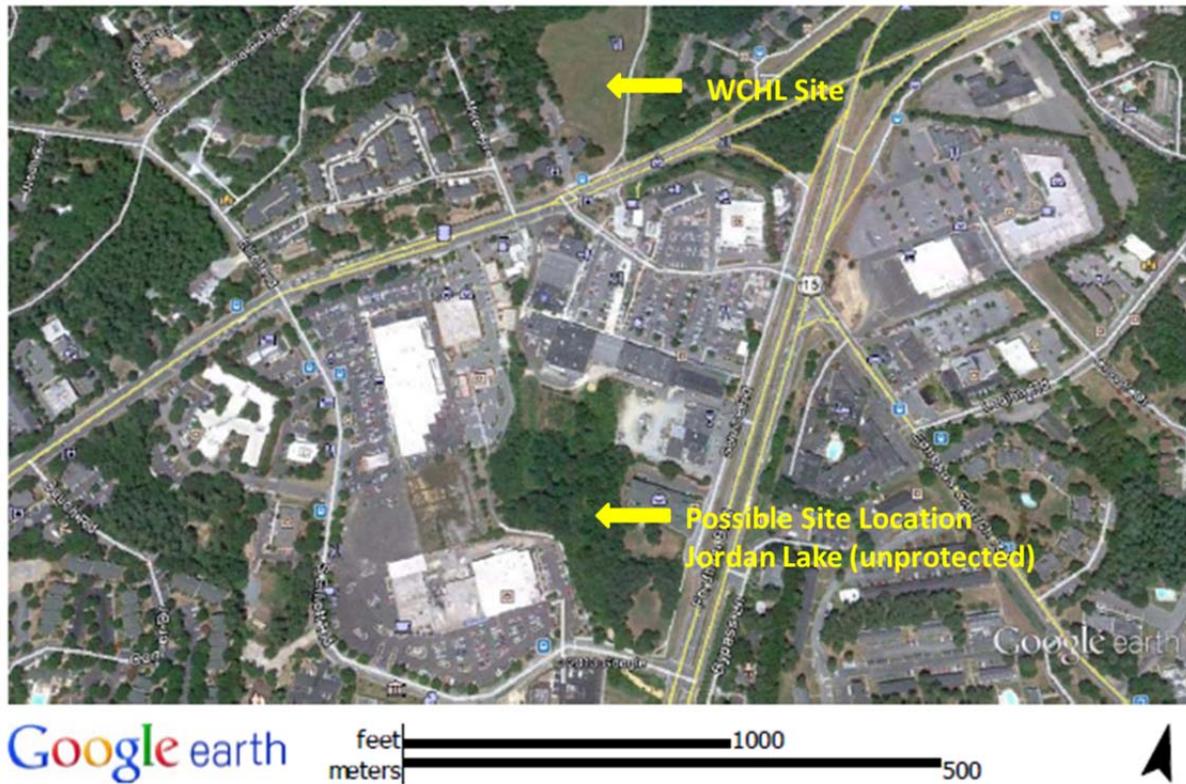
This property is in a flood plain, in an area labeled as Jordan Lake (unprotected). This may require the use of raised platforms for the site equipment (shelter, generator, and fuel tanks)

Also, due to the proximity to the WCHL-AM towers, any new tower may require “AM – de-tuning”.

A tower elevation and Unified Development Ordinance (UDO) Report is in preparation for submission under separate cover.

**FE** reviewed the 800 MHz RF coverage differences between the WCHL site and the alternate site. Our analysis used the same antenna height as was used for the WCHL site. While the coverage obtained from the alternate site is slightly different from the WCHL site, the differences are not significant, and the alternate site provides the required RF coverage to the immediate area.

Figure 11 in Section 2.1.7 shows the RF coverage for the WCHL site, and Figure 12 shows the RF coverage from the alternate site.



**Figure 1 - Alternate Site for Southeast VIPER**

### ***2.1.6 ATC Site – Hillsborough (Walnut Grove Church Rd.)***

At the request of Orange County, FE reviewed the proposed site on Walnut Grove Church Road, and predicted 800 MHz RF coverage from this site.

Figure 9, in Section 2.1.7, depicts portable talk-in RF coverage from only this site. Figure 10, in Section 1.2.7, depicts RF coverage with this site added to the overall site constellation (existing VIPER sites plus the four sites noted above).

This site does provide limited fill-in of coverage areas that were below the required audio quality DAQ 3.4 levels.

Orange County should review the RF coverage predictions in the subsequent sections in order to determine if the amount of additional RF coverage justifies the use of this additional site.

### ***2.1.7 VIPER RF Coverage Plots***

RF coverage plots in this Section for both talk-in and talk-out are provided for:

- Portables
- Portables in 12dB loss buildings
- Mobiles

High resolution files for the RF coverage are being provided on CD to Orange County. Due to the large size of the files, it is not possible to include them in this report or email them.



Orange County, NC - Existing VIPER Coverage

800 MHz Analog Coverage; Portable Talk-In (Radio to Repeater) at Various Quality Levels

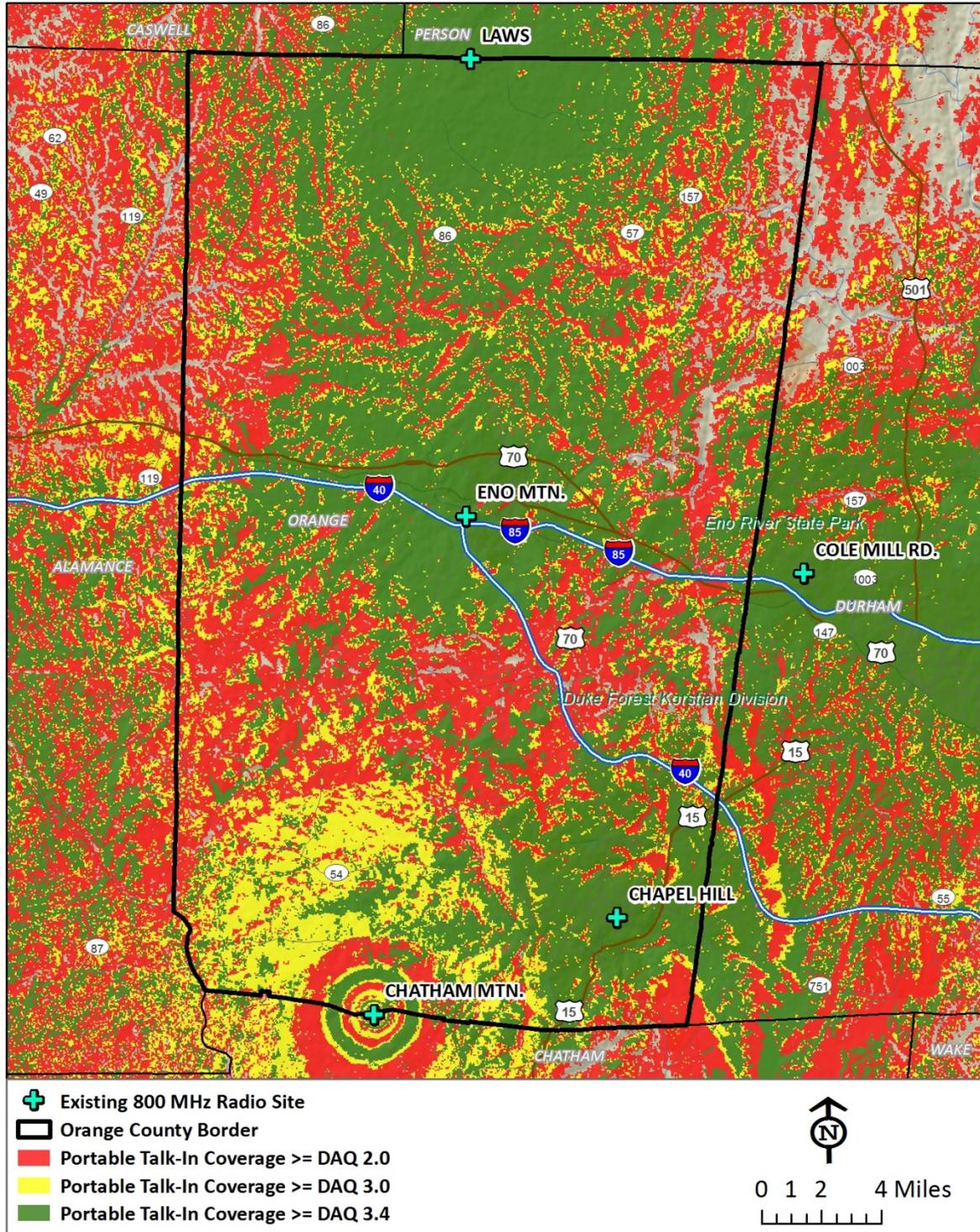


Figure 2 – Orange County Existing 800 MHz Portable Talk-In On-Street



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

Orange County, NC - Predicted coverage from VIPER sites and Candidate sites  
800 MHz Analog Coverage; Portable Talk-In (Radio to Repeater) at Various Quality Levels

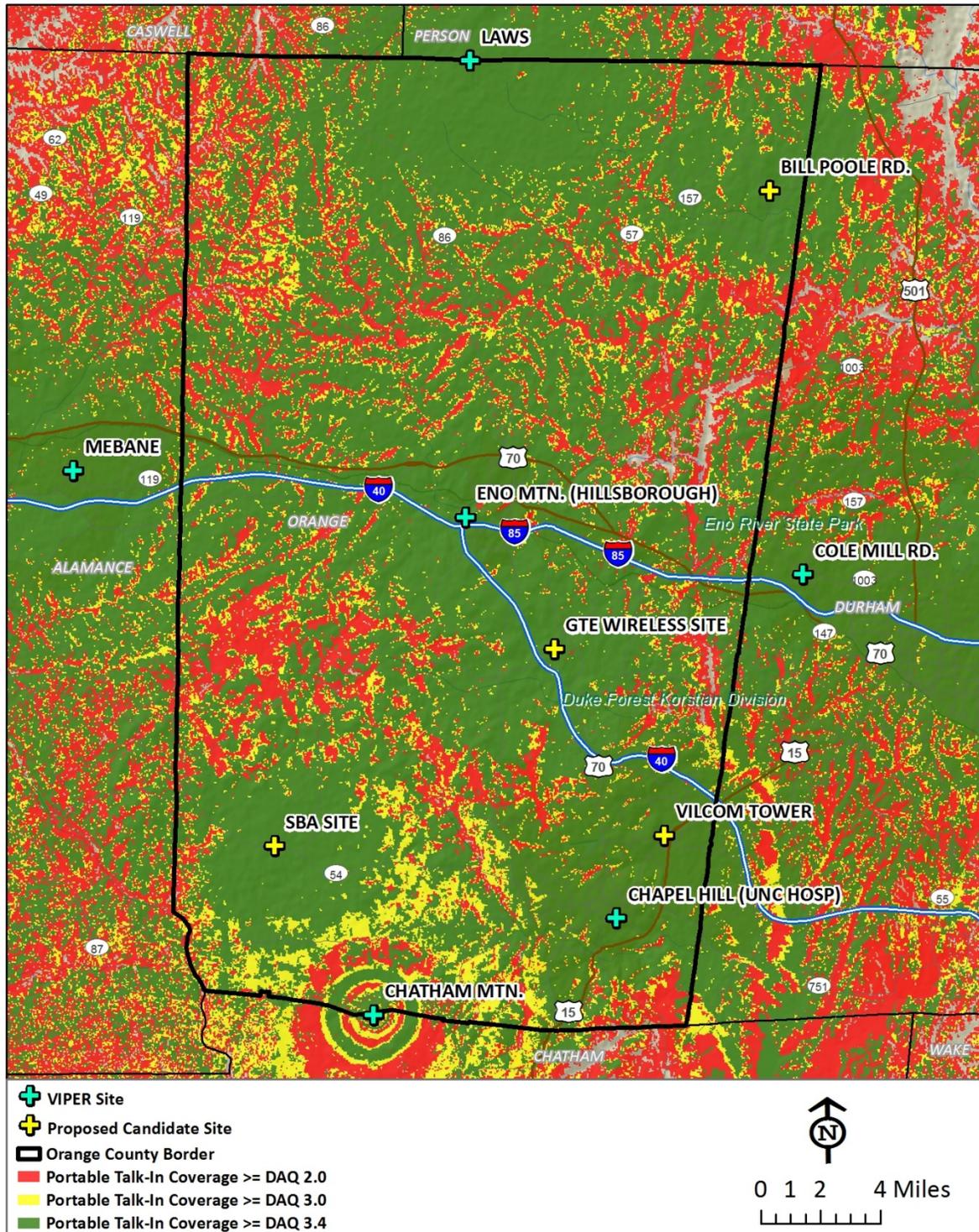


Figure 3 - Orange County Proposed 800 MHz Portable Talk-In On-Street



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

Orange County, NC - Predicted coverage from VIPER sites and Candidate sites  
800 MHz Analog Coverage; Portable Talk-Out (Repeater to Radio) On-Street

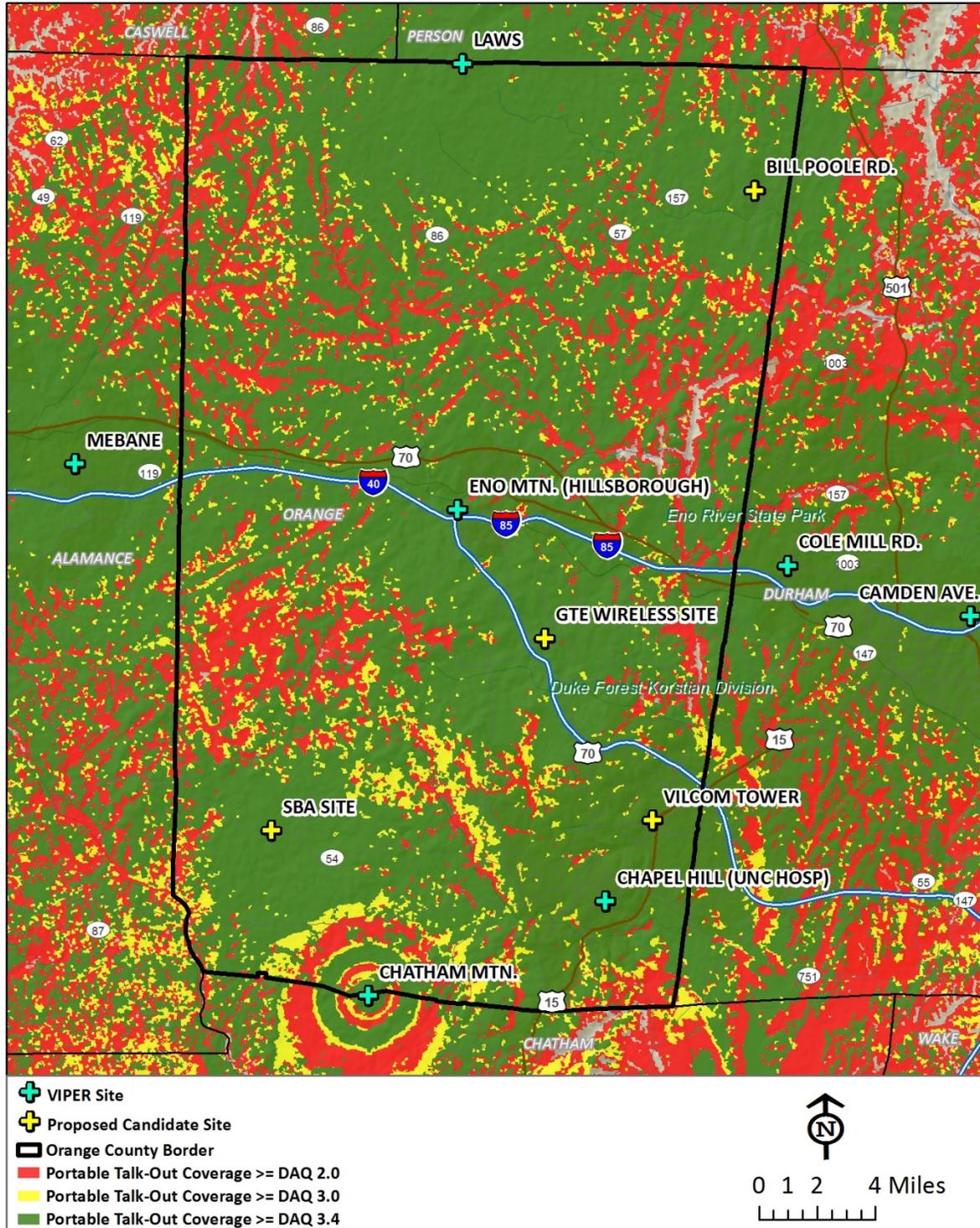


Figure 4 - Orange County Proposed Portable Talk-Out On-Street



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

Orange County, NC - Predicted coverage from VIPER sites and Candidate sites  
800 MHz Analog Coverage; Portable Talk-In (Radio to Repeater) In 12-dB Building

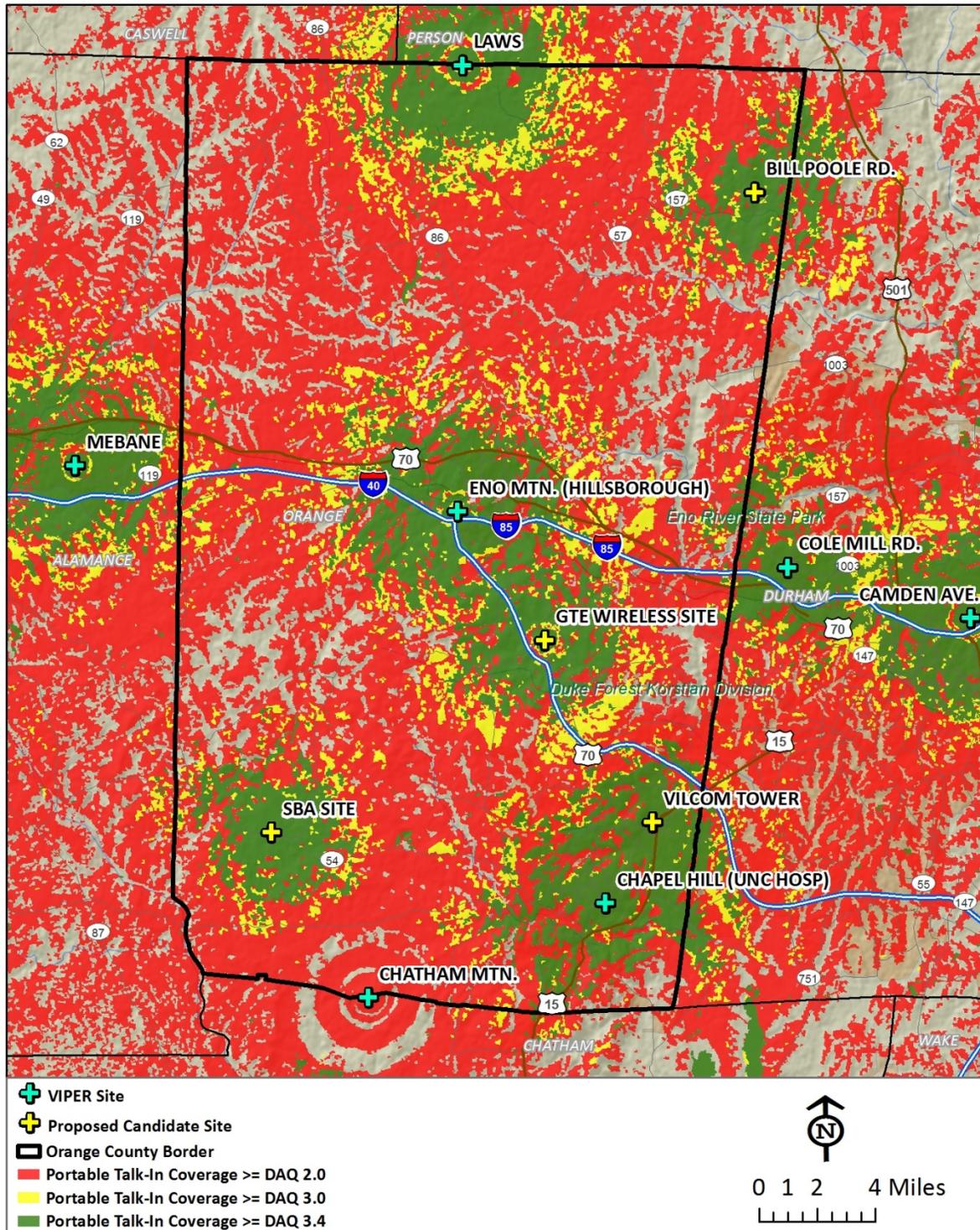


Figure 5 - Orange County Portable Talk-In 12dB Loss Buildings



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

Orange County, NC - Predicted coverage from VIPER sites and Candidate sites  
800 MHz Analog Coverage; Portable Talk-Out (Repeater to Radio) In 12-dB Building

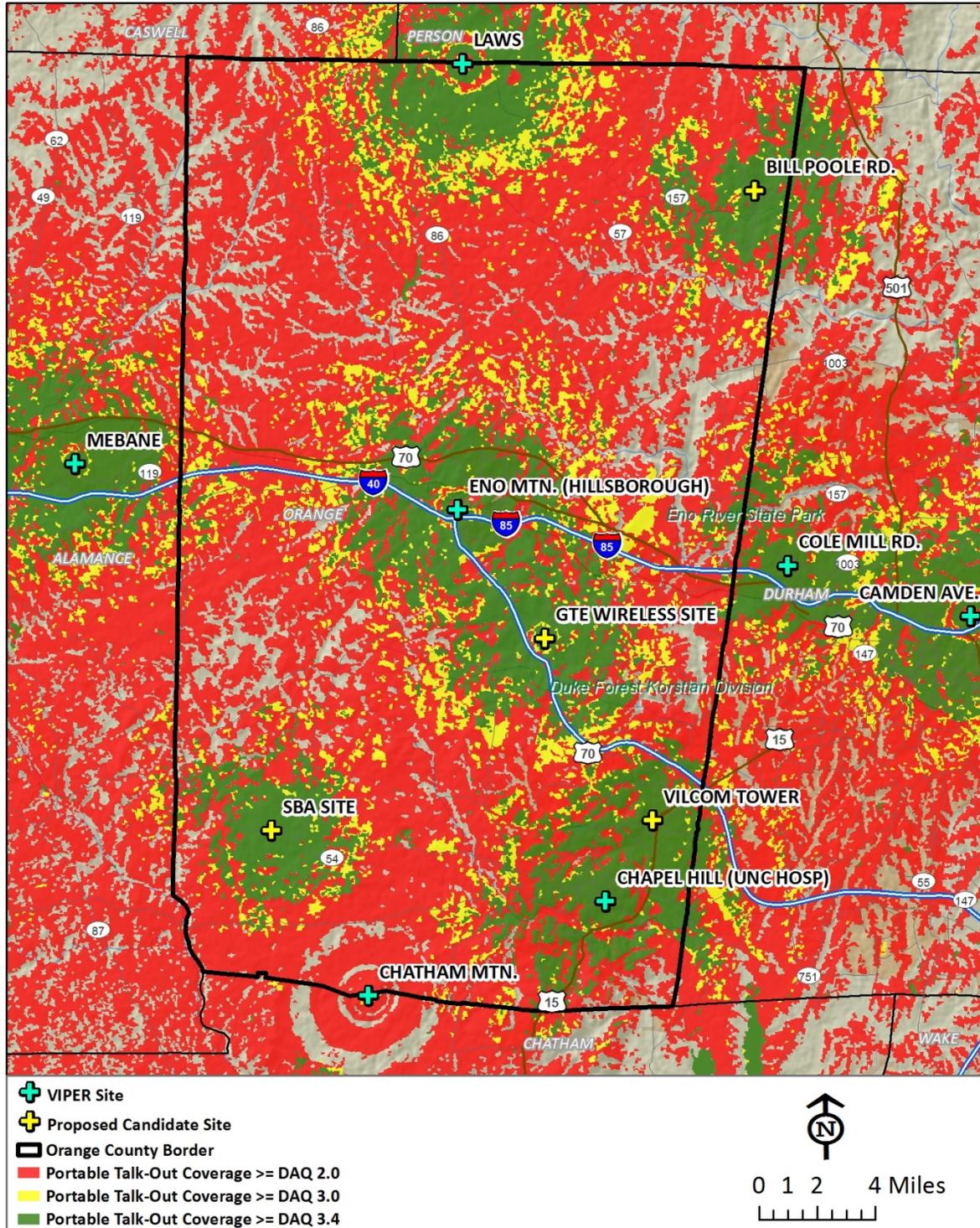


Figure 6 – Orange County Portable Talk-Out 12dB Loss Buildings



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

Orange County, NC - Predicted coverage from VIPER sites and Candidate sites  
800 MHz Analog Coverage; Mobile Talk-In (Radio to Repeater)



Figure 7 - Orange County Mobile Talk-In



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

Orange County, NC - Predicted coverage from VIPER sites and Candidate sites  
800 MHz Analog Coverage; Mobile Talk-Out (Repeater to Radio)

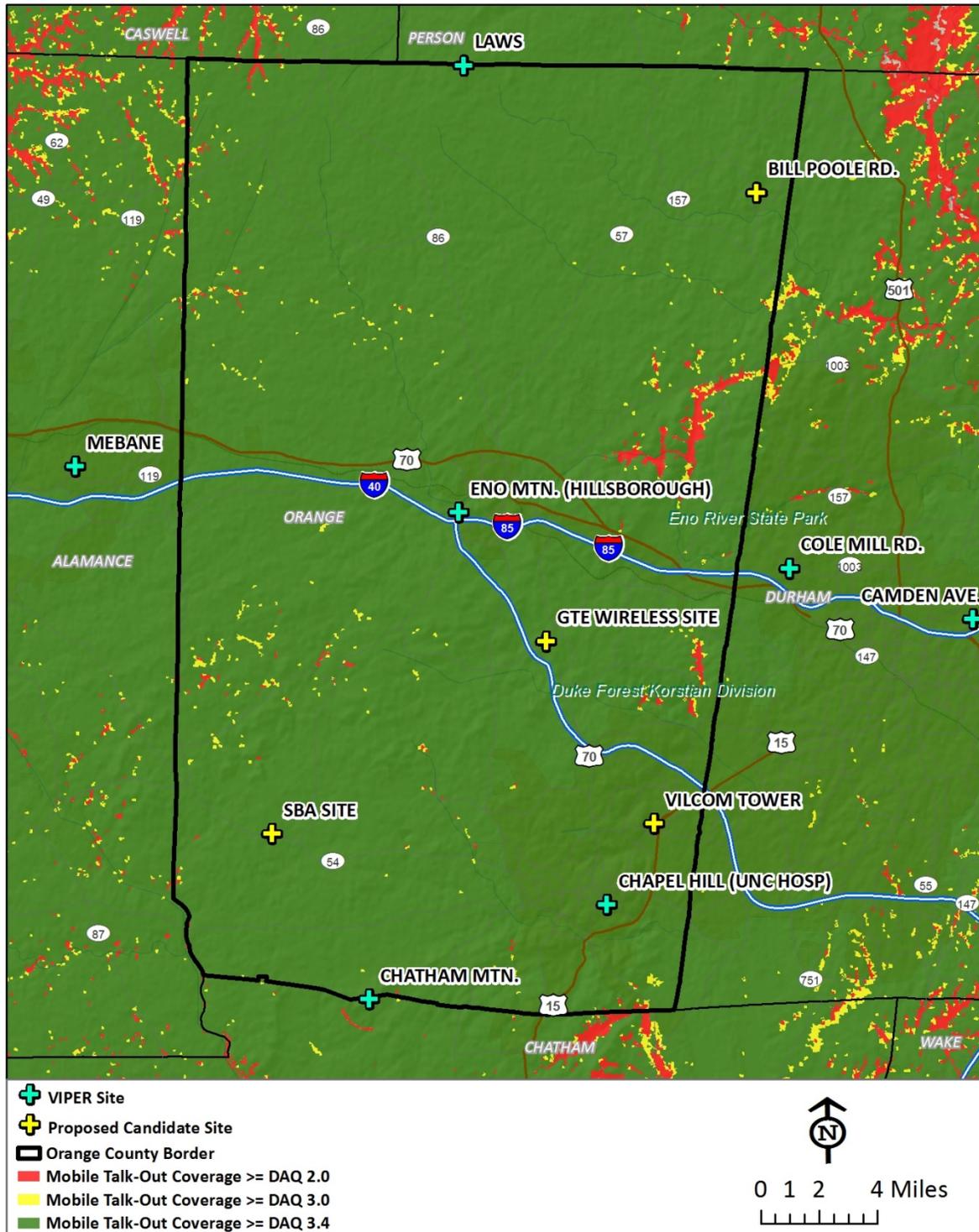


Figure 8 - Orange County Mobile Talk-Out



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

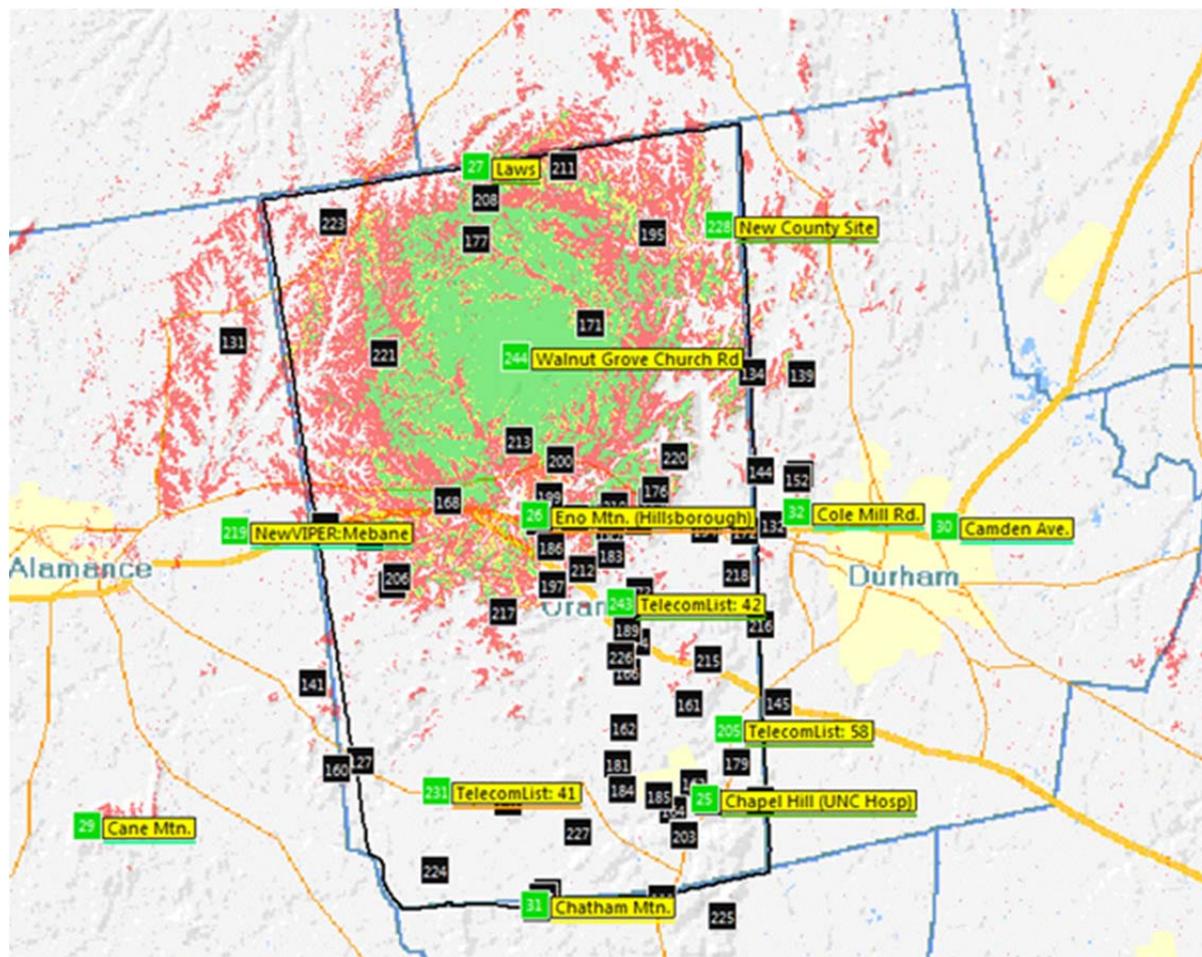
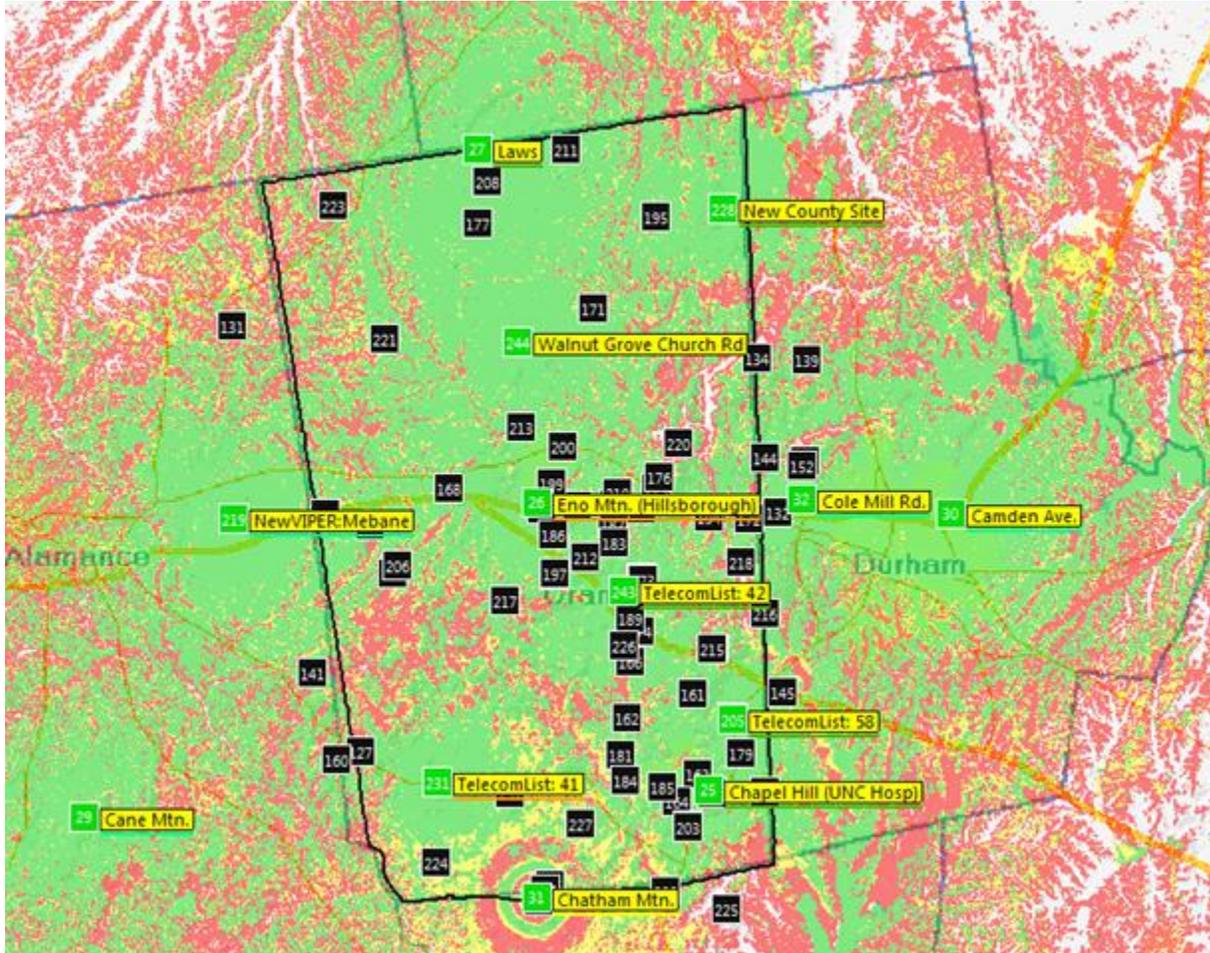


Figure 9 – Orange County – Portable Talk-In – Walnut Grove Church Rd. Site

Legend

- Red – Portable Talk-In Coverage  $\geq$  DAQ 2.0
- Yellow – Portable Talk-In Coverage  $\geq$  DAQ 3.0
- Green – Portable Talk-In Coverage  $\geq$  DAQ 3.4



**Figure 10 - Orange County - Portable Talk-In  
Walnut Grove Church Rd. Site Added**

Legend

- Red – Portable Talk-In Coverage >= DAQ 2.0
- Yellow – Portable Talk-In Coverage >= DAQ 3.0
- Green – Portable Talk-In Coverage >= DAQ 3.4



# Orange County NC Radio Communication Tower and System Infrastructure Upgrade RF Coverage and Sites/Towers

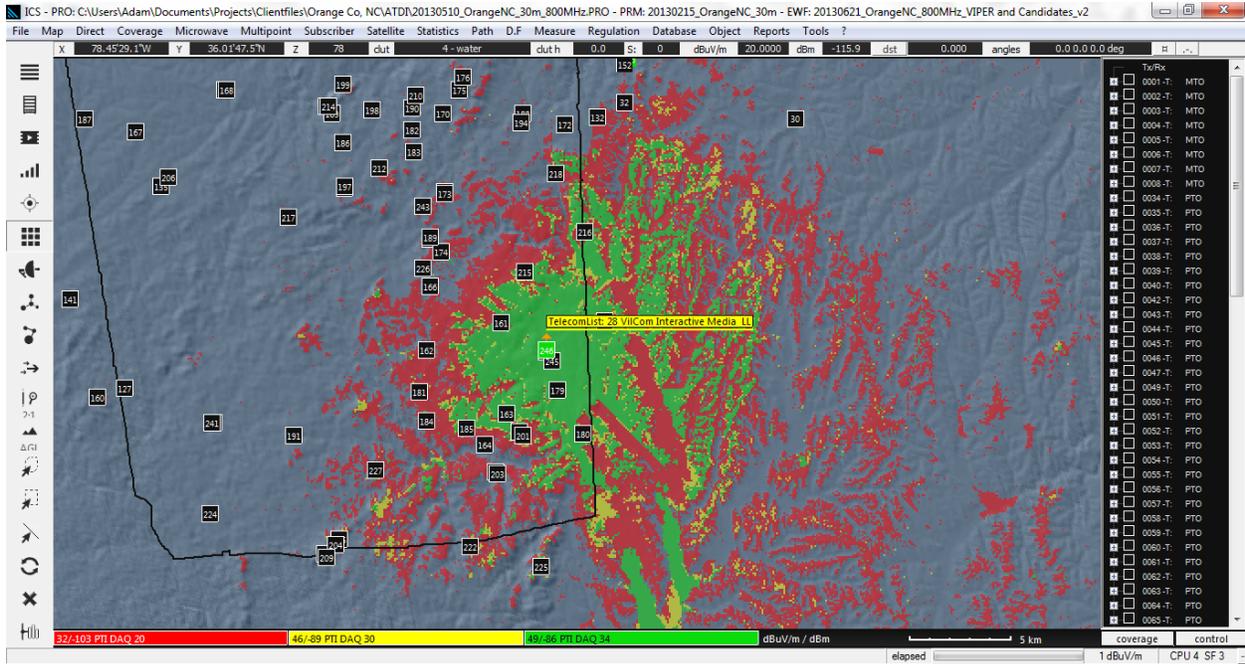


Figure 11 – 800 MHz Predicted Portable Talk-In Coverage – WCHL Site

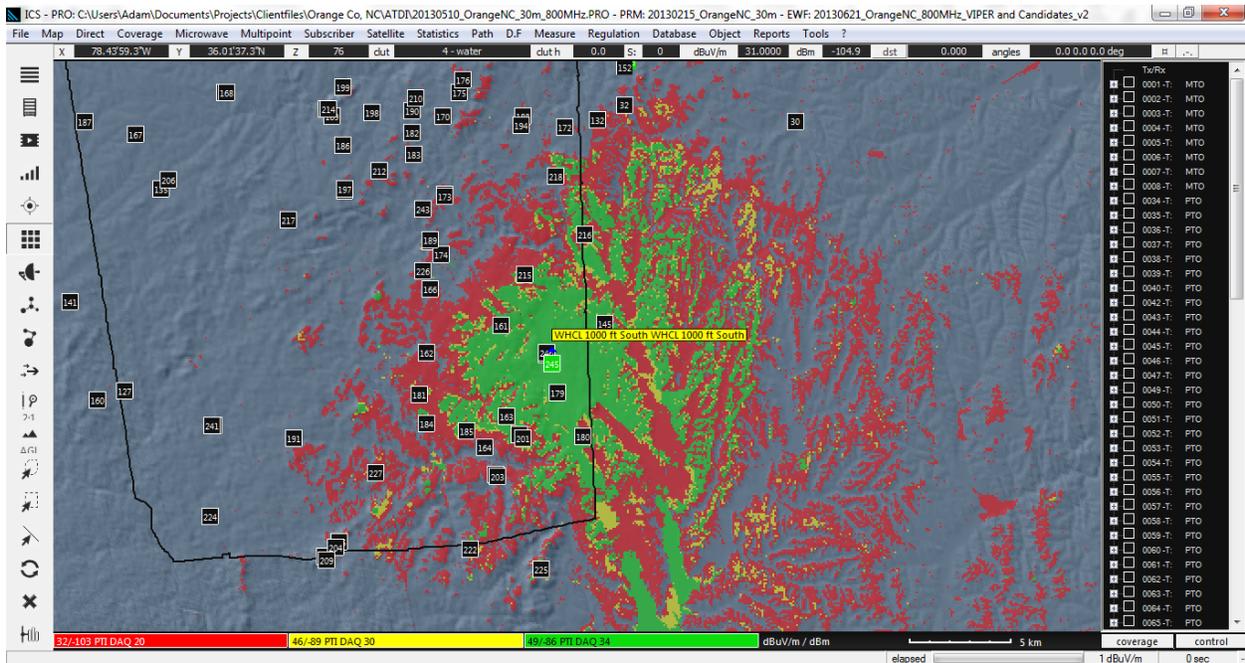


Figure 12 – 800 MHz Predicted Portable Talk-In Coverage – Alternate WCHL Site



**2.1.8 RF Coverage Percentages**

**Table 1 - Orange County Existing System Coverage Percentages**

System	Number of Existing Sites	Number of Additional Sites	Number of Total Sites	DAQ	Coverage Percentages					
					Mobile		On-Street Portable		In-Building Portable (12 dB)	
					Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In
Existing 800 MHz VIPER	8	0	8	2.0	100	100	98	97	77	73
Existing 800 MHz VIPER	8	0	8	3.0	96	100	69	65	19	18
Existing 800 MHz VIPER	8	0	8	3.4	93	100	55	49	11	11

**Table 2 - Orange County Proposed 800 MHz Coverage Percentages**

System	Number of Existing Sites*	Number of Additional Sites	Number of Total Sites	DAQ	Coverage Percentages					
					Mobile		On-Street Portable		In-Building Portable (12 dB)	
					Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In
Proposed VIPER Expansion	9	4	13	2.0	>99	>99	99	99	88	86
Proposed VIPER Expansion	9	4	13	3.0	99	>99	83	81	32	30
Proposed VIPER Expansion	9	4	13	3.4	98	>99	72	69	21	19

\* This number includes the VIPER sites that were modeled outside of Orange County which may have impacted the coverage inside Orange County (Existing count increased due to Mebane site being made operational)



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

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### 2.1.9 800 MHz and Microwave Mounting Heights

**Table 3 - 800 MHz Antenna Mounting Heights**

Site ID	Tower Owner	Address	System	Freq Band	TX Antenna				RX Antenna			
					Proposed Centerline Height (ft)	Model Number	Transmission Line Type	Transmission Line Length	Proposed Centerline Height (ft)	Model Number	Transmission Line Type	Transmission Line Length
CC: 20443	ATC	7505 New Sharon Church Rd	VIPER	800 MHz	130	Andrew DB 809	1-1/4" LDF	160	150	Andrew DB 809	7/8" LDF	180
Telecom: 41	SBA	4900 NC 54 W	VIPER	800 MHz	130	Andrew DB 809	1-1/4" LDF	160	150	Andrew DB 809	7/8" LDF	180
Telecom: 42	Crown Castle	1403 New Hope Trce	VIPER	800 MHz	162	Andrew DB 809	1-1/4" LDF	192	178	Andrew DB 809	7/8" LDF	208
Telecom: 58	VilCom Interactive Media, LLC	Franklin St	VIPER	800 MHz	170	Andrew DB 809	1-1/4" LDF	200	187	Andrew DB 809	7/8" LDF	217



**Table 4 - Microwave Antenna Mounting Heights**

Site ID	Tower Owner	Address	Possible Hop 1 (0.6 FZ at 6500 MHz)						Possible Hop 2 (0.6 FZ at 6500 MHz)					
			Existing VIPER site (RX location)	Minimum dish height at new site (ft)	Minimum dish height at VIPER site (ft)	Distance (mi)	Transmission Line Type	Transmission Line Length (ft)	Existing VIPER site (RX location)	Minimum dish height at new site (ft)	Minimum dish height at VIPER site (ft)	Distance (mi)	Transmission Line Type	Transmission Line Length (ft)
CC: 20443	ATC	7505 New Sharon Church Rd.	Laws	177	135	8.8			Eno Mtn	75	4	12.1		
Telecom: 41	SBA	4900 NC 54 W	Chatham	141	131	5.4			Cane Mtn	138	154	12.4		
Telecom: 42	Crown Castle	1403 New Hope Trce	Chatham	95	180	11.2			Camden Ave	115	223	11.7		
Telecom: 58	ViiCom Interactive Media, LLC	Franklin St	Chatham	167	574	9.3			Camden Ave	157	322	10.4		



### **2.1.10 Microwave**

**FE** Plotted microwave paths between the proposed new sites and two existing VIPER sites. Our analysis shows that the paths achieve Fresnel zone clearances for each path plotted, and microwave antenna heights were determined. While only one microwave path is required, paths to two sites were investigated to provide options. Figure 13 shows the primary and secondary microwave candidate paths from each new site.

Proposed microwave antenna mounting heights are listed by site in Table 4 above.

North Carolina State Highway Patrol (NCSHP) noted that the sites at Laws and Eno are at capacity. This will impact the microwave path from the Caldwell area site, and alternate existing VIPER sites should be investigated.



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

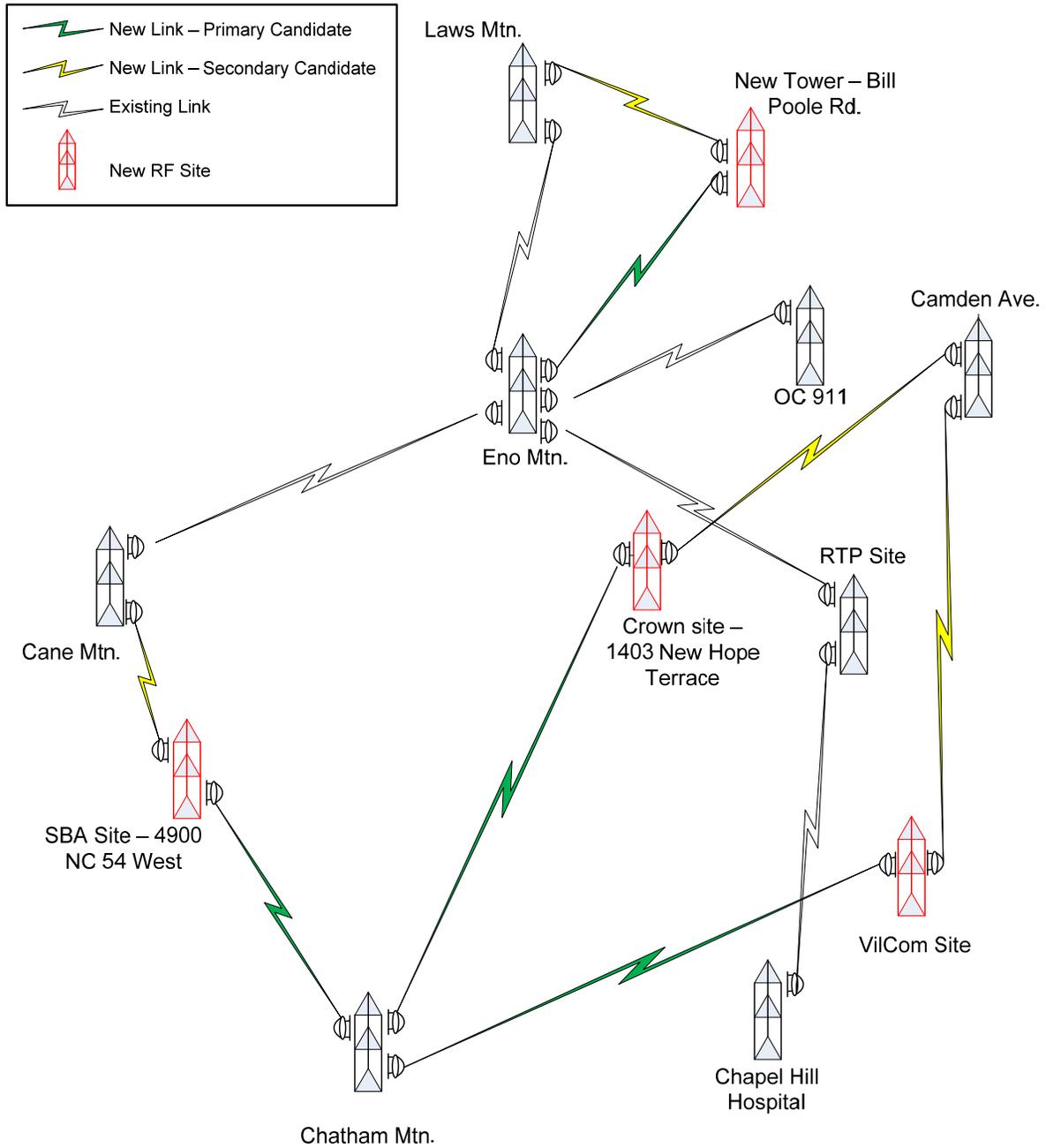


Figure 13 - Potential Microwave Paths to/from Proposed Sites



## **2.2 VHF Station Paging**

### **2.2.1 Cedar Grove Fire Station**

An existing tower at this location could be used for a VHF paging station.

The tower is approximately 175 ft. tall, and has two antennas and transmission lines installed. The latest information from Orange County indicates that neither of these antennas or transmission lines is in use.

If an existing antenna and transmission line is used for the new VHF paging station, a structural analysis of the tower should not be necessary. However, depending on the age of the tower, a tower inspection and structural analysis would be recommended.

If an existing antenna and transmission line is used for the new VHF paging station, the antenna and transmission line should be tested for acceptable performance. The antenna and line should be “swept” with a time domain reflectometer (TDR). This will provide an indication of acceptable performance as well as provide a baseline for future testing and verification.

### **2.2.2 Orange Grove Fire Station**

A new tower is proposed for the Orange Grove Fire Station to provide VHF paging coverage in the central southwest of the County.

Based on the RF coverage requirements, a tower height of at least 130 ft. is needed for Fire Station paging. To allow for future expansion and other use of the tower, Orange County may consider a tower of greater height.

Initial review of the Unified Development Ordinance indicates that to meet a 110% fall-zone for the tower, the new tower would be limited to 100 ft. If Orange County could secure approvals from the adjacent land owners, this fall-zone may be extended onto their properties, and the tower height increased.

A full tower elevation and UDO Report is attached as a separate document.

### **2.2.3 Eno Mountain Site**

The existing Fire Station paging station at this site should be continued to be used as part of the overall County VHF paging system.



### **2.2.4 Chatham Mountain Site**

Currently the Fire Station paging station and antenna are at the 1000 ft. level on the Chatham Mountain tower. At this height the FCC license limits RF power output and effective radiated power. As discussed with Orange County, a height of 150 ft. would be more appropriate for obtaining paging coverage in the southern part of the County. Also, the use of a directional antenna will enhance coverage into Orange County.

Also, a site at StarPoint Storage was reviewed, to be used in lieu of the Chatham site. This site provides better RF coverage into the southeast corner of Orange County, however, RF coverage into the southwest corner is decreased. **FE** prepared RF Coverage maps for the StarPoint Storage site as well, which can be found in Section 2.2.5.

Following discussion with Orange County, **FE** reviewed and analyzed the Chatham site further, to determine if adjusting the antenna height and antenna orientation would result in improved VHF RF coverage into the southeast and southwest corners of the County.

By raising the antenna height to 200 ft., **FE** found that RF coverage could be improved in the southeast corner of the County, while not significantly reducing coverage in the southwest corner. Figure 16 shows the predicted VHF RF coverage using an antenna height of 200 ft. at the Chatham Mountain site.

### **2.2.5 VHF Paging Coverage**

VHF paging coverage has been predicted and plotted, as shown in Figure 14 through 16 below.

Orange County, NC - Predicted coverage of four VHF paging sites  
VHF Narrowband Paging Coverage; Pager modeled at hip-height

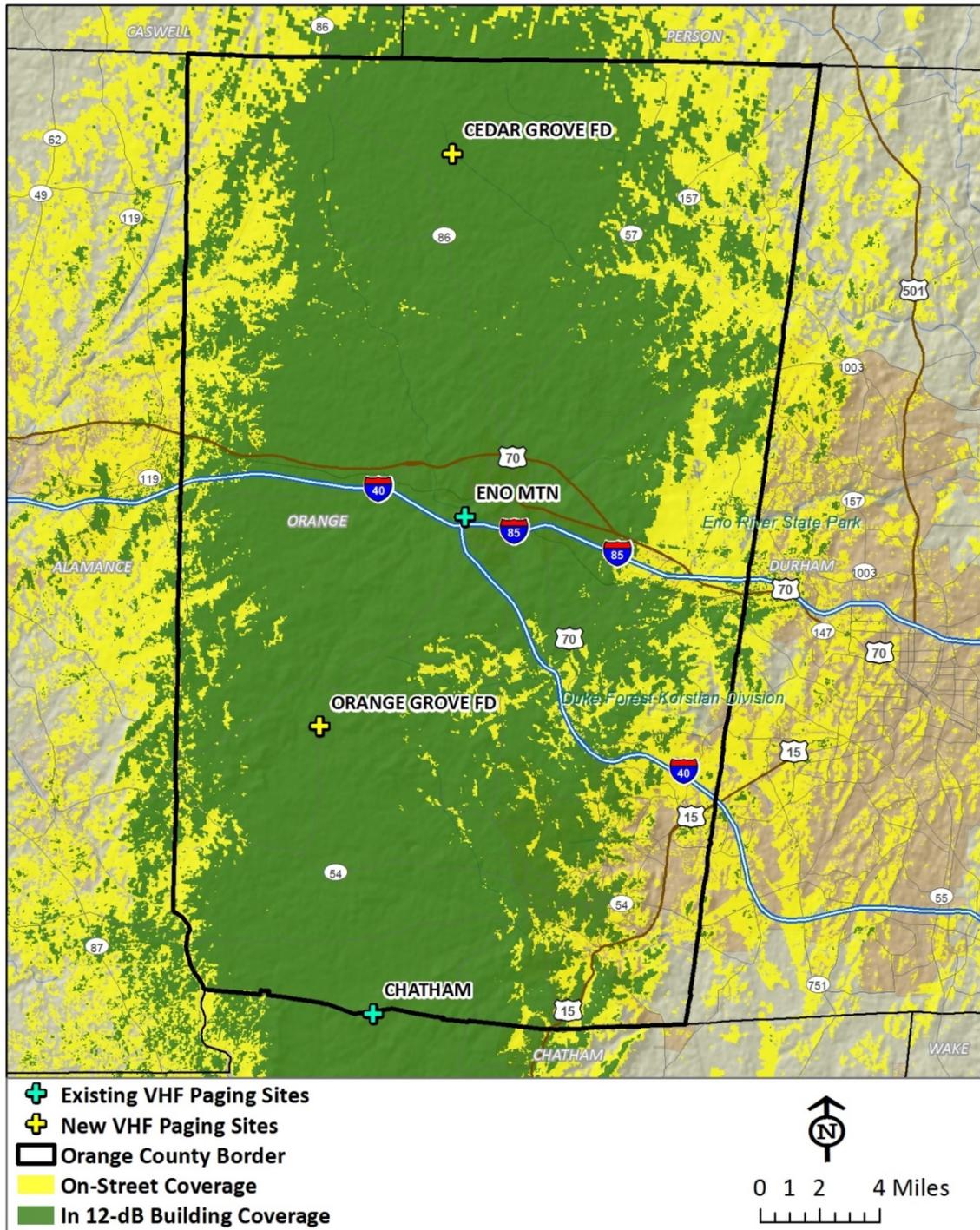
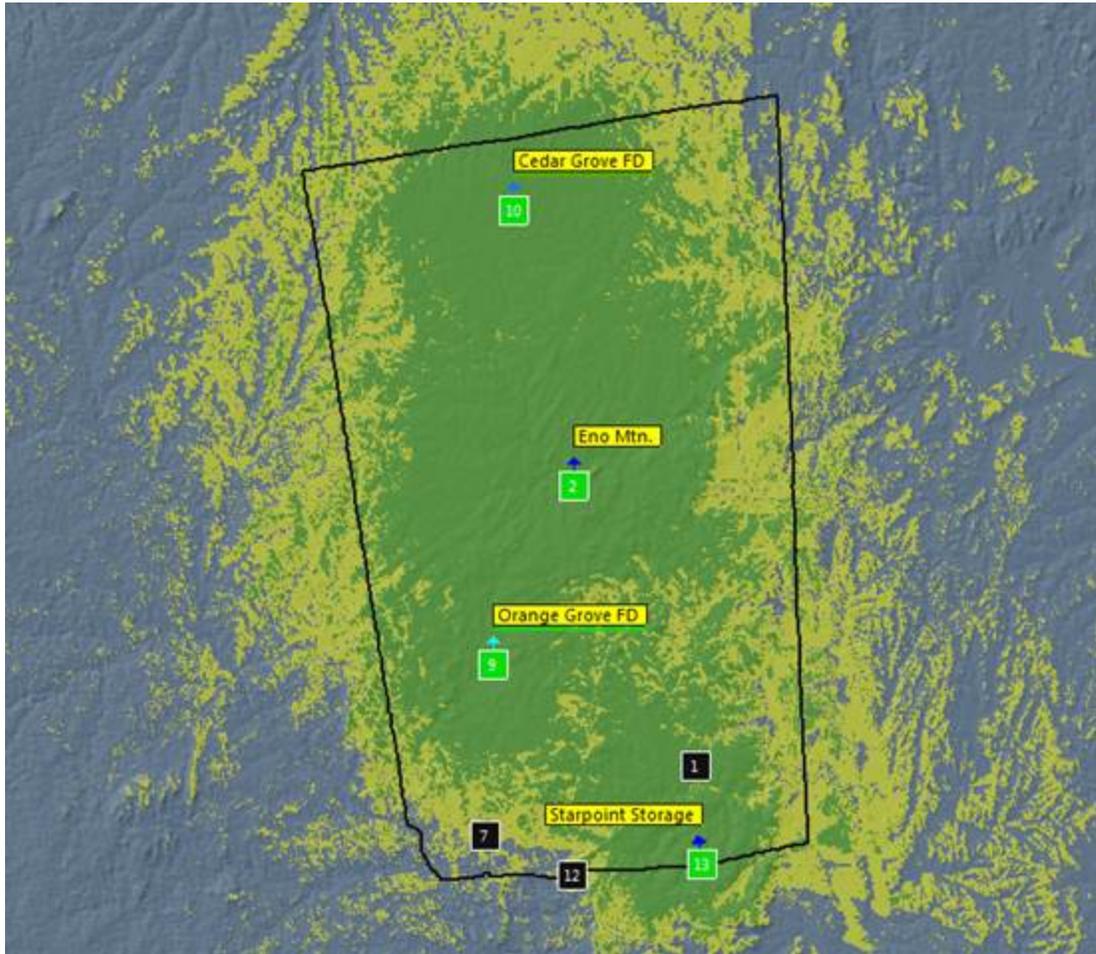
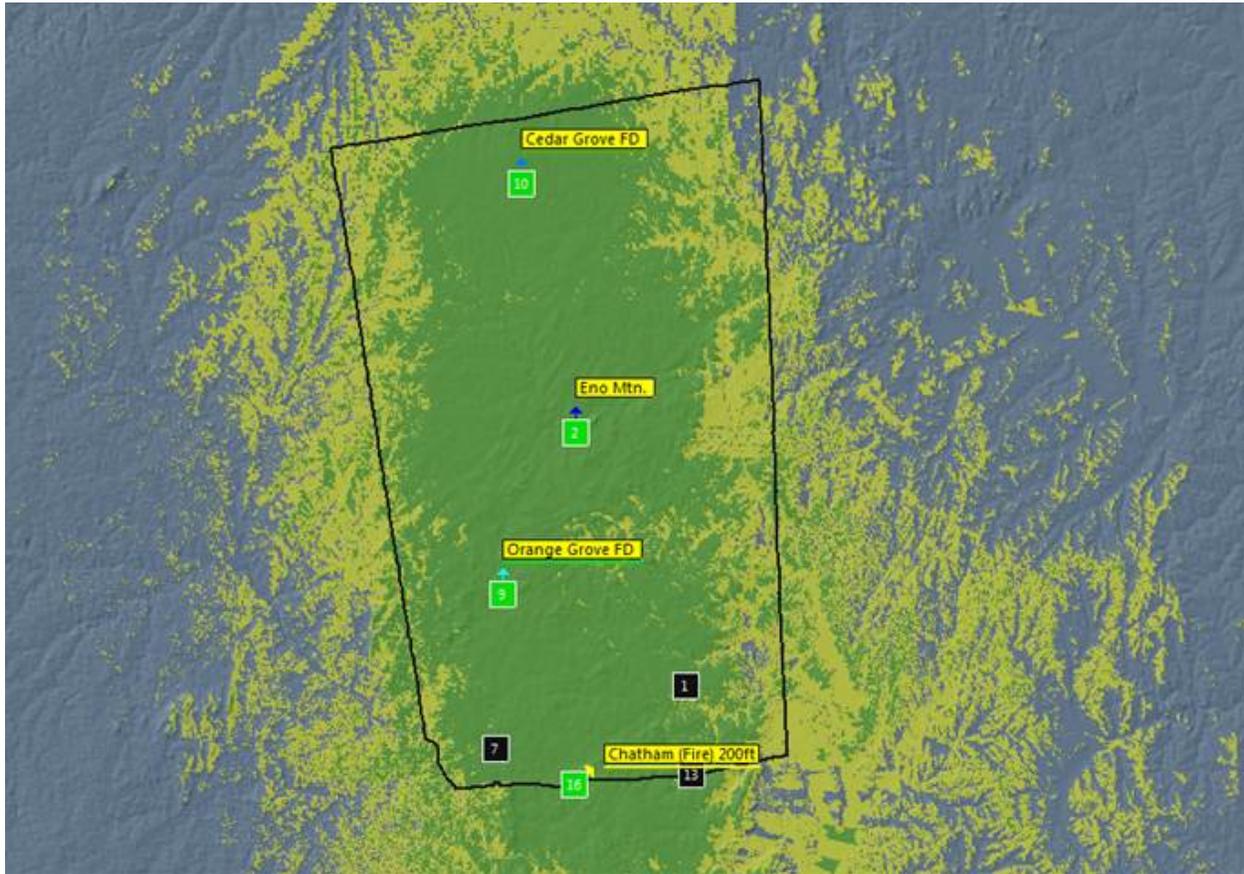


Figure 14 - Orange County Proposed VHF Paging RF Coverage  
(Chatham antenna at 150 ft.)





**Figure 25 - Orange County Proposed VHF Paging Coverage (with StarPoint Site)**



**Figure 36 - Orange County Proposed VHF Paging RF Coverage  
 (Chatham antenna at 200 ft.)**

**2.2.6 RF Coverage Percentages**

Table 5 indicates the RF coverage percentage obtained using the four site configuration. Table 6 provides antenna heights used for these coverage predictions.

**Table 5 - VHF Paging RF Coverage Percentages**

System	Number of Sites	Coverage Percentages	
		On-Street	In-Building (12 dB)
Proposed VHF Paging	4	96	76



### 2.2.7 VHF Paging Antenna Mounting Heights

Table 6 - VHF Paging Proposed Antenna Mounting Heights

Site ID	Tower Owner	Address	System	Freq Band	TX Antenna				RX Antenna			
					Proposed Centerline Height (ft)	Model Number	Transmission Line Type	Transmission Line Length	Proposed Centerline Height (ft)	Model Number	Transmission Line Type	Transmission Line Length
Eno Mtn	Existing	Atop Eno Mountain	Paging	VHF	161	Andrew DB 222	7/8" Foam	191	N/A	N/A	N/A	N/A
Cedar Grove FD	CGFD	720 Hawkins Rd	Paging	VHF	174	Andrew DB 222	7/8" Foam	204	N/A	N/A	N/A	N/A
Chatham	UNC	ON TERRELLS MTN 7 MI WSW	Paging	VHF	200	Andrew DB 222	7/8" Foam	230	N/A	N/A	N/A	N/A
Orange Grove FD	Proposed	6800 Orange Grove RD	Paging	VHF	130	Andrew DB 222	7/8" Foam	160	N/A	N/A	N/A	N/A



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

3. Sites and Towers

3.1 VIPER Sites

3.1.1 Northeast – Caldwell area (New Sharon Church Rd.)

Figures 17 and 18 are diagrams from the ATC submittal to Courage County, titled “American Tower Corporation, Orange County Class B Special Use Permit Application, ATC Site 280486” dated April 25, 2013.

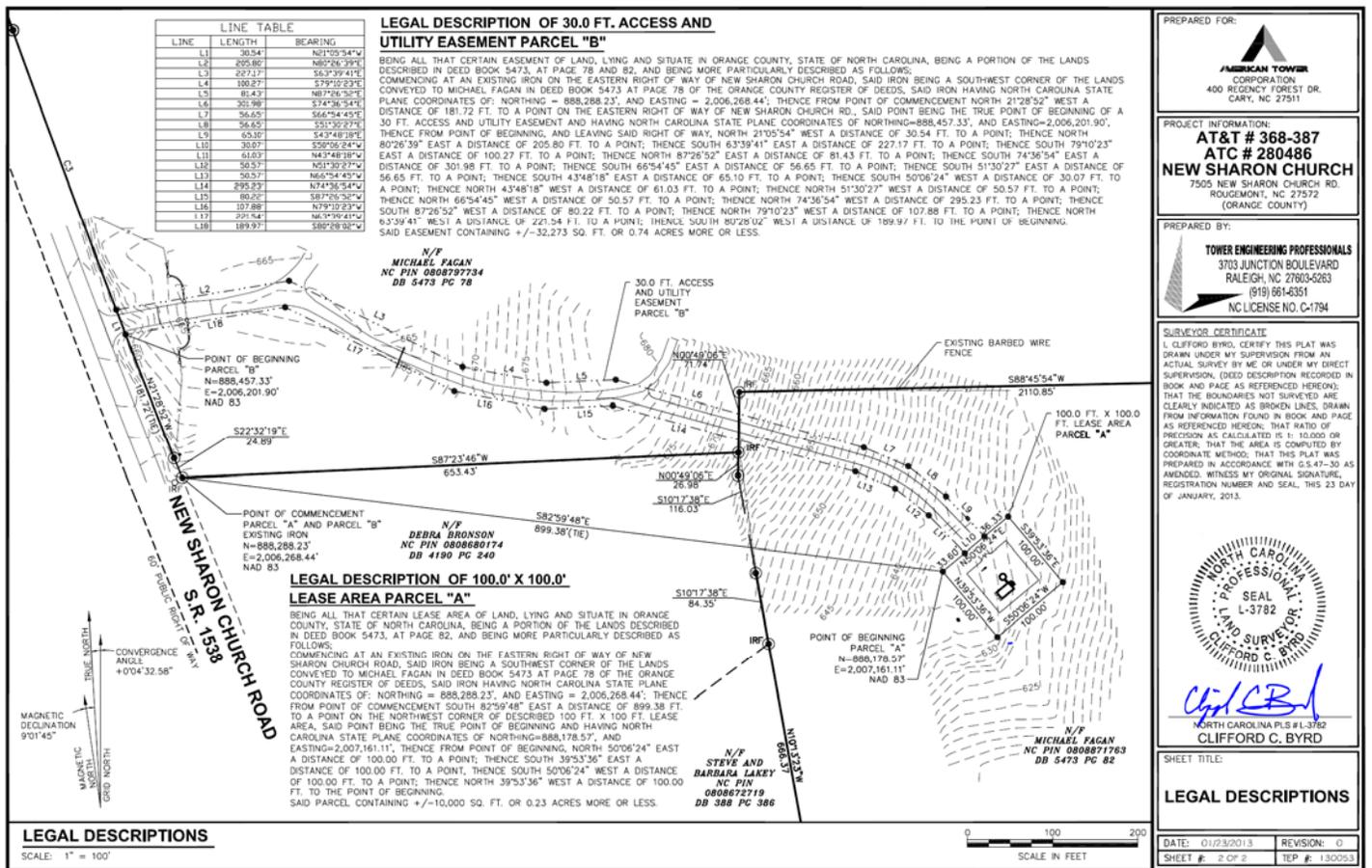


Figure 17 – Site plan and legal description of New Sharon Church Rd. site



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

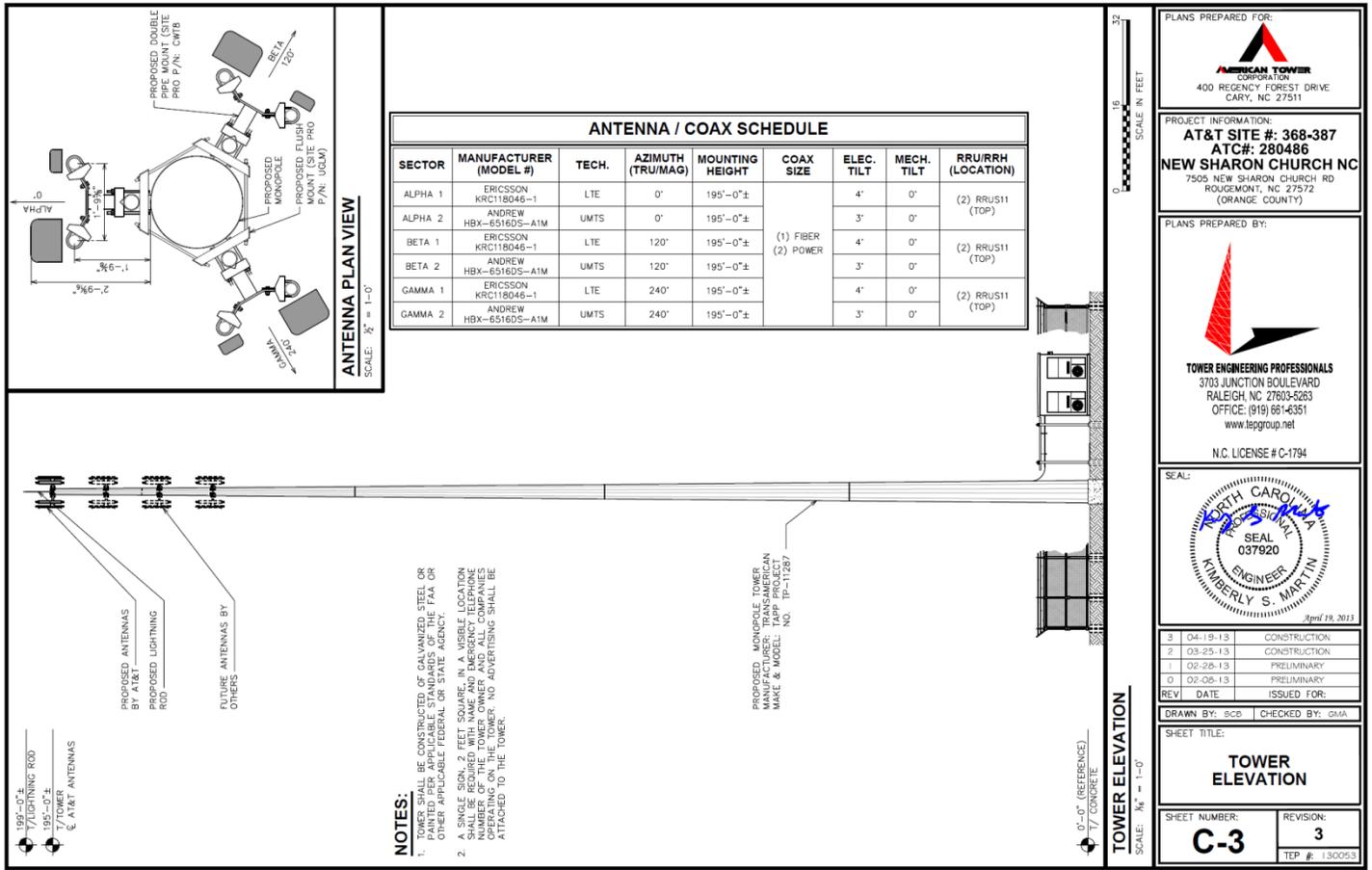


Figure 18 – Tower elevation diagram for New Sharon Church Rd. site

3.1.2 South-central – Crown Castle Site

Figures 19 and 20 are diagrams from the Crown Castle Sites Database for the South-central Crown Castle Site.



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

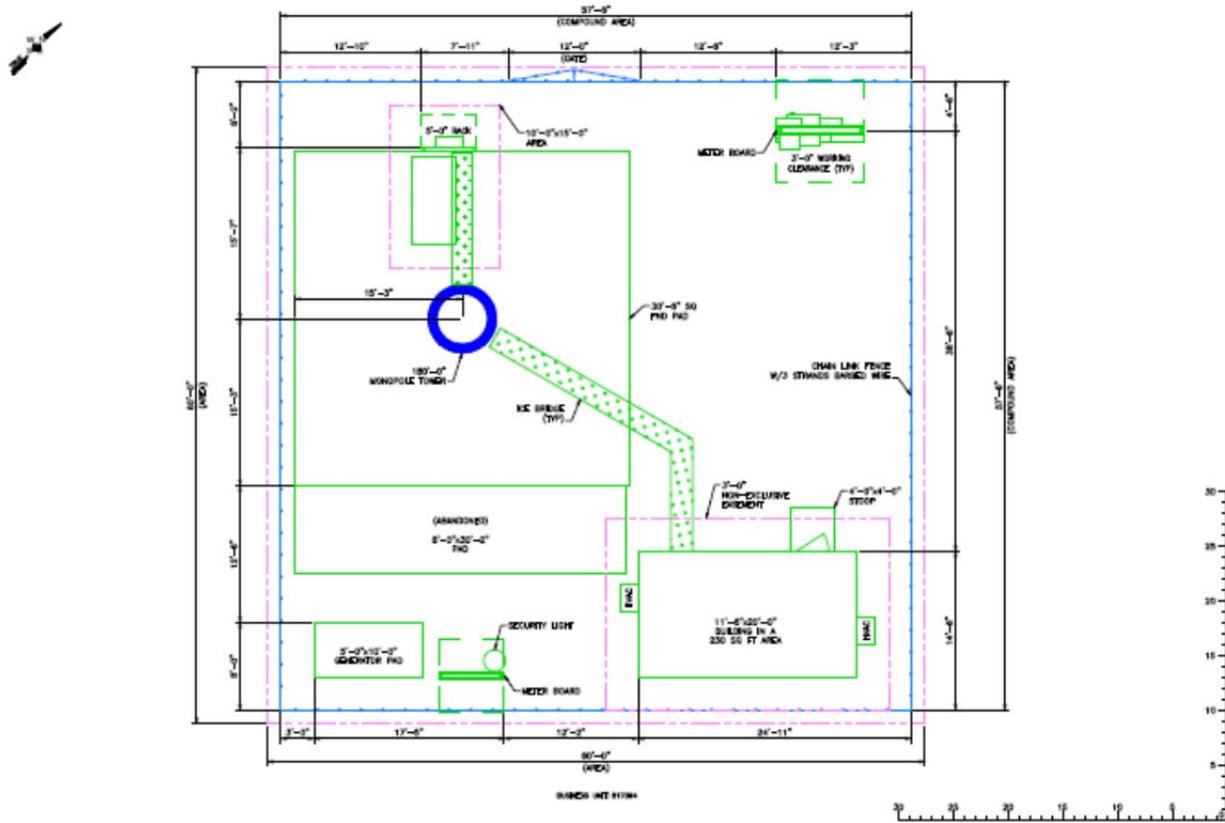
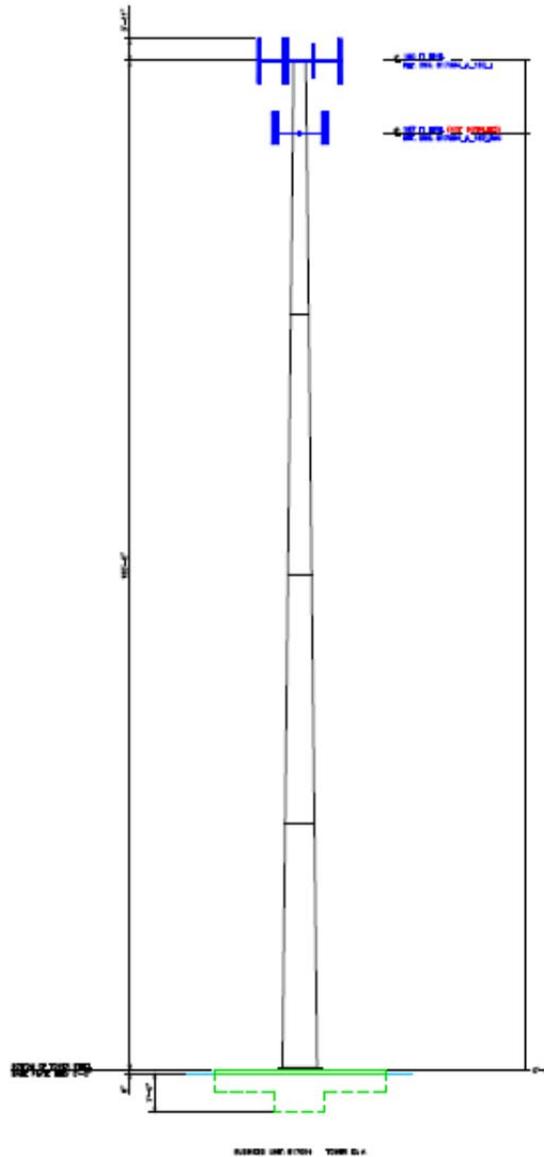


Figure 19 – South-central Crown Castle site plan





**Figure 20 – South-central Crown Castle tower elevation**



3.1.3 Southwest – SBA Site

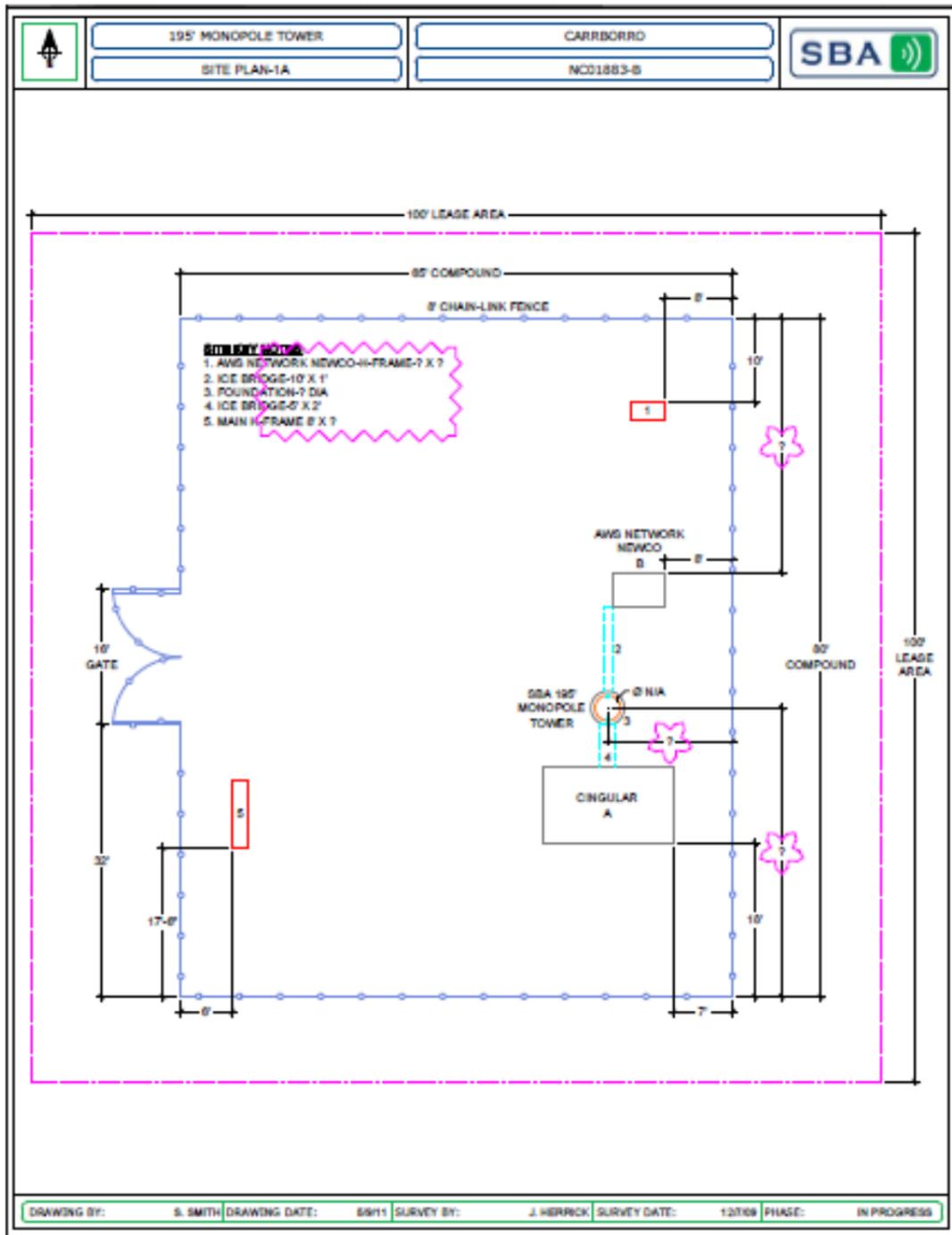


Figure 21 – Southwest – SBA site plan



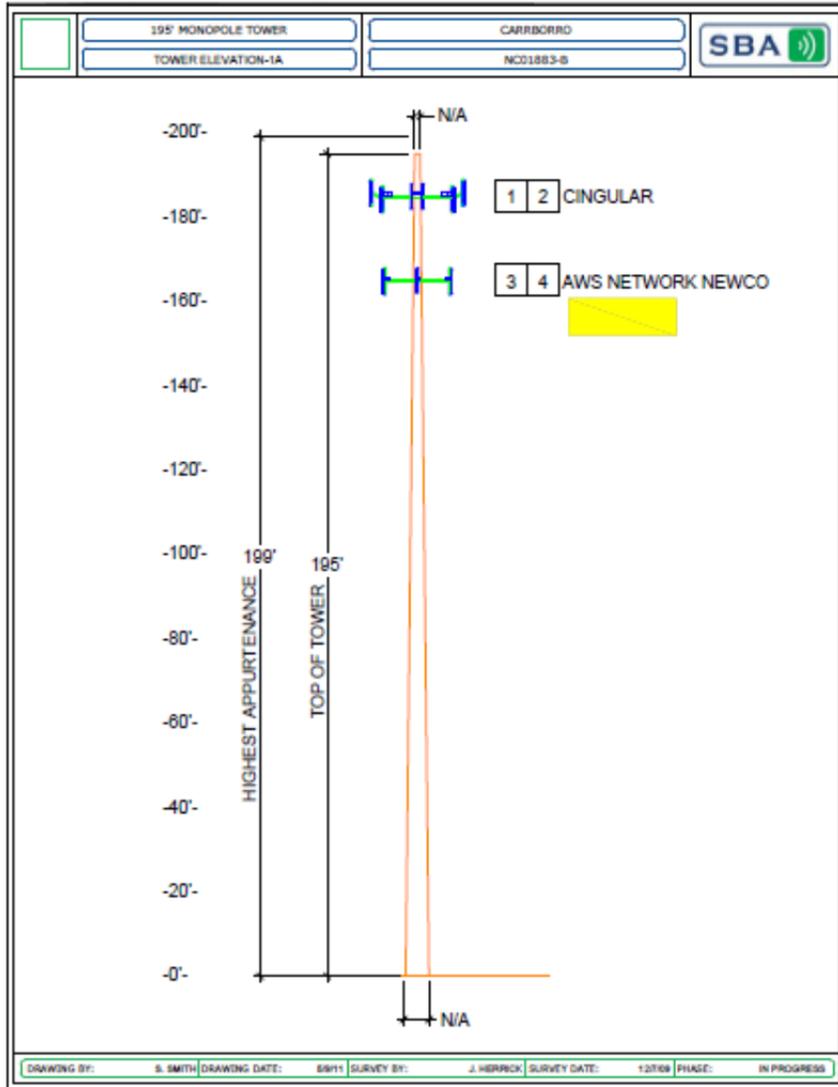


Figure 22 – Southwest – SBA tower elevation

**3.1.4 Southeast – ViIComm Site (WCHL) or Alternate Site**

The ViIComm Site (WCHL), based on discussions with Orange County, will not be used at this time, but may be considered at a later time.

An alternate site, approximately 1,000 ft. south of the WCHL property should be considered. It has been identified as part of the Eastgate Shopping Center parcel, and a new tower at this alternate location should be considered. A tower elevation and UDO Report will be submitted under separate cover.



# Orange County NC Radio Communication Tower and System Infrastructure Upgrade RF Coverage and Sites/Towers

Figure 23 provides a screen-shot of Orange County GIS web-site information on this parcel.

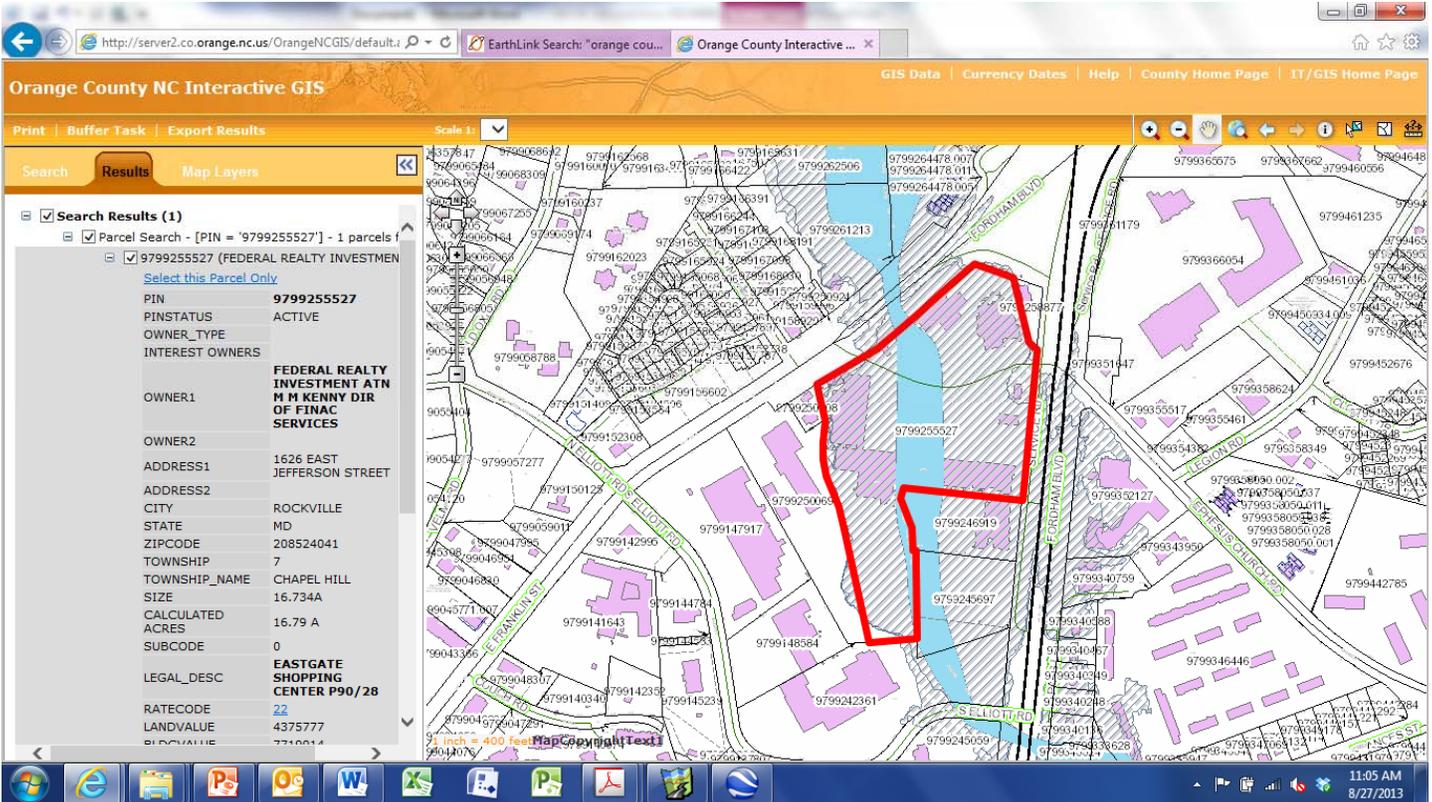


Figure 23 – Eastgate Shopping Center Parcel





Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

3.2 VHF Paging Sites

3.2.1 Cedar Grove Fire Department

No site layout or tower elevation drawings were available.

3.2.2 Orange Grove Fire Department

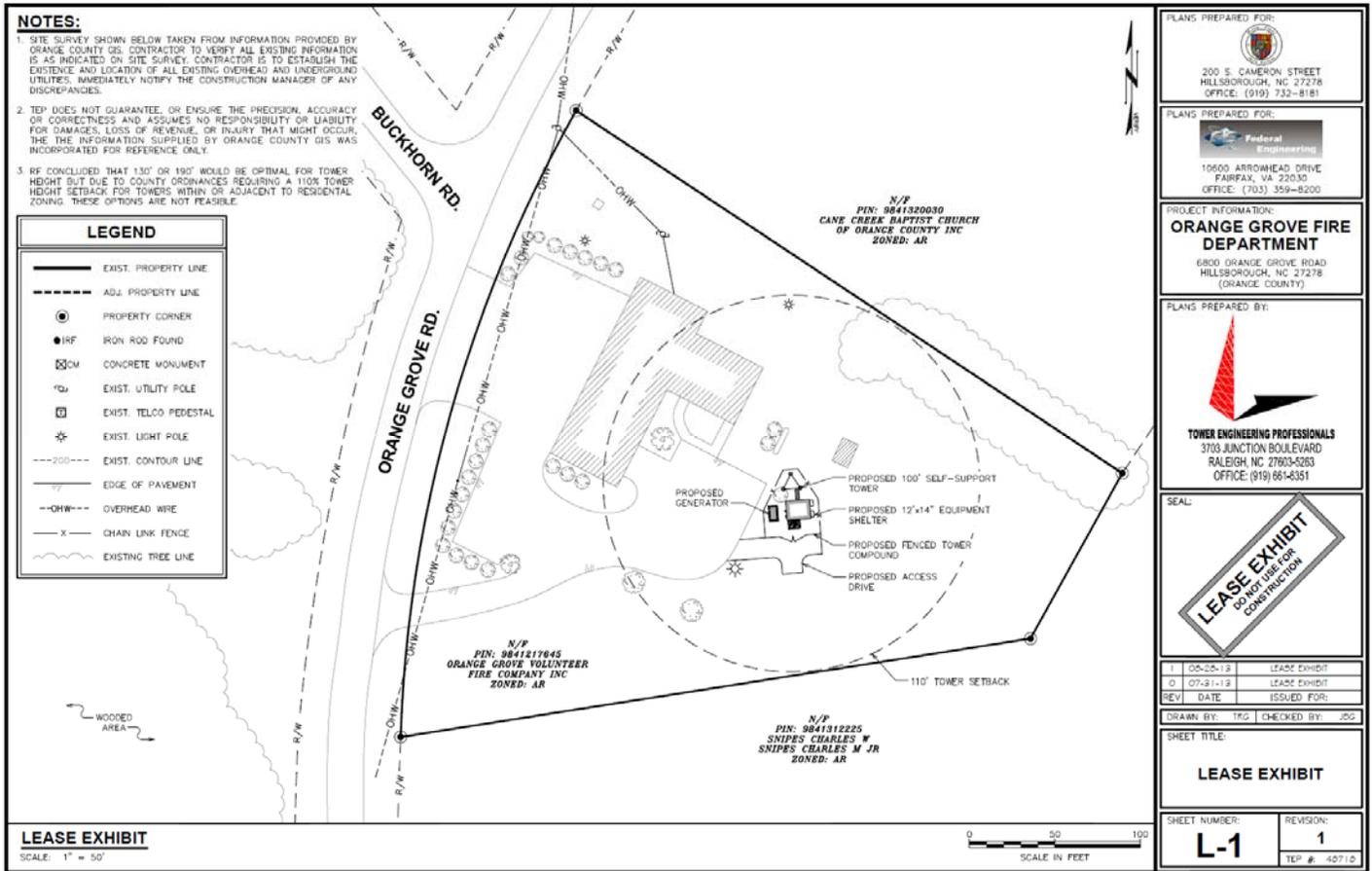


Figure 25 – Orange Grove Fire Department site plan



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

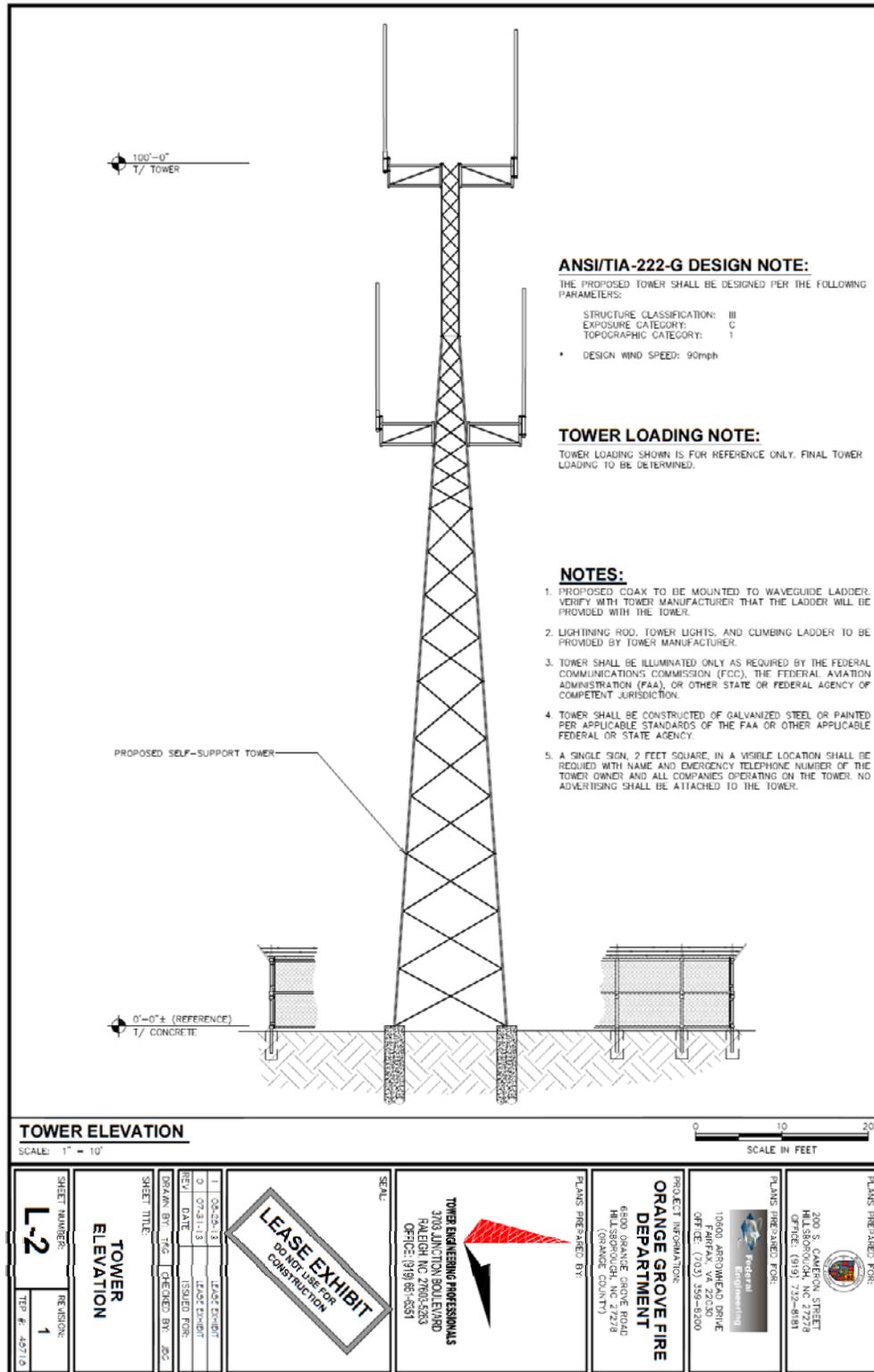


Figure 26 – Orange Grove Fire Department tower elevation



### ***3.2.3 Eno Mountain Site***

No site layout or tower elevation drawings were available.

### ***3.2.4 Chatham Site***

No site layout or tower elevation drawings were available.



### ***Appendix A SBA Colocation Application***

This Appendix contains the SBA Colocation Application (inserted as a picture). **FE** is also providing the original SBA Word version of the Colocation Application as part of the deliverables.



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers



## COLLOCATION APPLICATION (USA)

**[Tab through the Fields to Enter Info, if at Any Time You Need to UNLOCK the Form to Manually Add Something, you Must Add the "Lock" Icon to your WORD Toolbar to Unprotect Form, NO Password Needed]**

5900 Broken Sound Pkwy NW Boca Raton, FL 33487 Attention: Property Management	Main Tel: 561-995-7670 / 800-487-7483 Fax: 561-226-3577 E-mail: <a href="mailto:etarkington@sbsite.com">etarkington@sbsite.com</a>
---	--

### SITE INFORMATION

Date:     /     /	SBA Site ID:	SBA Site Name:
Latitude:   °   '   "	Longitude: -   °   '   "	Source of Coordinates:
AGL:	City:	State:

### TENANT INFORMATION

Site ID:	Site Name:
Company Name:	Company Representing: <i>(if consultant)</i>
Contact Name:	Contact Address:
Contact Phone: (    )   -	
Contact Fax: (    )   -	Contact e-mail:    @    .

### LEASING INFORMATION

Contact Name: <i>(if different)</i>	Phone: (    )   -	
Name of Company to Appear on Lease:	State Incorporated:	Tax ID #:   -
Signatory Name:	Signatory Title:	
Corporate Address:	Notice Address:	
	With Copies to:	
Name / Phone & Address to Send Leases For Execution: <i>(if different)</i>	# of Original Leases Required <i>(for Tenant only):</i>	Special Instructions:

### CONSTRUCTION INFORMATION

Contact Name:	Phone: (    )   -
Fax: (    )   -	E-mail:    @    .
Mobile: (    )   -	Projected Installation Date:    /    /

### TENANT 24 HOUR EMERGENCY CONTACT (NOC)

Name:	Phone: (    )   -
-------	-------------------



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

**EQUIPMENT SPECIFICATIONS** (NOTE: PLEASE USE AMERICAN STANDARD MEASUREMENTS, NOT METRIC)

<b>ANTENNA / MOUNTING / COAX:</b>	<b>GROUND SPACE REQUIREMENTS:</b>	
PANEL, OMNI, Etc: (Qty/#) Make / Model / Dimensions / Weight	<input type="checkbox"/> Tenant Provided Shelter/Pad or <input type="checkbox"/> Owner Provided Bldg Space	
( ) / / /	Exact Dimensions:      x	
( ) / / /	Type: <input type="checkbox"/> Shelter <input type="checkbox"/> Pad	
( ) / / /	(SBA's) Shelter Space Dimensions Needed: 'x      'x      '	
( ) / / /	<b>GENERATOR:</b>	
Height at base of the antenna:      '	Generator Pad Size:      x	
Height at centerline of the antenna:      '	Mfg / Model:      /	
Height at tip of the antenna:      '	Type: Propane <input type="checkbox"/> Diesel <input type="checkbox"/>	
Down Tilt:	Power:      kw	Capacity:      gallons
Orientation:	<b>GROUND EQUIPMENT SPECIFICATIONS:</b>	
Mount Make/Model/Weight:      /      /	Transmitter(s):	
# of Coax:	Quantity:	
Coax Type / Size:      /	Manufacturer:	
<b>DISH:</b> (Qty/#) Make / Model / Dimensions / Weight	Model:	
( ) / / /	Power Output (Watts):	
( ) / / /	Transmitter Cabinet:	
Mounting Height / Type:      ' /	Quantity:	
Orientation:	Manufacturer:	
# of Coax:	Model:	
Coax Type:	Dimensions:      x      x	
Coax Size:	Weight:      lbs.	
<b>TMA / Diplexers / RRH / Surge Sup / ODU / RET</b> (Qty/#) Make / Model / Dimensions / Weight	<b>FREQUENCIES (Exact):</b>	
TMA's: ( ) / / /	Exact TX:	
Diplexers: ( ) / / /	Exact RX:	
RRHs: ( ) / / /	<b>POWER:</b>	
Surge Suppressors: ( ) / / /	ERP:	
ODUs: ( ) / / /	Transmitter Operating Power:	
RETs: ( ) / / /	<b>IS SBA AN APPROVED CONTRACTOR:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
Mount Location:      '	<b>SPECIAL REQUIREMENTS:</b> (please list anything else that may be placed on tower (GPS) or not covered in app.)	
Jumper Cable # / Size: ( ) /		
RET Cable # / Size: ( ) /		
Fiber Cable # / Size: ( ) /		
DC Power Cable # / Size: ( ) /		



## **Appendix B – Crown Castle Colocation Information and Credit Application**

- \$1000 Application Fee
- \$2,000 Structural Analysis fee
- Construction Installation Fee: Cost + 20% or, if Crown opts to waive the construction installation fee then an inspection fee is \$2000
- Closeout Document Fee - \$1500 – Only applicable if construction vendor does not provide necessary documents. Not applicable at all if Crown manages the construction.
- Monthly rental fee: \$2,500 a month, this is for the following equipment:
  - 2 – 12' at separate centerlines with associated coax not to exceed 1-5/8"
  - 1 – 40 lb. TMA
  - 1 – 6' MW dish at a separate centerline with associated line not to exceed 1-5/8"
  - 8 x10 Lease Area
  - 5 x10 – Generator Lease Area
- Initial Term: 5 years
- Escalation: 3%
- Renewals: 4 Automatic Renewals
- Renewal Terms: 5 years each

This Appendix contains the Crown Castle Credit Application (inserted as a picture). **FE** is also providing the original Crown Castle Word version of the Credit Application as part of the deliverables.



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers



Credit Application

Business Entity Name: \_\_\_\_\_ Web Site: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Address: \_\_\_\_\_ For: \_\_\_\_\_ years  
Street City State ZIP Code

Billing Address: \_\_\_\_\_  
Street City State ZIP Code

Previous Address: \_\_\_\_\_  
Street City State ZIP Code

Federal Tax I.D. Number: \_\_\_\_\_ D/B/A: \_\_\_\_\_

Parent Company: \_\_\_\_\_ # Locations: \_\_\_\_\_

Address: \_\_\_\_\_  
Street City State ZIP Code

Subsidiaries/Affiliates: \_\_\_\_\_

Type of Business: \_\_\_\_\_ Date Established: \_\_\_\_\_

Does State/County/City require a License? Yes  No  If Yes, License #: \_\_\_\_\_

Company Status:  Sole Proprietorship\*  Partnership\*  Corporation  LLC  LLP

\*Attached Personal Guarantee must be submitted with credit application.

Type of Corporation:  Public  Private Owned State of Incorporation: \_\_\_\_\_

Financial Statements Available?  Yes  No

Principle: \_\_\_\_\_  
Name Title SS# Home Address

Principle: \_\_\_\_\_  
Name Title SS# Home Address

Trade References: (Minimum 3 name suppliers of major products and services)

\_\_\_\_\_  
Name Contact Phone Account #

\_\_\_\_\_  
Name Contact Phone Account #

\_\_\_\_\_  
Name Contact Phone Account #



Orange County NC  
Radio Communication Tower and System Infrastructure Upgrade  
RF Coverage and Sites/Towers

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**Bank References:** Please complete attached form. Bank reference form must be signed by an authorized account signer.

**No. Employees:** \_\_\_\_\_ **Est. Annual Sales \$:** \_\_\_\_\_ **Sales Territory:** \_\_\_\_\_

**Has the firm or any of its Principals ever been bankrupt?**  Yes  No

**If yes, explain:** \_\_\_\_\_

\_\_\_\_\_

**Company Contact for Account Information:** \_\_\_\_\_  
Name Title  
( ) Phone E-mail address

**Crown Castle Account Executive you are working with:** \_\_\_\_\_

---

**Will you be requiring Site Acquisition or Construction Services?**  Yes  No

**If yes, and information is different than Page 1 of the Credit Application, please complete the additional information below.**

**Business Entity Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_  
Street City State ZIP Code

**Federal Tax I.D. Number:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Contact Phone Number:** \_\_\_\_\_

**Contact Fax Number :** \_\_\_\_\_

**Invoices- Email Address:** \_\_\_\_\_

**Invoices-Fax Address:** \_\_\_\_\_

\*Please note that if no Email or Fax designation is provided; an invoice will be sent via regular mail





**Personal Credit Release**

By signing this application, I authorize Crown Castle or its agency to investigate my personal credit and financial records. As part of such investigation, I authorize Crown Castle to request and obtain consumer credit reports on me in connection with the opening, monitoring, renewal and extension of this and other accounts with Crown Castle and the marketing of other products and services to me and my business by Crown Castle. I further authorize Crown Castle to share the information received from my consumer credit report with Crown Castle's parent, subsidiaries and affiliates (and others if applicable). If I request, you will tell me whether my consumer credit report was requested and if so the name and address of the consumer credit agency that furnished the report. Any misrepresentation in this application will be considered evidence of a fraud, since this information is the basis of the granting of credit. As an inducement to grant credit, the undersigned warrants that the information submitted is true and correct. You are authorized to investigate the credit references listed.

_____	_____	_____	_____
Print Name	Title	Print Name	Title
_____		_____	
Social Security #		Social Security #	
_____	_____	_____	_____
Signature	Date	Signature	Date

---

**Personal Guarantee**

By signing this Application, I acknowledge that I have personally guaranteed the debts and obligations of my business and agree that I am personally obligated to perform all of the terms of and make all payments to Crown Castle required by, the agreement of which this Application is a part.

_____	_____
Print Name	Print Name
_____	_____
Signature	Signature
_____	_____
Date	Date

Personal Credit Release form should be sent to:

Alicia Hildebrand  
[Credit@crowncastle.com](mailto:Credit@crowncastle.com)  
Phone: 724-416-2208  
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**ORANGE COUNTY  
BOARD OF COMMISSIONERS**

**ACTION AGENDA ITEM ABSTRACT**

**Meeting Date:** January 28, 2014

**Action Agenda  
Item No. 3**

**SUBJECT:** Draft Emergency Services Strategic Plan

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**DEPARTMENT:** Emergency Services

**PUBLIC HEARING: (Y/N)**

No

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**ATTACHMENT(S):**

A) Emergency Services Strategic Plan  
(Draft)

**INFORMATION CONTACT:**

Jim Groves, 245-6140

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**PURPOSE:** To receive the Draft version of the Emergency Services Strategic Plan for review and comment.

**BACKGROUND:** Orange County Emergency Services has not developed a consolidated Strategic Plan that incorporates each Division in the planning process. The Draft Strategic Plan has been developed in support of the Orange County Board of County Commissioners (BOCC) goals and priorities, the Comprehensive Assessment of Emergency Medical Services & 9-1-1 Communication Center Operations Center Assessment, and staff survey and feedback. It is intended to build and sustain resiliency within Emergency Services so that the organization may continue to prevent, respond to, and recover from manmade, technological, and natural emergencies and/or disasters independent of staff attrition.

**FINANCIAL IMPACT:** The presentation of the Draft Strategic Plan is for informational purposes. Any financial impact will be presented to the Board during the budget process.

**RECOMMENDATION(S):** The Manager recommends that the Board receive the presentation and provide comment.

# *Orange County Emergency Services*

## *Strategic Plan*



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## Executive Summary

Orange County Emergency Services (OCES) is comprised of five (5) business program areas. They are identified as the: Administrative Division, Communications Division, Emergency Management Division, EMS Division, and Fire Marshal Division. This Strategic Plan has been developed in support of the Orange County Board of County Commissioners (BOCC) goals and priorities. It is intended to build and sustain our resiliency in preventing, responding to, and recovering from manmade, technological, and natural emergencies and/or disasters.

This Strategic Plan is designed as a short and long-term guide that will assist OCES leadership in directing programmatic efforts within each Division, accomplish results, ensure accountability, and properly allocate departmental resources over the next five (5) to seven (7) years. It was developed in collaboration with OCES leadership, OCES staff, and Subject Matter Experts from local and State governmental organizations.

## Vision, Mission, Core Values, Guiding Principles, and Strategic Goals

The vision statement describes OCES's desired future state for emergency service capabilities. It is where we eventually want to be. Each Division's mission statement describes how the vision will be achieved by their program area.

Our Core Values and Guiding Principles are identified in the OCES ETHOS document, incorporated in Appendix A. The Strategic Goals were developed by incorporating data from employee brainstorming and feedback (p. 6), BOCC goals, best practices across the State and Nation, and the Comprehensive Assessment of Emergency Medical Services & 9-1-1 Communication Center Operations Center Assessment report from October, 2013 which is incorporated herein by reference.

The BOCC specific goals include:

- Goal #1: Ensure a community network of basic human services and infrastructure that maintains, protects, and promotes the well-being of all County residents.
- Goal #2: Promote an interactive and transparent system of governance that reflects community values.
- Goal #4: Invest in quality County facilities, a diverse work force, and technology to achieve a high performing County government.

### OCES Vision

*"A Prepared, Coordinated, and Integrated  
Emergency Services System"*

## Introduction

By definition, a strategic plan aligns an organization's operations and budget structure with organizational goals and priorities. The OCES Strategic Plan does not describe how OCES will respond to an emergency or disaster, but rather focuses our efforts on strategic approaches so that we will be better prepared to respond and recover from emergencies and disasters. The goal of this effort is to develop resiliency and stability within OCES by providing a roadmap to our desired end state that incorporates coordinated thought, planning, and structure. It will enable the department to continue moving forward in each program area, independent of a change in staff due to attrition. It is designed to be a practical, flexible, and long-term guide that will direct our efforts in order to eventually realize our vision.

*A strategic plan identifies where the organization wants to be at some point in time in the future, and how it plans to get there.*

## Development Process

This Strategic Plan was developed during a three (3) month planning period that incorporated multiple meetings with OCES senior leadership, SMEs, and staff feedback. Each meeting was approximately 3-5 hours in length, and was facilitated by SME's and senior leadership within OCES. Some of the SMEs attended in person, others provided critical feedback on our goals and objectives.

The strategic planning process was performed in six (6) steps:

1. Review of Diamonds and Stones
2. Vision Development
3. Identification of Strengths, Weaknesses, Opportunities, and Threats (SWOT analysis)
4. Mission Statement Development
5. Goals and Objectives
6. Approach to implementation (including evaluation of the plan's effectiveness)

## Diamonds and Stones

On June 4-6, 2013, Mr. Archie Tew (<http://archietew.com>) delivered several enlightening leadership and organizational change meetings with OCES staff. One outcome of these meetings included the results of several brainstorming sessions that enabled each employee to identify the good and bad of our organization in a guilt free, no-fault atmosphere. The document is called "Diamonds and Stones". Diamonds are things that we do well and we should continue to pursue. The Stones are our opportunities for improvement. If we focus intense pressure on the Stones, we can turn them into Diamonds. Key categories in the "Diamond and Stones" document include: Pay, Work/Life Balance, Interpersonal Communications, Work/Job Satisfaction, and Facility/Equipment.

## Vision Development

Vision is the picture of how our world will be if we are successful in our work. It is the end state of where we want to be if there are no roadblocks or pitfalls in our way. It was developed in a collaborative effort with everyone in attendance during the first planning meeting.

## SWOT Analysis

By performing a SWOT analysis, we explored possibilities for new efforts or solutions to existing problems. The SWOT analysis guides us to making decisions about the best path for our initiatives, helps in determining our priorities and possibilities, and helps determine where change is possible. The SWOT analysis was performed both internally and externally. The internal analysis helped us plan for the future by identifying how our organization operates right now. It revealed trends, irregularities, limitations, and opportunities. It was performed by brainstorming the S-W of SWOT, listing out our actual or perceived strengths and weaknesses. The external analysis helped us understand how our organization is perceived externally and what potential factors may affect our future. External factors included things like the economy, funding trends, demographics, social factors, technology changes, politics, regulatory factors, and public or stakeholder opinion. The external analysis was performed by recalling emails, conversations, and other feedback from stakeholders as part of the O-T of SWOT.

## Mission Statement

Each Division's mission statement is at the core of why we do the work we do. They identify purpose and may include some strategy reflection. Crafting good mission statements was challenging. By understanding our Vision and identifying why we do what we do to reach the "end state", our mission statements help formulate our goals and objectives in the Strategic Plan. Each Division within OCES has their own mission statement in support of our Vision.

## Goals and Objectives

Goals are a clear statement of the mission, specifying the accomplishments to be achieved if the mission is to become real. Goals are outcome based and not process oriented. They clearly state specific and measurable outcomes/changes that can be reasonably anticipated as we move toward our "end state". Objectives are even clearer statements of the specific tasks and activities that will be required to achieve the goals. They are stated in ways that describe what we will do, and in some instances how we will do it. Our objectives address the difference between where we are ("current state"), and where we want to be (our Vision's "end state"), by spelling out what we will do to get there. We tried diligently to make our objectives SMART: Specific, Measurable, Actionable, Realistic, and Timely.

## Approach

The approach is a narrative section in the strategic plan where we will spell out and justify our choices about goals and objectives. It explains to the layperson why we chose the path that we chose. The Approach also includes data collection from our action plan that will enable us to determine what is working and what is not (are we being successful). OCES will evaluate our strategic plan at least annually, with a new plan anticipated to be created or significantly revised every five (5) years.



## Strategic Goals and Objectives

Strategic Goals are global concepts that are supported by one (1) or more Objectives. Each Objective is supported by one (1) or more Tasks. The Tasks are tangible ideas or concepts that will help achieve the Objective. Tasks have been developed as part of this Strategic Plan, but are not included as they may change often based on internal and external influences, sometimes beyond our control. The flexibility built into the Strategic Plan enables each Division to morph or change their Tasks while continuing to meet the Objective. What looks good on paper may not necessarily work in real life. It is imperative to integrate the ability and flexibility to adapt in order to continue making progress.

Tasks are identified as Short-Term (1-2 years), Mid-Term (2-4 years), and Long-Term (4-7 years) initiatives. Progress will tracked by publically visible Gantt charts in the OCES office, and the form in Appendix B. Each Division will have a chart in their office area, and a master chart will be posted in the reception area of the facility.

### ADMINISTRATION DIVISION

#### Administration Mission Statement

The OCES Administrative Division is responsible for delivering superior customer service and support for our internal and external customers.

#### Approach

In streamlining the agencies hiring, contract and approval process, the agency becomes more efficient and uses less monetary resources. As a service agency, it is our goal to effectively coordinate and develop community partnerships, public education and special event coordination. In an effort to be innovative, we will use technology to efficiently capture, process, and store operational data. As the agency continues to grow, Administrative staff will be encouraged to build skill levels through continued education and training.

### STRATEGIC GOAL #1

#### Streamline Hiring, Contract and Approval Process

##### OBJECTIVES

1. Eliminate the need for paper documents requiring a physical signature
2. Restructure and tier the hiring process for E9-1-1 and EMS, to include effectively utilizing NEO GOV
3. Restructure contract routing internal/county-wide

### **STRATEGIC GOAL #2**

#### **Effectively Coordinate and Develop Community Partnerships, Public Education and Special Event Coordination**

##### **OBJECTIVES**

1. Establish and maintain relationships with supporters and stakeholders, including our schools, in order to educate our community in safety and disaster preparedness
  - a. Utilize skills of the County PIO to develop outreach materials
  - b. Utilize all members of Admin Staff to support outreach initiatives

### **STRATEGIC GOAL #3**

#### **Use Technology to Efficiently Capture, Process and Store Data as needed in Agency Operations**

##### **OBJECTIVES**

1. Research and Solicit Qualified Vendors for Services Needed
2. Produce Accurate Financial Information for Staff

### **STRATEGIC GOAL #4**

#### **Build skill through education and training, and formally recognize above and beyond achievements of staff**

##### **OBJECTIVES**

1. Internally grow leaders through education and training
2. Create a process to formally acknowledging outstanding work

## EMS DIVISION

### EMS Mission Statement

The OCES EMS Division will deploy highly educated, well-trained emergency medical personnel to deliver efficient, effective, and excellent care that encompasses the wide range of community health needs.

### Approach

Orange County EMS will provide highly trained, critically thinking EMS providers equipped with the most up to date Emergency Medical Services knowledge, skills and abilities. The EMS Division is committed to improving information dissemination and accessibility to all staff and partner agencies. In order to improve customer service and relationships with internal staff and partner agencies, EMS will improve transparency by providing accurate and timely performance measures, standard operating guidance with intent and direction. EMS will improve employee retention and develop continuity of operations by providing career pathways and professional development. EMS must stay up to date with changing community health needs by participating with other health care providers, County Departments, and partner agencies to identify, prioritize, and implement community health initiatives.

### STRATEGIC GOAL #1

#### Deploy highly educated, well-trained personnel

##### OBJECTIVES

1. Develop an efficient and cost-effective education and training model
  - a. Implement Field Training Officer (FTO) training to interested employees
  - b. Create FTO positions by reclassifying one (1) paramedic position per shift to act in a dual role (paramedic/FTO)
2. Consistently deliver and grow organizational knowledge

### STRATEGIC GOAL #2

#### Build capabilities to support efficient, effective, and excellent care

##### OBJECTIVES

1. Continue implementation of the Emergency Services Workgroup approved Comprehensive Assessment of EMS & 9-1-1 Communications Center Operations report
2. Implement consistent regulatory oversight
3. Improve dissemination of information for Staff on the EMS Website
4. Improve dissemination of information for patients, partner agencies, and doctor's office's on the EMS Website
5. Implement Professional Development Pathways
6. Support field based medical directors
7. Increase the operational capacity to deliver EMS services in the community
8. Improve internal and external communication from the EMS Division

**STRATEGIC GOAL #3****Develop programs to address the wide range of community healthcare needs****OBJECTIVES**

1. Support high risk community healthcare program strategies
2. Develop programs to support the medical needs of special operations

DRAFT FOR REVIEW

## COMMUNICATIONS DIVISION

### E9-1-1 Mission Statement

The OCES Communications Division is dedicated to provide the vital link between the community and emergency services through integrity, leadership, and teamwork.

### Approach

Our approach provides a road map that will position Orange County's E9-1-1 System to embrace next generation technology, support state and regional collaborative efforts, and stress fiscal responsibility while improving E9-1-1 services for the agencies and citizens served. This approach also reflects the desire for improving customer service, quality of dispatch services, an improved working environment, and a forecast of future needs.

### STRATEGIC GOAL #1 Improve customer service

#### OBJECTIVES

1. Continue implementation of the Emergency Services Workgroup approved Comprehensive Assessment of EMS & 9-1-1 Communications Center Operations report
2. Deliver exceptional 9-1-1 and non-emergency public safety services
3. Ensure operational staffing and agency emergency preparedness
4. Promote 9-1-1 and public safety communication awareness and build and enhance partnerships with all stakeholders

### STRATEGIC GOAL #2 Improve business processes

#### OBJECTIVES

1. Ensure compliance with applicable national and state 9-1-1 call taking and dispatching standards
2. Develop Continuity of Operations Plan (COOP) for Orange County's E9-1-1 system to ensure local and countywide 9-1-1 access and reliability.
3. Develop a plan to include all necessary back-up systems needed to sustain E 9-1-1 call answering operations and ensure E9-1-1 survivability at a County level.

### **STRATEGIC GOAL #3**

#### **Improve technology for stakeholders and customers**

##### **OBJECTIVES**

1. Provide SunGard CAD interface to all partner agencies
2. Create a robust and functional radio system that is accessible to all County and partner public agencies
3. Create a robust and functional radio paging system that works countywide
4. Continue to enhance the 9-1-1 system to incorporate future technologies known as, NG9-1-1 (Next Generation 9-1-1) allowing text, video and the capability of connecting to the statewide network

### **STRATEGIC GOAL #4**

#### **Improve the work environment for employees**

##### **OBJECTIVES**

1. Provide employees with quality education, training and career development
2. Instill a professional departmental culture
3. Identify appropriate and productive communication processes for integrating the various generations of employees
4. Promote healthy living and lifestyle recommendations for public safety employees
5. Actively attract, recruit and sustain a highly motivated workforce
6. Restructure the hiring process to focus on tiered learning approach:
  - a. Call Taking
  - b. Radio Dispatching
  - c. Both functions
7. Revamp the training program to enhance and strengthen critical skills prior to on-the-job training
8. Identify and implement Telecommunicator contracts and psychological testing

## **FIRE MARSHAL DIVISION**

### **Fire Marshal Mission Statement**

The OCES Fire Marshal Division is dedicated to preserving life, property, and environmental resources through education, prevention, investigation and fire code enforcement

### **Approach**

The Fire Marshal Division is committed to consistently providing a superior customer service program. As our number one goal, we acknowledge that the objectives listed within this goal will align with the Orange County Emergency Services ETHOS and the expectations of each individual we interact with on a daily basis. The goals and objectives create a snapshot of how we would like our Division to represent itself. Having a basis for outside comment will allow us to better serve our partnering agencies and customers alike. Our overall intent for identifying the Goals and Objectives in this Strategic Plan is to distribute the most effective fire prevention programs, fire protection support and code enforcement capabilities to all of the people in Orange County.

### **STRATEGIC GOAL #1**

#### **Achieve premier customer satisfaction**

##### **OBJECTIVES**

1. Develop and implement an action plan to identify opportunities to increase customer satisfaction.
2. Critically analyze current fire and life safety guidelines and SOGs for the Fire Marshal Division
3. Develop a professional, comprehensive data management system
4. Market the Fire Marshal Division's Services

### **STRATEGIC GOAL #2**

#### **Build strong relationships and consistent collaboration with partner and support agencies**

##### **OBJECTIVES**

1. Generate and sustain strong partnerships among fire agencies, community groups, regulated and non-regulated industries, governmental agencies, and targeted audiences

**STRATEGIC GOAL #3****Augment training for external customers****OBJECTIVES**

1. Increase training opportunities for external customers
2. Evaluate the effectiveness of the Fire Marshal Division's education and training for customers

**STRATEGIC GOAL #4****Enhance effectiveness of internal communications****OBJECTIVES**

1. Create an internal communication plan to ensure information between administration and employees is easily accessible and transparent
2. Ensure employees have access to critical information and feedback channels are available

**STRATEGIC GOAL #5****Create progressive professional development****OBJECTIVES**

1. Create an environment of team work and efficiency
2. Foster an organizational climate where employee diversity is a catalyst for creativity
3. Transition non-related Fire Marshal Division job duties to the appropriate Division

**STRATEGIC GOAL #6****Improve budget strategies****OBJECTIVES**

1. Review service levels and support requirements to identify and establish funding
2. Develop a budget plan and provide continual review and revision

## EMERGENCY MANAGEMENT DIVISION

### Emergency Management Mission Statement

The Emergency Management Division will coordinate with partner agencies to ensure that Orange County is prepared to respond to and recover from all natural, technological, and man-made emergencies. We will provide the leadership and support to reduce the loss of life and property through an all-hazards emergency management program of prevention, mitigation, preparedness, response, and recovery throughout Orange County.

### Approach

Our approach is intended to improve customer service and further enhance the Emergency Management Division through the addition of key staff that will be tasked with developing realistic and actionable preparedness, response, recovery and mitigation plans. In addition, our approach will develop better use of technology, provide better training for county and stakeholder staff, and increase the ability of community leaders to make informed decisions during times of crisis.

### STRATEGIC GOAL #1

#### Develop relevant and actionable EM plans which are verifiable through exercises and real world implementation

#### OBJECTIVES

1. Add 1 FTE in 14/15 for EM Planner for long term planning development & support
  - a. Emergency Operations Plan (revise and update)
  - b. Hazard Mitigation Plan (revise and update)
  - c. Debris plan (support Solid Waste)
  - d. Damage Assessment (new)
  - e. THIRA (new)
  - f. Recovery Plan (new)
  - g. Tactical Interoperable Communications Plan (new)
  - h. Nuclear 50 mile ingestion pathway (new)
  - i. Active Threat (new)
  - j. Standard Operating Guidelines and job aids for EOC (revise based on EOP)
2. Revise and update the County Emergency Operations Plan
3. Reassess the County multi-hazard mitigation plan
4. Conduct a Threat and Hazard Identification and Risk Assessment (THIRA)
5. Conduct a Commodity Flow Study to identify the Hazardous Materials travelling through Orange County by rail, highway, and pipeline
6. Incorporate public health plans into the department with the Public Health Preparedness Coordinator
7. Disseminate the new resource manual which replaced the outdated version
8. Create EOC job aids that exist outside of the EOP and are currently not in existence

### **STRATEGIC GOAL #2**

**Develop a more robust and better organized logistics branch to serve the current and growing needs of the department**

#### **OBJECTIVES**

1. Implement supply chain management and organizational tools in the warehouse
  - a. Research, obtain, and implement an inventory tracking system
2. Provide logistical training to warehouse staff
3. Create Division logistical lead positions for the warehouse to improve coordination

### **STRATEGIC GOAL #3**

**Implement tools to further incident command operations and EOC operations countywide**

#### **OBJECTIVES**

1. Improve coordination for incident management
2. Reorganize and reequip the Emergency Operations Center
3. Develop countywide EOC training tools and technology, including Incident Command
4. Create and utilize EOC functional exercise for key stakeholders
5. Coordinate with county departments to make staffing levels three deep
6. Develop County owned and operated Mobile Command Post capabilities

## Performance Evaluation

As the Strategic Plan matures, each Division will develop performance indicators that will be specific to each goal. As the indicators may change fairly rapidly, they are not included in this plan, but will be developed separately in support of this plan (Appendix B). The performance indicators will serve as a tool to track the progress of each goal and demonstrate progress of the Strategic Plan implementation.

## Plan Maintenance

This plan is a living document that will be reviewed at least annually to determine if implementation is being successful. It will be updated every five (5) years to reflect new or changing County and organizational goals and priorities. To update the plan, OCES will convene a Task Force of stakeholders to review, provide feedback, develop consensus, and revise the contents of the plan.

Each time the plan receives a major update, it will be presented to the Orange County BOCC for their input, feedback, and consensus before implementation occurs. The final plan will be presented to OCES stakeholders for their situational awareness.

DRAFT FOR REVIEW

## Appendix A - ETHOS

# ETHOS

## Core Values and Guiding Principles

**The distinguishing character, moral nature, or guiding beliefs of a person, group, or institution.**

Orange County Emergency Services' (OCES) goal is to help and support our citizens, visitors, co-workers, and emergency responders, especially when they are most in need. OCES personnel must be good stewards of county resources, and ensure that our customers—both internal and external—are treated fairly and respectfully. Achieving this goal will occur through formal processes, such as personnel policies and training programs, as well as through fair and respectful treatment of each other and those that we come in contact with.

Our personnel across each of the OCES Divisions: 9-1-1, Emergency Management, Emergency Medical Services, and Fire Marshal, must exhibit unwavering commitment and support of this ETHOS.

## Core Values

*The accepted principles and standards of a person, group, or institution. The following core values will guide our behavior and provide the basis for how our personnel operate and interrelate with others. OCES personnel must be committed to the core values of integrity, respect, fairness, and compassion.*

### Integrity

As individuals and as a collective agency, OCES personnel must recognize that **integrity is our most valuable attribute**. We are obliged as public servants to comply with a range of ethics-based principles and high standards of conduct. OCES is an inherently collaborative organization; we work daily with a very diverse group of emergency responders, citizens, visitors, and community employees. Our personnel must work diligently to establish productive relationships with these groups by **earning** their trust and always behaving honestly, credibly, dependably, and professionally. Trust is not a right that is given, it must be earned.

## Respect

OCES employees must be committed to treating those whom they serve and those with whom they work with fairness, dignity, and compassion. We do this because morally, it is the right thing to do. We also do this because it develops and maintains sustainable working relationships with our stakeholders. OCES personnel must be committed to understanding the unique sensitivities of diverse groups and members of our community, and respond appropriately by treating everyone without bias or preference. OCES, especially those in a leadership role, will support and encourage their fellow co-workers to grow through opportunity and empowerment while working as “one” cohesive team.

## Fairness

The Core Value of fairness extends to the mission of all programs and services provided by OCES. Our personnel must communicate clear and consistent information to our stakeholders, listen actively, and consider the viewpoints of our citizens, visitors, emergency responders, and co-workers. Regardless of the outcome of any discussion or decision, all those with whom OCES has contact must feel that our personnel listened to their input, and treated them respectfully and fairly.

## Compassion

In dealing with our communities and emergency responders who may be affected by a significant emergency or disaster, empathy and compassion are essential qualities that must be embodied in our preparedness, response and recovery efforts. OCES personnel must ensure that we focus on the needs of the members of our community, especially those who may have special requirements and those who have become most disadvantaged by the incident. Our primary responsibility is to support our citizens, visitors, co-workers and emergency responders in caring for those affected by any emergency or disaster, and to provide this support with patience, understanding and respect.

# Guiding Principles

***The common framework for how OCES will deliver services and support for our stakeholders. These principles are grounded in our Core Values, and further help define how we should view ourselves as an organization, as well as how we would like our stakeholders to view OCES.***

These principles should be used to guide our actions, as they are particularly important when we face unusual situations where there is little or no clear guidance in policy or procedure. For

OCES personnel, knowing and applying the following Guiding Principles will ensure that we constantly and consistently act in accordance with our Core Values.

### **Stewardship**

OCES personnel are public servants, entrusted with public resources to perform our critical mission areas. We have ethical, moral and legal obligations to protect these resources and ensure they are used effectively and efficiently for their intended purpose. OCES employees are also entrusted with the responsibility to be good stewards of the County's resources. We must take this responsibility very seriously when executing each of our mission areas.

### **Engagement**

OCES personnel should actively and regularly engage the whole community of Orange County, which includes organizations that may not traditionally have been seen as emergency response stakeholders, such as our citizens, visitors, and co-workers. Informed stakeholders make better choices for their organizations, themselves, and their communities. The process of engagement will enable OCES to develop and/or participate in teams that are needed to accomplish our core missions.

Timely, accurate and open information sharing, along with mutual fairness and respect will provide the foundation for effective engagement. OCES must clearly and openly communicate the essential elements of our situational awareness to our leadership, to the public, and to our emergency services partners in order to form a common operating picture. We do not only want to be on the same sheet of music, we also want to be on the same note.

Effective engagement means that OCES personnel respect and value the capabilities and professionalism that our stakeholders provide. OCES employees must seek new opportunities and innovative ways to include our emergency service partners in critical decision-making processes, in addition to collaborating with them during the execution of our daily missions. We must also actively engage with our community. A simple "how are you today?" or "can I help you?" or "how are we doing?" will go a long way.

### **Teamwork**

As an emergency services organization, our success is dependent on interdisciplinary, intergovernmental, and interagency coordination and cooperation. Understanding that major disasters and emergencies may be too complex for any single agency to handle, OCES must be prepared to lead and embrace teamwork among our County stakeholders, as well as those stakeholders outside of our County lines. OCES personnel must work hard to maintain and

strengthen our relationship with these stakeholders by approaching our work with a “one team” mindset, and pursuing every opportunity to support and foster collaborative relationships.

## Empowerment

The nature of OCES’ responsibilities means that all of our personnel must constantly lean forward and always be prepared to take informed and decisive action. Our personnel will be empowered to take actions in order to achieve the desired outcomes that are in line with our Core Values and Guiding Principles. Empowerment starts at the top and is shared throughout the organization. The OCES leadership must be able to trust the personnel in our organization, authorize them to make decisions, and meet the needs of an incident or event without having to constantly request approval from their superiors. This Guiding Principle reflects the understanding that each individual in the OCES organization plays a critical role in the execution of our mission.

Empowerment is achieved when those closest to the need are ready and able to act and make informed, prompt decisions based on appropriate authorities, policies, training and experience. Empowered decision-making during day-to-day operations, emergencies, and disasters requires asking the following questions:

1. *Is the decision lawful?*
2. *Does the course of action have the best interest of the customer in mind?*
3. *Would I make the same decision if the media or commissioner were right beside me?*
4. *Am I willing to be accountable for this decision?*

***If the answer to any of these questions is no, then it is most likely the wrong decision.***

## Result Oriented

Getting results means identifying what must be achieved, receiving direction as required, and accurately completing the task/assignment on time. We cannot drop the ball. If we say that we will do something or be somewhere, then we must do it without delay. The focus of this principle is that our personnel closest to our customers (both internal and external), will deliver the OCES mission most efficiently and effectively. Getting results means to innovate when there are roadblocks, and to succeed where there are opportunities.

## Accountability

OCES personnel must embrace our responsibilities for meeting the needs of our stakeholders, while being fully accountable to our citizens, response partners, and to each other. We will

strive to meet the extraordinary needs and demands of our mission areas, even when they are encountered in difficult and often harsh conditions. OCES personnel must accept responsibility for accomplishing our missions without complaint, be transparent in our decision-making process, and expect to be held highly accountable for the actions we take and decisions we make.

## **Flexibility**

OCES must anticipate and be prepared to accommodate changes in organizational goals, courses of action, and operating environments. We must also be prepared to adjust quickly as our stakeholder needs change, and in fact thrive in this environment and devise innovative ways to meet new challenges as they arise.

As public servants, we must understand that in the event of an emergency or disaster, we may be deployed/dispatched/activated with little advance notice. We may also be asked to work irregular hours and perform duties other than those specified in our normal position descriptions. Being prepared to respond to the needs of our community stakeholders quickly and enthusiastically is at the heart of what it means to be a member of OCES.

## **Preparation**

Preparation is the key to achieving the desired results. Benjamin Franklin once stated “by failing to prepare, you are preparing to fail”. One of the most important preparation tasks in which OCES must continually engage is the act of planning. OCES must be committed to the planning process, while ensuring that our plans are plausible and grounded in reality. When developing plans, OCES will solicit and incorporate input from our stakeholders. We must document what we will do, and then do what we document. In doing so, we will build resiliency and sustainability into our organization.

OCES’ plans must account for the various elements of Orange County’s population, and focus on integrating the functional needs of all community members, not just the average community member. Our plans must also be flexible and readily adaptable to the situation at hand. Winston Churchill said “those who plan do better than those who do not plan, even though they rarely stick to that plan”. So, we will plan so that we will do better.

**Appendix B – Work Plan Template**

OCES DIVISION:						
Goal	Resources (personnel, equipment, supplies)	Responsibility (Primary person and agency)	Performance Measures	Start Date	End Date	Status as of (date):   On Target  Delayed  Critical
Goal #  Objective #  Task #  Timeframe:						
Goal #  Objective #  Task #  Timeframe:						
Goal #  Objective #  Task #  Timeframe:						
Description of status:						

**ORANGE COUNTY  
BOARD OF COMMISSIONERS**

**ACTION AGENDA ITEM ABSTRACT**

**Meeting Date:** January 28, 2014

**Action Agenda  
Item No. 4**

**SUBJECT:** County Commissioners – Boards and Commissions Assignments

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**DEPARTMENT:** Board of Commissioners

**PUBLIC HEARING: (Y/N)**

No

**ATTACHMENT(S):**

Attachment A - Current Policy Governing  
the Selection Process of  
BOCC Boards/Commissions  
Assignments  
Attachment B - Boards and Commissions  
Listing

**INFORMATION CONTACT:**

Clerk's Office, 245-2130

**PURPOSE:** To consider the list of boards and commissions on which the BOCC serve and select those boards on which BOCC members wish to serve.

**BACKGROUND:** BOCC members serve on various County and County-related boards and commissions. On an annual basis, BOCC members indicate their desire to continue serving on specific boards or commissions or their desire to make changes.

Attachment A - Selection Process  
Attachment B - Board and Commissions Listing

**FINANCIAL IMPACT:** None.

**RECOMMENDATION(S):** The Board will consider making BOCC advisory board assignments.

## **Policy Governing the Selection Process of BOCC Boards/Commissions Assignments –Adopted 2011**

1. Each BOCC member (veteran) shall chose one board that they currently serve on to keep in perpetuity
2. The junior member will then pick one board first in the first round and then least senior members of the Board will choose one board on which to serve (suggestion is to do this alphabetically - by last name)
3. In the second round, the senior member will pick first, and then the other senior members to the least senior member will pick
4. And then it is back to the junior member.....
5. Round Robin will not include short-term taskforces (limited duration), ex-officio boards, and non-O.C. boards with BOCC in officer/leadership positions (these boards also cannot be taken away by other BOCC members).

Attachment B  
CURRENT SELECTION BY BOCC – BOARDS AND COMMISSIONS-2013

<b>BOARD NAME</b>	<b>MEETING DATE</b>	<b>BOCC MEMBER</b>	<b>BOCC SELECTION</b>	<b>SELECTION (to be done at meeting)</b>
<b>STATUTORY</b>				
ABC Board	Monthly, Third Tues 8:30 AM	Commissioner Not Required (non-voting member)	Commissioner McKee	
Board of Health	Monthly, Fourth Wed 7:00 PM	1 Commissioner Required	Commissioner Pelissier - Member	
Board of Social Services	Monthly, Third Mon 4:00 PM	2 appointees Commissioner not required but usually a Commissioner serves	Commissioner Dorosin – Member  Citizen-Already appointed	
Orange-Person-Chatham (OPC) Community Operations Center Advisory Board		1 Commissioner or designee 1 Consumer/Family member 1 Citizen/ Stakeholder	Commissioner Dorosin	
<b>INTERGOVERNMENTAL and OTHER GROUPS WITH BOCC MEMBERS</b>				
Burlington/Graham MPO Transportation Advisory Committee		Requires 1 Commissioner member 1 Alternate Commissioner	Chair Jacobs-Member  Commissioner McKee - Alternate	
Communities in Schools	Monthly, Fourth Wed 3:00-5:00 PM	1 Commissioner Required	Commissioner Price - Member	
Community Home Trust BOD	Monthly	1 Commissioner Required	Penny Rich-Member	
Durham-Chapel Hill-Carrboro-Metropolitan Planning Organization (MPO)-Transportation Advisory Committee	Monthly-second Wed.	Requires 1 Commissioner Member  1 Alternate Commissioner	Commissioner Gordon -Member Commissioner Pelissier - Alternate	

Attachment B  
CURRENT SELECTION BY BOCC – BOARDS AND COMMISSIONS-2013

BOARD NAME	MEETING DATE	BOCC MEMBER	CURRENTLY SERVING	SELECTION (to be done at meeting)
Durham/Chapel Hill/Orange Work Group	Quarterly-rotates between entities- noon meeting	2 Elected Representatives required (from 4 jurisdictions)	Commissioner Gordon-Member  Chair Jacobs-Member	
Durham Tech Board of Trustees	Quarterly	2 Appointees– one can be a Commissioner but doesn't have to be	Commissioner Price – Member  Citizen already appointed	
Efland Mebane Small Area Plan Implementation Focus Group	Not meeting at this time. Has not been disbanded	1 Commissioner	Commissioner Dorosin	
Fire Chief's Association of Orange County	Bi-monthly – first Weds.- 7pm	Commissioner not required as member – but can attend as guest(s)	Commissioner McKee	
Healthy Carolinians	Meets quarterly (3 <sup>rd</sup> Thursdays at 8:30am)	Commissioner not required –often same BOCC Member as on the Board of Health	Commissioner McKee	
HOME Program Review Committee	Quarterly	1 Commissioner Required	Commissioner McKee -Member	
Housing Bond Program-Project Review & Selection Committee		1 Commissioner Required	Commissioner Pelissier- Member	
Hollow Rock Park Planning Committee	<b>Not meeting at this time</b>	2 Commissioners	Commissioner Gordon and Chair Jacobs	
Intergovernmental Parks Work Group	Meets 3 times per year at 5:30pm	1 Commissioner Member 1 Alternate Commissioner	Commissioner Gordon –Member  Commissioner Rich - Alternate	

Attachment B  
CURRENT SELECTION BY BOCC – BOARDS AND COMMISSIONS-2013

JOCCA	Meets Quarterly in Pittsboro at 5:30pm -	1 Commissioner Or Citizen	Commissioner Dorosin	
Legislative Issues Work Group	As needed	2 Commissioners	Commissioner Dorosin and Commissioner McKee (2013)	
Library Services Task Force	<b>Not meeting at this time Has not been disbanded</b>	2 Commissioners	Chair Jacobs - Member  Commissioner Price - Member_	
Orange County Partnership for Young Children	Bi-Monthly-last Wed of month-at 8:30am	1 Commissioner - Board of Directors	Commissioner Dorosin -Member	
Research Triangle Regional Partnership (RTRP)	Meets as needed	1 Commissioner (2 seats—Margaret Cannell in other seat)	Commissioner Price -Member	
Solid Waste Management Plan Work Group	Meets as needed	1 Commissioner	<b>Suspended Until further direction</b>	
<b>Solid Waste Interlocal Agreement – Elected Leaders Work Group</b>			<b>To be re-constituted at a later date</b>	
Ten Year Plan to End Homelessness Executive Team	Monthly -1 <sup>st</sup> Wed. at 5:30pm	1 Commissioner member	Commissioner Pelissier	
Triangle J Council of Governments	Monthly – 4 <sup>th</sup> Wed – 6:00pm	1 Commissioner Member  1 Alternate Commissioner	Chair Jacobs-Member  Commissioner Rich- Alternate	

Attachment B  
CURRENT SELECTION BY BOCC – BOARDS AND COMMISSIONS-2013

Triangle Area Rural Planning Organization (TARPO) Transportation Advisory Committee	Bi-monthly	1 Commissioner Member 1 Alternate Commissioner	Commissioner Price –Member  Commissioner Pelissier - Alternate	
Triangle Transit Board of Trustees	Monthly –4 <sup>th</sup> Wednesday 1:00pm-5:00pm	May appoint a Commissioner or Commissioner-appointed citizen	Commissioner Pelissier - Treasurer	NA
Triangle Transit Special Tax Board	As Needed	**2 Commissioners Required <b><u>Must be available to meet on 1/30/14 at 2:00pm for Tax meeting in Durham</u></b>	Commissioner Gordon and Commissioner Pelissier	
Workforce Development Board – Regional Partnership	Meets monthly in Asheboro	Does not require a Commissioner- usually has been 1 Non-Voting Liaison	Nancy Coston – DSS Director	NA
Visitor's Bureau	Monthly – Third Wed 8:00 AM	1 Commissioner Required	Commissioner Rich – Member-Finance Officer	NA
<b>BOARDS TO WHICH BOCC HAS ALREADY MADE APPOINTMENTS</b>				
<b>NACo Voting Delegate</b>		1 Commissioner Required	Commissioner Rich	NA
<b>NCACC Voting Delegate</b>		1 Commissioner Required	Commissioner Pelissier	NA

**SHORT TERM TASK FORCES/WORKGROUPS**

<b>Alternatives to Jail Assessment Work Group</b>		2 Commissioners	Chair Jacobs and Commissioner Pelissier
<b>Historic Rogers Road Task Force</b>	<b>INACTIVE AT THIS TIME</b>	2 Commissioners	
<b>Cedar Grove Advisory Board Meeting</b>	Meets as needed	2 Commissioners	Chair Jacobs and Commissioner Price

Attachment B  
CURRENT SELECTION BY BOCC – BOARDS AND COMMISSIONS-2013

<b>EX-OFFICIO</b>	
<b>Hillsborough/Orange County Chamber of Commerce- does not require a Commissioner</b>	Chair Serves
<b>NC DOT Quarterly Meetings</b>	Chair/Vice Chair
<b>School Collaboration Meetings</b>	Chair/Vice Chair

<b>OFFICERS</b>	
<b>Triangle Transit Board of Trustees</b>	Commissioner Pelissier – Treasurer
<b>Visitor's Bureau</b>	Commissioner Rich – Finance Officer
<b>NCACC Board of Directors</b>	Commissioner Price