APPLICANT: LINDA AND RONALD ROGERS

Nature of Project:
- Remove and replace 10 trees;
- install 46" wood fence and masonry retaining wall in front yard;
- install 8' fence in back yard
APPLICATION FOR A CERTIFICATE OF APPROPRIATENESS – STAFF REPORT

145-18-CA 314 N BOUNDARY STREET
Applicant: LINDA AND RONALD ROGERS
Received: 9/10/18
Submission date + 90 days: 12/09/18 1) 10/25/2018 2) 2/28/2019
Meeting Date(s): 1) 10/25/2018 2) 2/28/2019

INTRODUCTION TO THE APPLICATION

Historic District: OAKWOOD HISTORIC DISTRICT
Zoning: HOD-G
Nature of Project: Install masonry retaining wall; install 8’ and 6’ fence in rear yard
Amendments: The applicant has removed the request for a front yard fence and grading, has altered the retaining wall location, lowered the height of the retaining wall, and altered the proposed rear yard fence configuration.

Staff Notes:
• The components of this application containing a tree protection plan and tree removal were approved at the October 25, 2018 COA hearing. A front yard fence and retaining wall with front yard grading and rear yard fence were deferred to allow the applicant time to prepare additional information.
• COA cases mentioned are available for review.
• Changes to the staff report appear in bold lettering below.

APPLICABLE SECTIONS OF GUIDELINES and DESCRIPTION OF PROJECT

<table>
<thead>
<tr>
<th>Sections</th>
<th>Topic</th>
<th>Description of Work</th>
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<tbody>
<tr>
<td>1.3</td>
<td>Site Features and Plantings</td>
<td>Install masonry retaining wall in front yard</td>
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<tr>
<td>1.4</td>
<td>Fences and Walls</td>
<td>Install masonry retaining wall in front yard; install 8’ and 6’ fence in rear yard</td>
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STAFF REPORT

Based on the information contained in the amended application and staff’s evaluation:

A. The installation of a masonry retaining wall in the front yard and installation of a fence in rear yard are not incongruous in concept according to Guidelines 1.3.1, 1.3.2, 1.3.3, 1.3.7, 1.3.9, 1.3.13, 1.4.8, 1.4.11; however, an 8’ tall fence may be incongruous according to Guidelines 1.4.8 and the following suggested facts:

1* The Design Guidelines for Raleigh Historic Districts states on page 14 that “Fences and walls were common site features in Raleigh’s early neighborhoods...” and “Utilitarian fences and walls served to secure boundaries...and to provide visual privacy. They were generally
used in rear yard locations and were not usually visible from the street. Traditionally, utilitarian fences were constructed of vertical wooden slats or pickets…”

2* The applicant proposes the construction of an 18” tall masonry retaining wall along the west edge of the driveway. The wall is proposed to match the existing low stone wall located on the east side of the driveway. Drawings of the proposed wall either in elevation or section were not provided.

3* The masonry wall will replace currently existing railroad ties.

4* The application also proposes the installation of an 8’ tall wood privacy fence along the west and south property lines in the rear yard.

5* The fence height will be reduced to 6’ where it abuts the house and for approximately 15’ from its starting points on the east and west property lines to reduce the height visible from the street.

6* The proposed tall privacy fence locations abut properties that are not included in the Oakwood Historic District. One property is a commercial gas station, the other is a vacant lot.

7* The Committee has previously approved a taller fence on property lines that abut commercial properties for the ZM Caveness House (019-17-CA).

8* Photographs of the proposed fence design were included.

9* Wood is a traditional fencing material.

Staff suggests that the Committee discuss the proposed 8’ height of the fence. Pending the results of that discussion, staff suggests the Committee approve the application with the following conditions:

1. That the previously approved tree protection plan be implemented and remain in place for the duration of construction.

2. That fence footings be dug by hand and located to avoid damage to tree roots, should any be encountered during construction of the fence. Roots larger than 1” caliper will be cut cleanly using proper tools such as loppers.

3. That details and specifications for the following be provided to and approved by staff prior to issuance of the blue placard:
   a. Masonry wall.
Proposal

Sierra Structures will provide labor and materials to install a wood fence with the following specifications. Construction will consist of wood posts set in concrete footings. Footing depth will be approximately 1/3 of fence height. Pickets will be attached to 2"x4" horizontal supports which will be attached to the posts. If included, balustrade or lattice will be framed top and bottom with 2"x4"s and held in place with wood trim. Fence sections will be approximately eight feet in length and each section will be capped with a 2"x4". If included, gates will be installed using heavy-duty, black enamel hinges and latches. All gates will be reinforced with a black, vinyl-coated, tubular metal frame. All lumber used will be #2-grade (or better), pressure-treated pine (MCQ) and all fasteners and hardware will be galvanized.

- Total Fence Length: 51 linear feet
- Picket Spacing: Privacy 0" Haters, Mitreless
- Post Size: 4x4
- Post/Top/Cap: Yes
- Exposed Posts?: Yes
- Number of 42" Wide Walk Gates Included: 1
- Number of 10' Wide Double Gates Included: 1
- Includes clearing a path for the fence?: NO
- Includes demo/removal of existing fence?: NO
- Maximum Fence Height: 6 feet
- Fence Top Design: Board & Balustrade
- Picket Size: 3/4 x 6
- Baluster Spacing: 3.5
- Lattice Type: N/A
- Total Investment: $ NA
- Monthly Payment: NA

Payment Terms:

Direct/cash payment option – 50% deposit with signed contract, balance due on completion. Your personal check is always welcome. We also accept Visa, MasterCard, American Express and Discover.

Warranty Information:

All materials will be warranted by the manufacturer. Sierra Structures guarantees construction to be free of defects in workmanship for a period of one year from the date of completion.

License & Insurance:

Sierra Structures, Inc. is a licensed North Carolina General Contractor. Sierra Structures carries full general liability and worker's compensation insurance. Proof of both available upon request.

Expiration: This proposal will expire thirty (30) days from the date above.

Your Sales Rep is: Angela Perry

Acceptance of Proposal:

Homeowner Date For Sierra Structures Date

This proposal becomes a contract when signed by both parties. We will arrange for location of buried utilities, but are not responsible for damage caused by digging. Unless specified quotations do not include grading, clearing or extra labor caused by hard digging or buried objects. GENERAL CONTRACTOR or OWNER ASSUMES ALL RESPONSIBILITY FOR THE LOCATION OF THE CONSTRUCTION. I HAVE READ THE FENCE FACTS ON PAGE 2 AND UNDERSTAND THE INFORMATION WITHIN.
TO: Ronald Rogers  
314 North Boundary Street  
Raleigh, NC 27604  

12/21/2018

Proposal

Sierra Structures will provide labor and materials to install a wood fence with the following specifications. Construction will consist of wood posts set in concrete footings. Footing depth will be approximately 1/3 of fence height. Pickets will be attached to 2"x4" horizontal supports which will be attached to the posts. If included, balustrade or lattice will be framed top and bottom with 2"x4"s and held in place with wood trim. Fence sections will be approximately eight feet in length and each section will be capped with a 2"x4". If included, gates will be installed using heavy-duty, black enamel hinges and latches. All gates will be reinforced with a black, vinyl-coated, tubular metal frame. All lumber used will be #2-grade (or better), pressure-treated pine (MCQ) and all fasteners and hardware will be galvanized.

Total Fence Length: 132 linear feet  
Picket Spacing: Privacy          0 "  
Post Size: 6x6  
Post Top/Cap: Hatters, Mitreless  
Exposed Posts?: Yes  

Number of 42" Wide Walk Gates Included:  
Number of 90" Wide Double Gates Included:  
Includes clearing a path for the fence?: NO 
Includes demo/removal of existing fence?: NO  

Maximum Fence Height: 8 feet  
Fence Top Design: Board & Balustrade  
Picket Size: 3/4 x 6  
Baluster Spacing: 3.5  
Lattice Type: N/A  

0 - For strength & longevity, gates will be arched top  
0 - For strength & longevity, gates will be arched top  

Total Investment: $  
Monthly Payment: NA  

Payment Terms:  
Direct/cash payment option – 50% deposit with signed contract, balance due on completion. Your personal check is always welcome. We also accept Visa, MasterCard, American Express and Discover.

Warranty Information:  
All materials will be warranted by the manufacturer. Sierra Structures guarantees construction to be free of defects in workmanship for a period of one year from the date of completion.

License & Insurance:  
Sierra Structures, Inc. is a licensed North Carolina General Contractor. Sierra Structures carries full general liability and worker's compensation insurance. Proof of both available upon request.

Expiration: This proposal will expire thirty (30) days from the date above.

Your Sales Rep is: Angela Perry

Acceptance of Proposal:

Homeowner Date  

For Sierra Structures Date  

This proposal becomes a contract when signed by both parties. We will arrange for location of buried utilities, but are not responsible for damage caused by digging. Unless specified, quotations do not include grading, clearing or extra labor caused by hard digging or buried objects. GENERAL CONTRACTOR or OWNER ASSUMES ALL RESPONSIBILITY FOR THE LOCATION OF THE CONSTRUCTION. I HAVE READ THE FENCE FACTS ON PAGE 2 AND UNDERSTAND THE INFORMATION WITHIN
Raleigh Historic Development Commission – Certificate of Appropriateness (COA) Application

Development Services Customer Service Center
One Exchange Plaza
1 Exchange Plaza, Suite 400
Raleigh, North Carolina 27601
Phone 919-996-2495
eFax 919-996-1831

☐ Minor Work (staff review) – 1 copy
☑ Major Work (COA Committee review) – 10 copies
☐ Additions Greater than 25% of Building Square Footage
☐ New Buildings
☐ Demo of Contributing Historic Resource
☑ All Other

☐ Post Approval Re-review of Conditions of Approval

For Office Use Only

Transaction # 569186
File # 145-18-CA
Fee $520
Amount Paid $520
Received Date 11/10/18
Received By Panuwat Boot

Property Street Address 314 North Boundary Street

Historic District Oakwood

Historic Property/Landmark name (if applicable) Paul Robertson House

Owner’s Name Ronald and Linda Rogers

Lot size 7,280 sq. feet 52 140

For applications that require review by the COA Committee (Major Work), provide addressed, stamped envelopes to owners of all properties within 100 feet (i.e. both sides, in front (across the street), and behind the property) not including the width of public streets or alleys (Label Creator).

<table>
<thead>
<tr>
<th>Property Address</th>
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<tbody>
<tr>
<td>606 North Person Street</td>
<td>318 North Boundary Street</td>
</tr>
<tr>
<td>600 North Person Street</td>
<td>525 North Bloodworth Street</td>
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<tr>
<td>540 North Person Street</td>
<td>530 North Person Street</td>
</tr>
<tr>
<td>307 North Boundary Street</td>
<td>538 North Person Street</td>
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<tr>
<td>311 North Boundary Street</td>
<td>315 Pell Street</td>
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<tr>
<td>315 North Boundary Street</td>
<td>317 Pell Street</td>
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<tr>
<td>601 North Bloodworth Street</td>
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<tr>
<td>316 North Boundary Street</td>
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I understand that all applications that require review by the commission’s Certificate of Appropriateness Committee must be submitted by 4:00 p.m. on the application deadline; otherwise, consideration will be delayed until the following committee meeting. An incomplete application will not be accepted.

Type or print the following:

Applicant: Linda and Ronald Rogers

Mailing Address: 314 North Boundary Street

City: Raleigh    State: North Carolina    Zip Code: 27604

Date: September 10, 2018    Daytime Phone: 919-981-4053

Email Address: rrogers@williamsmullen.com

Did you consult with staff prior to filing the application? ☐ Yes ☐ No

Will you be applying for rehabilitation tax credits for this project? ☐ Yes ☐ No

Office Use Only

Type of Work: 77.75.34

Design Guidelines - Please cite the applicable sections of the design guidelines (www.rhdc.org).

<table>
<thead>
<tr>
<th>Section/Page</th>
<th>Topic</th>
<th>Brief Description of Work (attach additional sheets as needed)</th>
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<tbody>
<tr>
<td>1.3.3/p. 23</td>
<td>Pruning and vegetative management</td>
<td>1. Remove and replace 4 trees</td>
</tr>
<tr>
<td>1.3.4/p. 23</td>
<td>Replace deteriorated historic site features</td>
<td>2. Install new 42-inch tall wood picket fence in front yard</td>
</tr>
<tr>
<td>1.3.5/p. 23</td>
<td>Replace seriously damaged tree</td>
<td>3. Install low masonry wall in front yard directly in front</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of wood picket fence along frontage and existing driveway</td>
</tr>
<tr>
<td>1.3.7/p. 23</td>
<td>Protect large tree</td>
<td>4. Install 8-foot privacy fence in back yard.</td>
</tr>
<tr>
<td>1.3.9/p. 23</td>
<td>Introduce compatible New Site Features</td>
<td></td>
</tr>
<tr>
<td>1.4.8/p. 25</td>
<td>Fences and Walls</td>
<td></td>
</tr>
</tbody>
</table>

SEE ATTACHED DETAILED DESCRIPTION OF WORK
Minor Work Approval (office use only)

Upon being signed and dated below by the Planning Director or designee, this application becomes the Minor Work Certificate of Appropriateness. It is valid until _______________________. Please post the enclosed placard form of the certificate as indicated at the bottom of the card. Issuance of a Minor Work Certificate shall not relieve the applicant, contractor, tenant, or property owner from obtaining any other permit required by City Code or any law. Minor Works are subject to an appeals period of 30 days from the date of approval.

Signature (City of Raleigh) ______________________ Date ______________________

<table>
<thead>
<tr>
<th>TO BE COMPLETED BY APPLICANT</th>
<th>TO BE COMPLETED BY CITY STAFF</th>
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<tbody>
<tr>
<td></td>
<td>YES</td>
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</table>

Attach 8-1/2" x 11" or 11" x 17" sheets with written descriptions and drawings, photographs, and other graphic information necessary to completely describe the project. Use the checklist below to be sure your application is complete.

**Minor Work (staff review) – 1 copy**

**Major Work (COA Committee review) – 10 copies**

1. **Written description.** Describe clearly and in detail the nature of your project. Include exact dimensions for materials to be used (e.g. width of siding, window trim, etc.)

2. **Description of materials (Provide samples, if appropriate)**

3. **Photographs of existing conditions are required. Minimum image size 4" x 6" as printed. Maximum 2 images per page.**

4. **Paint Schedule (if applicable)**

5. **Plot plan (if applicable).** A plot plan showing relationship of buildings, additions, sidewalks, drives, trees, property lines, etc., must be provided if your project includes any addition, demolition, fences/walls, or other landscape work. Show accurate measurements. You may also use a copy of the survey you received when you bought your property. Revise the copy as needed to show existing conditions and your proposed work.

6. **Drawings showing existing and proposed work**
   - Plan drawings
   - Elevation drawings showing the façade(s)
   - Dimensions shown on drawings and/or graphic scale (required)
   - 11" x 17" or 8-1/2" x 11" reductions of full-size drawings. If reduced size is so small as to be illegible, make 11" x 17" or 8-1/2" x 11" snap shots of individual drawings from the big sheet.

7. **Stamped envelopes addressed to all property owners within 100 feet of property not counting the width of public streets and alleys (required for Major Work). Use the Label Creator to determine the addresses.**

8. **Fee (See Development Fee Schedule)**
Detailed Description of Proposed Work

I. Background

We live next to the 24-hour BP gas station on Person Street. Our stone house, built in 1929, predates the gas station (see Photograph A). The gas station property is not located in the historic district. Several years ago, the gas station owner installed a white vinyl fence that is set back approximately 15 feet from our common boundary line. A steep slope on "our side" of the fence is actually part of the gas station property. The gas station's owner previously gave us permission to remove several trees on his property. These "volunteer" trees are located on the slope or at its base. The gas station owner has also previously consented to us planting new trees and shrubs on his slope.

II. Tree Removal/Replacement

We have obtained a tree service company's estimate to remove selected trees on the gas station property, as well as some trees on our property. A COA is requested to remove four of the larger trees on our property (these four trees, collectively, the "Regulated Trees"). With one exception, these are "volunteer" trees that grew along metal fence lines. We will in each instance plant a replacement tree.

Historic resources are being damaged by the Regulated Trees. First, the roots of two Regulated Trees are compromising the foundation of the historic house located at 316 North Boundary Street. Another Regulated Tree is damaging the canopy and critical root zone of a landmark Willow Oak located on the gas station boundary line.¹ The girth of this majestic Willow Oak exceeds 41 inches. Given the age of the Willow Oak, it is essential that competition from younger hardwoods be minimized.

The fourth Regulated Tree is an unhealthy Crepe Myrtle in our front yard. We want to plant a Black Gum Tree in its place. The Black Gum will restore the front yard closer to its original appearance, as shown on Photograph B.

The four Regulated Trees are numbered on the attached "Plot Plan 1." Additional information for each tree is as follows:

(1) Red Maple ("Red Maple A")-This tree is 28 feet from the Willow Oak, well within its critical root zone. Girth is 14 inches.

(2) Red Maple ("Red Maple B")-This tree is located between our house and the neighbor's house at 316 North Boundary Street. The tree's trunk is less than four feet from our neighbor's house foundation. The Red Maple has

¹ The City Tree Manual defines the critical root zone as the undisturbed area around a tree with a radius equal to 1.25 feet per inch of DBH. "The main structural and functional portion of the root system." (Copy of relevant page of manual attached.) Applying this definition, the critical root zone of the Willow Oak is 51 feet. Also, see reference to critical root zone in Guideline 1.3.7.
grew into a metal fence. If this tree were to fall during a storm, it would likely damage either the neighbor’s house or our house. Girth is 18 inches.

- **Red Maple** ("Red Maple C")-This tree is near Red Maple B and has absorbed part of the same wire fence. Its tree trunk is approximately five feet from our neighbor’s house foundation. If this tree were to fall during a storm, it would likely damage one of our houses as well. Girth is 18.5 inches.

- **Crepe Myrtle**-This multi-stemmed tree, planted in the early 1990s, is in decline. Some stems have died; leaves on others exhibit stress. Girth of largest stem is 2.9 inches.

As part of the tree removal, we request authorization to plant the following replacement trees: (i) a Black Gum tree in our front yard, near the current location of the Crepe Myrtle (i.e., Regulated Tree #4 above), and (ii) three Dogwood trees to replace Regulated Trees #1-3 above. The Dogwoods will be planted in our backyard, near our property lines. We selected Dogwoods because they tolerate shade, are somewhat smaller at maturity, and will, from a root-system perspective, be less invasive than the Regulated Trees. Dogwoods are a traditional planting in Oakwood and their striking appearance in Spring will benefit the neighborhood. See attached “Plot Plan 1” for new tree locations.

In addition, we request permission to plant a hedge of boxwood shrubs in front of our open porch, not to exceed 42 inches in height at maturity. These are essentially foundation plantings.

**III. Install New 42-inch Tall Wood Picket Fence in Front Yard**

The proposed location of our new front yard fence is shown on the attached “Plot Plan C.” The fence setback is essentially the same as the setbacks of the existing white picket fences at 316 North Boundary Street and 318 North Boundary Street. Likewise, the fence color (white/alabaster), material (wood), and overall fence appearance are similar to these neighbors’ existing fences. The height of the fence will, due to topography, vary somewhat but won’t exceed 42 inches in height.

**IV. Install Low Masonry Wall in Front Yard less than 42 Inches in Height**

1. **Adjacent to Current Driveway**

   Non-historic railroad ties currently separate our gravel driveway from the front yard lawn. We will remove the ties and install a masonry wall, approximately 30-inches in height, in their place.

2. **Parallel to Boundary Street**

   The front yard slopes from west-to-east. Fill dirt will reduce the slope and enhance the appearance of our new fence. The height of the masonry wall will not exceed 30 inches. Please note the fill dirt will restore the front lawn...
closer to its original appearance (see left side of Photograph A showing original front yard was leveled with fill to reduce the natural slope).

See Plot Plan C for proposed location of masonry fence.

V. Install 8-Foot Privacy Fence in Backyard

Most of the proposed wood privacy fence will be adjacent to the gas station property and an undeveloped lot fronting on Person Street. Both neighbors are located outside the historic district. The privacy fence will improve the appearance of our backyard by blocking the view of the gas station's concrete retaining wall and the existing slope.

Safety considerations also prompt our fence request. Currently, pedestrians can (and do) access our backyard by walking across the undeveloped lot that fronts on Person Street.

Please note that our backyard residential neighbor in Oakwood (315 Pell Street) currently has a wood privacy fence.

See Plot Plan C for proposed location of the privacy fence.
PLOT PLAN 1
314 North Boundary St.

North Boundary Street

52 feet

Gas Station

Existing Willow Oak
(41" DBH)
(to remain)

Regulated Tree #1

Regulated Tree #2

Regulated Tree #3

Replacement Dogwood

Replacement Dogwood

Replacement Dogwood

Tree Removal and Replacement Trees
Photo 1

Removal Tree #2 showing metal fence damage and proximity to 316 North Bond St. street house.
Removal Trees #2 and #3, showing proximity to our historic house and the neighbor's historic house.
Removal Trees #2 and #3, showing proximity to house at 316 N. A. Boundary St.
Removal Tree #1 (with inset) shows proximity to our house and damage to trunk.
Removal Tree #4 - Shows dead stems and stress.
Photo 6

Existing Willow Oak Tree
(to remain)
Photo 7

Front Yard showing Railroad Ties (to be removed for new wall and Picket Fence)
Photo 8
Front Yard Railroad Ties Near House Porch (to be removed for new Wall and Picket Fence)
Photo 9

Backyard Showing Existing Retaining Wall and Fence
(Privacy Fence to be Installed Here)
Linda and Ron,

Thank you for submitting a Major Work Certificate of Appropriateness (COA) application. Your application has been placed on the October 25 agenda of the COA Committee of the Raleigh Historic Development Commission. The meeting will be held at 4:00 p.m. in the City Council chamber.

Based on what was submitted, the agenda will describe the request as follows. Please let staff know if this is inaccurate.
Remove and replace 10 trees; install 46" wood fence and masonry retaining wall in front yard; install 8' fence in back yard

In preparation for completing the report, staff has made an initial review of your application regarding clarity and completeness and has the following questions, comments, and suggestions:

1. In discussing your application and the location of your property, we wondered if all of the trees you have proposed for removal are regulated. The historic district stops at your property line that abuts the gas station. If any of the trees on that side are over your property line and on the gas station property, they do not need to be included. Please review the survey of your property and let us know if all of the trees proposed for removal are within the historic district.

2. We also wanted to ensure that all of the trees proposed for removal are regulated due to their size. The Committee reviews the removal of trees with a combined stem measurement of 8 inches and greater DBH (diameter at breast height, measured 4-1/2 feet above ground level.) Some of your descriptions and photos made us think that you may have measured circumference. Let us know if the measurements are correct. You may remove any trees that are smaller than 8” in diameter from the application (likely the Leland Cypress at the least). Multi-stemmed trees are measured by adding the sum of all the stems, all of which are likely greater than 8”.

3. Please send me digital copies of the photographs submitted in your application and add a photograph of the front of your house showing the full width of your property.

4. Please provide a site plan of the front yard, showing the side walk, curb, street, and proposed fence and wall.

5. Please submit a drawing or photograph of the proposed fence design and a section drawing of the proposed retaining wall. Will the retaining wall be back filled or set into the topography of the site? Please also provide a sample of the proposed materials for the wall.

6. Please include a topographic drawing of the site. This can be obtained from iMaps.

Staff has also made an initial review for adherence to the Design Guidelines and offers the following guidance and examples of the type of evidence included in successful applications.

1. Per Guideline 1.4.11, the Committee can approve front yard fences that are 42” in height (unless historic evidence exists that a taller fence is appropriate).

2. We recalled in a previous meeting that you had discussed breaking up the fence around the Willow Oak, is this still the case?

3. Guideline 1.3.13 states “It is not appropriate to alter the topography of a site substantially through grading, filling, or excavating, nor is it appropriate to relocate drainage features, unless there is a specific problem.” Please consider this Guideline as you provide evidence for the retaining wall.
9. CRITICAL ROOT ZONE (CRZ): A protected circular area to remain undisturbed around a tree with a radius equal to 1.25 feet per inch of tree DBH measured at 4.5 feet above grade with the tree trunk at the center of the circle. The main structural and functional portion of the root system.

10. DESTROY: Any intentional or negligent act or lack of protection that will cause a tree to die or become structurally unstable as determined by Urban Forestry staff. Such acts include, but are not limited to: Cut or fill grade changes that affect the Critical Root Zone; severing or exposing roots in the Critical Root Zone; trenching across or otherwise severing the Critical Root Zone; cutting, girdling, or inflicting other mechanical injury to the trunk, roots or other sections of the tree; cambial injury which will result in potential stem failure; removal of the live crown of the tree; damage inflicted upon the root system of a tree by application of toxic substances, including solvents, oils, gasoline and diesel fuel; damage caused by the operation of heavy machinery; damage caused by the storage of materials; and damages from injury or from fire inflicted on trees which result in death or pest infestation.

11. DIAMETER AT BREAST HEIGHT (DBH): The diameter of the tree trunk measured at 4.5 feet above the soil. Commonly referred to diameter at breast height or DBH. DBH is accurately measured with a diameter tape.

12. EXCESSIVE PRUNING: The pruning, cutting, or otherwise damaging the natural form of a tree when it meets one (1) or more of the following:
   a. Removes more than twenty-five (25) per cent of the crown system of a tree.
   b. Removes, cuts, or covers more than twenty-five (25) per cent of the root system of a tree.
   c. Fails to conform to the pruning methods set forth in the current edition of ANSI A-300 standards for Tree Care Operations or City Tree Manual.

13. FEE IN LIEU OF STREET TREE DEVELOPMENT: The street tree fee in lieu and payment process is listed in the City of Raleigh Development Fee Schedule.

14. FEE IN LIEU OF TREE REPLACEMENT: $100 per inch of DBH. Fee in lieu shall only be granted when the site does not accommodate required tree replacement and shall be granted at the discretion of the Urban Forester.

15. ONE-TO-ONE DBH TO CALIPER INCH: Replace trees on a one-to-one DBH value plus installation and maintenance: Install tree(s) including installation and two years of maintenance.
   a. Calculation Example: To remove one 12" DBH tree replace with 12 caliper inches of new trees. Replacement required