SITE NAME: 8601 SIX FORKS ROAD SUITE 250
RALEIGH, NC 27615
(919) 324-1922

SITE NAME:
NC-1512 FRIENDSHIP DRIVE

TOWER COORDINATES

LOCATION MAP

EXISTING GROUND ELEV. (AMSL) = 768.4' ± (NAVD '88)

DRIVING DIRECTIONS

CONTACT INFORMATION

FROM RALEIGH, NC: TAKE PREFERRED ROUTE TO I-40 W. CONTINUE ON I-40 W FOR APPROXIMATELY 70 MILES. KEEP LEFT TO MERGE ONTO I-85 S AND CONTINUE FOR APPROXIMATELY 80 MILES. TAKE EXIT 48 FOR INNER 85 S FOR 2 MILES THEN TAKE EXIT 24 FOR E JOHN ST E TOWARDS MATTHEWS. TURN LEFT ONTO E JOHN ST THEN TURN LEFT ONTO FRIENDSHIP DR. SITE IS ON YOUR LEFT.
PROJECT NOTES:
1. All references made to owner in these documents shall be considered APC or its designated representative.
2. Work presented on these drawings must be completed by the contractor unless otherwise specified. The contractor must not have insufficient experience in performance of work similar to that for which the drawings and specifications have been prepared. The contractor must have sufficient experience and ability to perform the work to be done in accordance with the drawings and specifications.
5. Unless shown or noted otherwise on the contract drawings, or in the specifications, the following notes shall apply to the materials listed herein, and to the procedures to be used on this project.
6. All hardware assembly manufacturer's instructions shall be followed exactly and shall supersede any conflicting notes enclosed herein.
7. It is the contractor's sole responsibility to determine, in each procedure and sequence to ensure the safety of the structure and its components, and in each work performed on site, to follow the procedures shown in the specifications. This includes, but is not limited to, the addition of temporary bracing, the use of trench supports, or the removal of such that may be necessary, such that shall be removed and shall remain the property of the contractor after the completion of the project.
8. All55.
9. All materials and equipment furnished shall be new and of the quality and type specified, and shall be in accordance with the contract documents. Any work not completed to the satisfaction of the owner or the owner's engineer, shall be removed and shall be at the owner's expense.
10. The contractor shall be responsible for maintaining, maintaining, and supervising all safety regulations and programs in connection with the work. The contractor is responsible for ensuring that the project and related work complies with all applicable local, state, and federal safety regulations and requirements for work, personnel, and equipment. Safety, protection, and maintenance of rental equipment shall be the contractor's responsibility.
11. All materials and equipment furnished shall be new and of the quality and type specified, and shall be in accordance with the contract documents. Any work not completed to the satisfaction of the owner or the owner's engineer, shall be removed and shall be at the owner's expense.
12. The contractor shall be responsible for maintaining, maintaining, and supervising all safety regulations and programs in connection with the work. The contractor is responsible for ensuring that the project and related work complies with all applicable local, state, and federal safety regulations and requirements for work, personnel, and equipment. Safety, protection, and maintenance of rental equipment shall be the contractor's responsibility.
13. All materials and equipment furnished shall be new and of the quality and type specified, and shall be in accordance with the contract documents. Any work not completed to the satisfaction of the owner or the owner's engineer, shall be removed and shall be at the owner's expense.
14. The contractor shall be responsible for maintaining, maintaining, and supervising all safety regulations and programs in connection with the work. The contractor is responsible for ensuring that the project and related work complies with all applicable local, state, and federal safety regulations and requirements for work, personnel, and equipment. Safety, protection, and maintenance of rental equipment shall be the contractor's responsibility.
15. All materials and equipment furnished shall be new and of the quality and type specified, and shall be in accordance with the contract documents. Any work not completed to the satisfaction of the owner or the owner's engineer, shall be removed and shall be at the owner's expense.
16. The contractor shall be responsible for maintaining, maintaining, and supervising all safety regulations and programs in connection with the work. The contractor is responsible for ensuring that the project and related work complies with all applicable local, state, and federal safety regulations and requirements for work, personnel, and equipment. Safety, protection, and maintenance of rental equipment shall be the contractor's responsibility.
17. The contractor shall be responsible for maintaining, maintaining, and supervising all safety regulations and programs in connection with the work. The contractor is responsible for ensuring that the project and related work complies with all applicable local, state, and federal safety regulations and requirements for work, personnel, and equipment. Safety, protection, and maintenance of rental equipment shall be the contractor's responsibility.
18. Any work on this site is intended to shelter equipment which shall not be periodically maintained and are not intended for human occupancy.
19. Temporary facilities for protection of tools and equipment shall be subject to local regulations and shall be at the contractor's responsibility.
20. The contractor shall maintain the site clear of trash and debris. All waste materials shall be removed from the site and placed in suitable containers. Any work shall be accepted by the owner. The contractor shall furnish one 50-gallon barrel and trash bags, and shall remove trash, debris, etc., on a daily basis.
21. The contractor shall maintain the site up to the standards of the NC-1512 FRIENDSHIP DRIVE. All waste materials and trash shall be removed from the site and placed in suitable containers. Any work shall be accepted by the owner. The contractor shall furnish one 50-gallon barrel and trash bags, and shall remove trash, debris, etc., on a daily basis.
22. The contractor shall maintain the site up to the standards of the NC-1512 FRIENDSHIP DRIVE. All waste materials and trash shall be removed from the site and placed in suitable containers. Any work shall be accepted by the owner. The contractor shall furnish one 50-gallon barrel and trash bags, and shall remove trash, debris, etc., on a daily basis.
23. The contractor shall maintain the site up to the standards of the NC-1512 FRIENDSHIP DRIVE. All waste materials and trash shall be removed from the site and placed in suitable containers. Any work shall be accepted by the owner. The contractor shall furnish one 50-gallon barrel and trash bags, and shall remove trash, debris, etc., on a daily basis.

UTILITY NOTES:
1. Apply for the utility service (electric) no later than the next business day following the date of completion of the project. The utility service shall be coordinated with the utility company for the purpose of coordinating the service with the telephone utility company for the purpose of coordinating the service with the telephone utility company.
2. The technician shall maintain the site up to the standards of the NC-1512 FRIENDSHIP DRIVE. All waste materials and trash shall be removed from the site and placed in suitable containers. Any work shall be accepted by the owner. The contractor shall furnish one 50-gallon barrel and trash bags, and shall remove trash, debris, etc., on a daily basis.
3. The technician shall maintain the site up to the standards of the NC-1512 FRIENDSHIP DRIVE. All waste materials and trash shall be removed from the site and placed in suitable containers. Any work shall be accepted by the owner. The contractor shall furnish one 50-gallon barrel and trash bags, and shall remove trash, debris, etc., on a daily basis.
4. The technician shall maintain the site up to the standards of the NC-1512 FRIENDSHIP DRIVE. All waste materials and trash shall be removed from the site and placed in suitable containers. Any work shall be accepted by the owner. The contractor shall furnish one 50-gallon barrel and trash bags, and shall remove trash, debris, etc., on a daily basis.
5. No penetrations to the tower foundation of any kind.
### BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

(Except 1 and 2-family dwellings and townhouses)

(Reproduce the following data on the building plans sheet 1 or 2)

<table>
<thead>
<tr>
<th>Name of Project: NC-1512 FRIENDSHIP DRIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address: 2447 EAST JOHN STREET, MATTHEWS, NC</td>
</tr>
<tr>
<td>Owner/Authorized Agent: Paul Alvarez</td>
</tr>
<tr>
<td>Website: <a href="http://www.tepgroup.net">www.tepgroup.net</a></td>
</tr>
<tr>
<td>TOWER ENGINEERING PROFESSIONALS</td>
</tr>
<tr>
<td>326 TRYON ROAD</td>
</tr>
<tr>
<td>RALEIGH, NC  27603-5263</td>
</tr>
<tr>
<td>OFFICE: (919) 661-6351</td>
</tr>
<tr>
<td><a href="http://www.tepgroup.net">www.tepgroup.net</a></td>
</tr>
</tbody>
</table>

**ALLAWABLE AREA**

<table>
<thead>
<tr>
<th>Primary Occupancy Classification:</th>
<th>Select one</th>
</tr>
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<tbody>
<tr>
<td>Assembly</td>
<td>A-1</td>
</tr>
<tr>
<td>Educational</td>
<td>A-2</td>
</tr>
<tr>
<td>Factory</td>
<td>A-3</td>
</tr>
<tr>
<td>Factory</td>
<td>A-4</td>
</tr>
<tr>
<td>Hazardous</td>
<td>A-5</td>
</tr>
<tr>
<td>Institutional</td>
<td>A-6</td>
</tr>
<tr>
<td>Mercantile</td>
<td>A-7</td>
</tr>
<tr>
<td>Residential</td>
<td>A-8</td>
</tr>
<tr>
<td>Storage</td>
<td>A-9</td>
</tr>
<tr>
<td>Utility and Miscellaneous</td>
<td>A-10</td>
</tr>
</tbody>
</table>

| Accessory Occupancy Classification: | N/A |
|Residential Use (Table 506): | N/A |

| Special Use (Chapter 4 – List Code Sections): | N/A |

| Missed Occupancy: | N/A |

### EXISTING BUILDING CODE: EXISTING: Prescriptive |

### CONSTRUCTED: (date) |

### OCCUPANCY CATEGORY (Table 1604.5): Current: |

### Proposed: |

### BASIC BUILDING DATA:

<table>
<thead>
<tr>
<th>Construction Type:</th>
<th>I/A</th>
<th>II-A</th>
<th>III-A</th>
<th>IV</th>
<th>V-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>(check all that apply)</td>
<td>L&amp;B</td>
<td>L&amp;B</td>
<td>L&amp;B</td>
<td>L&amp;B</td>
<td>L&amp;B</td>
</tr>
<tr>
<td>Sprinklers:</td>
<td>No</td>
<td>Partial</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Standpipes:</td>
<td>No</td>
<td>Class 1</td>
<td>II</td>
<td>III</td>
<td>Wet</td>
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<tr>
<td>Fire District:</td>
<td>No</td>
<td>Yes</td>
<td>Flood Hazard Area: X</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Special Inspections Required:</td>
<td>No</td>
<td>Yes</td>
<td>Correct the local inspection jurisdiction for additional procedures and requirements.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**NOT A BUILDING**
### Fire Protection Requirements

<table>
<thead>
<tr>
<th>Building Silhouette</th>
<th>Fire Separation Distance (HFL)</th>
<th>Rated</th>
<th>Program - Reduction</th>
<th>Design - CHF</th>
<th>RATED CHF</th>
<th>RATED Penetration</th>
<th>RATED POINTS</th>
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</thead>
<tbody>
<tr>
<td>Structural Frames,</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>including bolts, gaskets,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bearing Walls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Distance</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>- North</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- West</td>
<td></td>
<td></td>
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<td>- South</td>
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<tr>
<td>No bearing walls and partitions</td>
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</tr>
</tbody>
</table>

### allowable heights

<table>
<thead>
<tr>
<th>Building Height (in Feet)</th>
<th>ALLOWABLE AREA</th>
<th>CODE REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Height (in Stories)</td>
<td>ALLOWABLE AREA</td>
<td>CODE REFERENCE</td>
</tr>
</tbody>
</table>

1. Vertical codes indicate if the "Area on Plan" quantity is not being met.

2. Unrated area applicable under code.

3. Maximum Building Area = total number of stories x the building > D (maximum) stories (506.3).

4. The maximum area of open parking garage comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 406.6.11.

5. Building increase is based on the unprotected area value in Table 506.2.
### PERCENTAGE OF WALL OPENING CALCULATIONS

<table>
<thead>
<tr>
<th>Fire Separation Distance (Feet) from Property Lines</th>
<th>Exterior Wall Area (%)</th>
<th>Actual Opening Area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ACCESSIBLE DWELLING UNITS (SECTION 206.1)

<table>
<thead>
<tr>
<th>Total Units</th>
<th>Accessible Units Required</th>
<th>Accessible Units Provided</th>
<th>Type A Units Required</th>
<th>Type A Units Provided</th>
<th>Total Accessible Units Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### LIFE SAFETY PLAN REQUIREMENTS

- Fire and/or smoke-rated wall locations (Chapter 7)
- Assumed and real property line locations (if not on the site plan)
- Exterior wall opening area with respect to distance to assumed property lines (705.8)
- Occupancy use for each area as it relates to occupant load (Table 1004.1.2)
- Occupant load for each area
- Exit access travel distances (1017)
- Common path of travel distances (Tables 1004.3.2)
- Dead end lengths (1020-B)
- Clear exit widths for each exit door
- Maximum calculated occupant loads
- Actual occupant load for each area
- A separate schematic plan showing floor/ceiling and/or roof structure is provided for purposes of occupancy segregation
- Location of doors with panic hardware (1013)
- Location of doors with delayed egress (1013.1.8.7)
- Location of doors with electronic access locks (1013.1.8.9)
- Location of doors equipped with hands-free devices
- Location of emergency escape windows (1030)
- The square footage of each fire area
- The square footage of each smoke compartment for Occupancy Classification 1-2 (407.5)
- Note any code exceptions or table notes that may have been utilized regarding the items above

### PLUMBING FIXTURE REQUIREMENTS

| Unit (GPM) | Water Closet | Urinal | Lavatory | Tub Mirror | Spray Head | Water Conservation
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
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<td></td>
<td></td>
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</tbody>
</table>

Special approval: (Local Jurisdiction, DHHS, DPI, OSHA, etc.)

2018 NC Administrative Code and Policies

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**APPENDIX B**

**SUPERCEDED** 2019-708

11/27/2019
### 2018 APPENDIX B

**BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS**

*(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)*

**DESIGN LOADS:**

<table>
<thead>
<tr>
<th>Importance Factors</th>
<th>Snow (I)</th>
<th>Seismic (S)</th>
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</thead>
<tbody>
<tr>
<td>Live Loads:</td>
<td>Roof</td>
<td>Mezzanine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Floor</td>
</tr>
<tr>
<td>Ground Snow Load</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wind Load:</td>
<td>Basic Wind Speed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure Category (E-T)</td>
<td></td>
</tr>
</tbody>
</table>

**SEISMIC DESIGN CATEGORY:**

- Provide the following Seismic Risk Category (Table 1989)
- Spectral Response Acceleration
- Site Classification (ASCE)
  - **Site Class D**
  - **Soil Comps.**
  - **S1**
  - **S2**
- Analysis Procedure: Simplified
- Architectural, Mechanical, Components:
  - Lateral: Equivalent Lateral Force
  - Dynamic: Inverted Pendulum

**LATERAL DESIGN CONTROL:**

- Earthquake
- Wind

**SOIL BEARING CAPACITIES:**

- Field Test (provide copy of test reports): psf
- Presumptive Bearing capacity: psf
- Pile size, type, and capacity

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2018 NC Administrative Code and Policies

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**NOT A BUILDING**
2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)
MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
- winter dry bulb: ____________
- summer dry bulb: ____________

Interior design conditions
- winter dry bulb: ____________
- summer dry bulb: ____________
- relative humidity: ____________

Building heating load: ____________

Building cooling load: ____________

Mechanical Spacing Conditioning System

Unitary
- description of unit: ____________
- heating efficiency: ____________
- cooling efficiency: ____________
- size category of unit: ____________

Boiler
- size category. If oversized, state reason: ____________

Chiller
- size category. If oversized, state reason: ____________

List equipment efficiencies: ____________

2018 NC Administrative Code and Policies

SUPERCEDED 2019-708
11/27/2019

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)
ELECTRICAL SUMMARY

Method of Compliance: Energy Code ~ Prescriptive
- ASHRAE 90.1

Lighting schedule (each fixture type)
- lamp type required in fixture:
- number of lamps in fixture:
- ballast type used in fixture:
- number of ballasts:
- total wattage per fixture:
- total interior wattage:
- total exterior wattage:
- excluded

Additional Efficiency Package Options
(When using the 2016 NCECC, not required for ASHRAE 90.1)

- C406.2 More Efficient HVAC Equipment Performance
- C406.3 Reduced Lighting Power Density
- C406.4 Enhanced Digital Lighting Controls
- C406.5 On-Site Renewable Energy
- C406.6 Dedicated Outdoor Air System
- C406.7 Reduced Energy Use in Service Water Heating

2018 NC Administrative Code and Policies

APPENDIX B
<table>
<thead>
<tr>
<th>No.</th>
<th>PEN</th>
<th>N/P</th>
<th>PROPERTY OWNER</th>
<th>DEED BOOK</th>
<th>PAGE</th>
<th>STREET ADDRESS</th>
<th>COUNTY</th>
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<tbody>
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<td>1</td>
<td>21505125</td>
<td>COWCHELL FAMILY PROPERTIES LLC</td>
<td>14098</td>
<td>439</td>
<td>2447 E. JOHN ST., MATTHEWS, NC 28105</td>
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<tr>
<td>2</td>
<td>21505124</td>
<td>HOWARD L. &amp; WILAKARE M. SLOAN</td>
<td>86088</td>
<td>810</td>
<td>2117 MONROE RD., MATTHEWS, NC 28105</td>
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<td>3</td>
<td>21505130</td>
<td>GREN J. SLOAN JR.</td>
<td>N/A</td>
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<td>2315 E. JOHN ST., MATTHEWS, NC 28105</td>
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<tr>
<td>4</td>
<td>21505132</td>
<td>JUDY T. DRAKE</td>
<td>2179</td>
<td>240</td>
<td>2315 CAMPUS RIDGE RD., MATTHEWS, NC 28105</td>
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<td>5</td>
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<td>6</td>
<td>07260000D</td>
<td>VENTURE ENTREPRENEURS LLC</td>
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<td>365</td>
<td>350 CAMPUS RIDGE RD., MATTHEWS, NC 28105</td>
<td>UNISON</td>
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<tr>
<td>7</td>
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<td>VENTURE ENTREPRENEURS LLC</td>
<td>20925</td>
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<td>2305 E. JOHN ST., MATTHEWS, NC 28104</td>
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<td>8</td>
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<td>4225 FRIENDSHIP DR., MATTHEWS, NC 28105</td>
<td>UNISON</td>
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<tr>
<td>9</td>
<td>21505110</td>
<td>HARRIL &amp; SUSA R B. HARRIL</td>
<td>8027</td>
<td>269</td>
<td>2305 E. JOHN ST., MATTHEWS, NC 28105</td>
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<td>LIVER RENTAL PROPERTIES LLC</td>
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<td>11</td>
<td>07260001A</td>
<td>LIVER RENTAL PROPERTIES LLC</td>
<td>1774</td>
<td>300</td>
<td>2195 OLD MONROE RD., MATTHEWS, NC 28105</td>
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<td>12</td>
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<td>13</td>
<td>21505111</td>
<td>2425 E. JOHN ST LLC</td>
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COMPOUND DETAIL

PROPOSED 2" x 6" STONE SURFACE
ABOVE 4" DENSE GRADE STONE MIX (BASE
10 EXTEND 1' OUTSIDE COMPOUND)

FUTURE 12' x 20' LEASE AREA
BY OTHERS (TYPE OF 3)

PROPOSED 10' x 100' LEASE AREA

FUTURE 20' x 12' x 6'

PROPOSED CLEARING LIMITS.

PROPOSED 8' TALL CHAIN
LINKS "X" LEASED COMPOUND.
SEE SHEET C-7 FOR
DETAILS.

PROPOSED 6' WIDE
LANDSCAPING BUFFER
SEE SHEET 1-1 FOR

PROPOSED 6' WIDE
SERVICE DRAINAGE
SEE SHEET 1-2 FOR
DETAILS.

PROPOSED 12' WIDE ACCESS
DRIVE SEE SHEET C-7 FOR
DETAILS.

PROPOSED 12' WIDE ACCESS
4' x 6" UTILITY EASEMENT

PROPOSED 30' WIDE ACCESS
A UTILITY EASEMENT

SCALE: 1" = 1'-0"

COMPOUND DETAIL

CONSTRUCTION:
- 11/25/19
- 11/21/19
- 11/16/19
- 11/24/19

REVISED:

DRAWN BY: [Signature]
CHECKED BY: [Signature]

PLANS PREPARED BY:
TOWER ENGINEERING PROFESSIONALS
350 TRION ROAD
RALEIGH, NC 27603-5263
OFFICE: (919) 661-6351
www.tepgroup.net

N.C. LICENSE # C-1794

November 23, 2019

SHEET NUMBER: C-2

REVISION: 9
NOTES:

1. Proposed cables to be run as per specifications of passing structural analysis. If proposed coax to be run beside tower using mounting grips (as specified by tower manufacturer).

2. Tower shall be constructed of galvanized steel or painted per applicable standards of the FAA or other applicable federal or state agency.

3. Tower elevation shown for reference only. Verify actual tower design & loading with tower drawings from manufacturer and/or passing structural analysis prior to construction.

4. Proposed bottom of pine limbs on tower shall be at or below the existing tree line elevation for the site.

PROPOSED LIGHTNING ROD

FUTURE ANTENNAS BY OTHERS (TOP)

PROPOSED 118' MONOPINE TOWER

[Diagram of tower elevation with annotations]
1. Filter fabric shall conform to the requirements listed in ASTM D 4406.
2. Ends of individual filter fabric shall be securely fastened at a support post with a 4-foot minimum overlap to the next post.
3. Place 12 inches of fabric along the bottom and side of the trench.
4. Inspect segment fence(s) at least once a week and after each rainfall.
5. Remove segment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence.
6. After construction is complete, the contractor shall remove all fencing materials and unstable sediment deposits, bring the area to grade and properly stabilize the site.
TYPICAL FENCE ELEVATION

GATE STOP / KEEPER DETAIL

GATE DETENT DETAIL

FENCE / BARBED WIRE ARM DETAIL

NC-1512
FRIENDSHIP DRIVE

8-01-19 CONSTRUCTION
8-10-24-19 CONSTRUCTION
8-00-01-19 CONSTRUCTION

REV. DATE ISSUE FOR:

TOWER ENGINEERING PROFESSIONALS
356 TRYON ROAD
RALEIGH, NC 27603-5263
(919) 661-6351
www.tepgroup.net

N.C. LICENSE #C-1794

November 22, 2019

DRAWN BY: CHECKED BY:

NORTH SOUTHPYLON

CONSTRUCTION
CONSTRUCTION
CONSTRUCTION
CONSTRUCTION

DRAFT 11/27/2019

REV. SHEET TITLE:

FENCE DETAILS

SHEET NUMBER: C-7

REVISION: 8
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**EVERGREEN TREES**

**MULCH**

- 2 -

**PLANTING AND SPACING**

- APPLY 3'-0" DEEP FROM THE HOULFIRE TO THE DRIVE FOR GROUND COVER - APPLY 1'-0" DEEP.
LANDSCAPE NOTES:
1. TIPS TO BE PROVIDED TO SITE CONTRACTOR TO DRAIN 1" OF PLANT GROUND.
2. EACH PLANT TO BE IN GOOD CONDITION AFTER SHEARING AND PRUNING.
3. EACH PLANT TO BE FREE FROM DISEASE, INSECT INFESTATION, AND MECHANICAL BURSTS, AND TO ALL SPECIFICATIONS.
4. ALL PLANTS TO BE FULLY GUARANTEED (LABOR AND MATERIALS) FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF INSTALLATION.
5. ALL PLANTS SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, 1956-1975 IN REGARD TO SEEDING, GROWING, AND MAN SPECIFICATIONS.
6. THE CONTRACTOR SHALL PROVIDE ALL EXISTING TREES AND SHRUBS WITHIN THE CONSTRUCTION AREA DETAILED AS "TO BE PUBLICLY" FROM DAMAGE BY EQUIPMENT AND CONSTRUCTION ACTIVITIES.

SHRUB PLANTING DETAIL

TREE PLANTING DETAIL

LANDSCAPING DETAILS

SCALE: N.T.S.

SUPERCEDED 2019-707
11/27/2019
**SCOPE:**
1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LEITING SYSTEMS.

**CODES:**
- THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADHERED EDITIONS OF:
  - A. THE NATIONAL ELECTRICAL SAFETY CODE
  - B. THE NATIONAL ELECTRICAL CODE - N.F.P.A-70
  - C. THE INTERNATIONAL ELECTRICAL CODE
  - D. LOCAL AND STATE AMENDMENTS

- PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR

**GUARANTEE:**
1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT (BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN) SHALL BE GUARANTEED FOR DURATION OF MANUFACTURER'S GUARANTEE. DURING A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE OF THE WORK BY THE OWNER AND WITHOUT PAYMENT TO THE OWNER.

**UTILITY CO-ORDINATION:**
1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

**TESTING:**
1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

**EXAMINATION OF SITE:**
1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SUBMIT WRITTEN REPORT TO THE OWNER WITH RESPECT TO CONDITIONS THAT MAY BE DANGEROUS OR THAT WILL AFFECT THE WORK AND COST THEREOF. FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS SECTION WILL BE NO DEFENSE TO THE CONTRACTOR FOR NONCOMPLIANCE WITH THE REQUIREMENTS FOR A COMPLETE AND WORKING SYSTEM OF TELEPHONE AND ELECTRIC.

**CUTTING, PATCHING AND EXCAVATION:**
1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE INSTALLATION OF THE WORK. STUMPING OF WOODEN, PLYWOOD, Plements, Floors, and CHASEs IN CONCRETE, WOOD, OR STEEL MASONRY SHOULD NOT BE DONE AS PROPOSED ON THE DRAWINGS.

**EXTERIOR CONDUIT:**
1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL NOT BE DIRECTLY GALVANIZED STEEL.

**GROUNDING:**
1. THE INSTALLATION SHALL BE RIGID STEEL CONDUCTOR AT GRADE TRANSITIONS OR WHERE EXPOSED TO DAMAGE.

**RACEWAYS / CONDUITS GENERAL:**
1. CONDUCTORS SHALL BE INSTALLED IN LISTED RACEWAYS. CONDUCTORS SHALL BE RIGID STEEL, EXCEPT PVC OR SIMILAR AS INDICATED ON THE DRAWINGS. THE RACEWAY SYSTEM SHALL BE COMPLETE BEFORE INSTALLING CONDUIT.

**EQUIPMENT:**
1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.

2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH ELECTRICAL AND TELEPHONE ENGINEERS BEFORE STARTING WORK. CONTRACTOR SHALL VERIFY THAT EXISTING BREAKERS ARE RATED FOR MORE THAN AVAILABLE FAULT CURRENT AND REPLACE AS NECESSARY.

3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY.

4. CONDUCTORS SHALL BE FURNISHED TO THE SITE RECIPIENTS INSTALLED BY THE UTILITIES.

5. CONDUCTORS SHALL BE NOT ALIGHT AND INSTALLED AS FOLLOWS:
- A. MINIMUM WIRE SIZE SHALL BE #2 AND
- B. CONDUCTORS #6 AND LARGER SHALL BE STRANDED. CONDUCTORS #10 AND #12 MAY BE SOLDER OR STRANDED.
- C. CONNECTION FOR #4 AWG AND LARGER SHALL BE BY TIGHT AND INSTALLING INSULATED PRESSURE OF WIRE NUT CONNECTIONS.
- D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP-OFF SLEEVES WITH NICKEL ALLOY.

6. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

**UL COMPLIANCE:**
1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE STATED/TESTED BY UL AND ACCEPTED BY JUBER (I.E. LOCAL COUNTY OF JUBER) APPROVED INTO PARTY TESTING AGENCY.

**ABBREVIATIONS AND LEGEND**

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<td>NOTE 1</td>
<td>TOWER ENGINEERING PROFESSIONALS</td>
<td>326 TRYON ROAD</td>
<td>RALEIGH, NC 27603-5263</td>
</tr>
<tr>
<td>NOTE 2</td>
<td>OFFICE: (919) 661-6351</td>
<td><a href="http://www.tepgroup.net">www.tepgroup.net</a></td>
<td></td>
</tr>
<tr>
<td>NOTE 3</td>
<td>N.C. LICENSE NO. C-1794</td>
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</tbody>
</table>

**EQUIPMENT:**
- DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
- CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH ELECTRICAL AND TELEPHONE ENGINEERS BEFORE STARTING WORK. CONTRACTOR SHALL VERIFY THAT EXISTING BREAKERS ARE RATED FOR MORE THAN AVAILABLE FAULT CURRENT AND REPLACE AS NECESSARY.
- NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY.

**CONDUCTORS:**
- FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THHN (75°C) INSULATION, RATED FOR 600 VOLTS.
- THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SITE RECEIVING INSTALLED BY THE UTILITIES.
- CONDUCTORS SHALL BE NOT ALIGHT AND INSTALLED AS FOLLOWS:
- A. MINIMUM WIRE SIZE SHALL BE #2 AWG.
- B. CONDUCTORS #6 AND LARGER SHALL BE STRANDED. CONDUCTORS #10 AND #12 MAY BE SOLDER OR STRANDED.
- C. CONNECTION FOR #4 AWG AND LARGER SHALL BE BY TIGHT AND INSTALLING INSULATED PRESSURE OF WIRE NUT CONNECTIONS.
- D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP-OFF SLEEVES WITH NICKEL ALLOY.

**CONDUCTORS:**
- COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

**UL COMPLIANCE:**
- ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE STATED/TESTED BY UL AND ACCEPTED BY JUBER (I.E. LOCAL COUNTY OF JUBER) APPROVED INTO PARTY TESTING AGENCY.

**GROUNDING:**
- ELECTRICAL NEUTRALS, RACEWAYS AND NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED EXCERCSIES SHALL BE GROUND IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE THE EXCERCSIES OF CONDUITS, SUPPORTS, SUport, CABLES, BOXES, SPACES, STUDS, ETC. THE NEUTRAL CONDUCTOR FOR EACH CIRCUIT SHALL BE GROUND AT A SINGLE POINT.

**PROVIDE GROUND CONDUIT IN RACEWAYS PER NEC:**
- PROVIDE RACEWAY CONDUIT IN PER NECS.

**ABBREVIATIONS AND LEGEND:**

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<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tbody>
<tr>
<td>ANGL</td>
<td>MWS</td>
<td>E-1</td>
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**REFERENCES:**
- END 31-2019
- CONSTRUCTION
- 10-25-2019
- CONSTRUCTION
- 11-01-19 CONSTRUCTION
- 11-06-19 CONSTRUCTION
- 11-16-19 CONSTRUCTION
- REV. DATE ISSUED FOR DRAW: E-1 CHECKED BY Q. E-1

**ELECTRICAL NOTES**
- SHEET NUMBER: E-1
- REVISION: 7
- DRAWN BY: Q. CHECKED BY: Q.
NOTES:

1. WATT-HOUR SOCKET/SERVICE DISCONNECT MEANS, UTILITY COMPANY TO PROVIDE METERING, PROVIDE IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS.

2. ALL INTERNAL STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A766 (G90) AFTER FABRICATION.

3. FIELD EMBRASIONS SHALL BE TOUCH UP PAINTED WITH ZINC-RICH GALVANIZING REPAIR IN ACCORDANCE WITH ASTM A969.

4. ALL EXPOSED ENDS OF CONDUIT SHALL HAVE WEATHERPROOF CAPS.

5. PROVIDE 200LB. TEST PULL WIRES IN EACH TELEPHONE AND POWER CONDUIT LITE CONDUIT INTO ENCLOSURE AND LABEL.

6. THE POWER COMPANY SHALL TERMINATE THE POWER CABLES (SUPPLIED AND INSTALLED BY THE POWER COMPANY) AT THE UTILITY METER LOCATED ON THE EQUIPMENT RACK.

CONTRACTOR TO VERIFY RACK DIMENSIONS AND SPLAY SPACING RELATIVE TO METER RACK MODEL NUMBER.

GROUNDING ELECTRODE CONDUCTOR IS SEEN FOR SINGLE 200A SERVICE ONLY. IF METER BANK SHAPES A COMMON NEUTRAL/GROUND POINT, CONTRACTOR WILL INSTALL (1) 3/0 COPPER GEC INSTEAD.

PROPOSED 4-GANG METER RACK, 120/240V, 1A, 3 MPE 200A EACH. SERVICE DISCONNECT (120/240V FUSED AT 200A), SEE NOTE 1.
GROUNDING NOTES:

1. CONTRACTOR SHALL VERIFY THAT GROUNDING ELECTRODE SHALL BE CONNECTED IN A PANG USING #4 AWG BAR TAPPED COPPER WIRE THE TOP OF THE GROUND RODS AND THE RING CONDUCTOR SHALL BE 5 INCHES BELOW Finished GRADE. GROUNDING ELECTRODE SHALL BE DRIVEN ON 20'-0" CENTERS (PROVIDE AND INSTALL AS REQUIRED, REQUIRED PER PLAN BELOW).


3. GROUNDING CONNECTIONS SHALL BE OF EQUAL LENGTH MATERIAL AND BONDING TECHNIQUE.

4. CONTRACTOR SHALL ENSURE GROUND RING IS WITHIN 12 TO 36 INCHES OF THE EQUIPMENT PAD. PROVIDE AND INSTALL GROUNDING CONNECTIONS SHOWN BELOW AS NEEDED PER EXISTING SITE GROUNDING SYSTEM. CONTRACTOR SHALL VERIFY EXISTING SITE GROUNDING CONDITIONS BEFORE STARTING WORK OR PURCHASING EQUIPMENT.

5. BOND GROUND RING TO EXTERNAL GROUNDING RING WITH 1 RUN OF #2 BARE, TINNED, SOLID COPPER CONDUCTOR IN PVC CONNECTOR MAY END WITH 2 MILE LUG AND "CAWHELD" THE OTHER END TO THE EXTERNAL GROUND ROD.

6. ALL GROUND CONDUCTORS MUST BE GROUND.

7. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.

DRAWING NOTES:

1. GROUND ROD 5/8" X 10" LONG (TYP)
2. GROUND ROD WITH INSPECTION HOLE (TYP)
3. CAWHELD (TYP)
4. 2-MILE LUG MECHANICAL CONNECTION (TYP)
5. PROPOSED TOWER GROUND RING
6. GROUND LEAD FROM TOWER TO TOWER GROUND RING (TYP OF 3)
7. PROPOSED SERVICE ENTRANCE GROUND ROD
STALLINGS COUCHELL
NC-1512
MORNING STAR TOWNSHIP
MECKLENBURG COUNTY, NORTH CAROLINA

RAWLAND TOWER SURVEY
PROJECT NO. 18-1768

SMW Engineering Group, Inc.
APC TOWERS
158 Business Center Drive
Birmingham, Alabama 35244
Ph: 205-252-6985
www.smweng.com

SURVEYOR’S NOTES
1. This is an Updated Tower Survey, made on the ground under the supervision of a North Carolina Registered Land Surveyor, Date of field survey in July 2, 2018.
2. The following surveying instruments were used at time of field work: Sokkia H650 Total Station, Reflectors and Mirror & Legacy E RTR, 6015.
3. Elevations are based on North Carolina State Plane Coordinate NAD 83 by GPS observation.
4. No underground utility, underground encroachments or building foundations were measured or located as a part of this survey, unless otherwise shown. These and others not located, unless otherwise shown.
5. Survey performed by: Smw Engineering Group, Inc. Operating Reference Station, PI 800705. Grade benchmark is at unknown elevation. Elevations shown are in feet and refer to NAD 88.
6. This survey was conducted for the purpose of a Limited Tower Survey only, and is not intended to define the jurisdictional boundaries of any federal, state, or local agency, board, commission, or other similar entity.
7. Access as deemed to the tower used in this survey may have been reduced or enlarged in size due to equipment. This should be taken into consideration when obtaining needed data.
8. This Survey was conducted with the benefit of an Abstract Title search.
9. Surveyor hereby states the Geodetic Coordinates and the elevation above the computed center of the tower are accurate to within +/- 3 feet horizontally and to within +/- 1 foot vertically. (Tide Accuracy Code 1).
10. Survey shows corner positions to the tolerances required as set forth by the State Board for a Class A Survey.
11. Field data upon which this report is based has a closure precision of not less than one-foot X 15,000 feet (1/15,000) and an angular error that does not exceed 10 seconds when the linear error of the number of angles turned Field return was not informed.
12. This survey is not valid without the original signature and the original seal of a North Carolina licensed surveyor and mapper.
13. This survey does not constitute a boundary survey of the Plan: Tower property lines shown herein are from supplied information and are not surveyed.
14. For supplied surveying information, subject parcel is Zoned I-1.
Tower Scheduling: North: 150 South: 150 West: 150.

SURVEYOR’S CERTIFICATION
I declare & forever certify that this map was drawn under my supervision from an actual survey made under my supervision based on Instrument No. 2000046427 and the above referenced title instruments, that the area of precision as calculated is 1/15,000, and that this map meets the requirements of the Standards of Practice for Land Surveying in North Carolina (21 NDAC 5806.00).

PRELIMINARY DATA TAKEN WITH SIGNATURE AND SEAL
Andrew A. Cooper
North Carolina (PLS) NC 8496
8th Engineer, P.O. Box R-13546
Faxes: 205-252-6985
E-mail: aac@smweng.com

SUPERCEDED 2019-078
11/27/2019
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**Tree Survey**

**Scale:** 1" = 20'