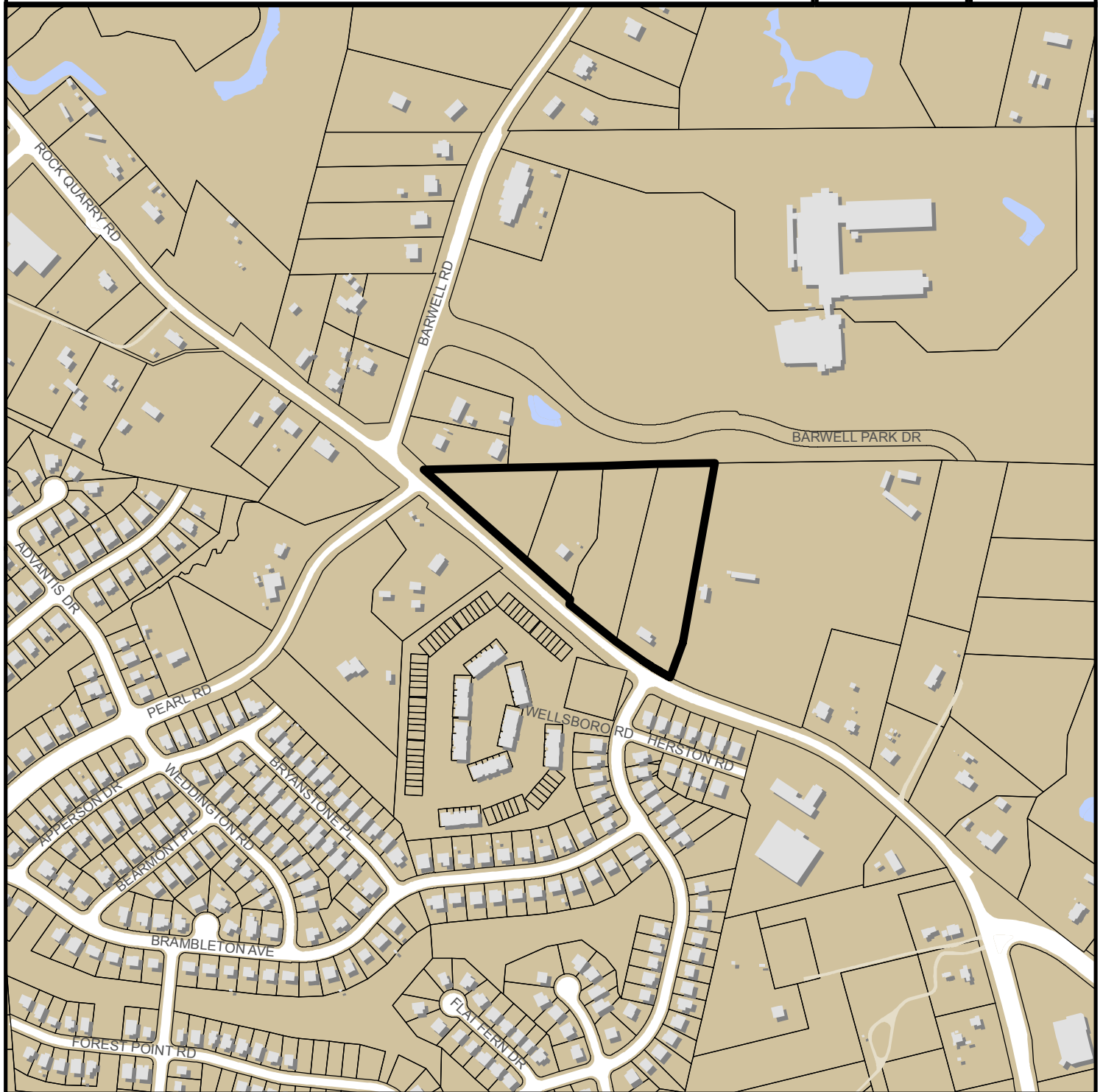


# QUARRY TRACE APARTMENTS SR-24-2017



0 300 600 1,200 Feet

Zoning: **RX-3-CU**  
CAC: **Southeast**  
Drainage Basin: **Big Branch**  
Acreage: **8.43**  
Sq. Ft.: **121,509**

Planner: **Daniel Stagall**  
Phone: **(919) 996-2712**  
Applicant: **Taft Development  
Group**  
Phone: **(252) 752-7101**





## Administrative Action Administrative Site Review

City of Raleigh  
Development Plans Review Center  
One Exchange Plaza  
Raleigh, NC 27602  
(919) 996-2626  
www.raleighnc.gov

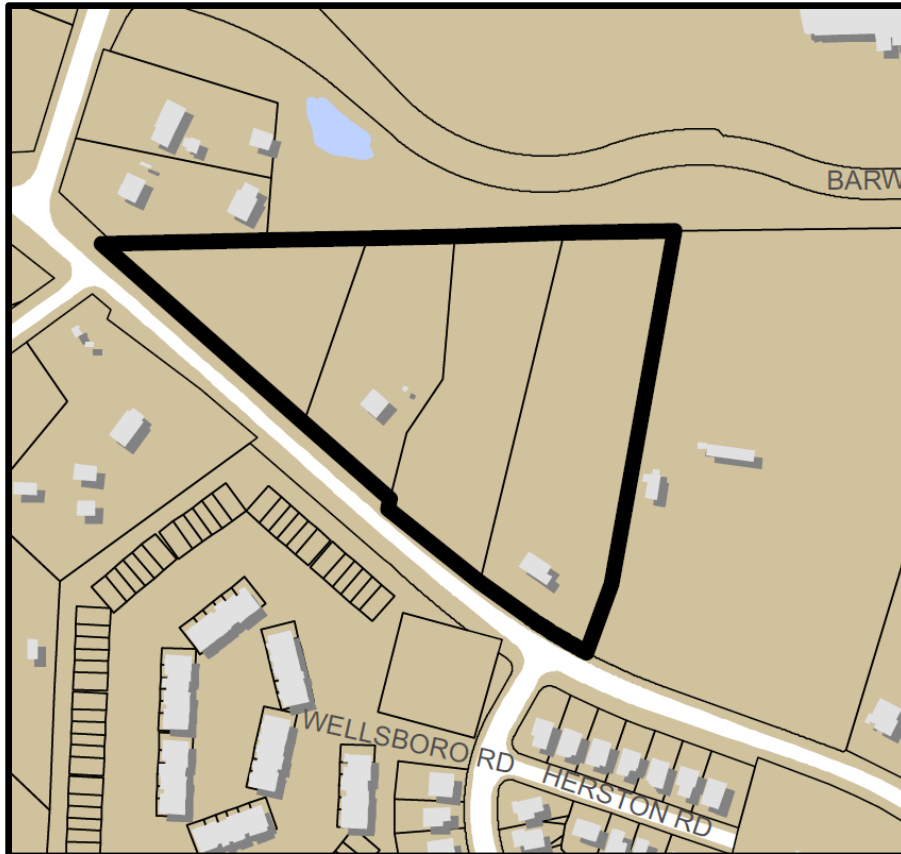
**Case File / Name:** SR-24-17 / Quarry Trace Apartments

**General Location:** This site is located on the north side of Rock Quarry Road at the intersection of Pearl Road and Rock Quarry Road, outside the city limits.

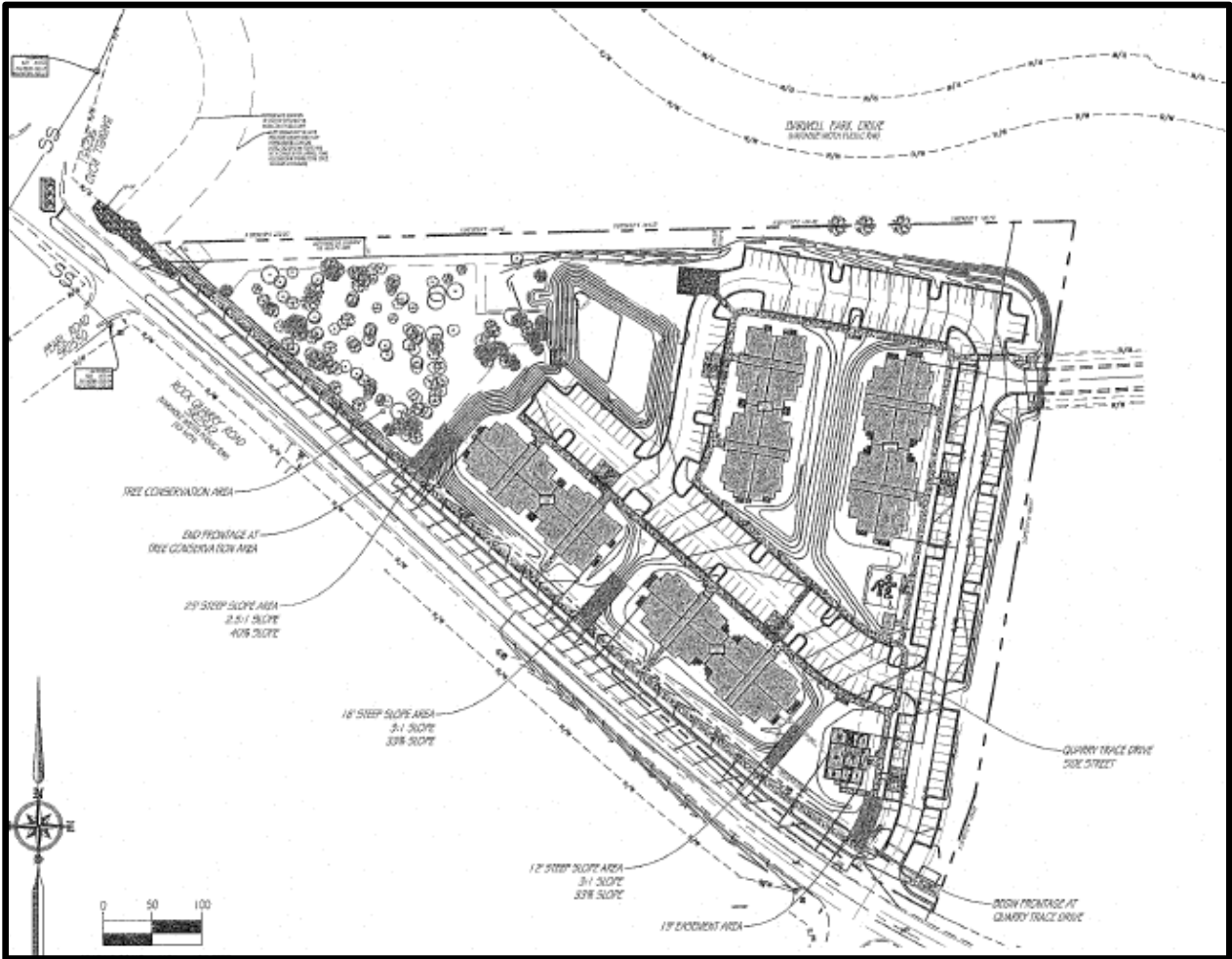
**CAC:** Southeast

**Request:** Development of a site currently comprised of four tracts totaling 8.43 acres zoned Residential Mixed Use Three, Conditional Use District (RX-3 CU) with four, three-story apartment buildings with an associated clubhouse and amenities totaling 96 units and 121,509 square feet in size. The four existing lots will be recombined into two lots with dedication of a public multi-family type street between them.

**Cross-Reference:** Z-31-2013, Transaction# 504943



SR-24-17 Location Map



SR-24-17 Preliminary Site Plan

**Ordinance (2014) 261ZC695**  
**Effective: January 21, 2014**

**Z-31-13 – Rock Quarry Road Conditional Use** – located on the north side, east of its intersection with Barwell and Pearl Roads. Approximately 8.43 acres are requested to be rezoned from R-15 CUD to RX-3 CU. The condition offers a transit easement to the City.

**Conditions Dated- 01-08-2014**

Narrative of conditions being requested:

1. Prior to recordation of a subdivision plat or issuance of a building permit for new development on the property, whichever shall first occur, a transit easement shall be deeded to the City and recorded in the Wake County Registry. Prior to recordation of the transit easement the dimensions (not to exceed 15 feet. in depth or 20 feet in width, and may be reduced by the City based on location) and location of the easement along Rock Quarry Road shall be approved by the Public Works Department and the easement document approved by the City Attorney's Office.

**Z-31-2013 Zoning Case**

Code Conformance:		Code Section(s)
<b>Zoning District:</b>	RX-3-CU (Residential Mixed use-3-Conditional Uses), Z-31-2013	<a href="#">2.1</a> , <a href="#">3.1</a>
<b>Overlay District:</b>	N/A	<a href="#">5.1</a>
<b>Parking:</b>	222 spaces required based on 1 space/bedroom for one, two bedroom and 3 bedroom units (96 total bedrooms). 1 space/ 10 unit's visitor parking. 222 parking spaces are provided. 1 bicycle space/20 units requires 5 spaces. 12 bicycle spaces are provided	<a href="#">7.1.2</a>
<b>Street Type(s):</b>	Rock Quarry Road – ½ of 104' R/W is to be dedicated for Rock Quarry Road, which is classified as Avenue 4-Lane Divided. (Quarry Trace Drive) A Multi-family Street is proposed with 22' of R/W with 6ft sidewalk, 5' utility easement and 6' planting strip.	<a href="#">8.4</a>
<b>Streetscape:</b>	Residential streetscape required along the proposed multifamily street. A Type C2 yard is required outside of the right of way along the entire frontage at Rock Quarry Road.	<a href="#">8.5</a>
<b>Setbacks/Frontage:</b>	Apartment building types require a build-to between 10' and 30' be met for 71.7% of the site's primary street frontage and 41.7% of the side street's frontage. Front-5', side-0' or 6', rear- 0' or 6'	<a href="#">3.4</a> , <a href="#">3.2</a> , <a href="#">2.2</a>
<b>Neighborhood Transitions:</b>	N/A; Adjacent property to the east has a civic use.	<a href="#">3.5</a>
<b>Transitional Protective Yards:</b>	N/A; not required for this use.	<a href="#">7.2.4</a>
<b>Stormwater:</b>	Site will comply with Article 9.2 for Stormwater controls utilizing an on-site dry pond and buydown for nitrogen offset. The Wake County Soil Survey indicates the presence of flood prone soils however; these soils are only present in the Tree Conservation Area.	<a href="#">9.2</a>
<b>Tree Conservation:</b>	This site is providing .7799 acres or 33,971.54 square foot of tree conservation area in accordance with Article 9.1.	<a href="#">9.1</a>

<p><b>Variances, Design Adjustments, Administrative Alternates:</b></p>	<p>N/A</p>	
<p><b>Other:</b></p>	<p>10% outdoor amenity area required and provided.</p>	

**OFFICIAL ACTION: Approval with conditions**

**CONDITIONS OF APPROVAL:**

**Prior to issuance of a mass land disturbing permit for the site:**

1. That in accordance with Part 10A Section 9.4.4, a surety equal to of the cost of clearing, grubbing and reseeding a site, shall be paid to the City;
2. That a final tree conservation plan with permit be approved by the Forestry Specialist. The plan must show metes and bounds descriptions of all tree conservation areas, and tree protection fence around all tree conservation areas;

**Prior to the issuance of any site permits, infrastructure construction plans or concurrent review process, whichever is applicable:**

3. That a stormwater control plan with a stormwater operations and maintenance manual and budget shall be approved by the Stormwater Engineer in compliance with Part 10A Chapter 9 of the Unified Development Ordinance, including the designation of buffer areas and open space areas for stormwater purposes prior to grading or the approval of construction drawings whichever event comes first;
4. That NCDOT approval must be obtained for the improvements in the NCDOT right of way, including approval of the stormwater drainage system for the right of way;
5. That a nitrogen offset payment must be made to a qualifying mitigation bank;
6. That the proposed sanitary sewer easement abandonment will require a letter from the property owner to the Public Utilities Director requesting abandonment;
7. That infrastructure construction plans for all public improvements and primary internal access public streets shall be required and reviewed, and approved by the City of Raleigh and North Carolina Department of Transportation;

**Prior to issuance of building permits:**

8. That a demolition permit be issued for all existing structures on site;
9. That a tree impact permit are obtained from the City of Raleigh;
10. That in accordance with Part 10A Section 9.2.2, a surety equal to 125% of the cost of the construction of a stormwater device is paid to the City;
11. That if the proposed public improvements are not installed and inspected by the City to be accepted for maintenance, a surety in the amount of 125% of the cost of construction shall be paid to the City in accordance with code section 8.1.3 of the UDO;
12. That the developer shall pay to the City a stormwater facility replacement fund payment equal to twenty-four percent (24%) of the estimated cost of constructing all stormwater control facilities shown on the development plans;
13. That ½ of the required right of way along Rock Quarry Road is dedicated to the city of Raleigh as shown on the preliminary plan and a copy of the recorded plat be provided to the City prior to building permit issuance;
14. That street names be approved by the City of Raleigh and Wake County for the proposed private streets and the public multi-family street;
15. That a recombination and right-of-way dedication map be recorded reducing the number of lots from four to two and establishing the public right-of-way for the proposed multi-family street as shown on the preliminary plan. A copy of the recorded plat shall be provided to the City prior to building permit issuance;
16. That all stormwater control measures and means of transporting stormwater runoff to and from any nitrogen and stormwater runoff control measures shall be shown on all plats for recording as private drainage easements and the plats shall contain the following note: "All private storm drainage easements & stormwater measures will be maintained by the property owners association";
17. That the developer shall record a platted private drainage easement around the stormwater control measure and tying to the public right of way;
18. That flood prone areas, as approved by the City Stormwater Engineer, are shown on the preliminary plan and shall be shown on the recorded map;
19. That all designated tree conservation areas as approved by the Forestry Specialist be shown on all maps for recording;
20. That the proposed abandonment of the 20' public sanitary sewer easement be approved by the City and shown on all maps for recording as well as the dedication of a new 30' sanitary sewer easement be shown on all maps for recording;
21. That in accordance with the zoning condition of Z-31-13 a 15' x 20' transit deed of easement is approved by the city staff and that the location of the easement is shown on all recorded maps. The deed of easement shall be recorded at Wake County Register of Deeds within one day of recordation of the recorded plat and a copy of the recorded easement document shall be provided to the City;

22. That the City form document entitled Declaration of Maintenance Covenant and Grant of Protection Easement for Stormwater Control Facilities shall be approved by the City and recorded with the county register of deeds office where the property is located and a copy of the recorded document be provided to the City by the end of the next business day following the recordation of the final plat; further recordings and building permit authorization will be withheld if the recorded document is not provided to the City;
23. That the City form document entitled Declaration of City of Raleigh Required City Code Provisions for Developments with Common Elements and Common Expenses shall be approved by the City and recorded with the county register of deeds office where the property is located and a copy of the recorded document be provided to the City by the end of the next business day following the recordation of the final plat; further recordings and building permit authorization will be withheld if the recorded document is not provided to the City;
24. That an encroachment agreement for any plantings, planters, awnings or stormwater drainage systems that carry private drainage to be located within the public right-of-way is approved by the City Council by separate action. An application for encroachment into the public right of way for the landscaping located within the right of way as indicated on the preliminary plan, shall be submitted to the City's Encroachment Coordinator in the Development Services Department for review, and that the City Council approve the encroachment request. Following City Council approval of the encroachment, an encroachment agreement, prepared in accordance with Raleigh City Code Sections 12-1001 and 12-1021(a), shall be filed with the Development Services Department, and the encroachment agreement is to be recorded with the Wake County Register of Deeds. Maintenance of the encroachment shall be the responsibility of the owner;
25. That a petition for annexation into the City limits be submitted in accordance with City Council policy for extension of utility service to properties currently outside of the City limits. This voluntary annexation in no way obligates the City to extend utility services to the property.

**Prior to issuance of building occupancy permit:**

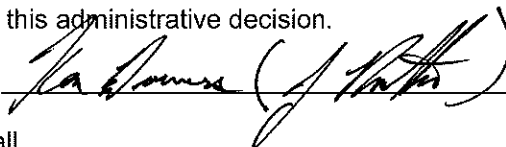
26. That in accordance with Part 10A Section 9.2.2, an impervious surface as-built survey shall be reviewed and accepted by the City prior to final stormwater inspection approval;

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I hereby certify this administrative decision.

**Signed:**

(Planning Dir.)



Date: 6/19/17

**Staff Coordinator:**

Daniel L. Stegall

**SEE LAST PAGE FOR IMPORTANT INFORMATION ON THE NEXT STEP IN THE PROCESS.**

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**FINDINGS:**

City Administration finds that this request, with the above conditions being met, conforms to the Unified Development Ordinance. This approval is based on a preliminary plan dated 05/08/17, submitted by Matt Lowder.



**EXPIRATION DATES:** The expiration provisions of UDO Section 10.2.8 E, including the ability to request extensions in the expiration date, apply to this site plan. If significant construction has not taken place on a project after administrative site review approval, that approval may expire and be declared void, requiring re-approval before permits may be issued. To avoid allowing this plan approval to expire the following must take place by the following dates:

**3-Year Expiration Date:** 6-20-2020

Obtain a valid building permit for the total area of the project, or a phase of the project.

**4-Year Completion Date:**

Within four years after issuance of the first building permit for the site plan, the construction of the entire site plan must be completed unless an applicant has been granted vested rights. Failure to complete construction within this specified time frame shall automatically void the approved site plan for which no building permits have been issued.

**WHAT NEXT?:**

- MEET ALL CONDITIONS OF APPROVAL.
- COMPLETE INFRASTRUCTURE CONSTRUCTION DRAWINGS FOR ANY PUBLIC IMPROVEMENTS Streets, Utility lines to be owned and maintained by the City.
- HAVE A REGISTERED SURVEYOR PREPARE FINAL PLATS FOR RECORDING. These also must be submitted to the City for authorization signature prior to recording with the Wake County Register of Deeds.
- MEET THE REQUIREMENTS OF THE EXPIRATION THRESHOLDS AS NOTED ABOVE.

# INDEX OF DRAWINGS

- CO.0 COVER SHEET
- DI.0 DEMOLITION PLAN
- CI.0 SITE PLAN
- CI.1 GRADING & DRAINAGE PLAN
- CI.2 UTILITY PLAN
- CI.2A SANITARY SEWER PLAN & PROFILE
- CI.2B SANITARY SEWER PLAN & PROFILE
- CI.2C SANITARY SEWER PLAN & PROFILE
- CI.3A UTILITY DETAILS
- CI.3B UTILITY DETAILS
- CI.4A CONSTRUCTION DETAILS
- CI.4B CONSTRUCTION DETAILS
- CI.8 STORMWATER MANAGEMENT DETAILS
- CI.9 SOLID WASTE MANAGEMENT DETAILS
- LA-1 TREE CONSERVATION PLAN
- LA-2 TREE CONSERVATION PLAN
- LA-3 PLANTING PLAN
- LA-4 LANDSCAPE DETAILS
- I OF I BOUNDARY SURVEY
- A1.1 BUILDING FLOOR PLAN
- A1.2 BUILDING FLOOR PLAN
- A1.3 BUILDING FLOOR PLAN
- A1.4 BUILDING FLOOR PLAN
- A1.5 COMMUNITY BUILDING
- A3.1 BUILDING ELEVATIONS
- A3.2 BUILDING ELEVATIONS
- A3.3 BUILDING ELEVATIONS

# SITE REVIEW SR-27-17

Transaction# 504943

Proposed

## Quarry Trace Apartments

Rock Quarry Road

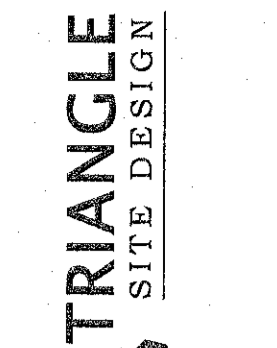
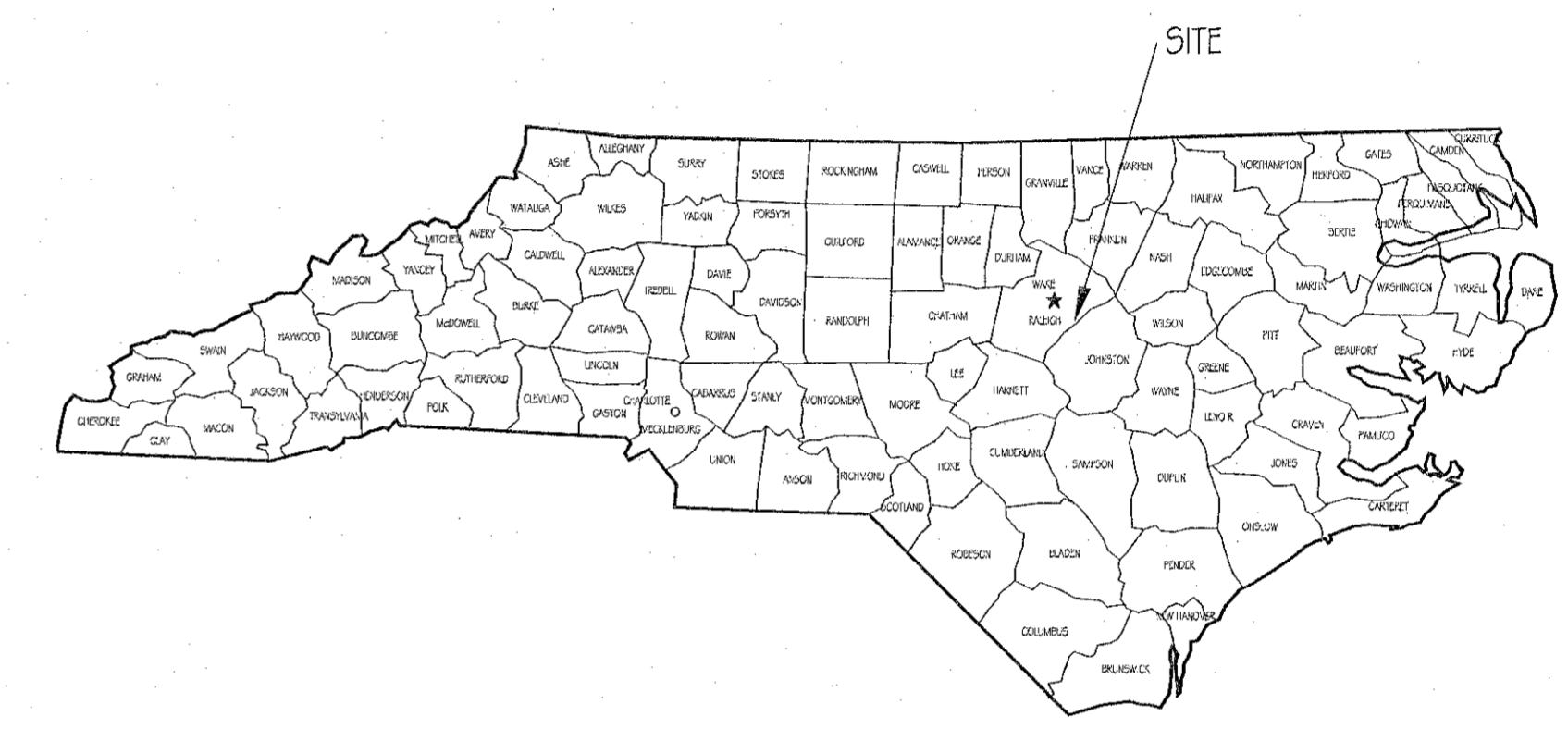
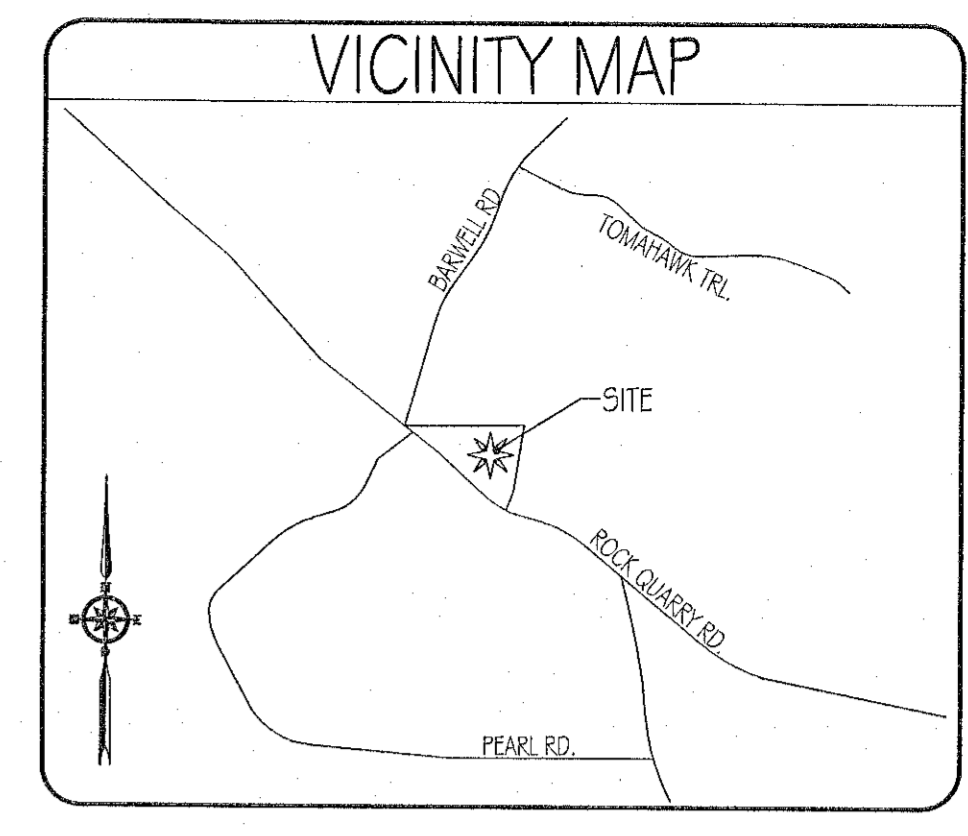
Raleigh, Wake County, North Carolina

### OWNER/DEVELOPER

Taft Development Group  
2217 Stantonsburg Road  
Greenville, NC 27834  
(252) 752-7101  
(252) 758-1002  
dustin@tdgnc.com

### CIVIL ENGINEER

Triangle Site Design, PLLC  
Attn. Matt Lowder, PE  
4004 Barrett Drive  
Suite 101  
Raleigh, NC 27609  
(919)553-6570  
mlowder@trianglesitedesign.com  
NC LICENSE#P-0619



CONSULTANT:  
TRIANGLE SITE DESIGN, PLLC  
4004 BARRETT DR., STE 101  
RALEIGH, NC 27609  
(919) 553-6570  
LICENSE #P-0619

OWNER/DEVELOPER:  
TAFT DEVELOPMENT GROUP  
ATTN. DUSTIN MILLS  
2217 STANTONSBURG ROAD  
GREENVILLE, NC 27834  
PHONE: (252) 752-7101  
FAX: (252) 758-1002  
dustin@tdgnc.com

Quarry Trace Apartments  
Rock Quarry Road  
Raleigh, NC Wake County  
SR-24-17, Transaction# 504943

This document, together with the concepts and designs presented herein, as an instrument of services, is intended only for the specific purpose and client for which it was prepared. Reuse of and/or modification of this document without written authorization and adaptation by Triangle Site Design, PLLC shall be without liability to Triangle Site Design, PLLC.

1	2	3	4	5	6	7	8

Drawn: Approved: Project No. 035002 Date: April 16, 2017 Title:

COVER SHEET

CO.0

Phase Number(s)	I
Number of Lots	1
Lot Number (s) by Phase	N/A
Number of Units	36
Landscaping	N/A
Number of Open Space Lots	N/A
Public Water (LF)	0 LF
Public Sewer (LF)	0 LF
Public Street (LF)	1500 LF
Public Sidewalk (LF)	1080 LF
Street Signs (LF)	1500 LF

ITEM	REQUIREMENTS	PROVIDED
ROCK QUARRY ROAD	PRIMARY STREET BUILD-TO MIN. BUILD-TO LINE=10FT MAX. BUILD-TO LINE=55FT	STREET RIGHT-OF-WAY LENGTH=621 FT 5% SLOPE LENGTH=55 FT CITY OF RALEIGH EASEMENT AREA=198 FT EFFECTIVE RIGHT-OF-WAY LENGTH=547 FT
AREA BETWEEN TREE CONSERVATION AREA & PROPOSED QUARRY TRACE DRIVE RIGHT-OF-WAY	BUILDING WIDTH REQUIRED IN BUILD-TO=70%	PROPOSED BUILDING WIDTH IN BUILD-TO=392 FT BUILDING WIDTH % IN BUILD-TO=71.7%
PROPOSED QUARRY TRACE DRIVE	SIDE STREET BUILD-TO MIN. BUILD-TO LINE=10FT MAX. BUILD-TO LINE=55FT	STREET RIGHT-OF-WAY LENGTH=525 FT
AREA BETWEEN ROCK QUARRY ROAD AND MERLE STREET INTERSECTION	BUILDING WIDTH REQUIRED IN BUILD-TO=35%	PROPOSED BUILDING WIDTH IN BUILD-TO=219 FT BUILDING WIDTH % IN BUILD-TO=41.7%

TOTAL AREA:	7.63 ACRES (332,201 SF)
AMENITY AREA REQUIREMENT:	1% OF PROPERTY 332,201 SF * 10% = 33,220 SF
PROPOSED AMENITY AREA:	34,300 SF+ (10.3%)

CONDITIONS DATED: 1-6-2014
NARRATIVE OF CONDITIONS BEING REQUESTED:
PRIOR TO RECORDECTION OF A SUBDIVISION PLAT OR ISSUANCE OF A BUILDING PERMIT FOR NEW DEVELOPMENT OF THE PROPERTY, WHICHEVER SHALL FIRST OCCUR, A TRANSIT EASEMENT SHALL BE DEEDED TO THE CITY AND RECORDED IN THE WAKE COUNTY REGISTRY. PRIOR TO RECORDECTION OF THE TRANSIT EASEMENT THE DIMENSIONS (NOT TO EXCEED 15 FEET IN DEPTH OR 20 FEET IN WIDTH, AND MAY BE REDUCED BY THE CITY BASED ON LOCATION) AND LOCATION OF THE EASEMENT ALONG ROCK QUARRY ROAD SHALL BE APPROVED BY THE PUBLIC WORKS DEPARTMENT AND THE EASEMENT DOCUMENT APPROVED BY THE CITY ATTORNEY'S OFFICE.

LOCATION:	ROCK QUARRY ROAD RALEIGH, NORTH CAROLINA	
ZONE:	RX-3-CU (ZONING CASE Z-31-2013)	
USE:	MULTI-FAMILY APARTMENTS: (1-2) BEDROOM APARTMENTS, (2-3) BEDROOM APARTMENTS, (24-3) BEDROOM APARTMENTS (66 UNITS TOTAL) & CLUBHOUSE	
PIN ID:	1732-20-1707, 1732-20-3737, 1732-40-4781, 1732-20-6523	
ITEM	REQUIREMENTS	PROVIDED
MINIMUM LOT AREA	NONE	7.93 AC (345,552 SQ) GROSS 0.31 AC RAW DEDICATION (13,351 SQ) 7.63 AC (332,201 SQ) NET
MAXIMUM RETAIL AREA	N/A	
MAXIMUM BUILDING LOT COVERAGE	N/A	12.76% (42,395 SQ/332,201 SQ)
MINIMUM FRONT BUILD TO LINE	10 FT MIN/55 FT MAX BUILDING WIDTH IN BUILD-TO=70%	73%
MINIMUM SIDE SETBACK	0 FT - 6 FT	10 FT
MINIMUM REAR SETBACK	20 FT	100 FT
MAXIMUM BUILDING HEIGHT	50 FT	3 STORY
PARKING SETBACK	10 FT	33 FT
WATERSHED	NONE - HULSE RIVER NUTRIENT STRATEGY	
	REFERENCE IS MADE TO THE CITY OF RALEIGH ZONING ORDINANCE	

ITEM	REQUIREMENTS	PROVIDED
BUILDING SIZE	N/A	12 1-BR UNITS 50 2-BR UNITS 24 3-BR UNITS 86 TOTAL UNITS CLUBHOUSE (1,925 SQ)
PARKING REQUIRED	CLUBHOUSE (1 PER 2000 SF GFA) 1 SPACE PER 1-BR UNIT (12) = 12 2 SPACE PER 2-BR UNIT (50) = 100 3 SPACE PER 3-BR UNIT (24) = 72 1 SPACE PER 10 UNITS (VISITOR) = 10 TOTAL SPACES REQUIRED = 222	222 SPACES
MIN. PARKING DIM.	8.5 FT x 18 FT	9 FT x 18 FT
MIN. DRIVEWAY WIDTH	22 FT	24 FT
HANDICAP SPACES	7	10
LOADING SPACE	N/A	N/A
BICYCLE SPACE	1 PER 20 UNITS = 5	12

**CONSTRUCTION DRAWING NOTE**  
ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/OR NC DOT STANDARDS AND SPECIFICATIONS.

**SOLID WASTE NOTES**  
1. SOLID WASTE SERVICES WILL BE PROVIDED BY PRIVATE COMPANY. SEE SHEETS CT.9 FOR SOLID WASTE DETAILS.

**CONDITION OF APPROVAL**  
1. A SECURITY OF 125% THE COST OF ALL PUBLIC IMPROVEMENTS WILL BE REQUIRED TO BE PAID PRIOR TO ANY MAP RECORDECTION OR BUILDING PERMIT, WHICHEVER COMES FIRST.

**PRIVATE STREET INSPECTION STATEMENT**  
THE CONTRIBUTION INSPECTION OF PRIVATE STREETS WITHIN CLUSTER UNITS, CONDOMINIUMS, GROUP HOUSING, TOWNHOUSE DEVELOPMENTS AND MOBILE HOME PARKS SUBMITTED FOR CITY APPROVAL IS THE RESPONSIBILITY OF THE OWNER/DEVELOPER. COPIES OF CREDITED INSPECTION REPORTS INCLUDING SUBORDINATE/AGGREGATE BASE PROOF OF POLLS, AGGREGATE BASE AND ASPHALT DENSITIES AND THICKNESS, AND OTHER PERTINENT INFORMATION MUST BE SUBMITTED TO THE ENGINEERING INSPECTIONS MANAGER AT P.O. BOX 5945 RALEIGH, NC 27602. CONTACT KEITH RITCHIE AT 919-996-2403 TO OBTAIN DETAILS OF THESE REQUIREMENTS.

Administrative Site Review Application (for UDO Districts only)		DEVELOPMENT SERVICES DEPARTMENT	
Development Services Customer Service Center   1 Exchange Plaza, Suite 400   Raleigh, NC 27601   919-996-2495   fax: 919-996-4300 Litchford Satellite Office   8320 - 130 Litchford Road   Raleigh, NC 27601   919-996-4300			
When submitting plans, please check the appropriate building type and include the Plan Checklist document.			
<b>BUILDING TYPE</b> <input type="checkbox"/> Detached <input type="checkbox"/> Attached <input type="checkbox"/> Apartment <input type="checkbox"/> Townhouse		<b>FOR OFFICE USE ONLY</b> Transaction Number _____ Assigned Project Coordinator _____ Assigned Team Leader _____	
Has your project previously been through the Due Diligence or Sketch Plan Review process? If yes, provide the transaction #: <b>467569</b>			
<b>GENERAL INFORMATION</b>			
Development Name: <b>Quarry Trace Apartments</b>		Zoning District: <b>RX-3-CU</b> Overlay District (if applicable): _____ Inside City Limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Proposed Use: <b>Apartment Complex</b>		Property Address(es): <b>Rock Quarry Road</b> Major Street Location: _____	
Wake County Property Identification Number(s) for each parcel to which these guidelines will apply:			
P.I.N. <b>1732-20-1707</b>	P.I.N. <b>1732-20-3737</b>	P.I.N. <b>1732-40-4781</b>	P.I.N. <b>1732-20-6523</b>
<b>What is your project type?</b> <input checked="" type="checkbox"/> Apartment <input type="checkbox"/> Elderly Facilities <input type="checkbox"/> Hospitals <input type="checkbox"/> Hotels/Motels <input type="checkbox"/> Office <input type="checkbox"/> Mixed Residential <input type="checkbox"/> Non-Residential Condo <input type="checkbox"/> School <input type="checkbox"/> Shopping Center <input type="checkbox"/> Banks <input type="checkbox"/> Industrial Building <input type="checkbox"/> Duplex <input type="checkbox"/> Telecommunication Tower <input type="checkbox"/> Religious Institutions <input type="checkbox"/> Residential Condo <input type="checkbox"/> Retail <input type="checkbox"/> Cottage Court Other: If other, please describe: _____			
<b>WORK SCOPE</b> Per City Code Section 10.2.8.D.1, summarize the project work scope. For additions, changes of use, or occupancy (per Chapter 6 of the UDO), indicate impacts on parking requirements.			
<b>DESIGN ADJUSTMENT OR ADMIN ALTERNATE</b> Per City Code Chapter 8, summarize if your project requires either a design adjustment, or Section 10 - Alternate Administrative AE			
<b>CLIENT/DEVELOPER/OWNER</b> Company: <b>Taft Development Group</b> Name (s): <b>Dustin Mills</b> Address: <b>2217 Stantonsburg Road</b> Phone: <b>252-752-7101</b> Email: <b>dustin@tdgnc.com</b> Fax: <b>252-758-1002</b>			
<b>CONSULTANT (Contact Person for Plans)</b> Company: <b>Triangle Site Design, PLLC</b> Name (s): <b>Matt Lowder, PE</b> Address: <b>4004 Barrett Drive Suite 101 Raleigh, NC 27609</b> Phone: <b>919-553-6570</b> Email: <b>mlowder@trianglesitedesign.com</b> Fax: _____			
<b>DEVELOPMENT TYPE &amp; SITE DATA TABLE (Applicable to all developments)</b>			
<b>Zoning Information</b> Zoning District(s): <b>RX-3-CU</b> If more than one district, provide the acreage of each: _____ Overlay District: _____ Total Site Acres: Inside City Limits <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>7.93</b> Off street parking: Required <b>222</b> Provided <b>222</b> COA (Certificate of Appropriateness) case #: _____ BOA (Board of Adjustment) case #: <b>A</b> CUD (Conditional Use District) case #: <b>2</b>		<b>Building Information</b> Proposed building use(s): <b>Apartments</b> Existing Building(s) sq. ft. gross: <b>N/A</b> Proposed Building(s) sq. ft. gross: <b>121,509</b> Total sq. ft. gross (existing & proposed): _____ Proposed height of building(s): <b>43'</b> # of stories: <b>3</b> Ceiling height of 1 <sup>st</sup> floor: <b>10'</b>	
<b>Stormwater Information</b> Existing Impervious Surface: <b>9255</b> acres/square feet Proposed Impervious Surface: <b>132595</b> acres/square feet Neuse River Buffer: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetlands: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Flood Hazard Area: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, please provide: Alluvial Soils _____ FEMA Map Panel # _____ Flood Study _____			
<b>FOR RESIDENTIAL DEVELOPMENTS</b>			
1. Total # of Apartment, Condominium or Residential Units: <b>96</b>		5. Bedroom Units: 1br <b>12</b> 2br <b>60</b> 3br <b>24</b> 4br or more _____	
2. Total # of Congregate Care or Life Care Dwelling Units _____		6. Infill Development: <b>2.7</b>	
3. Total Number of Hotel Units _____		7. Open Space (only) or Amenity _____	
4. Overall Total # of Dwelling Units (1-6 Above) _____		8. Is your project a cottage court? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>SIGNATURE BLOCK (Applicable to all developments)</b>			
In filing this plan as the property owner(s), I/we do hereby agree and firmly bind ourselves, my/our heirs, executors, administrators, successors and assigns jointly and severally to construct all improvements and make all dedications as shown on this proposed development plan as approved by the City.			
I hereby designate <b>Matt Lowder - Triangle Site Design</b> to serve as my agent regarding this application, to receive and respond to administrative comments, to resubmit plans on my behalf and to represent me in any public meeting regarding this application.			
I/We have read, acknowledge and affirm that this project is conforming to all application requirements applicable with the proposed development use.			
Signed: <b>Stu</b> Date: <b>2/20/17</b>		Signed: _____ Date: _____	
Printed Name: <b>DUSTIN T. MILLS</b>		Printed Name: _____	
Signed: _____		Signed: _____	
Printed Name: _____		Printed Name: _____	
Date: _____		Date: _____	
Title: _____		Title: _____	
Project No. <b>035002</b>		Project No. _____	
Date: <b>April 16, 2017</b>		Date: _____	
Title: _____		Title: _____	
Project No. _____		Project No. _____	
Date: _____		Date: _____	
Title: _____		Title: _____	



**GENERAL NOTES**

- Property line and right-of-way monuments shall not be disturbed by construction. If disturbed, they shall be reset to their original locations at the Contractor's expense by a Registered Land Surveyor.
- Prohibit Road Blocking and all parking areas. Notify Owner of any unacceptable areas.
- Building dimensions shown on the Civil Engineering Plans are for reference purposes only. Contractor shall use the Architectural and Structural Plans for exact building dimensions.
- All site dimensions are referenced to the back of curb or edge of paving unless otherwise noted.
- All sidewalks, curbs and gutters, street paving, curb cuts, driveway approaches, handicap ramps, etc., constructed outside the property line in the right-of-way shall conform to all municipal and State specifications and requirements.
- All disturbances caused by any adjoining property due to construction or demolition shall be restored to the previous condition or better, and to the satisfaction of the City or State Authority.

**ACCESS DRIVE NOTES:**

- No sight obstructing or partially obstructing wall, fence, foliage, bearing, parked vehicles or sign between the heights of twenty-four (24) inches and eight (8) feet above the curb line, or the nearest traveled way if no curbing exists, shall be placed within a sight triangle of a public street, private street or driveway contained either on the property or on an adjoining property.

Size of Required Sight Triangles:  
A sight triangle is that triangle as set forth by the City of Raleigh & North Carolina Department of Transportation Policy on Street Driveway Access to North Carolina Highways manual, and all subsequent amendments thereto.

Minimum corner clearance from curb line at intersection streets shall be at least twenty (20) feet from the point of tangency.

**PUBLIC WORKS NOTES:**

- All streets shown on these plans shall have the full width of the right-of-way cleared and free of all street intersections. The full width of the right-of-way shall be cleared and graded along all major, minor & sensitive area thoroughfares.

**PRIVATE STREET INSPECTION STATEMENT**

THE CONSTRUCTION INSPECTION OF PRIVATE STREETS WITHIN CLUSTER UNITS, CONDOMINIUMS, GROUP HOUSING, TOWNHOUSE DEVELOPMENTS AND MOBILE HOME PARKS SUBMITTED FOR CITY APPROVAL IS THE RESPONSIBILITY OF THE OWNER/DEVELOPER. COPIES OF CERTIFIED INSPECTION REPORTS INVOLVING SUBSURFACE/AGGREGATE BASE PROOF ROLLS, AGGREGATE BASE AND ASPHALT IDENTITIES AND THICKNESS, AND OTHER PERTINENT INFORMATION MUST BE SUBMITTED TO THE ENGINEERING INSPECTION MANAGER AT P.O. BOX 590, RALEIGH, NC 27602. CONTACT KEITH RICHIE AT 919-956-2409 TO OBTAIN DETAILS OF THESE REQUIREMENTS.

**CONSTRUCTION DRAWING NOTE**

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/OR ADOPTED STANDARDS AND SPECIFICATIONS.

**IMPERVIOUS AREA SUMMARY**

SITE AREA = 332,201 SF (7.63 AC) (AFTER RIGHT-OF-WAY DEDICATION)			
BUILDINGS	42,395 SF	0.97 ACRES	12.76 % OF TOTAL AREA
PAVEMENT	79,260 SF	1.82 ACRES	23.85 % OF TOTAL AREA
SIDEWALK	11,945 SF	0.27 ACRES	3.54 % OF TOTAL AREA
TOTAL IMPERVIOUS AREA	133,600 SF	3.06 ACRES	40.15 % OF TOTAL AREA
GREENSPACE	198,501 SF	4.57 ACRES	59.85 % OF TOTAL AREA
FUTURE PUBLIC RIGHT-OF-WAY IMPROVEMENTS: AREA OF IMPROVEMENTS = 56,770 SF (0.94 AC)			
PAVEMENT - ROCK QUARRY	22,630 SF	0.52 ACRES	61.54 % OF TOTAL AREA
SIDEWALKS - ROCK QUARRY	5,959 SF	0.14 ACRES	16.16 % OF TOTAL AREA
TOTAL IMPERVIOUS AREA	28,590 SF	0.66 ACRES	77.72 % OF TOTAL AREA
GREENSPACE	8,190 SF	0.16 ACRES	22.28 % OF TOTAL AREA
TOTAL AREA OF IMPROVEMENTS (ON-SITE & R/W) = 368,971 SF (8.47 AC)			
BUILDING	42,395 SF	0.97 ACRES	11.49 % OF TOTAL AREA
PAVEMENT	101,910 SF	2.34 ACRES	27.63 % OF TOTAL AREA
SIDEWALK	17,895 SF	0.41 ACRES	4.84 % OF TOTAL AREA
TOTAL IMPERVIOUS AREA	162,200 SF	3.72 ACRES	43.92 % OF TOTAL AREA
GREENSPACE	206,771 SF	4.75 ACRES	56.08 % OF TOTAL AREA
EXISTING IMPERVIOUS AREA: 9,255 SF (0.21 ACRES)			
NET INCREASE IN IMPERVIOUS: 152,945 SF (3.51 ACRES)			

**GENERAL NOTES:**

- THE CONTRACTOR SHALL EMPLOY ALL NECESSARY BARRICADES, SIGNS, FENCES, FLASHING LIGHTS, FLAGMEN, ETC. FOR MAINTENANCE AND PROTECTION OF TRAFFIC AS REQUIRED BY THE CITY OF RALEIGH AND THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, FOR DETAILS OF TRAFFIC CONTROL STANDARDS AND DEVICES.
- THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
- APPROVAL OF THESE PLANS IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
- COORDINATE ALL CURB AND STREET GRADINGS IN INTERSECTIONS WITH INSPECTOR.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DETAILS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND AFFECTIVE CITY OF RALEIGH CODES AND ORDINANCES. THE CONTRACTOR SHALL MAINTAIN A CURRENT EDITION OF THE STATE AND LOCAL CODES, ORDINANCES, STANDARD SPECIFICATION AND STANDARD DETAILS ON THE PROJECT SITE FOR REFERENCE DURING CONSTRUCTION OF THE PROJECT.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS TO THE OWNER OR OWNER'S REPRESENTATIVE IMMEDIATELY. CONTRACTOR SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.
- THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.
- THE CONTRACTOR SHALL REPAIR, RESURFACE, RECONSTRUCT OR REFURBISH ANY AREAS DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, HIS SUBCONTRACTORS OR SUPPLIERS AT NO ADDITIONAL COST TO THE OWNER.
- ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF TRUCK DOCKS, EXIT DOCKS, SIDEWALKS, FREESTYLE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
- ALL PAINT STRIPING, PAVEMENT MARKINGS, AND SIGNAGE SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR AS OTHERWISE SPECIFIED. ALL REFLECTIVE SIGN STANDARDS ARE TAKEN FROM THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL NEW SIGNS SHALL BE MOUNTED ON GALVANNEZ POSTS AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
- CONTRACTOR SHALL INSTALL ACCESSIBLE RAMPS PER LOCAL MUNICIPALITY AND ADA STANDARDS AT ALL DRIVE AND BUILDING LOCATIONS AS REQUIRED.
- WC ACCESS RAMPS WILL BE PROVIDED IN ACCORDANCE WITH RALEIGH ENGINEERING STANDARD DRAWING STD 020.11.
- ALL PLANTING ISLANDS WITH A SHADE TREE SHALL BE A MINIMUM OF 350 SQUARE FEET.
- ALL SIDEWALKS MUST BE ACCESSIBLE TO PERSONS WHO ARE BLIND, HAVE LOW VISION AND PEOPLE WITH MOBILITY DISABILITIES. PEDESTRIAN ROUTING ROUTES AND ALTERNATE PEDESTRIAN ROUTES DURING CONSTRUCTION WILL BE REQUIRED TO BE COMPLIANT WITH THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG), 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

**BARWELL PARK DRIVE**  
(VARIABLE WIDTH PUBLIC RW)

**SIGHT TRIANGLE NOTE**

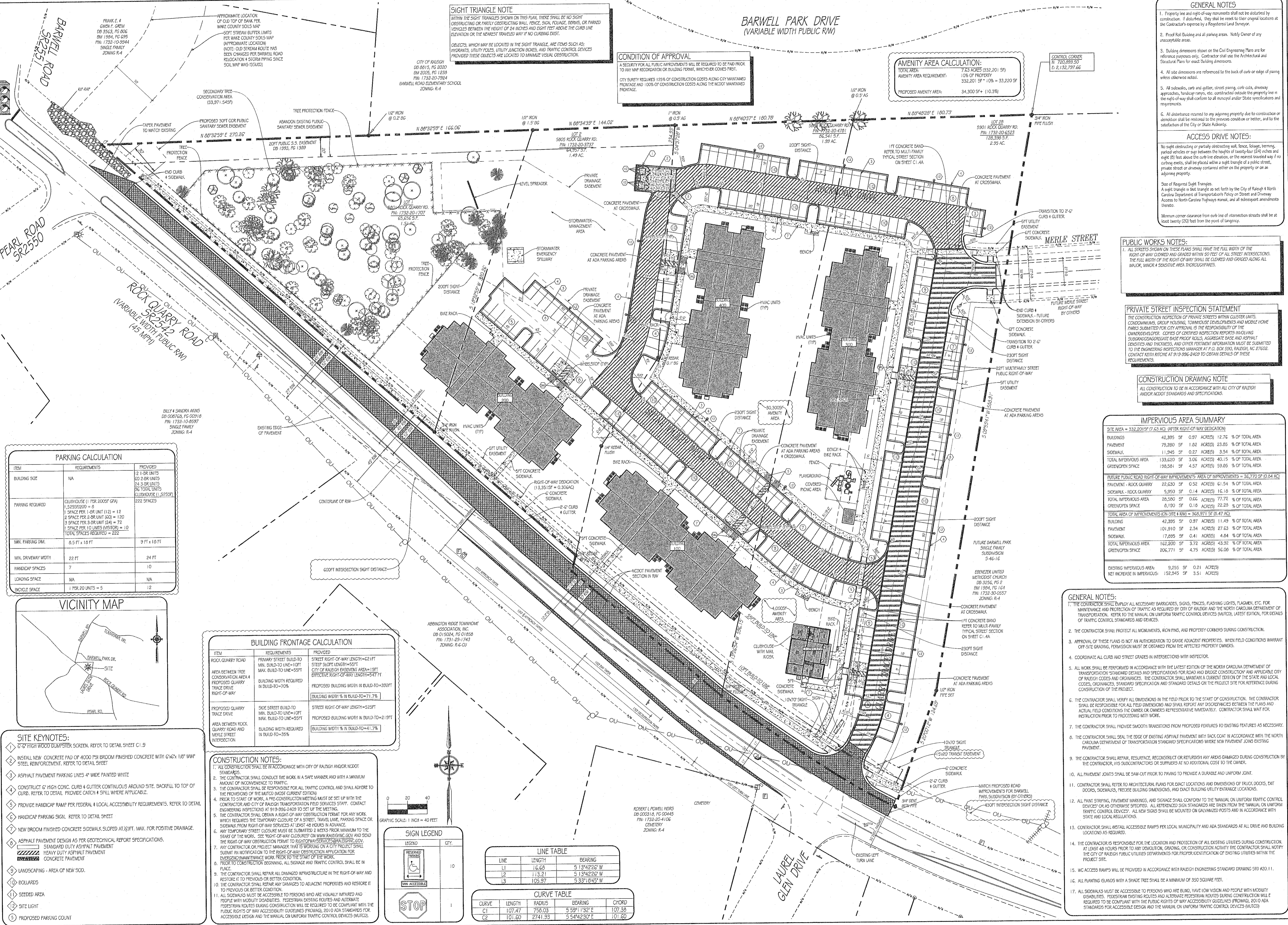
WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, THERE SHALL BE NO SIGHT OBSTRUCTIONS OR PARKED VEHICLES. SIGHT TRIANGLES SHALL BE MAINTAINED AT ALL TIMES. VEHICLES BETWEEN THE HEIGHT OF 24 INCHES AND EIGHT FEET ABOVE THE CURB LINE ELEVATION OR THE NEAREST TRAVELED WAY IF NO CURBING EXISTS.

**CONDITION OF APPROVAL**

A SECURITY FOR ALL PUBLIC IMPROVEMENTS WILL BE REQUIRED TO BE PAID PRIOR TO ANY MAP RECORDED OR BUILDING PERMIT, WHICHEVER COMES FIRST.

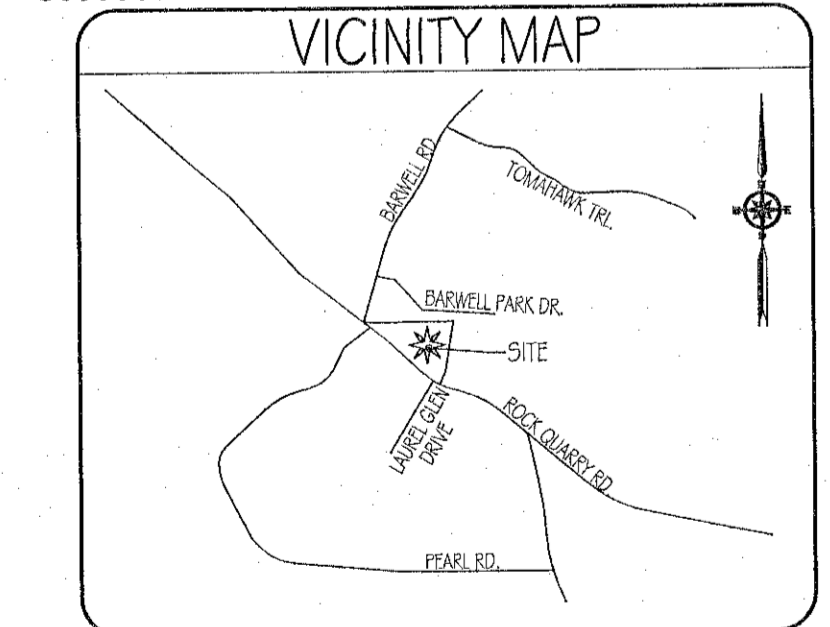
**AMENITY AREA CALCULATION:**

TOTAL AREA: 7.63 ACRES (332,201 SF)  
10% OF PROJECT: 332,201 SF \* 10% = 33,220 SF  
PROPOSED AMENITY AREA: 34,300 SF+ (1.03%)



**PARKING CALCULATION**

ITEM	REQUIREMENTS	PROVIDED
BUILDING SIZE	NA	2 1-BR UNITS 64 2-BR UNITS 24 3-BR UNITS 86 TOTAL UNITS CLUBHOUSE (1,525 SF)
PARKING REQUIRED	CLUBHOUSE (1 PER 2000 SF GRA) 1,525/2000 = 0.76 1 SPACE PER 1-BR UNIT (12) = 12 2 SPACE PER 2-BR UNIT (60) = 120 3 SPACE PER 3-BR UNIT (24) = 72 1 SPACE PER 10 UNITS (VISITORS) = 10 TOTAL SPACES REQUIRED = 222	222 SPACES
MIN. PARKING DIM.	0.5 FT x 10 FT	9 FT x 10 FT
MIN. DRIVEWAY WIDTH	22 FT	24 FT
HANDICAP SPACES	7	10
LOADING SPACE	NA	NA
BIKE SPACE	1 PER 20 UNITS = 5	12

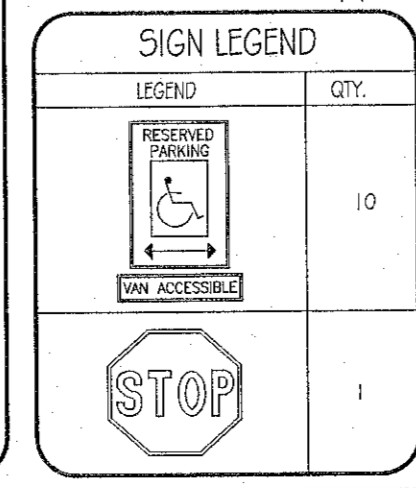


**BUILDING FRONTAGE CALCULATION**

ITEM	REQUIREMENTS	PROVIDED
ROCK QUARRY ROAD	PRIMARY STREET BUILD-TO-MIN. BUILD-TO-LINE=10 FT MAX. BUILD-TO-LINE=55 FT	STREET RIGHT-OF-WAY LENGTH=62 FT STEEP SLOPE LENGTH=5 FT CITY OF RALEIGH BASEMENT AREA=1 FT EFFECTIVE RIGHT-OF-WAY LENGTH=54 FT
PROPOSED QUARRY TRACE DRIVE	BUILDING WIDTH REQUIRED IN BUILD-TO=70%	PROPOSED BUILDING WIDTH IN BUILD-TO=32 FT BUILDING WIDTH % IN BUILD-TO=71.7%
PROPOSED QUARRY TRACE DRIVE	SIDE STREET BUILD-TO-MIN. BUILD-TO-LINE=10 FT MAX. BUILD-TO-LINE=55 FT	STREET RIGHT-OF-WAY LENGTH=55 FT PROPOSED BUILDING WIDTH IN BUILD-TO=21.9 FT BUILDING WIDTH % IN BUILD-TO=41.7%

**CONSTRUCTION NOTES:**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH AND/OR ADOPTED STANDARDS.
- THE CONTRACTOR SHALL CONDUCT THE WORK IN A SAFE MANNER AND WITH A MINIMUM AMOUNT OF INCONVENIENCE TO TRAFFIC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SHALL ADHERE TO THE PROVISIONS OF THE MUTCD (LATEST CURRENT EDITION).
- PRIOR TO START OF WORK, A PRE-CONSTRUCTION MEETING MUST BE SET UP WITH THE CONTRACTOR AND CITY OF RALEIGH TRANSPORTATION FIELD SERVICES STAFF. CONTACT ENGINEERING INSPECTIONS AT 919-956-2409 TO SET UP THE MEETING.
- THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY OBSTRUCTION PERMIT FOR ANY WORK WHICH REQUIRES THE TEMPORARY CLOSURE OF A STREET, TRAVEL LANE, PARKING SPACE, OR SIDEWALK FROM RIGHT-OF-WAY SERVICES AT LEAST 48 HOURS IN ADVANCE.
- ANY TEMPORARY STREET CLOSURE MUST BE SUBMITTED 2 WEEKS PRIOR MINIMUM TO THE START OF THE WORK. SEE RIGHT-OF-WAY CLOSURES ON WWW.RALEIGH.GOV AND SEND THE RIGHT-OF-WAY OBSTRUCTION PERMIT TO REGIONALMANAGER@RALEIGH.GOV.
- ANY CONTRACTOR OR PROJECT MANAGER THAT IS WORKING ON A CITY PROJECT SHALL SUBMIT AN NOTIFICATION TO THE RIGHT-OF-WAY OBSTRUCTION APPLICATION FOR IMPROVED MAINTENANCE WORK PRIOR TO THE START OF THE WORK.
- PRIOR TO CONSTRUCTION BEGINNING, ALL SIGNAGE AND TRAFFIC CONTROL SHALL BE IN PLACE.
- THE CONTRACTOR SHALL REPAIR ALL DAMAGED INFRASTRUCTURE IN THE RIGHT-OF-WAY AND RESTORE IT TO PREVIOUS OR BETTER CONDITION.
- THE CONTRACTOR SHALL REPAIR ANY DAMAGES TO ADJACENT PROPERTIES AND RESTORE IT TO PREVIOUS OR BETTER CONDITION.
- ALL SIDEWALKS MUST BE ACCESSIBLE TO PERSONS WHO ARE VISUALLY IMPAIRED AND PEOPLE WITH MOBILITY DISABILITIES. PEDESTRIAN ROUTING ROUTES AND ALTERNATE PEDESTRIAN ROUTES DURING CONSTRUCTION WILL BE REQUIRED TO BE COMPLIANT WITH THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG), 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).



**LINE TABLE**

LINE	LENGTH	BEARING
L1	16.65	S 13°42'26" W
L2	113.21	S 13°42'26" W
L3	105.97	S 33°18'45" W

**CURVE TABLE**

CURVE	LENGTH	RADIUS	BEARING	CHORD
C1	107.47	756.03	S 59°11'32" E	107.58
C2	101.60	2741.93	S 54°42'30" E	101.60

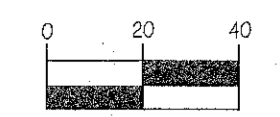
- SITE KEYNOTES:**
- 6" HIGH WOOD DUMPISTER SCREEN. REFER TO DETAIL SHEET C1.9
  - INSTALL NEW CONCRETE PAD OF 4000 PSI BROOM FINISHED CONCRETE WITH 6"x6"x18" WWF STEEL REINFORCEMENT. REFER TO DETAIL SHEET
  - ASPHALT PAVEMENT PARKING LINES 4" WIDE PAINTED WHITE
  - CONSTRUCT 6" HIGH CONC. CURB & GUTTER CONTINUOUS AROUND SITE. BACKFILL TO TOP OF CURB. REFER TO DETAIL. PROVIDE CATCH & SPILL WHERE APPLICABLE.
  - PROVIDE HANDICAP RAMP PER FEDERAL & LOCAL ACCESSIBILITY REQUIREMENTS. REFER TO DETAIL.
  - HANDICAP PARKING SIGN. REFER TO DETAIL SHEET
  - NEW BROOM FINISHED CONCRETE SIDEWALK SLOPED AT 1/8" FT. MAX. FOR POSITIVE DRAINAGE.
  - ASPHALT PAVEMENT DESIGN AS PER GEOTECHNICAL REPORT SPECIFICATIONS.
  - STANDARD DUTY ASPHALT PAVEMENT
  - HEAVY DUTY ASPHALT PAVEMENT
  - CONCRETE PAVEMENT
  - LANDSCAPING - AREA OF NEW SOD.
  - BOLLARDS
  - SEEDED AREA
  - SITE LIGHT
  - PROPOSED PARKING COUNT



REV	DATE	DESCRIPTION
1	4/18/17	REVISED PER CITY OF RALEIGH REVIEW
2	5/8/17	REVISED PER CITY OF RALEIGH REVIEW
3	5/15/17	REVISED PER CITY OF RALEIGH REVIEW
4	5/15/17	REVISED PER CITY OF RALEIGH REVIEW

Project No. 035002  
Date: April 18, 2017  
Title: GRADING AND DRAINAGE PLAN

Sheet No. C.I.1



**FLOOD NOTE:**  
SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE PER FEMA FLOOD INSURANCE RATE MAP (FIRM) # 37001732001, EFFECTIVE DATE MAY 2, 2006. FEMA MAPS SUBJECT TO CHANGE.

**CONSTRUCTION DRAWING NOTE:**  
ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/OR NCOT STANDARDS AND SPECIFICATIONS.

**PRIVATE STREET INSPECTION STATEMENT:**  
THE CONSTRUCTION INSPECTION OF PRIVATE STREETS WITHIN CUL-DE-SACS, CONDORNIAS, GROUP HOUSING, TOWNHOUSE DEVELOPMENTS AND MOBILE HOME PARKS SUBMITTED FOR CITY APPROVAL IS THE RESPONSIBILITY OF THE OWNER/DEVELOPER. COPIES OF CERTIFIED INSPECTION REPORTS INCLUDING SUBPARASUBSISTENCE PROOF TILES, AGGREGATE BASE AND ASPHALT DENSITIES AND THICKNESSES, AND OTHER PERTINENT INFORMATION MUST BE SUBMITTED TO THE ENGINEERING INSPECTOR MANAGER AT P.O. BOX 290, RALEIGH, NC 27602. CONTACT KEITH RYCHIE AT 919-956-2409 TO OBTAIN DETAILS OF THESE REQUIREMENTS.

**LEGEND:**

- TS.....TOP OF SIDEWALK
- TC.....TOP OF CURB
- GT.....GUTTER FLOW LINE
- TF.....TOP OF PAVEMENT
- TW.....TOP OF WALL
- BW.....BOTTOM OF WALL
- CB.....CATCH BASIN
- GI.....GRATE INLET
- FS.....FLARED END SECTION
- YI.....YARD INLET
- GR.....GROUND
- FD.....FLOW DIRECTION ARROW

**IMPERVIOUS AREA SUMMARY**

SITE AREA = 332.20 SF (7.63 AC) (AFTER RIGHT-OF-WAY DEDUCTION)

ITEM	AREA (SF)	AREA (AC)	% OF TOTAL AREA
BUILDINGS	42,395	0.97	12.76%
PAVEMENT	79,200	1.82	23.85%
SIDEWALK	11,945	0.27	3.54%
TOTAL IMPERVIOUS AREA	133,540	3.06	40.15%
GREENOPEN SPACE	198,501	4.57	59.85%

FUTURE PUBLIC ROAD RIGHT-OF-WAY IMPROVEMENTS AREA OF IMPROVEMENTS = 36,770 SF (0.84 AC)

ITEM	AREA (SF)	AREA (AC)	% OF TOTAL AREA
PAVEMENT - ROCK QUARRY	22,630	0.52	61.54%
SIDEWALK - ROCK QUARRY	5,950	0.14	16.18%
TOTAL IMPERVIOUS AREA	28,580	0.66	77.72%
GREENOPEN SPACE	8,190	0.18	22.28%

TOTAL AREA OF IMPROVEMENTS (ON SITE # RW) = 362,971 SF (8.47 AC)

ITEM	AREA (SF)	AREA (AC)	% OF TOTAL AREA
BUILDING	42,395	0.97	11.49%
PAVEMENT	101,910	2.34	27.63%
SIDEWALK	17,895	0.41	4.84%
TOTAL IMPERVIOUS AREA	162,200	3.72	43.92%
GREENOPEN SPACE	204,771	4.75	56.08%

EXISTING IMPERVIOUS AREA: 9,255 SF (0.21 ACRES)  
NET INCREASE IN IMPERVIOUS: 152,945 SF (3.51 ACRES)

- GRADING NOTES:**
- REFER TO THE SITE PLAN FOR RELATED NOTES.
  - ALL CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.
  - ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK, AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
  - THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, AND SHALL REPAIR ALL DAMAGE TO EXISTING UTILITIES THAT OCCUR DURING CONSTRUCTION.
  - THE CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
  - LIMITS OF CLEARING SHOWN ON GRADING PLAN ARE BASED UPON THE APPROXIMATE CUT AND FILL SLOPE LIMITS, OR OTHER GRADING REQUIREMENTS.
  - THE PROPOSED CONTOURS SHOWN IN DRIVES AND PARKING LOTS AND SIDEWALKS ARE FINISHED ELEVATIONS INCLUDING ASPHALT. REFER TO THE PAVEMENT CROSS SECTION DATA TO ESTABLISH CORRECT SUB-BASE OR AGGREGATE BASE COURSE ELEVATIONS TO BE CONSULTED UNDER THIS CONTRACT.
  - THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE SO THAT RUNOFF WILL DRAIN BY GRAVITY FROM ACROSS NEW PAVEMENT AREAS TO NEW OR EXISTING DRAINAGE INLETS OR SHEET OVERLAND.
  - ANY GRADING, BEYOND THE LIMITS OF CONSTRUCTION AS SHOWN ON THE GRADING PLAN, IS SUBJECT TO A FINE.
  - GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS SUBJECT TO A FINE.
  - STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON GRADED AREAS AND ESPECIALLY WHEN THE CONSTRUCTION SEQUENCE REQUIRES IT.
  - ALL GRADED SLOPES ARE TO BE SEeded OR LANDSCAPED WITHIN 21 DAYS OF COMPLETION OF GRADING. ALL REMAINING AREAS ARE TO BE SEeded WITHIN 15 WORKING DAYS.
  - EXISTING GRADES, CONTOURS, UTILITIES AND OTHER EXISTING FEATURES FROM FIELD SURVEY.
  - THE CONTRACTOR SHALL REFER TO THE CONTRACT PRICE ANY DE-WATERING NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, BRACING AND SPECIAL DRAINAGE MEASURES REQUIRED TO MEET OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS PUGHUNT TO THE INSTALLATION OF THE WORK INDICATED ON THESE DRAWINGS. THE DESIGN ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE DESIGNER TO INSTALL SUDS TITING.
  - THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EACH LOCATION, ELEVATION, AND DIMENSIONS OF EXIT DOORS, RAMPS, BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
  - ALL FILL MATERIALS, INCLUDING FOUNDATIONS, PAVEMENT AND UTILITY STRUCTURES, TOPSOIL, AND ANY OTHER DELIBERATELY MATERIALS SHALL BE COMPLETELY REMOVED FROM WITHIN THE CLEARING ZONE BELOW THE STRUCTURE.
  - ALL FOUNDATION EXCAVATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL REPRESENTATIVE TO DETERMINE WHETHER UNSUITABLE MATERIAL MUST BE REMOVED. ALL UNSUITABLE MATERIAL SHALL BE REMOVED, BACKFILLED AND COMPACTED AS REQUIRED BY THE GEOTECHNICAL REPRESENTATIVE.
  - ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED OR DEPICTED.
  - THE CONTRACTOR SHALL ADHERE TO ALL TOWNSHIP CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
  - CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH RIDE AND CONTINUOUS GRADE.
  - CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
  - ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER.
  - CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.

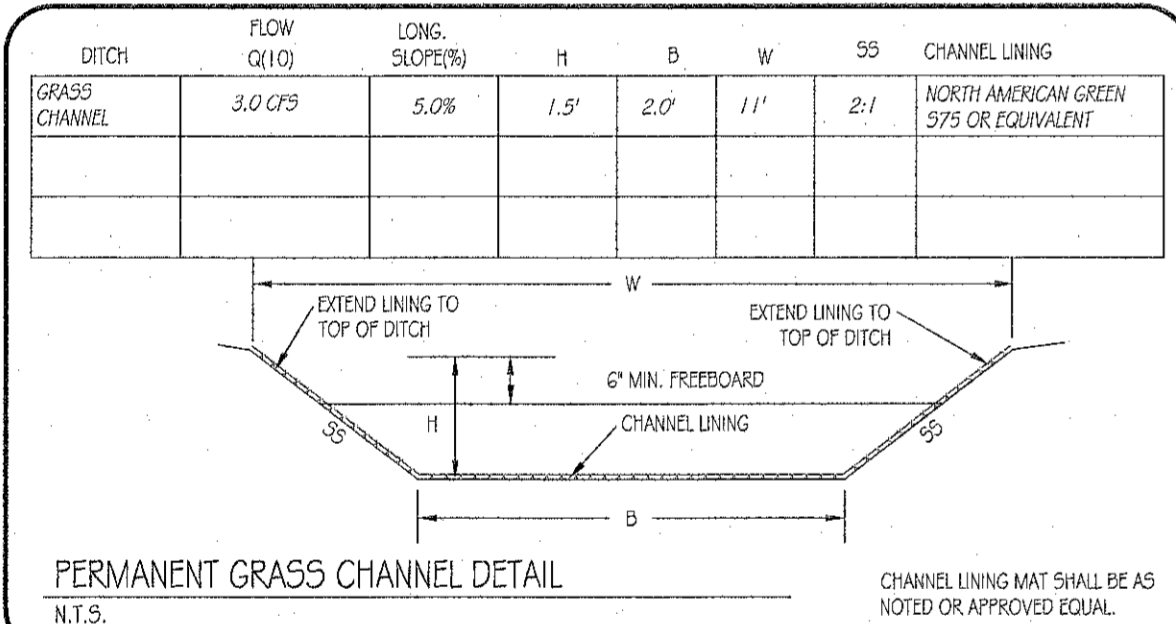
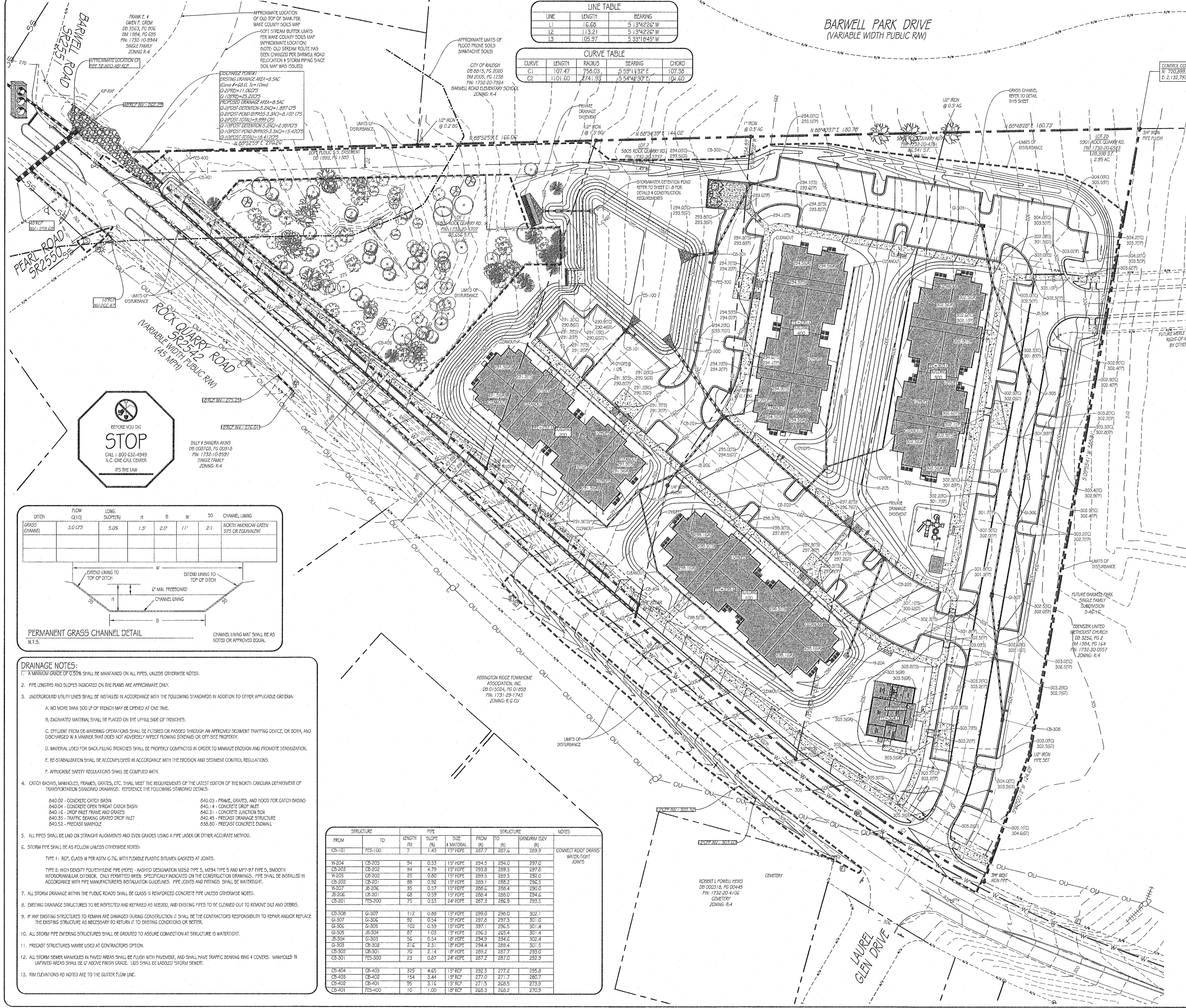
**BARWELL PARK DRIVE**  
(VARIABLE WIDTH PUBLIC RW)

**LINE TABLE**

LINE	LENGTH	BEARING
L1	16.69	S 93°42'22" W
L2	113.21	S 13°42'22" E
L3	105.97	S 33°10'45" W

**CURVE TABLE**

CURVE	LENGTH	RADIUS	BEARING	CHORD
C1	107.47	756.03	S 59°1'32" E	107.36
C2	1101.60	2741.93	S 54°4'30" E	104.60



- DRAINAGE NOTES:**
- A MINIMUM GRADE OF 0.50% SHALL BE MAINTAINED ON ALL PIPES, UNLESS OTHERWISE NOTED.
  - PIPE LENGTHS AND SLOPES INDICATED ON THE PLANS ARE APPROXIMATE ONLY.
  - UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
    - A. NO MORE THAN 500 LF OF TRENCH MAY BE OPENED AT ONE TIME.
    - B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
    - C. EFFLUENT FROM DE-WATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
    - D. MATERIAL USED FOR BACK-FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
    - E. RE-STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REGULATIONS.
    - F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
  - CATCH BASINS, MANHOLES, FRAMES, GRATES, ETC. SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS. REFERENCE THE FOLLOWING STANDARD DETAILS:
    - 840.03 - CONCRETE CATCH BASIN
    - 840.04 - CONCRETE OPEN THROAT CATCH BASIN
    - 840.14 - CONCRETE DRAINAGE INLET
    - 840.16 - CONCRETE DRAINAGE INLET
    - 840.35 - TRAFFIC BEARING DRAINAGE INLET
    - 840.52 - PRECAST MANHOLE
    - 840.03 - FRAME, GRATES, AND HOOD FOR CATCH BASIN
    - 840.14 - CONCRETE DRAINAGE INLET
    - 840.31 - CONCRETE JUNCTION BOX
    - 840.45 - PRECAST DRAINAGE STRUCTURE
    - 836.80 - PRECAST CONCRETE ENDWALL
  - ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
  - STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
    - TYPE 1: 18" CLASS III PER ASTM C-76, WITH FLEXIBLE PLASTIC BITUMEN GASKETS AT JOINTS.
    - TYPE 2: HIGH DENSITY POLYETHYLENE PIPE (HDPE) - ASHDT DESIGNATION M252 TYPE S, M254 TYPE S AND MFT-87 TYPE S, SMOOTH INTERIOR/FLANGE EXTERIOR. ONLY PERMITTED WHEN SPECIFICALLY INDICATED ON THE CONSTRUCTION DRAWINGS. PIPE JOINTS AND FITTINGS SHALL BE WATER-TIGHT.
  - ALL STORM DRAINAGE WITHIN THE PUBLIC ROADS SHALL BE CLASS III REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED.
  - EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE SILT AND DEBRIS.
  - IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
  - ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATER-TIGHT.
  - PRECAST STRUCTURES MAYBE USED AT CONTRACTORS OPTION.
  - ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
  - R/W ELEVATIONS AS NOTED ARE TO THE GUTTER FLOW LINE.

STRUCTURE	FROM	TO	LENGTH (ft)	PIPE (in)	SLOPE	SIZE (in)	STARTING ELEV (ft)	ENDING ELEV (ft)	NOTES
CB-101	FES-100	7	1.43	15" HDPE	227.7	227.6	229.9	CONNECT ROOF DRAINS WATER-TIGHT JOINTS	
YB-204	CB-203	94	0.53	15" HDPE	294.5	294.0	297.0		
CB-203	CB-202	94	4.79	15" HDPE	293.8	289.3	297.0		
YB-205	CB-202	25	0.50	15" HDPE	295.5	295.3	292.0		
CB-202	CB-201	96	0.92	15" HDPE	295.1	295.2	296.3		
YB-207	JB-206	35	0.57	15" HDPE	288.6	286.4	287.0		
JB-206	CB-201	68	0.39	15" HDPE	288.4	286.0	284.6		
CB-201	FES-100	75	0.53	24" HDPE	287.3	286.9	293.5		
CB-306	G-307	112	0.89	15" HDPE	299.0	296.0	302.1		
G-307	G-306	92	0.54	15" HDPE	297.8	297.3	301.0		
G-306	G-305	102	0.59	15" HDPE	297.1	296.5	301.4		
JB-305	G-304	87	1.03	15" HDPE	296.3	295.4	301.4		
JB-304	G-303	56	0.54	18" HDPE	294.9	294.6	302.4		
G-303	CB-302	216	2.31	18" HDPE	294.4	289.4	301.5		
CB-302	CB-301	70	2.14	18" HDPE	289.2	287.7	293.0		
CB-301	FES-100	23	0.87	24" HDPE	287.2	287.0	292.9		
CB-404	CB-403	325	4.65	15" RCP	292.3	277.2	285.0		
CB-403	CB-402	164	3.44	15" RCP	277.0	271.7	267.0		
CB-402	CB-401	95	3.16	15" RCP	271.5	268.5	273.3		
CB-401	FES-100	10	1.00	18" RCP	268.3	268.2	276.9		





NO.	DATE	DESCRIPTION
1	11/07/17	APPROVED BY CITY OF RALEIGH

Project No. 035002  
Date: April 16, 2017  
Title

**UTILITY PLAN**

**UTILITY CONTACTS**

**WATER AND SEWER:**  
CITY OF RALEIGH  
ATTN: 219 FAYETTEVILLE ST. MALL  
RALEIGH, NC 27601  
PH: 919-501-7668

**TRANSPORTATION:**  
NCDOT  
ATTN: MR. RED ELMDRE  
4020 DISTRICT DR.  
RALEIGH, NC 27607  
PH: 919-733-3213

**POWER:**  
DUKE PROGRESS ENERGY  
ATTN: LINDA ALLEN  
7001 FREDERICK RD.  
RALEIGH, NC 27613  
PH: 919-878-5315

**STORMWATER:**  
CITY OF RALEIGH  
ATTN: 219 FAYETTEVILLE ST. MALL  
RALEIGH, NC 27601  
PH:

**CALENDAR/INTERNET:**  
TIME WARNER CABLE  
101 INNOVATION AVE.  
MORRISVILLE, NC 27560  
PH: 919-573-7360

**FIRE FLOW ANALYSIS**

MAIN SIZE: \_\_\_\_\_  
ELEVATION OF TEST LOCATION: \_\_\_\_\_  
TIME OF TEST: \_\_\_\_\_  
DATE OF TEST: \_\_\_\_\_

RESULTS:  
STATIC PRESSURE: \_\_\_\_\_ PSI  
RESIDUAL PRESSURE: \_\_\_\_\_ PSI  
FLOWING PRESSURE: \_\_\_\_\_ PSI  
FLOW VOLUME: \_\_\_\_\_ GPM

**APPROVED RPDA ASSEMBLIES:**  
APPROVED # RPDA REDUCED PRESSURE PRINCIPLE ZONE DETECTOR ASSEMBLY BACKFLOW PREVENTERS:  
WATTS 809RPA, 957RPA, 967RPA

**APPROVED RPZ ASSEMBLIES:**  
APPROVED # RPZ BACKFLOW PREVENTERS:  
AMES 4000B  
RECO 825 Y 4 YA  
WATTS 009M6Z7

**APPROVED DCVA ASSEMBLIES:**  
APPROVED # DOUBLE CHECK VALVE BACKFLOW PREVENTERS:  
AMES MAHIM 200 # MAHIM 300  
RECO 750, 850, 856, 8051D  
WATTS 709, 757, 757

**UTILITY LEGEND**

- NEW POWER POLE
- NEW WATER METER
- NEW GAS METER
- NEW ELECTRIC METER
- NEW WATER SERVICE (REFER TO CIVIL DRAWINGS)
- NEW GAS SERVICE
- NEW SANITARY SEWER (REFER TO CIVIL DRAWINGS)
- NEW SANITARY SEWER CLEANOUT (AT EVERY 60 FEET)
- NEW UNDERGROUND POWER (120/208V-1) SERVICE
- NEW UNDERGROUND TELEPHONE SERVICE

NOTE: 1. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING & APPLYING FOR UTILITY SERVICE WITH EACH UTILITY COMPANY PRIOR TO STARTING CONSTRUCTION.  
2. CONTRACTOR TO BE RESPONSIBLE FOR STREET BORE, IF REQUIRED BY CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.

**STANDARD UTILITY NOTES:**

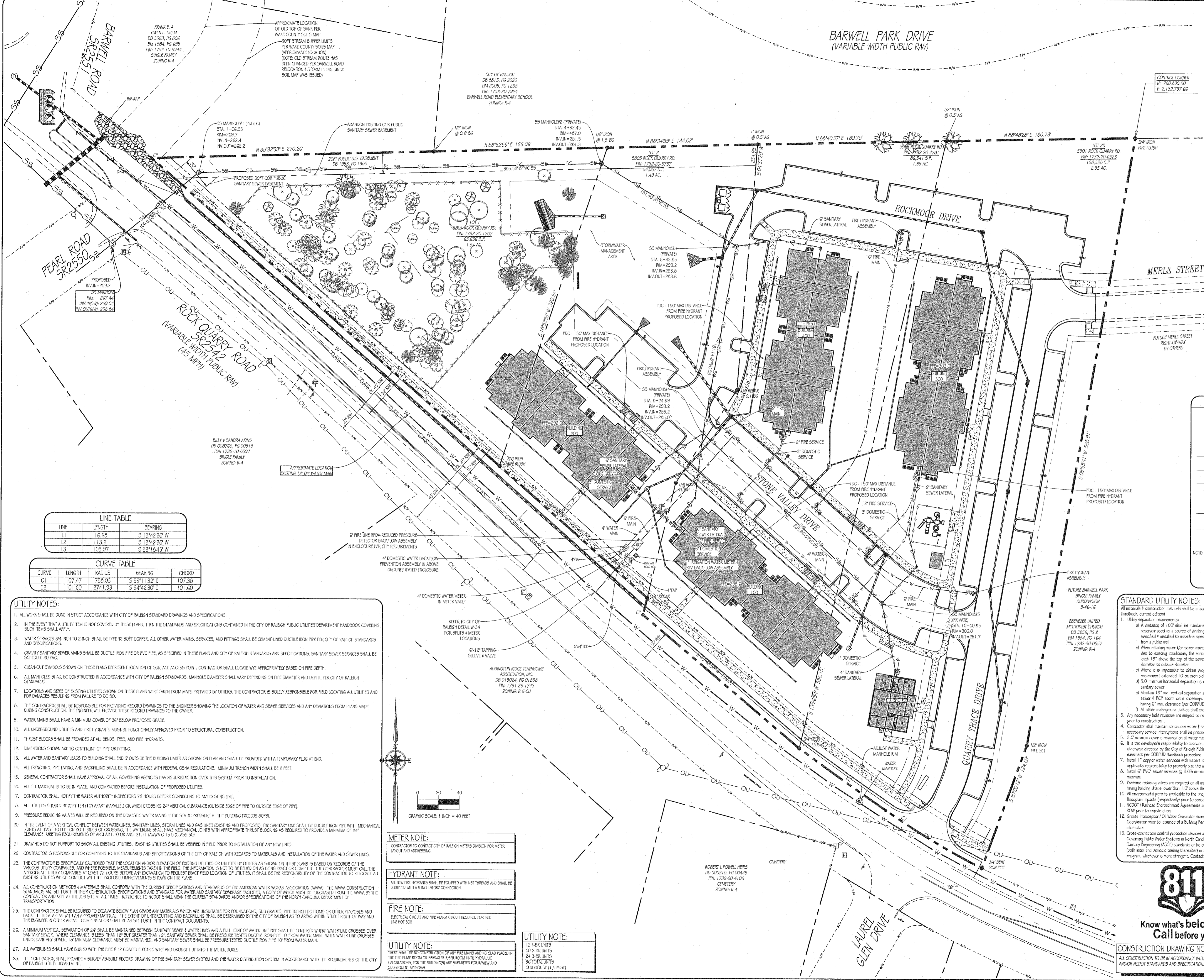
All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition).

- Utility separation requirements:
  - A distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, trench sanitary sewer pipe shall be specified & installed to wall-toe specifications. However, the minimum separation shall not be less than 2' from a private well or 50' from a public well.
  - When installing water for sewer runs, the horizontal separation between all lines shall be 12". If this separation cannot be maintained due to existing conditions, the variation allowed in the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer & must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter.
  - Where it is impossible to obtain proper separation, or any sanitary sewer passes over a watermain, DIP materials or steel encasement extended 12" on each side of crossing must be specified & installed to wall-toe specifications.
  - 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer.
  - Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 24" min. vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6" min. clearance (per CORPUD detail W-41 & S-49).
  - All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required.
- Any necessary field relocations are subject to review & approval of an amended plan profile by the City of Raleigh Public Utilities Department prior to construction.
- Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24 hour advance notice to the City of Raleigh Public Utilities Department.
- 3.0' minimum cover is required on all water mains & sewer locations. 4.0' minimum cover is required on all storm mains.
- It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning tap-in man & removal of service from ROW or easement per CORPUD Handbook procedure.
- Install 1" copper water services with meter localized at ROW or within a 2x2' Waterline Easement immediately adjacent. NOTE: It is the applicant's responsibility to properly use the water service for each connection to provide adequate flow & pressure.
- Install 6" PVC sewer services @ 2.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum.
- Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1/2' above the next upstream manhole.
- All environmental permits applicable to the project must be obtained from NCDWR, USACE, RCP FEMA for any riparian buffer, wetland, or floodplain impacts (respectively) prior to construction.
- NCDOT Railroad Encroachment Agreements are required for any utility work (including man encasement & service taps) within station or railroad ROW prior to construction.
- Grass Interceptor / Oil Water Separator Sizing calculations & installation specifications shall be approved by the CORPUD TOG Program Coordinator prior to issuance of a Building Permit. Contact Tim Beasley at (919) 250-7825 or timothy.beasley@raleighnc.gov for more information.
- Cross-connection control protection devices are required based on degree of health hazard involved as listed in Appendix-B of the Rules Governing Public Water Systems in North Carolina. These guidelines are the minimum requirements. The devices shall meet American Society of Sanitary Engineers (ASSE) standards or be on the University of Southern California approval list. The devices shall be installed and tested (both initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross-connection control program, whichever is more stringent. Contact Joanne Healey at (919) 212-5923 or joanne.healey@raleighnc.gov for more information.

**811**  
Know what's below.  
Call before you dig.

**CONSTRUCTION DRAWING NOTE**  
ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

**STOP**  
BEFORE YOU DIG  
CALL 1-800-635-4949  
N.C. ONE-CALL CENTER  
IT'S THE LAW



**LINE TABLE**

LINE	LENGTH	BEARING
L1	16.68	S 13°42'26" W
L2	113.21	S 13°42'26" W
L3	105.97	S 33°18'45" W

**CURVE TABLE**

CURVE	LENGTH	RADIUS	BEARING	CHORD
C1	107.47	750.03	S 59°11'32" E	107.38
C2	101.60	2741.93	S 54°42'30" E	101.60

- UTILITY NOTES:**
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH CITY OF RALEIGH STANDARD DRAWINGS AND SPECIFICATIONS.
  - IN THE EVENT THAT A UTILITY ITEM IS NOT COVERED BY THESE PLANS, THEN THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT HANDBOOK, COVERING SUCH ITEMS SHALL APPLY.
  - WATER SERVICES 3/4-INCH TO 2-INCH SHALL BE TYPE "K" SOFT COPPER. ALL OTHER WATER MAINS, SERVICES, AND FITTINGS SHALL BE CEMENT-JOINT DUCTILE IRON PIPE PER CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
  - GRAVITY SANITARY SEWER MAINS SHALL BE DUCTILE IRON PIPE OR PVC PIPE, AS SPECIFIED IN THESE PLANS AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS. SANITARY SEWER SERVICES SHALL BE SCHEDULE 40 PVC.
  - CLEAN-OUT SYMBOLS SHOWN ON THESE PLANS REPRESENT LOCATION OF SURFACE ACCESS POINT. CONTRACTOR SHALL LOCATE VENT APPROPRIATELY BASED ON PIPE DEPTH.
  - ALL MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS. MANHOLE DIAMETER SHALL VARY DEPENDING ON PIPE DIAMETER AND DEPTH, PER CITY OF RALEIGH STANDARDS.
  - LOCATIONS AND SIZES OF EXISTING UTILITIES SHOWN ON THESE PLANS WERE TAKEN FROM MAPS PREPARED BY OTHERS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RECORD DRAWINGS TO THE ENGINEER SHOWING THE LOCATION OF WATER AND SEWER SERVICES AND ANY DEVIATIONS FROM PLANS MADE DURING CONSTRUCTION. THE ENGINEER WILL PROVIDE THESE RECORDS DRAWINGS TO THE OWNER.
  - WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" BELOW PROPOSED GRADE.
  - ALL UNDERGROUND UTILITIES AND FIRE HYDRANTS MUST BE FUNCTIONALLY APPROVED PRIOR TO STRUCTURAL CONSTRUCTION.
  - THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
  - DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
  - ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END.
  - ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
  - GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
  - ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
  - CONTRACTOR SHALL NOTIFY THE WATER AUTHORITY INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
  - ALL UTILITIES SHOULD BE 30" MIN (10' APART @ WALLS) OR WHEN CROSSING 24" VERTICAL CLEARANCE OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE.
  - PRESSURE REDUCING VALVES WILL BE REQUIRED ON THE DOMESTIC WATER MAINS IF THE STATIC PRESSURE AT THE BUILDING EXCEEDS 60PSI.
  - IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATERLINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET OR BOTH SIDES OF CROSSING. THE WATERLINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 24" CLEARANCE. MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.1 (AWWA C151) (CLASS 50).
  - DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
  - CONTRACTOR IS RESPONSIBLE FOR CONFIRMING TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF RALEIGH WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
  - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES OR UTILITIES BY OTHERS AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND TO VERIFY RECORDS. MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION, TO REQUEST DETAIL FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHOSE CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.
  - ALL CONSTRUCTION METHODS & MATERIALS SHALL CONFORM WITH THE CURRENT SPECIFICATIONS AND STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA). THE AWWA CONSTRUCTION STANDARDS ARE SET FORTH IN THEIR CONSTRUCTION SPECIFICATIONS AND STANDARDS FOR WATER AND SANITARY SEWERAGE FACILITIES. A COPY OF WHICH MUST BE PURCHASED FROM THE AWWA BY THE CONTRACTOR AND KEPT AT THE JOB SITE AT ALL TIMES. REFERENCE TO NCDOT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
  - THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE BELOW PLAN GRADE ANY MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SUB GRADES, PIPE TRENCH BOTTOMS OR OTHER PURPOSES AND BACKFILL THESE AREAS WITH AN APPROVED MATERIAL. THE DEPTH OF UNDERCUTTING AND BACKFILLING SHALL BE DETERMINED BY THE CITY OF RALEIGH AS TO AREAS WITHIN STREET RIGHT-OF-WAY AND THE ENGINEER IN OTHER AREAS. COMPENSATION SHALL BE AS SET FORTH IN THE CONTRACT DOCUMENTS.
  - A MINIMUM VERTICAL SEPARATION OF 24" SHALL BE MAINTAINED BETWEEN SANITARY SEWER & WATER LINES AND A FULL JOINT OF WATER LINE PIPE SHALL BE CENTERED WHERE WATER LINE CROSSES OVER SANITARY SEWER. WHERE CLEARANCE IS LESS THAN 18" BUT GREATER THAN 12", SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER MAIN. WHEN WATER LINE CROSSES UNDER SANITARY SEWER, 18" MINIMUM CLEARANCE MUST BE MAINTAINED, AND SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER MAIN.
  - ALL WATERLINES SHALL HAVE BURIED WITH THE PIPE # 2 COATED ELECTRIC WIRE AND BROUGHT UP INTO THE METER BOXES.
  - THE CONTRACTOR SHALL PROVIDE A SURVEY AS-BUILT RECORD DRAWING OF THE SANITARY SEWER SYSTEM AND THE WATER DISTRIBUTION SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF RALEIGH UTILITY DEPARTMENT.

**METER NOTE:**  
CONTRACTOR TO CONTACT CITY OF RALEIGH METERS DIVISION FOR METER LAYOUT AND ADDRESSING.

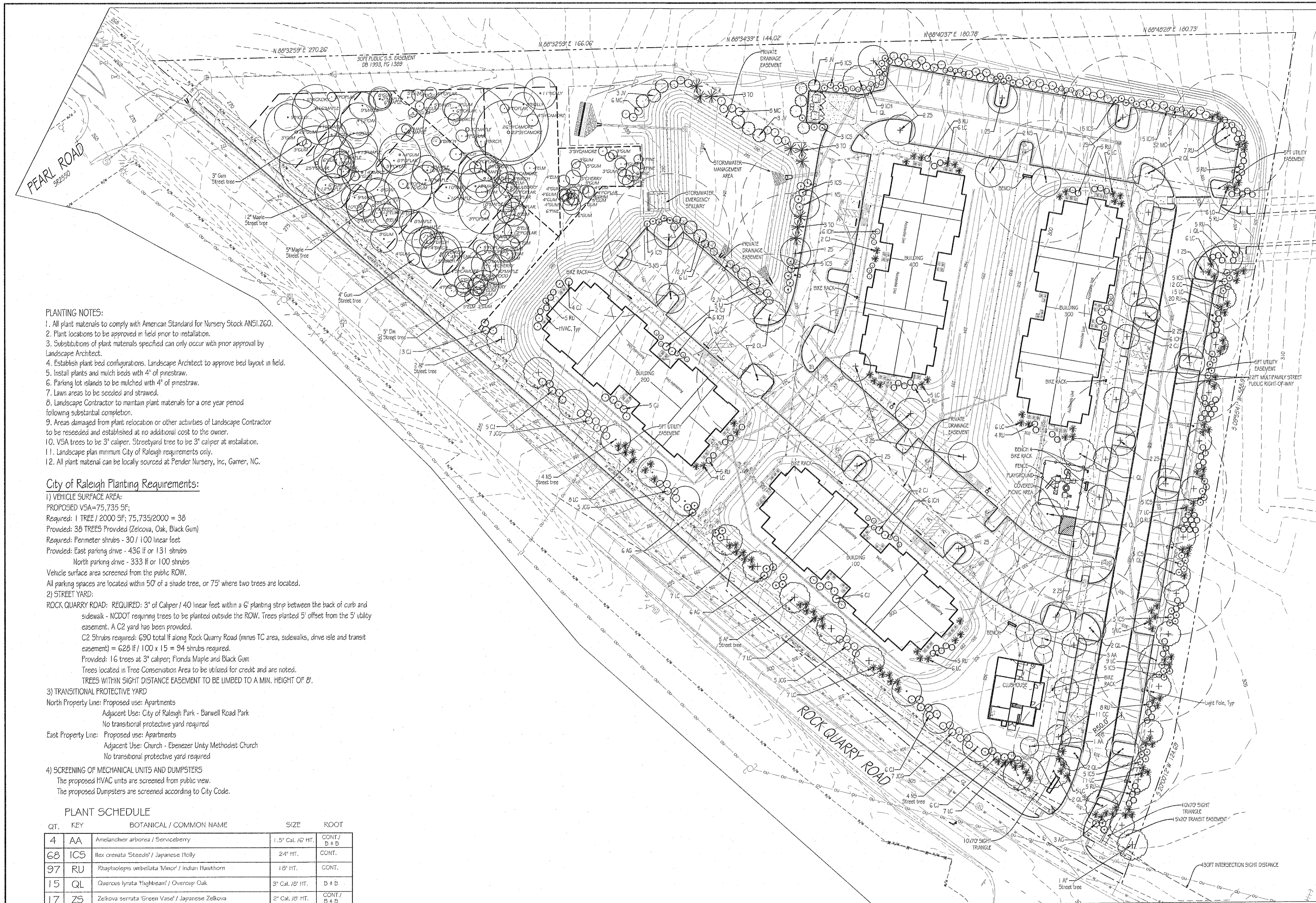
**HYDRANT NOTE:**  
ALL NEW FIRE HYDRANTS SHALL BE EQUIPPED WITH NO THREATS AND SHALL BE EQUIPPED WITH A 5 INCH STICK CONNECTION.

**FIRE NOTE:**  
ELECTRICAL CORDS AND FIRE ALARM CORDS REQUIRED FOR FIRE LINE NOT SHOWN.

**UTILITY NOTE:**  
THERE SHALL BE NO CONSTRUCTION OF ANY FIRE MAINS AND NO SLAB PLACED IN THE FIRE PUMP ROOM OR SPINNAKER ROOM UNTIL METALLIC CALCULATIONS FOR THE BUILDINGS ARE SUBMITTED FOR REVIEW AND SUBSEQUENT APPROVAL.

**UTILITY NOTE:**  
12 1/2" BR UNITS  
60 2" BR UNITS  
24 3" BR UNITS  
96 TOTAL UNITS  
CULHOUSE (1,5253)





- PLANTING NOTES:**
1. All plant materials to comply with American Standard for Nursery Stock ANSI Z60.
  2. Plant locations to be approved in field prior to installation.
  3. Substitutions of plant materials specified can only occur with prior approval by Landscape Architect.
  4. Establish plant bed configurations. Landscape Architect to approve bed layout in field.
  5. Install plants and mulch beds with 4" of pine straw.
  6. Parking lot islands to be mulched with 4" of pine straw.
  7. Lawn areas to be seeded and strawed.
  8. Landscape Contractor to maintain plant materials for a one year period following substantial completion.
  9. Areas damaged from plant relocation or other activities of Landscape Contractor to be reseeded and established at no additional cost to the owner.
  10. VSA trees to be 3" caliper. Streetyard tree to be 3" caliper at installation.
  11. Landscape plan minimum City of Raleigh requirements only.
  12. All plant material can be locally sourced at Pender Nursery, Inc, Garner, NC.

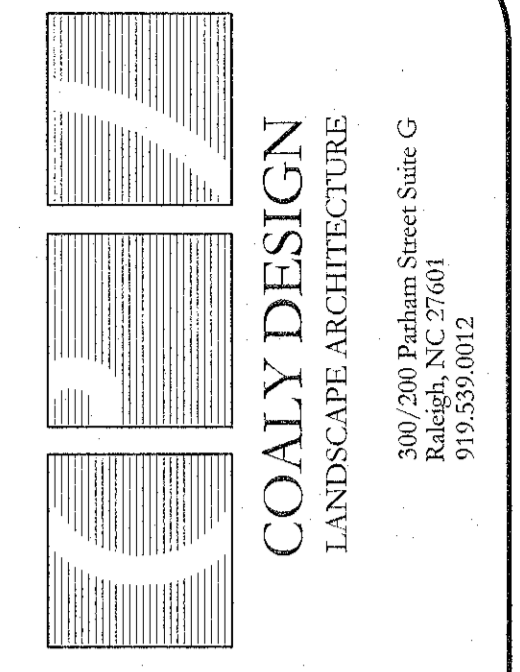
**City of Raleigh Planting Requirements:**

- 1) VEHICLE SURFACE AREA:  
 PROPOSED VSA = 75,735 SF;  
 Required: 1 TREE / 2000 SF; 75,735/2000 = 38  
 Provided: 38 TREES Provided (Zelcova, Oak, Black Gum)  
 Required: Perimeter shrubs - 30 / 100 linear feet  
 Provided: East parking drive - 436 lf or 131 shrubs  
 North parking drive - 333 lf or 100 shrubs  
 Vehicle surface area screened from the public ROW.  
 All parking spaces are located within 50' of a shade tree, or 75' where two trees are located.
- 2) STREET YARD:  
 ROCK QUARRY ROAD: REQUIRED: 3' of Caliper / 40 linear feet within a 6' planting strip between the back of curb and sidewalk - NCDOT requiring trees to be planted outside the ROW. Trees planted 5' offset from the 5' utility easement. A C2 yard has been provided.  
 C2 Shrubs required: 690 total lf along Rock Quarry Road (minus TC area, sidewalks, drive island and transit easement) = 626 lf / 100 x 15 = 94 shrubs required.  
 Provided: 16 trees at 3" caliper; Florida Maple and Black Gum  
 Trees located in Tree Conservation Area to be utilized for credit and are noted.  
 TREES WITHIN SIGHT DISTANCE EASEMENT TO BE LIMBED TO A MIN. HEIGHT OF 8'.
- 3) TRANSITIONAL PROTECTIVE YARD  
 North Property Line: Proposed use: Apartments  
 Adjacent Use: City of Raleigh Park - Barwell Road Park  
 No transitional protective yard required  
 East Property Line: Proposed use: Apartments  
 Adjacent Use: Church - Ebenezer Unity Methodist Church  
 No transitional protective yard required
- 4) SCREENING OF MECHANICAL UNITS AND DUMPSTERS  
 The proposed HVAC units are screened from public view.  
 The proposed Dumpsters are screened according to City Code.

**PLANT SCHEDULE**

QT.	KEY	BOTANICAL / COMMON NAME	SIZE	ROOT
4	AA	Amelanchier arborea / Serviceberry	1.5" Cal. / 6' HT.	CONT / B + B
68	ICS	Ilex crenata 'Stedco' / Japanese Holly	24" HT.	CONT.
97	RU	Rhapidolepis umbellata 'Minor' / Indian Hawthorn	18" HT.	CONT.
15	QL	Quercus lyrata 'Highbeam' / Overcup Oak	3" Cal. / 8' HT.	B + B
17	ZS	Zelcova serrata 'Green Vase' / Japanese Zelkova	2" Cal. / 8' HT.	CONT. / B + B
43	CJ	Cryptomeria japonica 'Elegans Nana' / Japanese Cedar	18" HT.	CONT.
48	ICH	Ilex crenata 'Helleri' / Japanese Holly	18" HT.	CONT.
8	AF	Acer floridanum / Southern Sugar Maple	2" - 3.5" Cal. / 8' HT.	CONT. / B + B
14	NS	Nyssa sylvatica / Black Tupelo	2" Cal. / 8' HT.	CONT. / B + B
138	LC	Loropetalum chinensis 'Rusy' / Fragellflower	24" HT.	CONT.
15	JV	Juniperus virginiana / Eastern Red Cedar	1.5" Cal. / 6' HT.	CONT. / B + B
9	TO	Thuja occidentalis 'Emerald' / Eastern Arborvitae	1.5" Cal. / 6' HT.	CONT. / B + B
46	MC	Myrica cerifera / Southern Wax Myrtle	24" HT.	CONT.
11	LJ	Ligustrum japonicum 'Recurvifolium' / Privet	24" HT.	CONT.
15	AG	Abelia x grandiflora 'Edward Goucher' / Glossy Abelia	24" HT.	CONT.
24	JCG	Juniperus chinensis 'Gold Lace' / Juniper	24" HT.	CONT.
23	CC	Carpinus caroliniana / Ironwood	1.5" Cal. / 6' HT.	CONT. / B + B

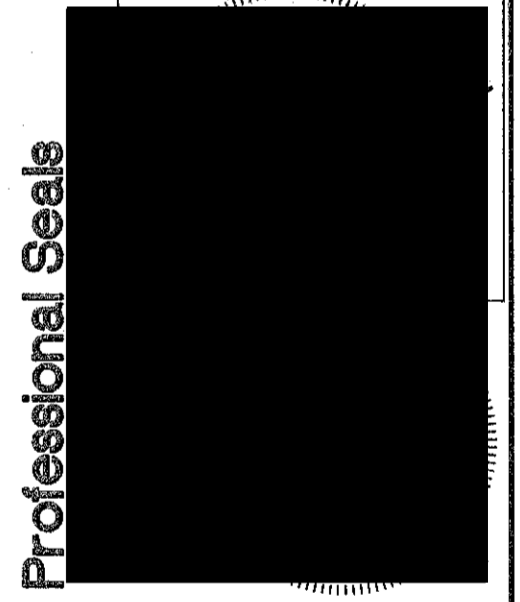
**LANDSCAPE PLAN**



**QUARRY TRACE APARTMENTS**  
 ROCK QUARRY ROAD  
 RALEIGH, NC

**PLANTING PLAN**

**Consultants**



Date issued:	2.24.17
Scale:	1"=40'
Drawn by:	RBS
Checked by:	KJW

Revisions	No.	Description	Date	By
	1	City Comments	4.14.17	KJW
	2	City Comments	5.8.17	KJW

**LA-3**



PLOTTED: 1/27/2017 11:43:41 AM - DRAWING: PNTAFT DEVELOPMENT\2016-012 RALEIGH, NC\31.DWG - PLOTTED BY: KLOWBARDI - COPYRIGHT 2017



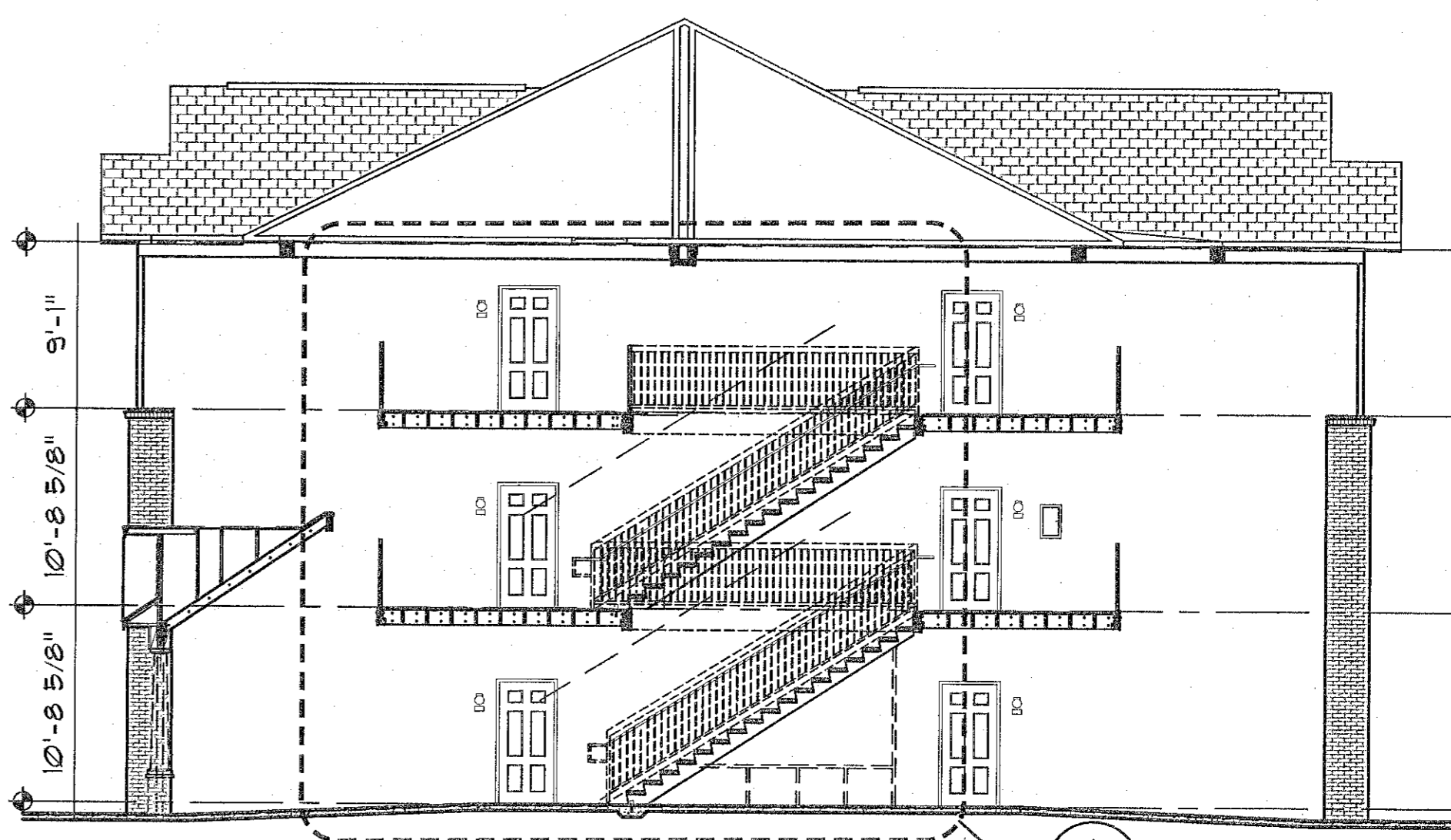
5 BUILDINGS 100/300 REAR ELEVATION  
1/8" = 1'-0"



4 BUILDINGS 100/300 LEFT ELEVATION  
1/8" = 1'-0"



3 BUILDINGS 100/300 RIGHT ELEVATION  
1/8" = 1'-0"



2 BUILDINGS 100/300 BREEZEWAY SECTION  
1/8" = 1'-0" (BUILDINGS 200, 400 SIMILAR)



1 BUILDINGS 100/300 FRONT ELEVATION (FACING PARKING)  
1/8" = 1'-0"

- 30 YR ARCHITECTURAL ANTI-FUNGAL SHINGLES
- SPECTIS BL3011 DECORATIVE BRACKET
- HORIZONTAL FIBER CEMENT SIDING
- 4" FIBER CEMENT TRIM
- VINYL WINDOW TYP.
- BRICK VENEER
- SOLDIER COURSE HEADER
- BRICK ROWLOCK SILL

36" VINYL RAILING AT UNIT PORCHES TYP.  
SCALE: 1/8" = 1'-0"

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PROJECT: 2016-012
DATE: 10/31/16
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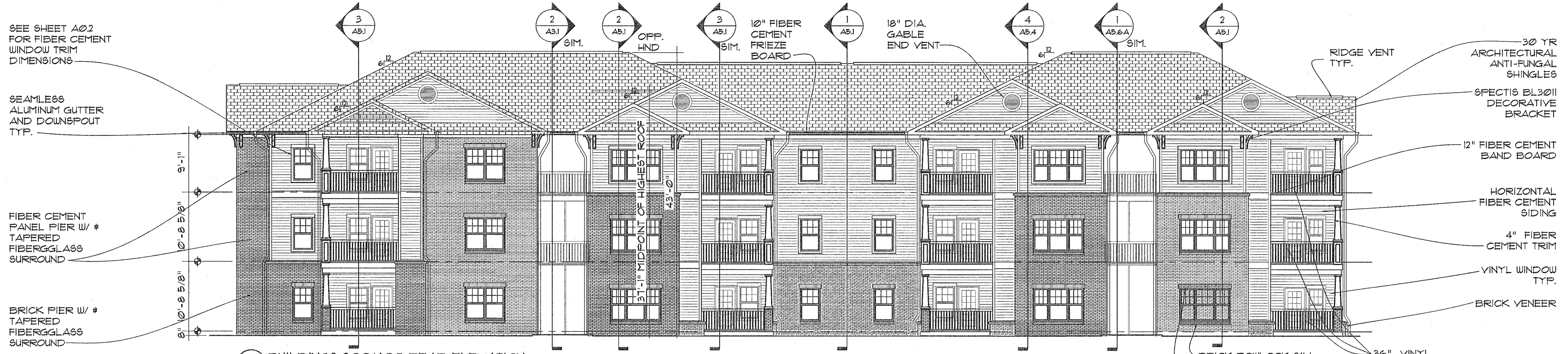
MARTIN RILEY ASSOCIATES - ARCHITECTS, P.C.  
 215 CHURCH STREET SUITE 200 DECATUR GEORGIA 30030-3329 404-373-2800  
 QUARRY TRACE APARTMENTS  
 RALEIGH, NORTH CAROLINA  
 ELEVATIONS - BUILDINGS 100/300

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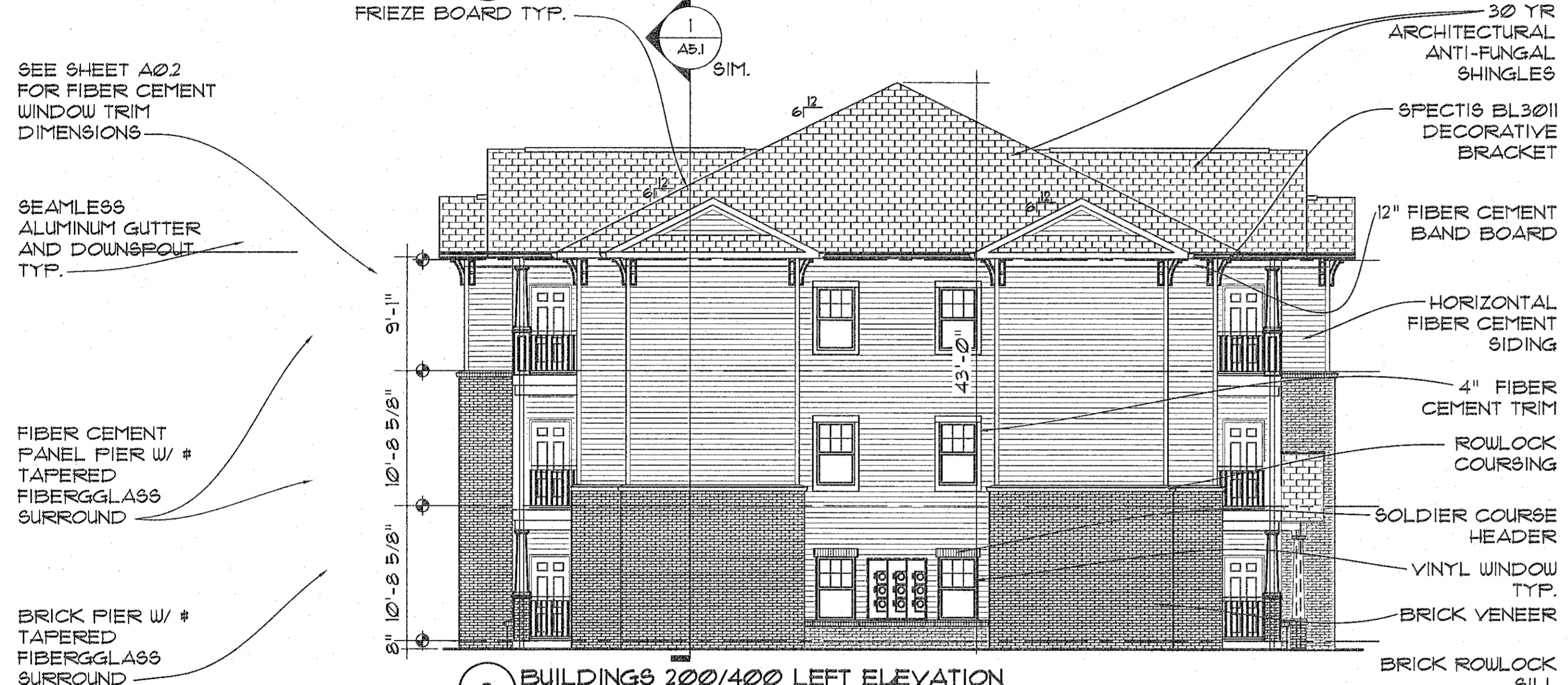
A3.1



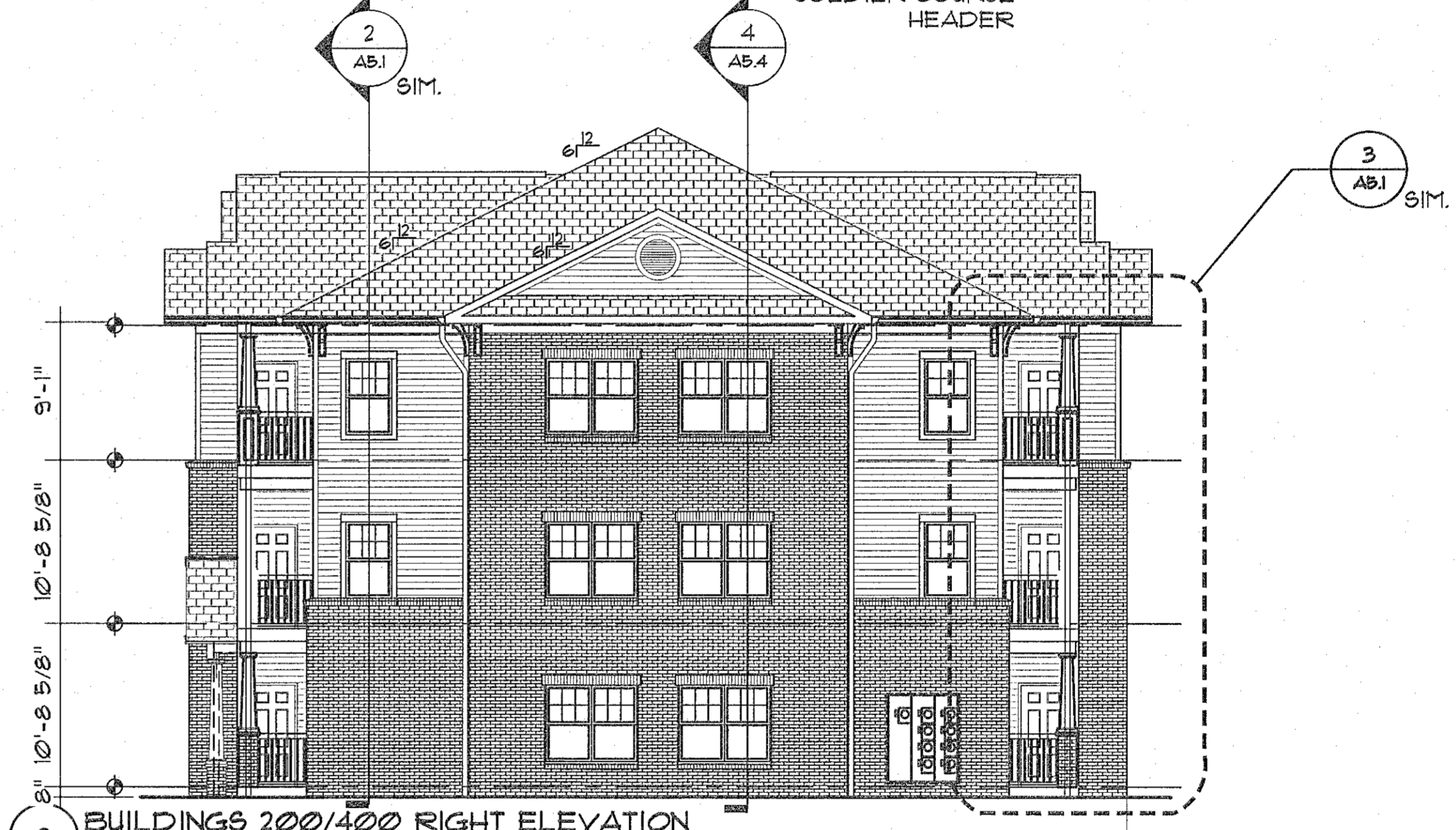
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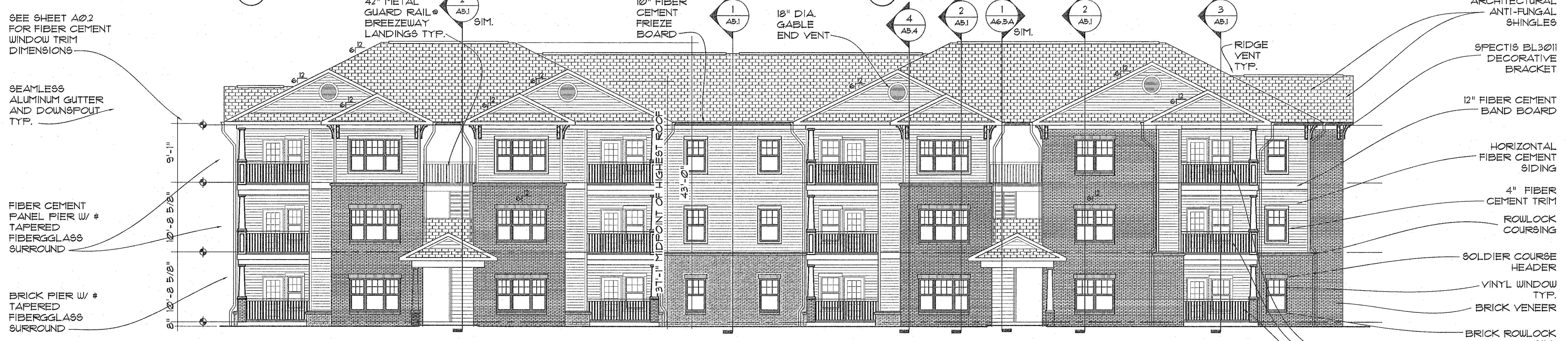
4 BUILDINGS 200/400 REAR ELEVATION  
1/8" = 1'-0"



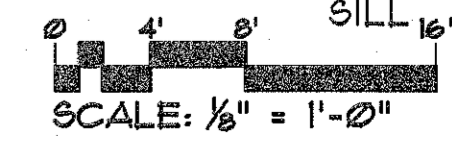
3 BUILDINGS 200/400 LEFT ELEVATION  
1/8" = 1'-0"



2 BUILDINGS 200/400 RIGHT ELEVATION  
1/8" = 1'-0"



1 BUILDINGS 200/400 FRONT ELEVATION (FACING PARKING)  
1/8" = 1'-0"



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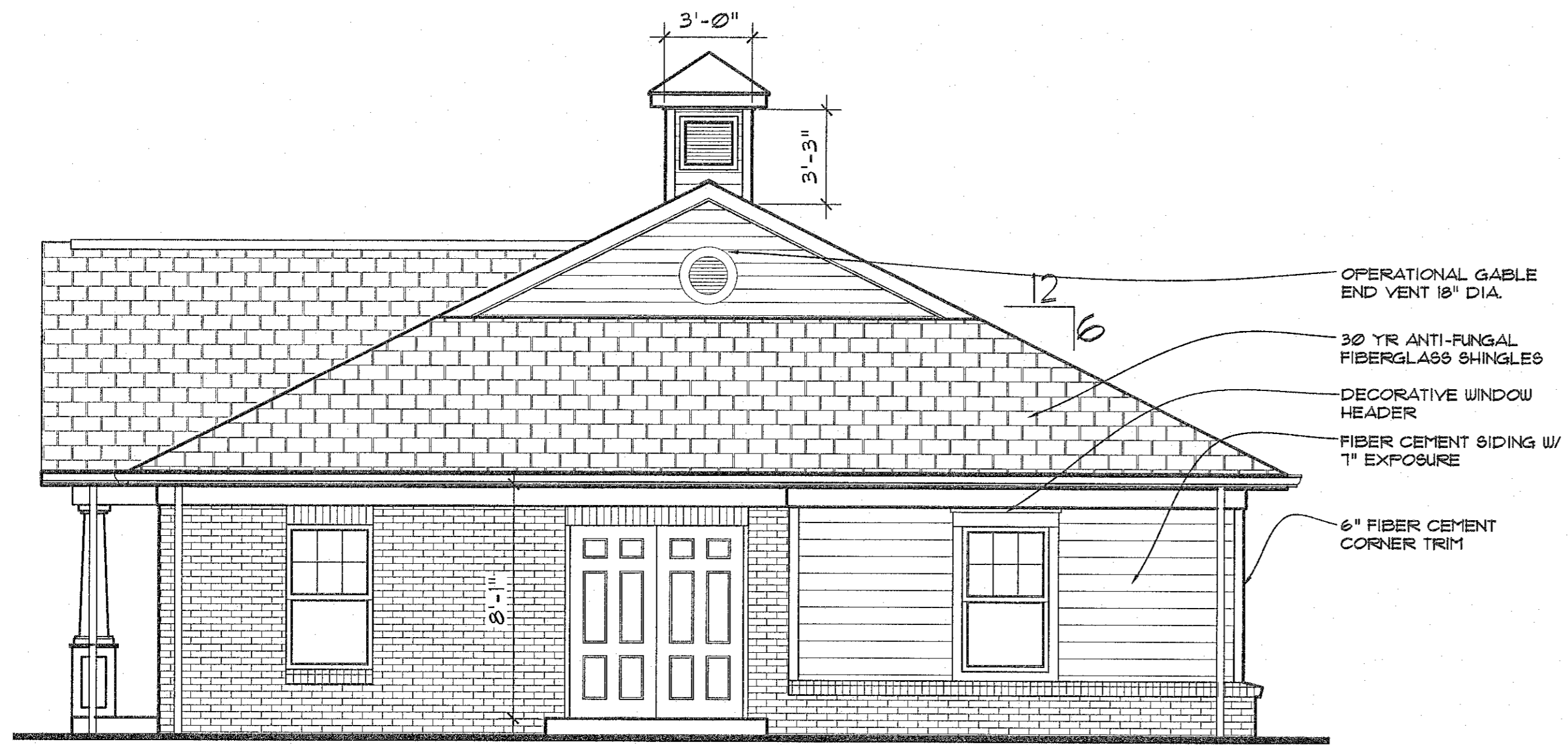
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A3.2

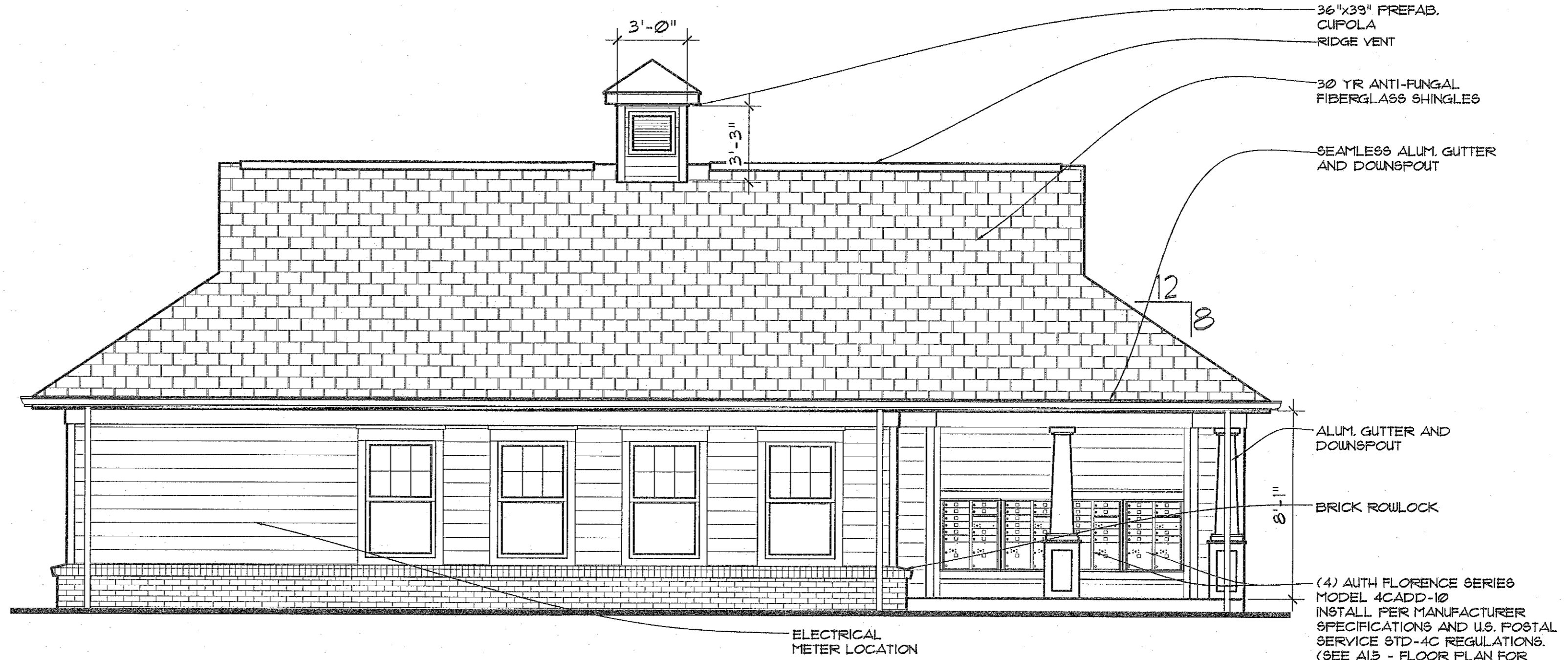
ELEVATIONS - BUILDINGS 200/400



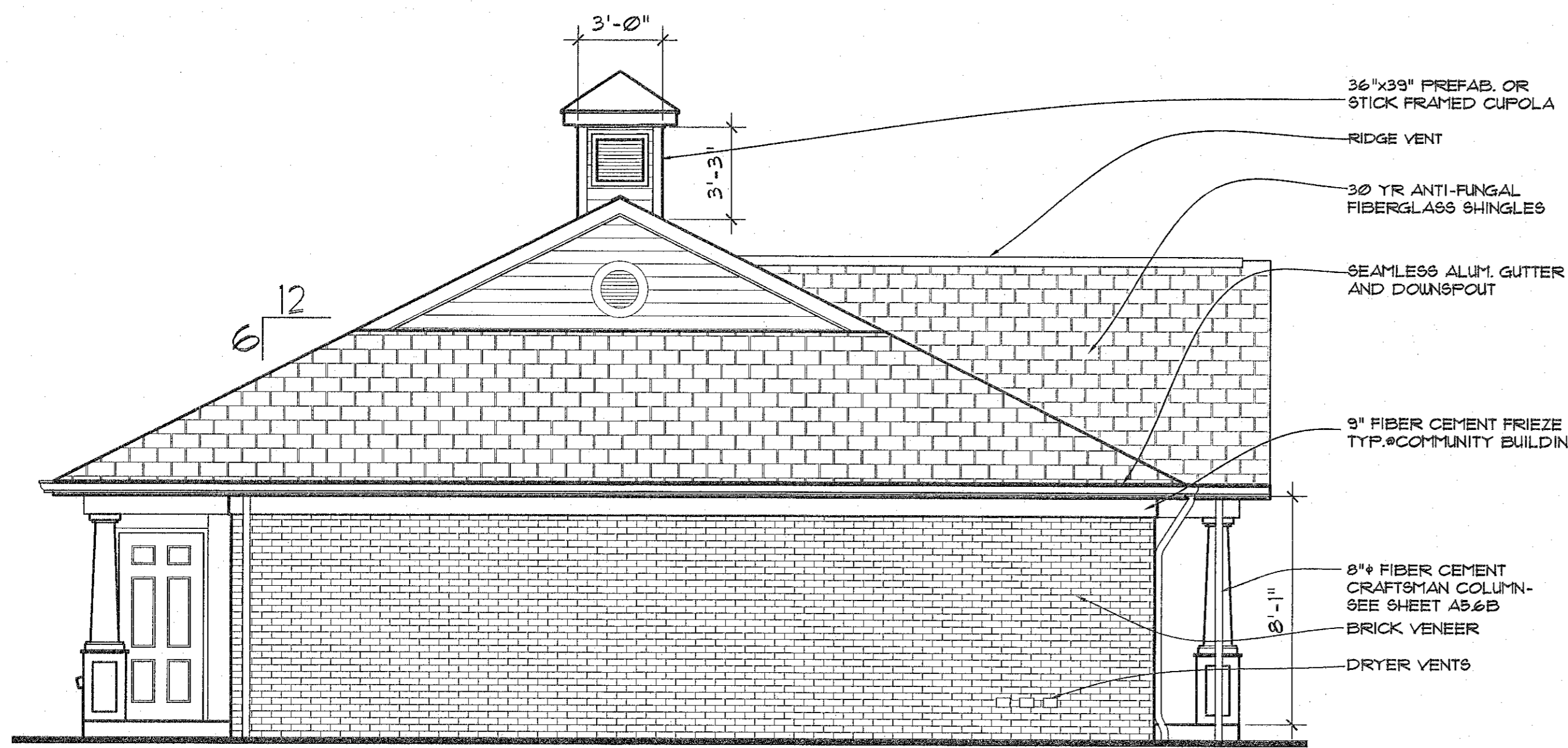
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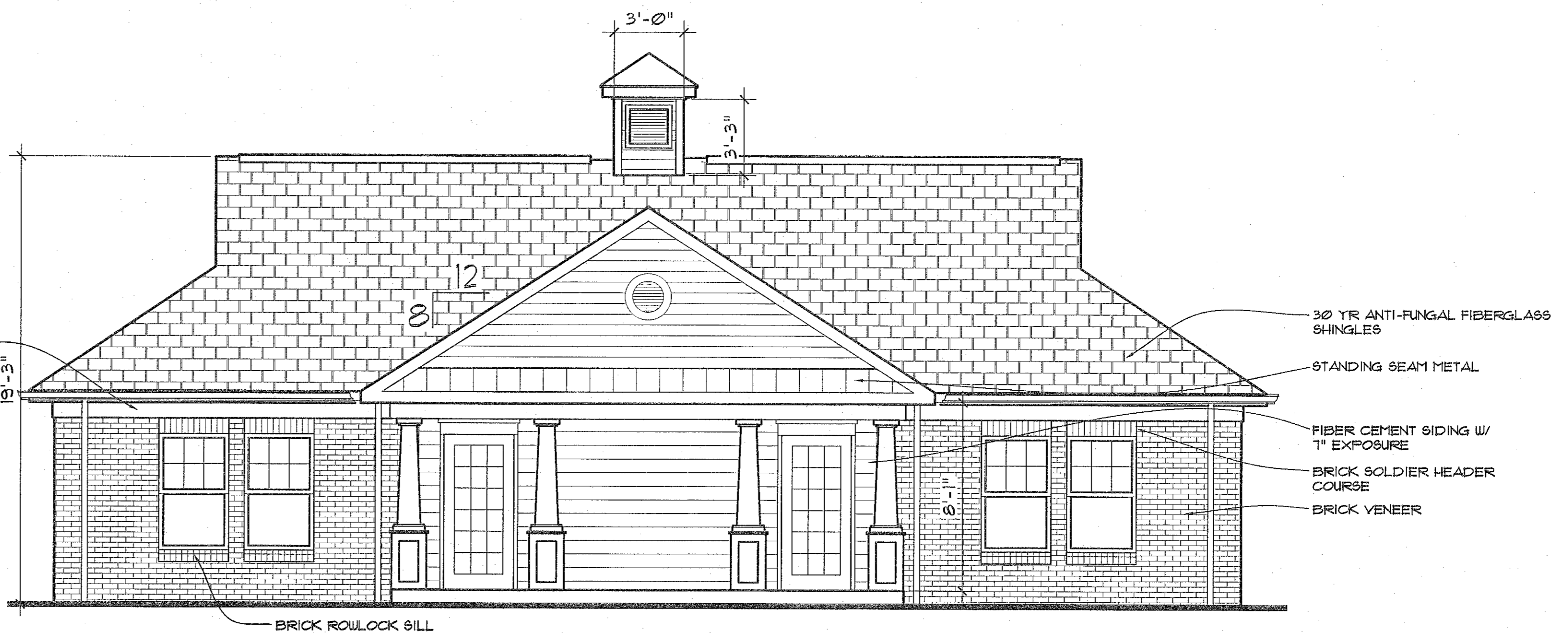
4 COMMUNITY BLDG. RIGHT ELEVATION  
1/4" = 1'-0"



2 COMMUNITY BLDG. REAR ELEVATION  
1/4" = 1'-0"



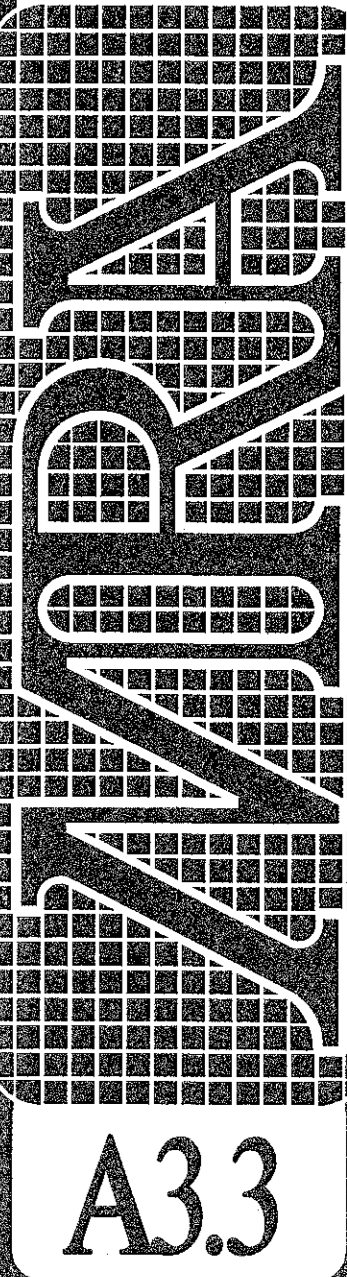
3 COMMUNITY BLDG. LEFT ELEVATION  
1/4" = 1'-0"



1 COMMUNITY BLDG. FRONT ELEVATION  
1/4" = 1'-0"

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ELEVATIONS - COMMUNITY BUILDING

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