

Cabarrus County Government

Cabarrus County Planning and Zoning Commission Meeting  
May 17, 2007  
7:00 P.M.  
County Commissioners Chamber  
Cabarrus County Governmental Center

Agenda

1. Roll Call
2. Approval/Correction of March 15, 2007 Minutes
3. New Business –Board of Adjustment Function:

- A. Conditional Use Application 757-C  
Richard Beall  
Carolina International School  
8810 Hickory Ridge Road  
Harrisburg, NC 28075

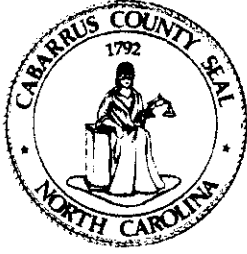
Request: The applicant is seeking permission to redesign the configuration of the school facility that was previously approved (752-C) by the Planning and Zoning Commission on November 16, 2006.

4. New Business - Planning Board Function:

- A. Zoning Atlas Amendment:

1. Petition C2007- 03(R) – James M. Jr. & Norma Floyd, Thomas L. & Doris Price, and C.B. Brooks, Jr.  
(OI) Office Institutional to (LDR) Low Density Residential

Request to return the current (OI) Office Institutional zoning district designation to a residential zoning district designation that is compatible with the actual use of the property.



## Cabarrus County Government

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### B. Proposed Text Amendments:

1. C2007-05 ZT – Appendix A, Typical Street Standards
2. C2007-06-ZT– Amenity Subdivision Standards and Anti-Monotony Standards (Chapter 5 – Minor Subdivision Standards)

### 5. Directors Report:

- A. Update on Refund Policy and Proposed Text Amendment for Cases including 50 Parcels or More (C2007-04 ZT)
- B. Revised Rules and Procedures (First Reading)

### 6. Adjournment

FINDINGS OF FACT

Final Decision

Application: 757-C

Motion	To Grant	To Deny
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Applicant: Dr. Richard Beall  
Carolina International School  
8810 Hickory Ridge Road  
Harrisburg, N.C. 28075

Vote	For	Against
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Owner: Paul Pigue, ATX LLC  
605 Houston Street  
Richmond, TX 77469

Granted	Denied
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Zoning: Countryside Residential (CR)

Location: 8810 Hickory Ridge Road  
Harrisburg, N.C. 28075

Size: 35.37 acres

PIN: 5516-45-5535

Request: The applicant is seeking permission to redesign the configuration of the school facility that was previously approved (752-C) by the Planning and Zoning Commission on November 16, 2006.

Advertisement Information:

- A. Sign Requested 4-26-07
- B. Newspaper Sent 5-1-07
- C. Adjacent Property Letters Mailed 5-3-07

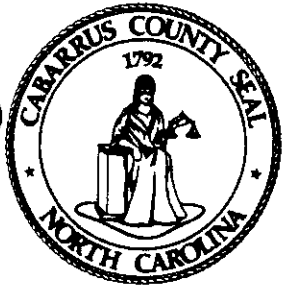
Additional Facts:

1. The applicant has submitted a complete application form and the information required by the Cabarrus County Zoning Ordinance for a Conditional Use Permit.
2. The adjacent property owners have been notified by mail. The letter and a list of those contacted are included in the packets.

3. The notice of public hearing was published on May 6<sup>th</sup> & May 10<sup>th</sup> of 2007 in the Cabarrus Neighbors and May 3<sup>rd</sup> and May 7<sup>th</sup> of 2007 in the Independent Tribune.
4. A zoning public hearing sign has been placed on the property advertising the time and place of the public hearing.
5. In 2004, Carolina Charter International School applied for, and received, a Conditional Use Permit for a public school. The preliminary site plan indicated that the size of the facility would not be more than 60,000 sq. ft. at the time of the final build out. After operating out of temporary buildings on the site for two years, the applicant decided to construct the permanent facility. They submitted an amended application and appeared before the Board of Adjustment in 2006. That application was approved for a permanent facility with no more than 181,000 sq. ft at total buildout. However, due to financial concerns, the project has not commenced construction.

Since 2006, the school has changed the plans once again. They have decided to change the configuration and the design of the project. The applicant will still have no more than 181,000 sq. ft. of total building square footage at final buildout.

6. Should the Board choose to approve the new plan for the facility, staff recommends the following conditions be placed on the approval.
  - With the expansions that are shown on this plan, it is required that the existing entrance be widened to accommodate two (2) inbound lanes. (NCDOT/APFO).
  - With the "future expansion", a right turn lane will be required on Hickory Ridge Road. (NCDOT/APFO)
  - Applicant will submit plans for "future improvements" to NCDOT for review and approval to assess the impact on the State maintained facilities. (NC/DOT/APFO).
  - The overall square footage for the permanent school facility at build out shall be less than 181,000 sq. ft.



May 2, 2007

Dear Adjacent Property Owner:

Re: Petition C-757

This letter is to inform you that the Carolina International School, located at 8810 Hickory Ridge Road, Harrisburg, N.C. 28075 (PIN#5516-45-5535), has petitioned the Cabarrus County Zoning Department for a Conditional Use Permit. If granted, the applicant would expand their current facility to add a permanent high school building. The new building is needed to accommodate the growth of it's student population.

There will be a public meeting to decide this matter on May 17<sup>th</sup>, 2007 at the Cabarrus County Governmental Center (2<sup>nd</sup> floor), located at 65 Church Street, Concord, N.C. 28026. The meeting time will be at 7:00 p.m.

Any questions should be addressed to Jay Lowe, 704-920-2140.

Sincerely,

Jay Lowe  
Senior Zoning Inspector

JL/mpf

ADJACENT PROPERTY OWNERS  
CASE #757 MAY 17, 2007

ATX LLC A NC LLC  
8810 Hickory Ridge Rd.  
Harrisburg, NC 28075  
5516-45-5535

ALLEN GREGORY G  
8918 Cherry's Ford Court  
Harrisburg, NC 28075  
5516-35-4952

SIGLER CHARLES D.  
8766 Hickory Ridge Rd.  
Harrisburg, NC 28075  
5516-46-8178

ARMSTRONG LANNY D  
8929 Cherry's Ford Ct.  
Harrisburg, NC 28075  
5516-35-3661

BLUME FAMILY FARM LLC  
1217 Crescent Avenue  
Gastonia, NC 28052  
5516-67-8394

TADLOCK GREG  
8513 Quay Farm Rd.  
Harrisburg, NC 28075  
5516-45-0847

CAMPION DONALD F  
8923 Cherry's Ford Ct.  
Harrisburg, NC 28075  
5516-35-4741

CARRIKER ELIZABETH CAROLINE  
9284 Hickory Ridge Road  
Harrisburg, NC 28075  
5516-56-5228

CARRIKER WILLIAM WOODROW JR  
9058 Hickory Ridge Rd.  
Harrisburg, NC 28075  
5516-44-3134  
5516-44-8512  
5516-54-1896

KEE JEWEL MAE LIVING TRUST  
C/O Jewel M. Willetts  
1590 Chatham Drive  
Concord, NC 28027  
5516-56-3510

KING CHRISTOPHER E.  
8520 Quay Farm Ct.  
Harrisburg, NC 28075  
5516-35-8922

MALONE DANIEL C  
3057 Tom Savage Dr.  
Harrisburg, NC 28075  
5516-45-3899

THALMAN GARY W  
3042 Tom Savage Dr.  
Harrisburg, NC 28075  
5516-45-2950

MYERS LARRY BLAIR  
8917 Cherry's Ford Ct.  
Harrisburg, NC 28075  
5516-35-5812

PERICHO DAVID P  
8516 Quay Farm Ct.  
Harrisburg, NC 28075  
5516-36-7031

PIEDMONT NATURAL GAS  
P O Box 33068  
Charlotte, NC 28233  
5516-55-5714

PORTER ROBERT A  
3213 Sutton Drive  
Charlotte, NC 28216  
5516-34-1913

R & B PARTNERS  
4624 NC 49 Hwy S  
Harrisburg, NC 28075  
5516-35-2439  
5516-35-2357  
5516-35-1274

REEDY MERLE E JR  
3053 Tom Savage Dr.  
Harrisburg, NC 28075  
5516-45-5928

RIEGERT PATRICIA M  
8524 Quay Farm Ct.  
Harrisburg, NC 28075  
5516-35-9829

ROSS VERNON A  
9101 McMillan Dr.  
Harrisburg, NC 28075  
5516-34-3637

CASE # C-757-C  
APPLICANT: Carolina International School  
DATE: May 17, 2007  
EXHIBIT # B

1100 S. Tryon St.  
Suite 300  
Charlotte, NC 28203

t: 704.343.9900  
f: 704.343.9999  
[www.perkinswill.com](http://www.perkinswill.com)

PERKINS  
+ WILL

May 9, 2007

Mr. Robbie Foxx  
Senior Zoning Inspector  
Cabarrus County Commerce Department  
Zoning Division  
65 Church Street, SE  
Post Office Box 707  
Concord, NC 28026-0707

Re: Carolina International School Application for a Conditional Use Permit

Dear Robbie,

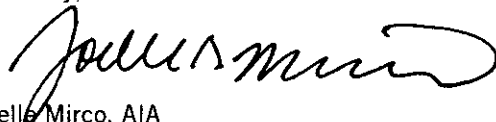
The Carolina International School, a North Carolina K-12 Public Charter School located at 8810 Hickory Ridge Road Harrisburg, NC 28075 would like to be considered for a conditional use permit to construct improvements for an elementary and secondary school campus. This project went before the Board last October and was approved however the project has undergone revisions due to budget limitations. This application depicts a revised project with the same projected construction square footage, but with a redesigned master plan. The project depicted herein is comprised of two-story buildings on a smaller site area which achieves less disruption of the forested site, less site grading, and a more compact school campus at full build-out.

One building will be constructed as Phase 1 of a multi-phased construction project, which after master plan build-out will replace their existing mobile buildings campus. The new classroom building will be 26,000 sf and will contain 12 classrooms and spaces for administration.

In October, the Board set a time limit in response to the discovery that the existing site at Carolina International School was in violation of floodplain limits. At that time the School agreed to come into compliance by the Board's deadline of August 1, 2007. Since October, it has been discovered that the survey information provided to the Carolina International School by a licensed surveyor was incorrect. That survey has been corrected and demonstrates a much smaller amount of fill in the floodplain on the site. The Carolina International School still will meet the Board's deadline of August 1, 2007 to make any remaining compensation to restore the site's floodplain storage capacity.

The Carolina International School and Perkins+Will appreciate your consideration of this application.

Sincerely,



Joelle Mirco, AIA  
Associate  
Perkins+Will

P:\Charlotte\2006\820078.000\_CIS\_Phase 1\DOCS\05.0-AgencyCorrespondence\05.01-LocalAgency\Conditional Use 5-9-07.doc



CABARRUS COUNTY  
 PO BOX 707  
 CONCORD, NC 28025  
 704-920-2137  
 www.co.cabarrus.nc.us

Application Number
_____
Date
_____

<u>CONDITIONAL USE APPLICATION FORM</u>			
Circle Jurisdiction That Applies:			
<u>Cabarrus County</u>	<u>Town of Midland</u>	<u>Town of Mt. Pleasant</u>	<u>Town of Harrisburg</u>

**The Conditional Use Process:**

A conditional use is necessary when a proposed land use may have some consequences that may warrant review by the Board of Adjustment. This review is to insure there will be no detrimental effects to surrounding properties nor will it be contrary to the public interest.

In order to apply for a for a conditional use a completed application along with the application fee is required to be turned in to the Zoning Office, 30 days prior to the scheduled public hearing. In order for the Board of Adjustment to grant approval of the conditional use, the applicant must provide the requested information in the following application.

If the Board finds that all approval criteria have been met, they may impose reasonable conditions upon the granting of any conditional use to insure public health, safety, and general welfare. If the application is approved the applicant then may proceed with securing all required local and state permits necessary for the endeavor. Failure to follow conditions set in the approval process would result in a violation of the Zoning Ordinance.

If there are additional questions concerning this process, please call the Zoning Office at (704) 920-2137.

**TO THE BOARD OF ADJUSTMENT:**

I, HEREBY PETITION THE BOARD OF ADJUSTMENT TO GRANT THE ZONING ADMINISTRATOR THE AUTHORITY TO ISSUE A CONDITIONAL USE PERMIT FOR THE USE OF THE PROPERTY AS DESCRIBED BELOW.

Applicant's Name	Property Owner's Name
<u>Dr. Richard Beall, Director, Carolina International School</u>	<u>Paul Pigue, ATX LLC</u>
Applicant's Address	Property Owner's Address
<u>8810 Hickory Ridge Road</u>	<u>605 Houston Street</u>
<u>Harrisburg, NC 28075</u>	<u>Richmond, TX 77469</u>
Applicants Telephone Number	<u>704-455-3847 ext. 6</u>

**Parcel Information**

Existing Use of Property	<u>Public Charter School</u>
Proposed Use of Property	<u>Public Charter School</u>
Existing Zoning	<u>Countryside Residential</u>



Property Location 8810 Hickory Ridge Road  
Property Acreage 35.37 Acres  
Tax Map and Parcel Number (PIN) 5516-45-5535

### Land Use of Adjacent Properties

(Provide Plat Map if Available)

NORTH	<u>Single Family Home</u>
SOUTH	<u>Undeveloped</u>
EAST	<u>Undeveloped</u>
WEST	<u>Single Family Home</u>

### General Requirements

1. The Zoning Ordinance imposes the following general requirements on the use requested by the applicant. Under each requirement, the applicant should explain, with reference to the attached plans, where applicable, how the proposed use satisfies these requirements.

The Board must find that the uses(s) as proposed "are not detrimental to the public health, safety or general welfare."

The Carolina International School is an International Baccalaureate and Environmental Public Charter School and is currently operating on this site under a Conditional Use Permit. The school needs to expand to accommodate the growth of its student population permitted by its public charter from a K-9 to a full K-12 school and proposes construction of a permanent high school building.

The Board must find that the use(s) as proposed "are appropriately located with respect to transportation facilities, water supply, fire and police protection, waste disposal, etc."

TRAFFIC STUDY HAS DETERMINED  
no impact to adjacent roadways. Adequate water supply has been tested and approved by pressure flow test for sprinkler systems and domestic water uses. Fire access, waste disposal, and all proposed features have been indicated on the site plan included with this application.

The Board must find that the use(s) as proposed "will not violate neighborhood character nor adversely affect surrounding land uses."

The Carolina International School is currently occupying the site and proposed developments to the site will include a Level 2 Buffer rather than a Level 3 Buffer which exceeds the minimum requirement. The proposed development is designed to for minimal site disturbance in accordance with the school's environmental mission.

The Board must find that the use(s) as proposed "will comply with the general plans for the physical development of the County or Town, as embodied in the Zoning Ordinance or in the area development plans that have been adopted."

The current use of the site is permitted under Countryside Residential Conditional Use.

2. The Zoning Ordinance also imposes SPECIFIC REQUIREMENTS on the use(s) requested by the applicant. The applicant should be prepared to demonstrate that, if the land is used in a manner consistent with the plans, specifications, and other information presented to the Board, the proposed use(s) will comply with specific requirements concerning the following:

Nature of use (type, number of units, and/or area):

Public K-12 Charter School

Accessory uses (if any):

None

Setback provisions:

Principle Use

Front: 75'

Side: 20'

Rear: 20'

Accessory Use

Front: \_\_\_\_\_

Side: \_\_\_\_\_

Rear: \_\_\_\_\_

Height provisions:

Principle Use 40'

Accessory Use \_\_\_\_\_

Off street parking and loading provisions: (include calculations)

Please refer to site plan. 12 spaces required, 12 spaces provided.

Sign provisions: (include sketch drawing with dimensions)

N/A

Provisions for screening landscaping and buffering: (if required add to site plan)

Please refer to site plan.

Provisions for vehicular circulation and access to streets: (provide NCDOT permit if necessary)

Please refer to site plan. AND CIVIL DRAWINGS

Adequate and safe design for grades, paved curbs and gutters, drainage systems, and treatment or turf to handle storm waters, prevent erosion, subdue dust:

Please refer to site. grading. AND CIVIL DRAWINGS

An adequate amount and safe location of play areas for children and other recreational uses according to the concentration of residential property:

N/A

Compliance with overlay zones including but not limited to the Thoroughfare Overlay and the River/Stream Overlay Zones:

REFER TO SITE PLAN & CIVIL DRAWINGS

Compliance with the Flood Damage Prevention Ordinance:

REFER TO SITE PLAN & CIVIL DRAWINGS

Other requirements may be requested by the applicant or specified by the Board for protection of the public health, safety, welfare, and convenience:

N/A

**Predefined Standards**

Each individual Conditional Use listed in the Zoning Ordinance may have specific standards imposed. Refer to the Conditional Use section of the Zoning Ordinance for these requirements. Each standard should be addressed in the site plan submitted along with this application.

**Required Attachments/Submittals**

1. Printout of names and addresses of all immediately adjacent property owner, including any directly across the street.
2. Scaled site plan containing all requested information above on legal or ledger sized paper. Larger sized copies will be accepted if copies for each Board Member is provided for distribution.

**Certification**

I hereby confirm that the information contained herein and herewith is true and that this application shall not be scheduled for official consideration until all of the required contents are to the Zoning Department.

Signature of Applicant

[Handwritten Signature]

Date

5/9/07

Signature of Owner

[Handwritten Signature]

Date

5/9/07



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

DIVISION OF HIGHWAYS  
July 26, 2004

W. LYNDO TIPPETT  
SECRETARY

Division 10  
District 1 -- Cabarrus County

Mr. Ben Barry  
Carolina International School  
4713 Walden Court  
Charlotte, NC 28210

Subject: Carolina International School, Hickory Ridge Road

Dear Mr. Barry:

This correspondence follows our July 21, 2004 meeting at the school site on Hickory Ridge Road. The purpose of the meeting was to discuss the proposed roadway improvements with Mr. Charles Sigler, a property owner whose property frontage will be affected by the construction of a left turn lane into the facility. To reiterate, the roadway improvement plan has been approved and was determined by NCDOT staff to be the most feasible given the physical constraints present. As there is no recorded right of way along Hickory Ridge Road, the School bears the responsibility of securing the right of way from the affected property owners in which to contain the roadway improvements and any associated construction or drainage easements. That right of way must be conveyed to NCDOT as public right of way via recorded instrument containing a metes and bounds description. At the close of the July 21, 2004 meeting, Mr. Sigler was not prepared to discuss any terms of settlement.

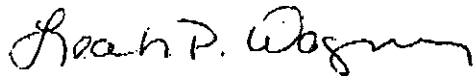
Given Mr. Sigler's position and the School's intention to open for classes this academic year, NCDOT recognizes the imminent need to work with the School to allow an entrance onto Hickory Ridge Road while providing for the safety of the traveling public simultaneously. The normal process would require that all pertinent right of way documentation from all affected property owners be recorded and provided to our office along with the performance bond for the roadway improvements, prior to issuance of the driveway permit. In this situation, with the understanding that Carolina International School will proceed with drafting agreements including reasonable offers of compensation, NCDOT will grant a temporary permit with provisions. In the interim, the School shall provide law enforcement on Hickory Ridge Road beginning thirty minutes prior to the start of and following the school day to direct traffic as necessary to ensure safe ingress and egress of the School traffic while maintaining the flow of traffic on Hickory Ridge Road. The same provision will remain in effect for any activities utilizing the School's facilities at any time(s) other than the aforementioned. Law enforcement shall be utilized until the required roadway improvements have been completed and accepted by NCDOT.



Carolina International School shall provide to this office, no later than October 1, 2004, either recorded right of way agreements or documentation to show that all efforts to obtain right of way have been exhausted. At that time, Carolina International School can remit a written request for NCDOT to exercise its power of eminent domain to acquire the necessary rights of way. NCDOT is not required to take this action but can under authorization by the Board of Transportation, at the sole expense of Carolina International School. NCDOT will not accept responsibility for any loss of property or for bodily injury incurred by anyone as a result of any accident directly attributable to the School's entrance during this interim period.

I look forward to working with you to achieve a resolution that is acceptable to all affected parties.

Sincerely,



Leah P. Wagner  
Transportation Technician V

cc: Mr. Jay Banks, McKim & Creed, 2300 Sardis Road North, Suite A, Charlotte, NC 28227  
Cabarrus County Planning & Zoning  
file



**Charlotte**

800 West Hill Street  
Suite 202  
Charlotte, NC 28208  
980.321.0202  
980.321.0108 fax

**Piedmont Triad**

1500 Pineroft Road  
Suite 123  
Greensboro, NC 27407  
336.294.8510  
336.294.8511 fax

**Hampton Roads**

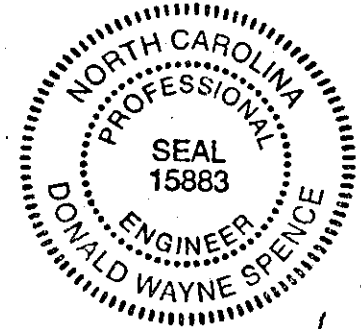
201 Production Drive  
Second Floor  
Yorktown, VA 23693  
757.594.1419  
757.594.9010 fax

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**TECHNICAL MEMORANDUM**

Date: March 10, 2004  
To: Carolina International School  
PO Box 366  
Harrisburg, NC 28075-0366  
From: Donald W. Spence, PE, PLS  
Senior Project Manager  
Subject: Carolina International School Site – Charter School (k-12)  
Traffic/Access Evaluation (c04012)



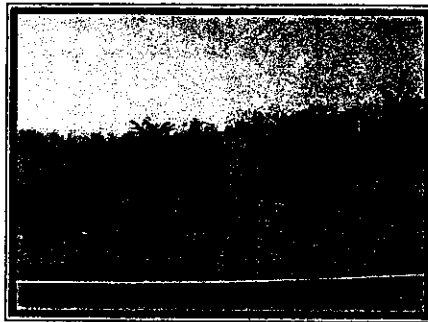
*Donald Wayne Spence*  
*March 10, 2004*



We have evaluated the traffic and access issues related to the potential **Carolina International Charter School (k-12)** site on Hickory Ridge Road (SR 1138) in southwestern Cabarrus County and offer the following:

**Location:**

The school site is located on Hickory Ridge Road (SR 1138) approximately 1/2 mile south of Rocky River Road (SR 1139) in southwest Cabarrus County (see Figure 1).



Proposed School site as seen from Hickory Ridge Road

*Creating a higher quality of life through partnerships for innovative transportation solution.*

The proposed k-12 charter school site will occupy approximately 33 acres, which is currently privately owned. The property has approximately 900 feet of frontage along Hickory Ridge Road (SR 1138).



Proposed school site as seen from Hickory Ridge Road

The site is within a Residential District as defined by the Cabarrus County Planning Department and will require a Conditional Use Permit as a condition of development.

#### Area Conditions:

Hickory Ridge Road (SR 1138) runs north-south on the eastern boundary of the proposed development and intersects Rocky River Road (SR 1139) north of the site. The intersection of Rocky River Road (SR 1139) and Hickory Ridge Road (SR 1138) is presently operating as a four-way stop sign controlled intersection and is delineated with an overhead flashing warning beacon. All four approaches are single lane. Rocky River Road (SR 1139) runs east-west and provides access to I-485 and Mecklenburg County. Both Hickory Ridge Road (SR 1138) and Rocky River Road (SR 1139) are striped for two-lane, two-way operation.

#### Traffic Counts:

The NCDOT website provided average annual daily traffic (AADT) counts. These counts are presented as follows:

- Hickory Ridge Road (SR 1138)

<u>Year</u>	<u>AADT</u>
1999	1,500
2002	1,700
  
- Rocky River Road (SR 1139)

<u>Year</u>	<u>AADT</u>
1999	3,700
2000	3,900
2002	4,200

### Trip Generation:

All of the traffic entering Carolina International Charter School will access the site from Hickory Ridge Road (SR 1138), via one access point. Base on information provided Kubilins by Carolina International School, 70 percent of the school traffic would be generated from Mecklenburg County via Rocky River Road and, thus, would be right turning movements and the remaining 30 percent would be left turning into the site.

Table 1: Trip Generation

Land Use	Area	Daily Trips	AM Peak			PM Peak		
			Enter	Exit	Total	Enter	Exit	Total
Public Charter School	520 Students	No data	252	161	413	0	0	0

References: Trip Generation, 7th Edition, Institute of Transportation Engineers, Washington, DC. 2003.

- Based on development of a k-12 school with 520 students (2011 buildout), the site would generate 379 trips in the AM peak hour (see Table 1). The PM closing hours for the school will not coincide with the normal traffic PM peak hour and is not considered to be a significant factor (see Table 1).
- The maximum peak hour vehicular movement entering the site is expected to be right turning and could number as high as 176 vehicles. Approximately 76 vehicles can be expected to enter as left turning movements from the northbound lane of Hickory Ridge Road during the opening and closing hours for the school.
- The site egress volume is anticipated to be at a maximum during the school-closing hour and, due to this movement not coinciding with the normal 4-6 PM work-to-home peak, is not an issue.
- At full buildout (2011), the maximum directional peak hour volume on Hickory Ridge Road is not likely to exceed 350 vehicles per lane per hour, based on the available traffic counts, calculated trip generation and allowing for a seven-year buildout with a 3 percent growth factor. This lane volume is well below the 1,900 vehicles per hour per lane recognized by the Highway Capacity Manual, published by the Transportation Research Board, as maximum capacity for one lane of roadway.



### Roadways/Access:

Hickory Ridge Road (SR 1138) is classified as a minor thoroughfare. The road is 21 feet wide and maintained by the North Carolina Department of Transportation (NCDOT) and has a posted speed limit of 45 MPH. Hickory Ridge Road (SR 1138) does not have curb, gutter, sidewalks, planting strips, or bike lanes.

The current plan for developing the site provides for a six-phase plan with full buildout to be realized in 2011 with approximately 520 students (see attached Figure 2). The proposed point of access is situated approximately 50 feet from the northern property line.



North leg of Hickory Ridge Road



South leg of Hickory Ridge Road

The sight distance along Hickory Ridge Road (SR 1138) in the southerly direction from the proposed point of access is an issue due to the alignment of the road. NCDOT will require a minimum of 450 feet (commensurate with the posted 45 miles per hour speed limit) of clear sight distance as a condition of access. The sight distance northward from the proposed point of access is adequate and appears to meet or exceed normal NCDOT requirements.

### Recommendations:

Based on discussions with the team and expectations from the reviewing agencies we recommend:

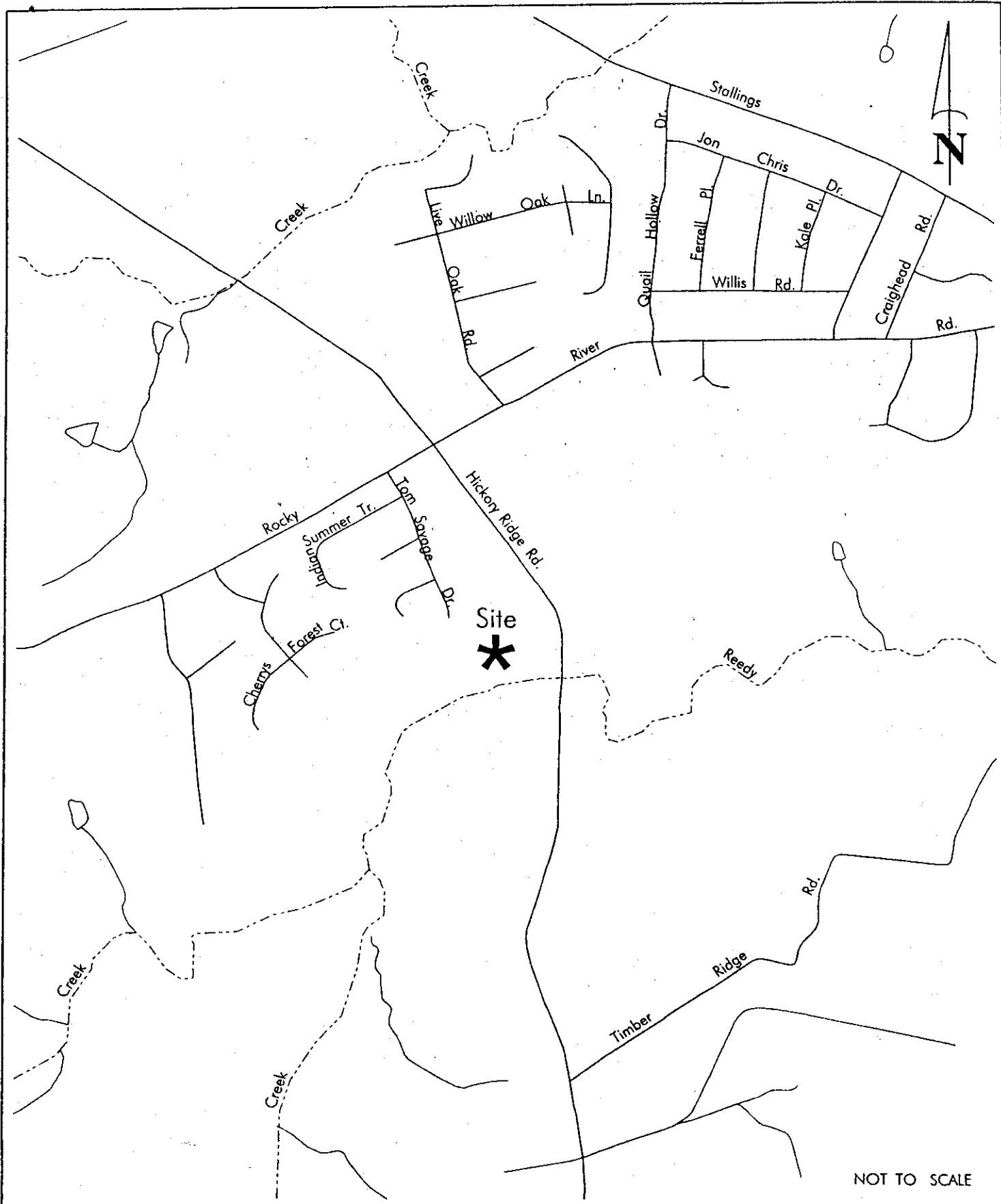
- The sight distance for the proposed access must meet NCDOT standards as a condition of driveway approval. An easement should be recorded, cleared and maintained which will enable motorists entering Hickory Ridge Road (SR 1138) to see an object 6 inches in height from a distance not less than 450 feet.
- Construct the proposed site access with a single entry lane and a dual lane approach to Hickory Ridge Road, sufficient to provide exclusive left and right turn lanes, (see attached Laneage Recommendations-Figure 5). Construct a northbound left turn lane on Hickory Ridge Road (SR 1138) with a minimum of 100 feet of storage, 15:1 bay taper, and 45:1 through lane tapers (see attached calculation sheet- Figure 4). Construct a minimum 50 foot radius for southbound right turn movements. Reserve sight distance triangles sufficient to comply with NCDOT requirements.
- Though no bus transport is anticipated for day students, the school will have an activity bus and the site should be designed internally to allow adequate turning radii, etc., for bus usage.

- A circulation route through the site must provide a minimum of 1,066 feet of internal storage for drop-off/pick-up of students. This is based on 520 students and recommended by NCDOT (see attached Figure 3).
- All signing and pavement markings should comply with the Manual on Uniform Traffic Control Devices (MUTCD).
- The entrance will be designed and constructed to comply with minimum construction standards of The North Carolina Department of Transportation's Policy on Street and Driveway Access Manual, with a sufficient driveway width and radii to satisfy minimum capacity requirements for the site.

Should you have any questions concerning our evaluation and recommendations, please call.

Attachments: Figures 1-5

cc: File



NOT TO SCALE



THE WORLD IS OUR FAMILY

## CAROLINA INTERNATIONAL SCHOOL

A NORTH CAROLINA PUBLIC CHARTER SCHOOL

PO Box 366, Harrisburg, NC 28075-0366 • 704.455.7247  
info@CarolinaInternationalSchool.org • www.CarolinaInternationalSchool.org

### Phased Construction of the CIS Campus

(Feb. 10, 2004 draft)

#### Phase I: for 2004-5 school year

- 16 Portable classrooms (24 x 36) for grades K-7 (40/grade, 20/class)
- 1 Media Center (24x 36)
- 1 Exceptional Children Center (24 x 36)
- 1 Administration building (24 x 60)
- 1 Group toilet facility
- Playground and equipment
- Athletic field and running track
- Walking trail

#### Phase II: for 2005-6 school year

- 2 Additional portable classrooms (24 x 36) for grade 8
- 1 6000 sq ft all-purpose building near Site 2?

#### Phase III: for 2006-7 school year

- New K-6 building on Site #2: 14 classrooms and administrative area.
- Move playground to Site #2
- Add second playing field near Site #2
- Retain 8 portable classrooms, toilet, and administrative building on Site #1

#### 2007-8 school year

- Grades 7-9 remain at Site #1
- Construction begins on secondary school building for Site #1

#### Phase IV: for 2008-9 school year

- New secondary school, 8 classrooms for grades 7-10 and administrative area.
- Remove portable buildings

#### Phase V: for 2009-2010 school year

- Completion of secondary school with capacity for grades 7-12; science labs, music and art rooms.
- Second all-purpose building

#### Phase VI: for 2010-11 school year

- Auditorium

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*Kubilins*  
TRANSPORTATION GROUP, INC.

Carolina  
International  
School

Phased  
Construction  
Timeline

Figure 2

AM	PM	At one	PM
Student	Carz/	Arg.	At one
[5]	[13]	Length	Time
18,315	22,315	22.35	15.502
14,315	18,315	18.35	12.502
10,315	14,315	14.35	9.502
6,315	10,315	10.35	6.502
2,315	6,315	6.35	3.502

School Name: Carolina International School  
Is this a PUBLIC school?  No

**MSTA School Queue Input**

Student Population	Number of Faculty Members	Student Drivers	PM Total Number of Vehicles	PM Maximum Vehicles	Required Base Length	Total AM Trips	Total PM Trips
210	32		64	24	533		
120	16		32	12	261		
120	16	34	32	12	267	416	255

**AM Trips Generated**

Direction	Parents	Faculty	Trips	PM Trips Generated
	104	104	104	64
	104	104	104	64

**PM Trips Generated**

Direction	Parents	Faculty	Trips	PM Trips Generated
	52	52	52	32
	52	52	52	32

**AM Trips Generated**

Direction	Parents	Faculty	Trips	PM Trips Generated
	52	52	52	32
	52	52	52	32

**PM Trips Generated**

Direction	Parents	Faculty	Trips	PM Trips Generated
	52	52	52	32
	52	52	52	32

NOTE: Traffic volumes reflect peak traffic for school operations which normally take place in approximately 30 minutes.

Peak Hour Traffic Volumes	Major Direction	Minor Direction
15000	2250	300
246	602	402
	246	166

AASHTO 2007: On peak roads with average intersection in traffic flow, the 30th highest hourly volume is typically 15 percent of the ADT.  
Use a 60/40 split unless additional information is available.

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4222002

NCDOT - UNSIGNALIZED

LEFT-TURN LANE STORAGE

AM Peak Hour

Intersection of Hickory Ridge Road and Carolina International School

	NB	SB	EB	WB
$V_L$ = Peak Hour Volume	77			
MT = Minimum Time of Queue	3	3	3	3
D = Length of Vehicle	20	20	20	20

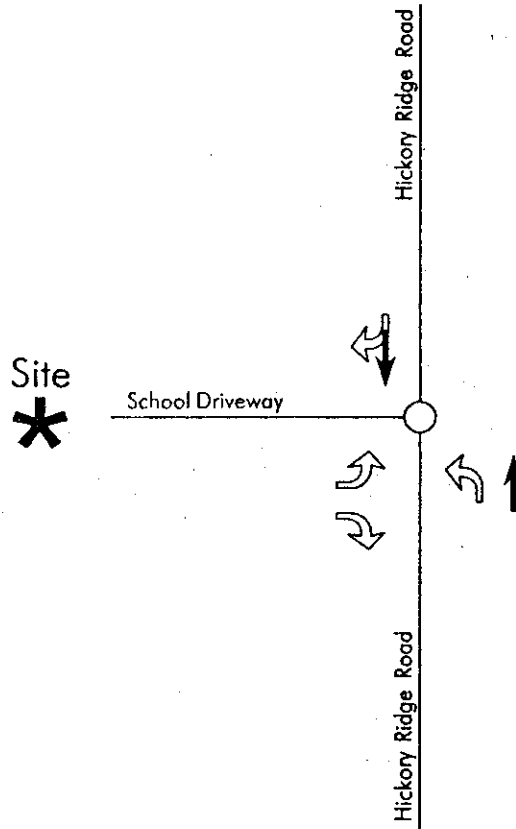
Page 1

UNSIGNALIZED:

1. NCDOT Method  $L = (V_L / 60) * MT * D$

(ft)	77	0	0	0
------	----	---	---	---

NOT TO SCALE



LEGEND

- Stop Sign Control
- ➔ Existing Laneage
- ⇨ Developer Responsibility

NOT TO SCALE

	Carolina International School	Laneage Recommendations	Figure 5
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# ENGINEER'S REPORT

## CAROLINA INTERNATIONAL SCHOOL HARRISBURG, NORTH CAROLINA CABARRUS COUNTY

**DEVELOPER:**

**CAROLINA INTERNATIONAL SCHOOL**

**8810 Hickory Ridge Rd.  
Harrisburg, NC 28075**

**DESIGNER: TEB**



**THE SCHNEIDER CORPORATION  
8001 Arrowridge Blvd.  
Charlotte, NC 28273  
704-697-5900 Phone  
704-697-5990 Fax  
[www.schneidercorp.com](http://www.schneidercorp.com)**

**September 21, 2006  
Rev. October 6, 2006  
Rev. October 19, 2006  
Rev. April 18, 2007  
Rev. May 9, 2007**



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--	---	---	---	---	---	---	---

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**ENGINEER'S REPORT  
NARRATIVE**

Section A

## **ENGINEER'S REPORT NARRATIVE**

### **DESIGN CRITERIA**

The following findings are based on given data and design criteria as follows:

#### **Site Location:**

The existing Carolina International School (CIS) site is located at 8810 Hickory Ridge Road in the City of Harrisburg, Cabarrus County, North Carolina. The entrance to the 35.37 acre site is south of the Rocky River Road – Hickory Ridge Road intersection.

#### **Overall Watershed:**

Yadkin River Basin – The site drains into the Reedy Creek tributary, which runs along the CIS southern property boundary.

#### **Terrain and Existing Conditions:**

Approximately six (6) acres of the CIS site is currently developed with an entrance road, parking, portable school buildings and outdoor recreational facilities.

The rear western portion of the site is where this phase of construction will take place. The terrain is undeveloped, consisting of mature dense woods with slopes ranging from 5%-25%. The top of the knoll is at elevation 625 and the low point at the proposed creek crossing is elevation 562, which equates to 63 feet of relief. The overall watershed for the subject site is limited to the extent of the knoll. However, the drainage area at the point of the proposed creek crossing is 53 acres, consisting primarily of upstream 1/3 acre residential lots. Extension of the entrance road will require construction within the regulatory floodplain. Impact to the floodplain and stream is approximately 125 feet in length.

#### **Project Scope:**

The existing entrance road will be extended 1,020 feet to form a circulation loop for access to proposed permanent classroom facilities. The first phase of construction will call for one 14,900 SF building. Future phases will include additional classroom buildings and administrative facilities.

Water service will be provided through expansion of the existing on-site water system. Sanitary sewer service is available by connecting to an existing sewage vault and pump station, located at the southwest corner of property. An on-site sewage treatment facility may be considered for future phases in lieu of the gravity system, or in conjunction with the existing system.

A culvert will be required for crossing of the existing unnamed tributary to Reedy Creek and regulatory floodplain. The culvert will be designed not to impact upstream floodplain elevations. Stormwater runoff will be minimized by utilizing permeable porous pavement (vegetated grid blocking for parking areas and fire access drive), bio swales and harvesting of roof rainwater runoff. Water quality and quantity will be mitigated through construction of a dry or wet retention pond and/or water quality manholes. If warranted, the retention facility may also be sized to serve as a fire pond to provide additional fire flow capacity.

The first phase of construction will require approximately 4.7 acres of total disturbance and includes the floodplain compensation area.

#### **Drainage Patterns and Receiving Waterway:**

Drainage flow patterns for the site are clearly defined per the geographical configuration of the existing knoll. Reedy Creek flows from west to east along the southern base of the knoll and the unnamed tributary flows from north to south along the eastern knoll base, before intersecting with Reedy Creek, near the property southern boundary.

#### **Adjoining Land Conditions:**

North: Residential 1/3 acre lots.  
South: Reedy Creek and undeveloped wooded property.  
East: Hickory Ridge Road, undeveloped land and large residential lots.  
West: Residential 1/3 acre lots.

#### **Soil Types:**

Soils maps from the United States Department of Agriculture, Soil Conservation Service identify predominantly Class C soils (Ch, EnB, IdA, MeD, MeB) with slopes from 5 to 25%.

#### **Floodplain Compensation Evaluation and Analysis:**

The Cabarrus County Governing Body, in accordance with the Legislature of the State of North Carolina, requires that all development within the regulatory floodplain must comply with Cabarrus County's Flood Damage Prevention Ordinance. This phase of development will require constructing a creek crossing

within the regulatory floodplain, therefore, subject to provisions, as outlined in the Flood Ordinance.

It has been brought to the attention of the Engineer and CIS officials that past construction on the CIS site may be in violation of the Flood Ordinance. The Floodplain Administrator, Mike Byrd, has requested for all previous CIS construction be evaluated and quantified for verification of Flood Ordinance compliance. Mr. Byrd has stated that approvals for future phases of construction may hinge on resolving existing questions related to floodplain compensation.

After an investigation of existing Cabarrus County approval records, it was discovered the original phase of CIS construction was to yield a surplus, or net gain, of 1,164 cubic yards of floodplain compensation. This quantity will be applied to any loss in storage resulting from past non-compliance.

As part of this phase of construction a floodplain compensation plan will be submitted for mitigation of lost floodplain storage. The compensation plan shows an overall net gain of storage, in excess of 300 cubic yards.

As a result of crossing the existing creek with the proposed access road, floodplain storage will also be impacted. For this proposed loss in storage the Engineer is requesting a variance in accordance with the following:

#### **Section 38-60 Variance Procedures**

**(1) The Planning and Zoning Commission (appeal board) as established by Cabarrus County (local unit) shall hear and decide requests for variances from the requirements of the ordinance.**

The following sections of the Variance Procedures outline provisions that could apply to the circumstances associated with the CIS creek crossing:

**(4) In passing upon such applications, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:**

**(d) the importance of the services provided by the proposed facility to the community;**

**(f) the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;**

**(g) the compatibility of the proposed use with existing and anticipated development;**

**(i) the safety of access to the property in times of flood for ordinary and emergency vehicles;**

**(5) The findings listed above shall be submitted to the appeal board, in writing, and included in the application for a variance.**

**(8) Conditions for Variances:**

**(a) Variances may not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations, or ordinances.**

**(b) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.**

**(c) Variances shall only be issued upon (i) a showing of good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship; and, (iii) a determination that the granting of a variance will not result in increased nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.**

The following key points compare favorably with the conditions outlined in the Variance Procedures:

- The educational services provided by CIS is integrally important for the community.
- There is not a viable alternative location for a creek/floodplain crossing.
- The proposed use is compatible with existing and proposed development.
- Emergency access to the proposed development is of critical importance.
- Issuing a variance would not violate other Federal, State, or local laws.
- The creek crossing will be sized to pass the 100-year storm with no increase in 100-year floodplain elevation. A variance request could be considered the minimum necessary to provide relief. To offset this would require additional disturbance within the floodplain and creek basin.

A 72" CMP culvert is proposed for the creek crossing. The pipe will be buried one foot in order to maintain ecosystem connectivity. An ICPR drainage analysis is included with this submittal. The following is a summary of impact with respect to the proposed creek crossing:

- FEMA FIRM Map 37025C0140 D designation for this area is Zone AE  
100-year Flood Elevation (creek crossing) = 571.0
- Floodplain Storage Loss (fill for stream crossing) = 1,200 – 1,500 cubic yards.
- 100-year Headwater Elevation (72" pipe ICPR analysis) = 569.6
- 100-year SCS 24-hour Storm Inflow = 234 cfs

### **Wetland Impacts:**

According to records provided by Wetland and Natural Resource Consultants, the CIS proposed creek crossing is currently permitted by the U.S. Army Corps of Engineers Section 404, Nationwide Permit 39. A copy of the permit has been included with this report. The U.S. Army Corps of Engineers "General Permit (Regional and Nationwide) Verification" requires construction of the creek crossing be completed prior to March 18, 2008, as follows:

*"This verification is valid until the NWP is modified, reissued, or revoked. All of the existing NWPs are scheduled to be modified, reissued, or revoked prior to March 18, 2007. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit. If prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all new and/or modified terms and conditions. The District Engineer may, at any time, exercise his discretionary authority to modify suspend, or revoke a case specific activity's authorization under and NWP."*

### **Through Drainage and Internal Stormwater System:**

The CIS site is currently exempt from County and/or State regulatory authority for internal and through drainage facilities (i.e. stormwater detention). With respect to exempt areas, and in accordance with State mandate, the North Carolina Division of Water Quality does not begin regulatory governance until July 1, 2007. No internal drainage calculations are provided, except calculations for floodplain analysis and erosion control facilities. However, all internal drainage facilities will be designed within standard engineering practices and water quality BMP's will be applied to satisfy LEED (Leadership in Energy Efficient Design) accreditation guidelines.

### **Stormwater Pollution Prevention:**

Stormwater pollution prevention is achieved by mitigating runoff through a multitude of measures for reducing sediment and erosion, in accordance with North Carolina Department of Environment and Natural Resources (DENR) regulations. Sediment control will be facilitated by use of phasing disturbance, sediment traps, silt fencing, storm inlet protection and diversion swales. Erosion control measures include seeding, matting and construction of diversion swales for minimizing areas of intrusion.

Approximately 3.5 acres is slated for disturbance on the knoll. Just over one acre of disturbance will be required for mitigation of floodplain compensation on the existing campus.

A complete set of erosion control plans with calculations shall be submitted to DENR for approval, prior to commencement of construction activity.

**Water Service:**

Water service for domestic and fire will be accessed from an existing on-site 6" water main. Proposed water mains are to be a minimum size of 8". The existing service is provided by Water Resources, Inc., a private utility provider. Expansion of this system will require a detailed analysis for verification of adequate fire service, in accordance with Cabarrus County Fire Marshal requirements. A water analysis summary and calculations are included in this report.

**Sanitary Sewer Service:**

Sanitary sewer service is currently provided by an existing on-site pump station. The on-site station discharges by force main into a sewage vault and pump station along the southwestern property corner. The receiving system is maintained and operated by the City of Harrisburg Utilities. The Harrisburg pump station system will require analysis for verification of capacity. If capacity is not sufficient, an upgrade of the pump station components will be required.

**Fire Service Access:**

Fire service access of the proposed CIS phase will be provided by extending a loop of the existing access drive. Fire access between the future buildings will comply with Cabarrus County Fire Marshal code.

The fire access drive for the existing campus will be improved in accordance with Fire Marshal requirements and recommendations.

**REFERENCES**

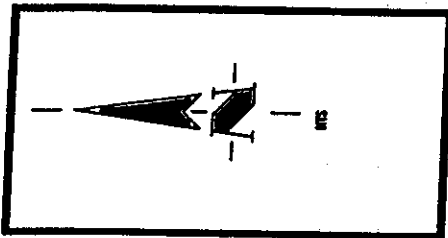
Design and data methods are based on the following references:


1. Cabarrus County Soils Survey
2. ICPR Computer pond routing program
3. 210-VI-TR-55, Second Ed., June 1986
4. SCS National Engineering Handbook, Section 4
5. FEMA FIRM, Panel No. 37025C0140 D, November 2, 1994



**GENERAL  
INFORMATION**

Section B

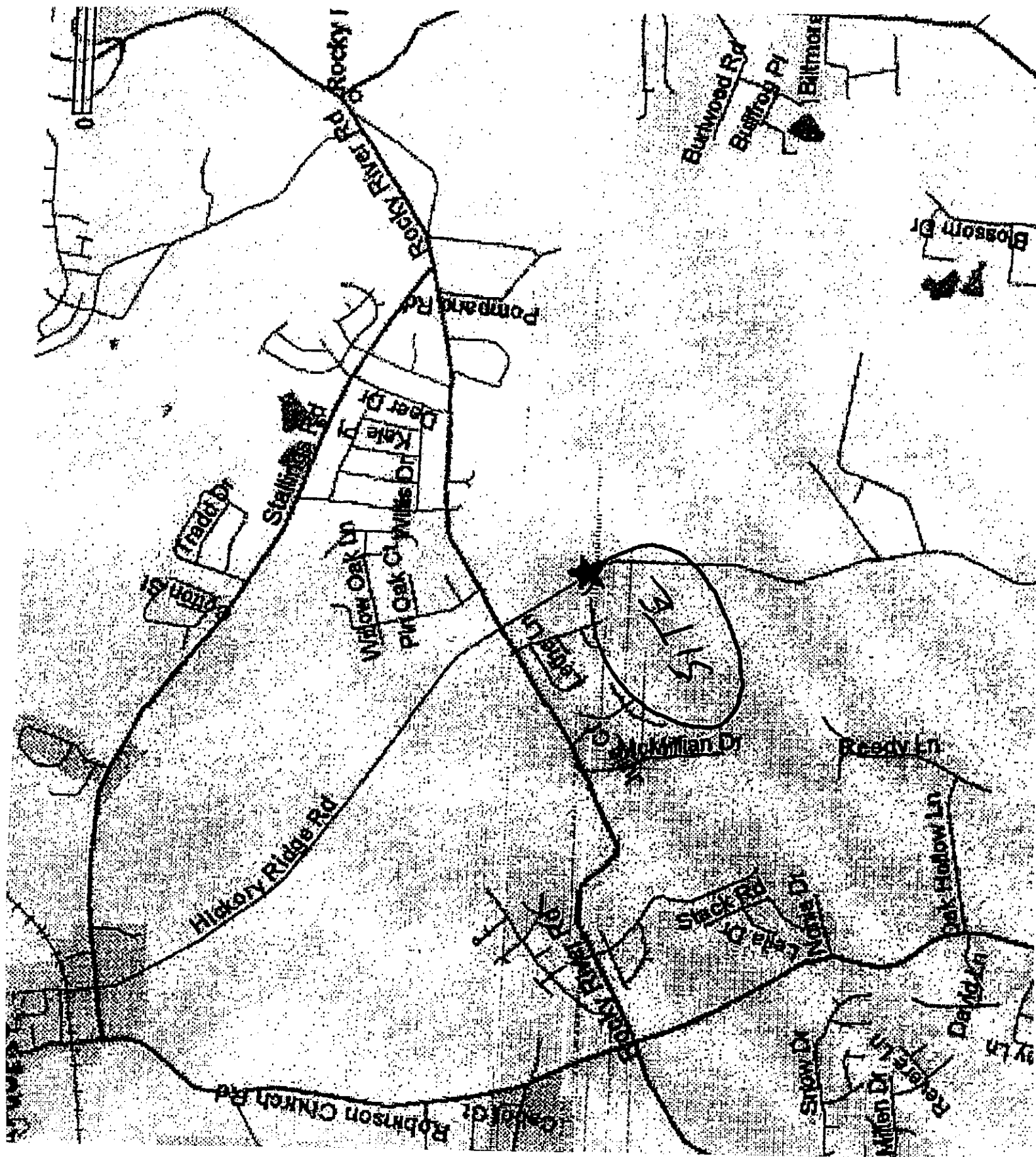



**Schneider**  
 THE SCHNEIDER CORPORATION  
 2191 S. HUNTERS ST. SUITE 204  
 CHARLOTTE, NC 28203  
 PHONE: 704.333.1300  
 FAX: 704.333.1322  
 www.schneidercorp.com

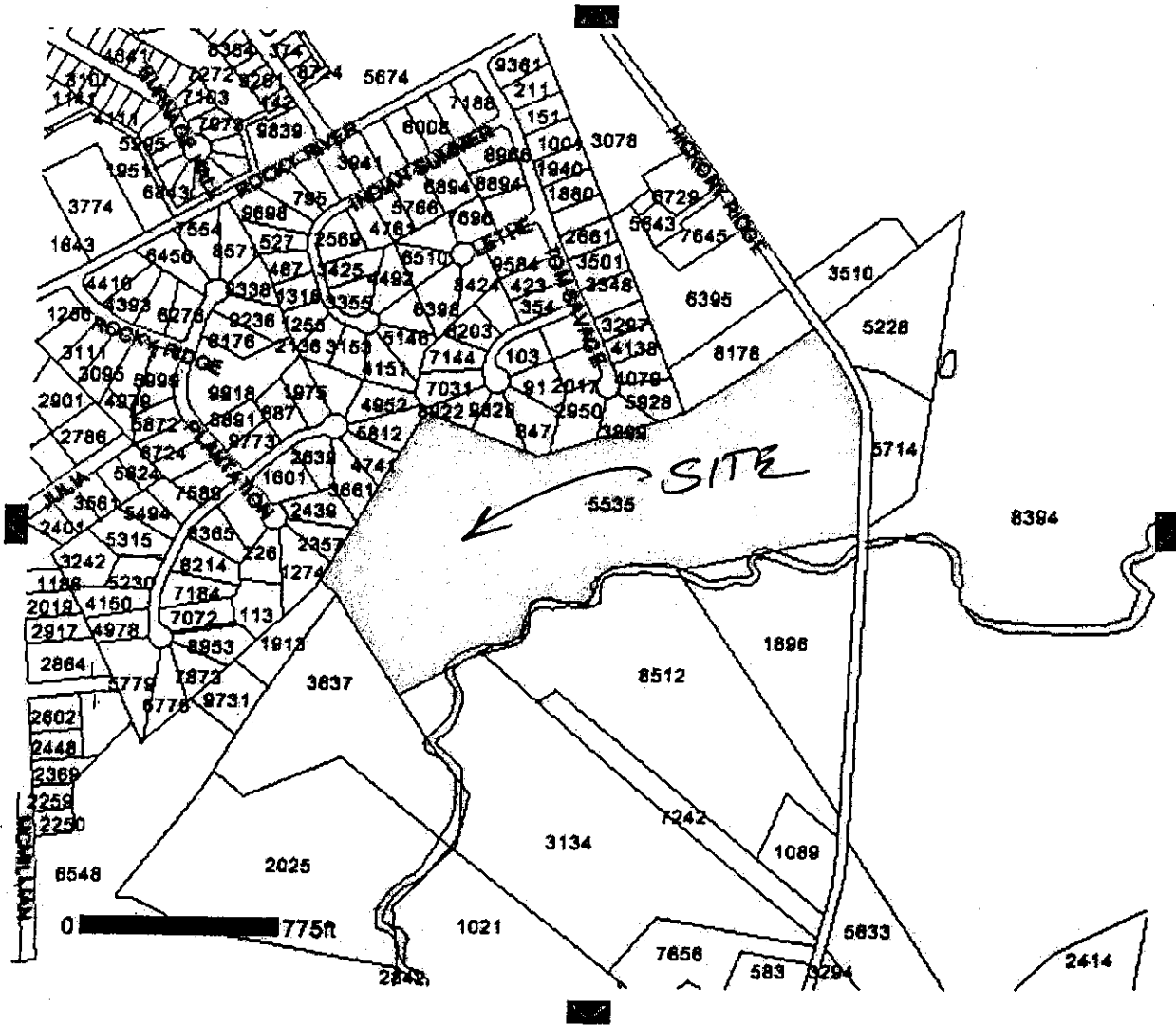
Architects  
 Civil Engineering  
 Environmental Engineering  
 Construction Services  
 GIS + I.T.  
 Heavy Builder Services  
 Interior Design  
 Land Surveying  
 Landscape Architecture  
 Transportation Engineering

CAROLINA INTERNATIONAL SCHOOL

LOCATION MAP



### Parcel Information Map



- Layer Name
- Topo - 4ft
- Streams
- Structures
- Easement
- Lot Dimensio
- Road Label
- Zip Code
- Parcel
- Municipalitie
- Aerial Photo
- 2001
- County

- Leg**
- Stream
  - East
  - Road
  - Parcel

**Owner Information:**

ATX LLC A NC LLC  
 605 HOUSTON STREET  
 RICHMOND, TX 77469-0000

**Sales Data:**

Sale Date: 03/2004  
 Sale Price: \$483,500

**Appraisal Data:**

Building Value: \$0  
 Market Land Value: \$445,660  
 Extra Features: \$1,054,400  
 Appraised Value: \$1,500,060

**Parcel Information:**

PIN: 5516455535  
 Site Address: Multiple Addresses Exist  
 City, ZIP: HARRISBURG 28075  
 Jurisdiction: COUNTY  
 Real ID: 01-023 -0012.10  
 Deed Book Page: 5221-297  
 Tax Map: 551603  
 Legal Description: W/S HICKORY RIDGE RD  
 Land Units: 35.37 ACRE(S)  
 Front Footage: 1744  
 Year Built: 1000  
 Heated Sq Ft: 0

**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**CABARRUS COUNTY,**  
**NORTH CAROLINA**  
**AND INCORPORATED AREAS**

**PANEL 140 OF 180**  
 (SEE MAP INDEX FOR PANELS NOT PRINTED)

**CONTAINS:**


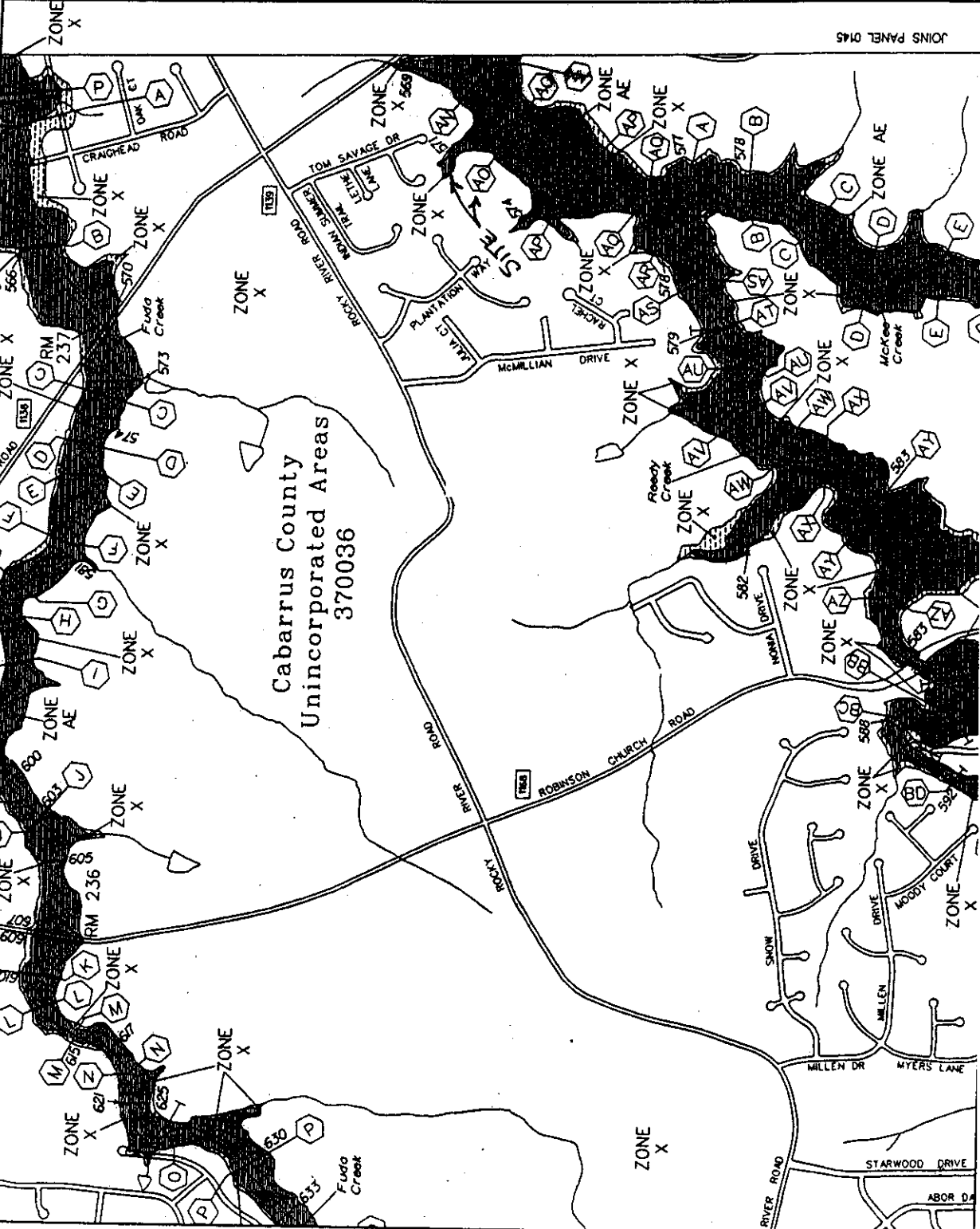
NUMBER	PANEL	SECTION
140	140	1
141	141	1
142	142	1

Notice: This map is for informational purposes only and should not be used for insurance underwriting. The community number shown on this map is for informational purposes only. The community number shown on this map is for informational purposes only.

**MAP NUMBER**  
37025C0140 D

**EFFECTIVE DATE:**  
NOVEMBER 2, 1994

**Federal Emergency Management Agency**

This is an official copy of a portion of the above mentioned flood map. It was prepared using FIRM On-Line. This map does not reflect changes to the flood hazard data which may have been made subsequent to the date on the map.

# FLOODPLAIN COMPENSATION

Section C

## FLOODPLAIN COMPENSATION CALCULATIONS STATUS OF EXISTING CONDITIONS

### AREAS OF ADDITIONAL FILL PER AS-BUILT CONDITIONS:

AREA #1 (SOCCER FIELD) = 611 CY  
AREA #2 (PORTABLE BUILD.) = 1,249 CY

TOTAL ADDITIONAL FILL = 1,860 CY

SURPLUS STORAGE PER CIS 2004 CABARRIUS CO. APPROVAL = 1,164 CY

NET LOSS OF FLOODPLAIN STORAGE = 1,860 - 1,164 = 696 CY

### NOTE:

1. THE ABOVE REVISED FLOODPLAIN COMPENSATION CALCULATIONS ARE BASED ON THE MOST RECENT EVALUATION AND ADJUSTMENT OF AS-BUILT SURVEY CONDITIONS. AN ERROR IN THE PREVIOUS SURVEY DATUM REFERENCE, AS PERFORMED BY OTHERS, RESULTED IN AN ADJUSTMENT OF AS-BUILT TOPOGRAPHY. THE AVERAGE ADJUSTMENT FACTOR USED FOR THE CALCULATIONS IS 0.8' (A 0.8' REDUCTION IN AS-BUILT ELEVATION).

## FLOODPLAIN COMPENSATION CALCULATIONS AREAS OF PROPOSED COMPENSATION

COMPENSATION AREA #1 (SOCCER FIELD SWALE) = 290 CY  
COMPENSATION AREA #2 (PORTABLE BUILD. & FIRE ACCESS RD.) = 725 CY

TOTAL COMPENSATION VOLUME = 1,015 CY

FLOODPLAIN STORAGE EXISTING CONDITIONS = -696 CY

FLOODPLAIN COMPENSATION NET VOLUME WITH PROPOSED COMPENSATION MEASURES:  
1,015 - 696 = 319 CY SURPLUS

### NOTE:

1. THE ABOVE REVISED FLOODPLAIN COMPENSATION CALCULATIONS ARE BASED ON THE MOST RECENT EVALUATION AND ADJUSTMENT OF AS-BUILT SURVEY CONDITIONS. AN ERROR IN THE PREVIOUS SURVEY DATUM REFERENCE, AS PERFORMED BY OTHERS, RESULTED IN AN ADJUSTMENT OF AS-BUILT TOPOGRAPHY. THE AVERAGE ADJUSTMENT FACTOR USED FOR THE CALCULATIONS IS 0.8' (A 0.8' REDUCTION IN AS-BUILT ELEVATION).

2. EXCAVATED FILL SHALL BE USED TO LEVEL LOW AREAS OF EXISTING CAMPUS, AS SHOWN. ANY ADDITIONAL EXCAVATED FILL WILL BE USED FOR CONSTRUCTION OF FUTURE ACCESS DRIVE TO KNOLL.



2300 Sardis Road North, Suite A  
Charlotte, NC 28227

Tel: 704-841-2568  
Fax: 704-841-2566

**LETTER OF TRANSMITTAL**

DESIGNATED RECIPIENT: Jay Lowe COMPANY: Cabarrus County Planning Office

ADDRESS: 65 Church Street  
Concord, NC 28027

SENDER: Jay Banks DATE: 05/13/04

PROJECT NUMBER: 2921-003(40) PROJECT NAME: Carolina International School

RE: Cabarrus County Zoning Site Plan Review - 2<sup>nd</sup> Submittal

WE ARE SENDING:  Originals  Prints  Shop Drawings  Samples  
 Specifications  Calculations  Other --

Quantity	Drawing No.	Rev.	Description	Status
1	Set	B	Full plan set	G

Issue Status Code: A. Preliminary B. Fabrication Only C. For Information D. Bid  
E. Construction F. For Review & Comments G. For Approval H. See Remarks

Action Status Code: 1. No Exceptions Taken 2. Make Corrections Noted 3. Other  
4. Amend & Resubmit 5. Rejected

**REMARKS:**

Per our telephone conversation on April 27, 2004 you had the following comments:

- 1) Buffer along Hickory Ridge Road should be 15' in lieu of the 10' shown and trees should be 10' from right-of-way -- We have revised the buffer to 15' and added a note regarding the 10' tree offset from R/W.
- 2) Calculations confirming conformance with Cabarrus County Floodplain Ordinance need to be provided -- A chart has been added to sheet C2 showing calculations. A net gain of 1164 CuYds in floodplain area was determined.
- 3) Calculations for buffer required for River Stream Overlay Zone -- An additional buffer line labeled "River Overlay Buffer" has been added to the plans along with notes indicating calculation method. This can be seen on all sheets with the creek shown.
- 4) WASAC Flow Acceptance Letter -- Flow Acceptance letter is pending and will be forwarded to your office as soon as available.

pc:

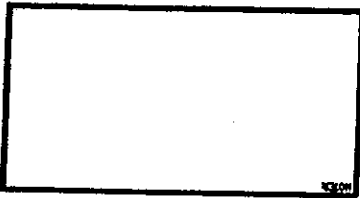

**McKIM & CREED, PA**

Signed Jay D. Banks  
Jay D. Banks, PE

**STORMWATER ANALYSIS  
CREEK CROSSING**

Section D



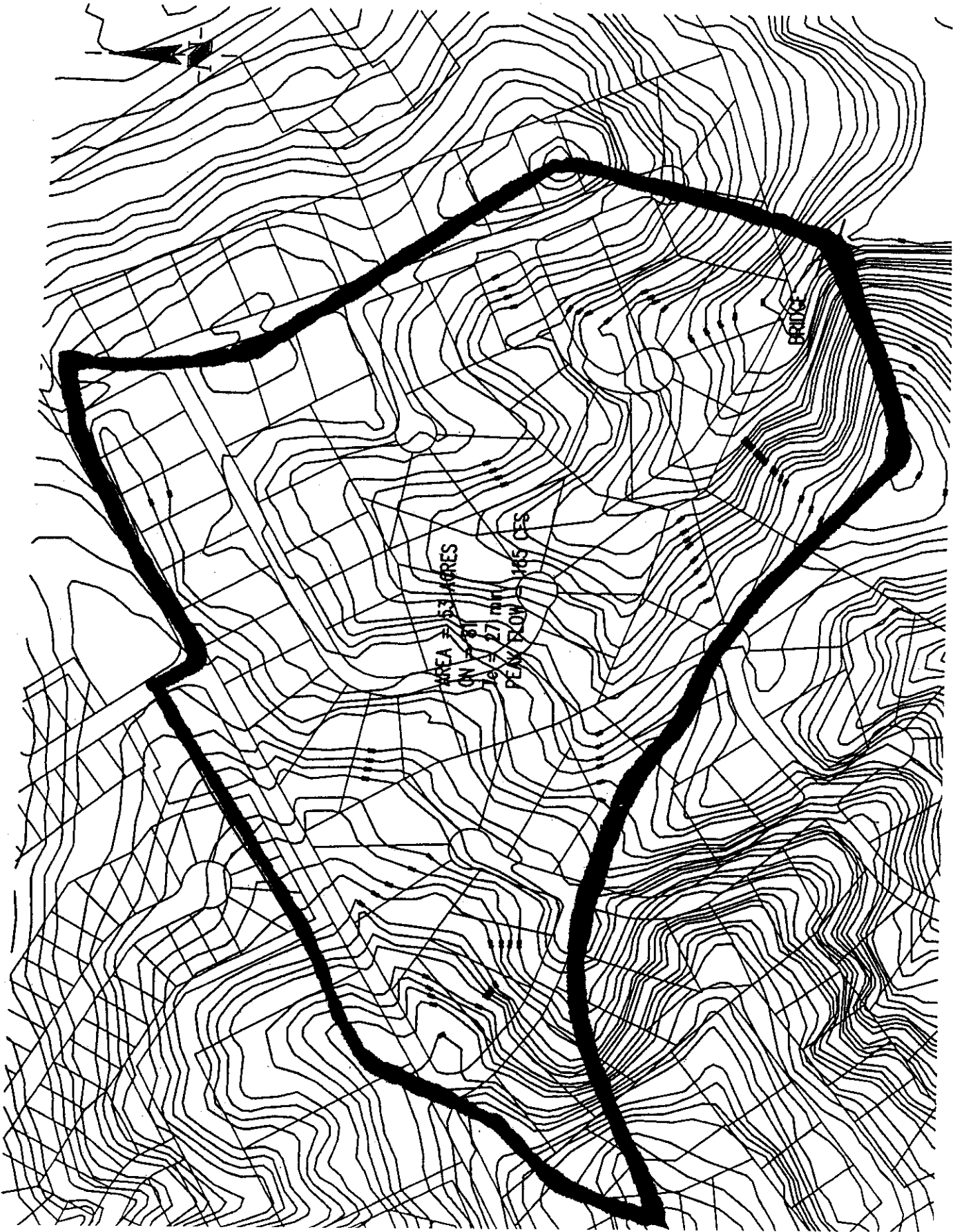
**Schneider**  
 THE SCHNEIDER CORPORATION  
 1715 S. Wacker Dr. Suite 201  
 Charlotte, NC 28203  
 Fax: 704.373.6100  
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 Heavy Public Services  
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 Landscape Architecture  
 Transportation Engineering

CAROLINA INTERIATION SCHOOL

---

BRIDGE DRAINAGE BASIN



**Time of Concentration Worksheet**  
Based on TR-55

**PROJECT: CAROLINA INTERNATIONAL SCHOOLS**  
**JOB #: 6199.001**      **Date: 9/21/06**

2 year, 24 hour rainfall = 3.50 inches  
minimum T<sub>c</sub> = 5.00 minutes

Flow Type	Material	n
Overland Flow	short grass	0.15
	farm, > 20% cover	0.17
Channel Flow	dense grass	0.24
	rip-rap	0.035
	pavement	0.011

Basin name	Overland Flow		SE 1		Overland Flow		SE 2		Shallow Concentrated Flow			Channel Flow			T <sub>c</sub> (min)									
	Length (ft)	S %	Length (ft)	n	Length (ft)	S %	T <sub>c</sub> (min)	Length (ft)	n	Length (ft)	S %	T <sub>c</sub> (min)	Vel. (ft/s)	n		T <sub>c</sub> (min)								
1	200	3.00		0.24			20			440	3.18	U	2.88	3	928	1.00	3.15	0.32	2.48	0.03	3.64	4	27	

B:\6199\6199001\Drainage\6199-4.tbl Time of Conc

# Carolina International School



## Legend

EOC - Zone 4

### Wetlands

#### ATTRIBUTE

- PERMANENTLY FLOODED - PALUSTRINE
- PERMANENTLY FLOODED - PALUSTRINE
- PERMANENTLY FLOODED - PINEPINE
- SEMPERPERMANENTLY FLOODED - PALUSTRINE

- TEMPORARILY FLOODED - PALUSTRINE: PEGS14 MNOR1
- SEASONALLY FLOODED - PALUSTRINE
- INTERMITTENTLY EXPOSED - PALUSTRINE
- ARTIFICIALLY FLOODED - PALUSTRINE
- TEMPORARILY FLOODED - PINEPINE
- Flood Plain

A Zone 100,1  
AE Zone 100,1

X Zone 500,1

AERIAL2006

#### RGB

- Red: Sand\_1
- Green: Sand\_2
- Blue: Sand\_3

--- 1:24 to Hydro



Environmental Services

Feet

**CURVE NUMBER CALCULATIONS  
-EXISTING BASINS-**

<b>PROJECT:</b> CIS		
<b>JOB #:</b> 6199.001		<b>COMPUTED BY:</b> BKJ
<b>DATE:</b> 9/21/06		

B:\6k\6199\001\drainage\6199-CN-post dev.xls\EXISTING

Basin	Soil Group %		Cover Type & condition	Percent of this cover	CN		
	B	C			B	C	
1	25%	75%	Wooded	3%	55	70	66
	25%	75%	Residential 1/4 acre lots	97%	75	83	81
<b>weighted CN =</b>							<b>81</b>

SCS-II 24 HOUR CALCULATIONS

ICPR DIAGRAM

CIS CREEK CROSSING  
WITH 72" PIPE (12" Clip)  
04/18/07

B:\6k\6199\002\drainage\predev.ICP

Nodes

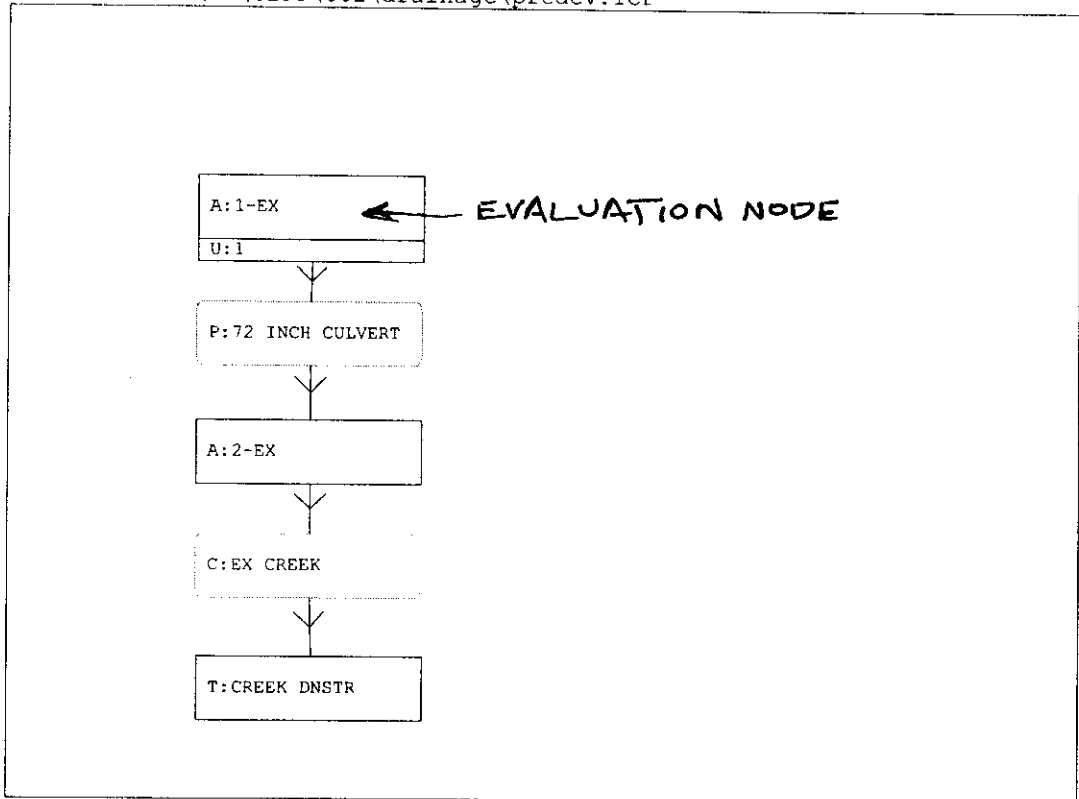
A Stage/Area  
V Stage/Volume  
T Time/Stage  
M Manhole

Basins

O Overland Flow  
U SCS Unit Hydro  
S Santa Barbara

Links

P Pipe  
W Weir  
C Channel  
D Drop Structure  
B Bridge  
R Rating Curve  
H Breach



SCS-II 24 HOUR CALCULATIONS

INPUT DATA

CIS CREEK CROSSING  
WITH 72" PIPE (12" Clip)  
04/18/07

B:\6k\6199\002\drainage\predev.ICP

=====  
Basins  
=====

```

Name: 1                               Node: 1-EX                               Status: Onsite
Group: BASE                            Type: SCS Unit Hydrograph

Unit Hydrograph: Uh484                 Peaking Factor: 484.0
Rainfall File:                          Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000              Time of Conc(min): 27.00
Area(ac): 53.000                        Time Shift(hrs): 0.00
Curve Number: 81.00                     Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00
    
```

=====  
Nodes  
=====

```

Name: 1-EX                             Base Flow(cfs): 0.000                     Init Stage(ft): 563.400
Group: BASE                              Type: Stage/Area                          Warn Stage(ft): 571.000
    
```

Stage(ft)	Area(ac)
563.400	0.0100
566.000	0.1000
570.000	0.3000
571.000	0.4000
575.000	0.7000

```

Name: 2-EX                             Base Flow(cfs): 0.000                     Init Stage(ft): 562.300
Group: BASE                              Type: Stage/Area                          Warn Stage(ft): 566.000
    
```

Stage(ft)	Area(ac)

```

Name: CREEK DNSTR                       Base Flow(cfs): 0.000                     Init Stage(ft): 559.000
Group: BASE                              Type: Time/Stage                          Warn Stage(ft): 559.000
    
```

Time(hrs)	Stage(ft)
0.00	559.000
50.00	559.000

SCS-II 24 HOUR CALCULATIONS

INPUT DATA

CIS CREEK CROSSING  
WITH 72" PIPE (12" Clip)  
04/18/07

B:\6k\6199\002\drainage\predev.ICP

==== Pipes =====

Name: 72 INCH CULVERT	From Node: 1-EX	Length(ft): 95.00
Group: BASE	To Node: 2-EX	Count: 1
UPSTREAM	DOWNSTREAM	Friction Equation: Average Conveyan
Geometry: Circular	Circular	Solution Algorithm: Automatic
Span(in): 72.00	72.00	Flow: Both
Rise(in): 72.00	72.00	Entrance Loss Coef: 0.50
Invert(ft): 562.330	561.330	Exit Loss Coef: 0.20
Manning's N: 0.024000	0.024000	Bend Loss Coef: 0.00
Top Clip(in): 0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in): 12.000	12.000	Inlet Ctrl Spec: Use dn
		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:  
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:  
Circular Concrete: Square edge w/ headwall

==== Channels =====

Name: EX CREEK	From Node: 2-EX	Length(ft): 200.00
Group: BASE	To Node: CREEK DNSTR	Count: 1
UPSTREAM	DOWNSTREAM	Friction Equation: Average Conveya
Geometry: Trapezoidal	Trapezoidal	Solution Algorithm: Automatic
Invert(ft): 562.200	559.000	Flow: Both
TClpInitZ(ft): 9999.000	9999.000	Contraction Coef: 0.000
Manning's N: 0.030000	0.030000	Expansion Coef: 0.000
Top Clip(ft): 0.000	0.000	Entrance Loss Coef: 0.000
Bot Clip(ft): 0.000	0.000	Exit Loss Coef: 1.000
Main XSec:		Outlet Ctrl Spec: Use dc or tw
AuxElev1(ft):		Inlet Ctrl Spec: Use dn
Aux XSec1:		Stabilizer Option: None
AuxElev2(ft):		
Aux XSec2:		
Top Width(ft):		
Depth(ft):		
Bot Width(ft): 4.000	5.000	
LtSdSlp(h/v): 4.00	4.00	
RtSdSlp(h/v): 4.00	4.00	

==== Hydrology Simulations =====

SCS-II 24 HOUR CALCULATIONS

INPUT DATA

CIS CREEK CROSSING  
WITH 72" PIPE (12" Clip)  
04/18/07

B:\6k\6199\002\drainage\predev.ICP

---

Name: 100YR24HR  
Filename: B:\6k\6199\001\drainage\100YR24HR.R32

Override Defaults: Yes  
Storm Duration(hrs): 24.00  
Rainfall File: Scsii-24  
Rainfall Amount(in): 7.20

Time(hrs)	Print Inc(min)
50.000	5.00

---

Name: 10YR24HR  
Filename: B:\6k\6199\001\drainage\10YR24HR.R32

Override Defaults: Yes  
Storm Duration(hrs): 24.00  
Rainfall File: Scsii-24  
Rainfall Amount(in): 5.10

Time(hrs)	Print Inc(min)
50.000	5.00

---

Name: 25YR24HR  
Filename: B:\6k\6199\001\drainage\25YR24HR.R32

Override Defaults: Yes  
Storm Duration(hrs): 24.00  
Rainfall File: Scsii-24  
Rainfall Amount(in): 6.00

Time(hrs)	Print Inc(min)
50.000	5.00

---

Name: 2YR24HR  
Filename: B:\6k\6199\001\drainage\2YR24HR.R32

Override Defaults: Yes  
Storm Duration(hrs): 24.00  
Rainfall File: Scsii-24  
Rainfall Amount(in): 3.50

Time(hrs)	Print Inc(min)
50.000	5.00

==== Routing Simulations =====

Name: 100YR24HR                      Hydrology Sim: 100YR24HR  
Filename: B:\6k\6199\001\drainage\100YR24HR.I32



SCS-II 24 HOUR CALCULATIONS

INPUT DATA

CIS CREEK CROSSING  
WITH 72" PIPE (12" Clip)  
04/18/07

B:\6k\6199\002\drainage\predev.ICP

Execute: Yes	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00		Delta Z Factor: 0.00500
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000		End Time(hrs): 50.00
Min Calc Time(sec): 0.5000		Max Calc Time(sec): 60.0000
Boundary Stages:		Boundary Flows:

Time(hrs)	Print Inc(min)
0.000	5.000
50.000	5.000

Group	Run
BASE	Yes

Name: 10YR24HR                      Hydrology Sim: 10YR24HR  
Filename: B:\6k\6199\001\drainage\10YR24HR.I32

Execute: Yes	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00		Delta Z Factor: 0.00500
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000		End Time(hrs): 50.00
Min Calc Time(sec): 0.5000		Max Calc Time(sec): 60.0000
Boundary Stages:		Boundary Flows:

Time(hrs)	Print Inc(min)
0.000	5.000
50.000	5.000

Group	Run
BASE	Yes

Name: 25YR24HR                      Hydrology Sim: 25YR24HR  
Filename: B:\6k\6199\001\drainage\25YR24HR.I32

Execute: Yes	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00		Delta Z Factor: 0.00500
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000		End Time(hrs): 50.00

SCS-II 24 HOUR CALCULATIONS

INPUT DATA

CIS CREEK CROSSING  
WITH 72" PIPE (12" Clip)  
04/18/07

B:\6k\6199\002\drainage\predev.ICP

Min Calc Time(sec): 0.5000  
Boundary Stages:

Max Calc Time(sec): 60.0000  
Boundary Flows:

Time(hrs)	Print Inc(min)
0.000	5.000
50.000	5.000
Group	Run
BASE	Yes

Name: 2YR24HR                      Hydrology Sim: 2YR24HR  
Filename: B:\6k\6199\001\drainage\2YR24HR.I32

Execute: Yes                      Restart: No                      Patch: No  
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.00500
Time Step Optimizer: 10.000	End Time(hrs): 50.00
Start Time(hrs): 0.000	Max Calc Time(sec): 60.0000
Min Calc Time(sec): 0.5000	Boundary Flows:
Boundary Stages:	

5

Time(hrs)	Print Inc(min)
0.000	5.000
50.000	5.000
Group	Run
BASE	Yes

=====  
==== Boundary Conditions =====  
=====

SCS-II 24 HOUR CALCULATIONS

BASIN MAX

CIS CREEK CROSSING  
 WITH 72" PIPE (12" Clip)  
 04/18/07

B:\6k\6199\002\drainage\predev.ICP

Simulation	Basin	Group	Time Max hrs	Flow Max cfs	Volume in	Volume ft3
100YR24HR	1	BASE	12.18	235.065	4.985959010.483	
10YR24HR	1	BASE	12.18	146.590	3.070590589.481	
25YR24HR	1	BASE	12.18	184.327	3.879746195.067	
2YR24HR	1	BASE	12.18	81.447	1.706328270.090	

SCS-II 24 HOUR CALCULATIONS

NODE MAX

CIS CREEK CROSSING  
WITH 72" PIPE (12" Clip)  
04/18/07

B:\6k\6199\002\drainage\predev.ICP

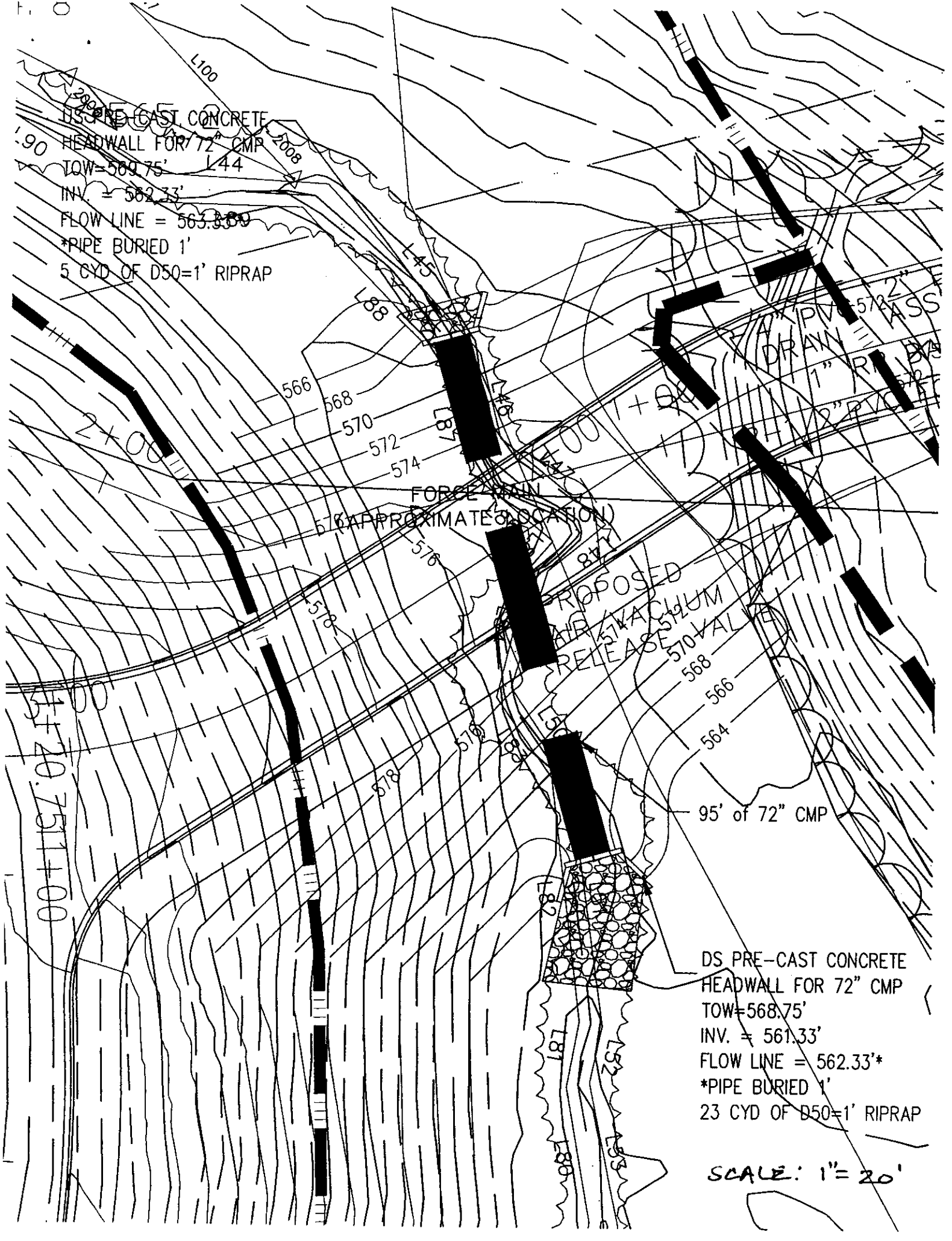
Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
[ 1-EX	100YR24HR	569.623	571.000	0.0050	12261	234.200	217.457
1-EX	10YR24HR	567.619	571.000	0.0050	8087	145.773	139.703
1-EX	25YR24HR	568.499	571.000	0.0050	9871	183.478	171.426
1-EX ]	2YR24HR	566.178	571.000	0.0050	5021	80.798	78.520
2-EX	100YR24HR	564.589	566.000	-0.0045	2461	217.457	217.443
2-EX	10YR24HR	564.139	566.000	-0.0045	2331	139.703	139.678
2-EX	25YR24HR	564.337	566.000	-0.0047	2432	171.426	171.403
2-EX	2YR24HR	563.665	566.000	-0.0045	1978	78.520	78.494
CREEK DNSTR	100YR24HR	559.000	559.000	0.0000	531	217.443	0.000
CREEK DNSTR	10YR24HR	559.000	559.000	0.0000	531	139.678	0.000
CREEK DNSTR	25YR24HR	559.000	559.000	0.0000	531	171.403	0.000
CREEK DNSTR	2YR24HR	559.000	559.000	0.0000	531	78.494	0.000

F. 0

DS PRE-CAST CONCRETE  
 HEADWALL FOR 72" CMP  
 TOW=569.75'  
 INV. = 562.33'  
 FLOW LINE = 563.33'  
 \*PIPE BURIED 1'  
 5 CYD OF D50=1' RIPRAP

DS PRE-CAST CONCRETE  
 HEADWALL FOR 72" CMP  
 TOW=568.75'  
 INV. = 561.33'  
 FLOW LINE = 562.33'  
 \*PIPE BURIED 1'  
 23 CYD OF D50=1' RIPRAP

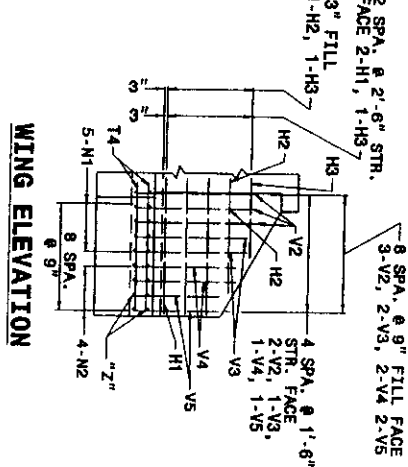
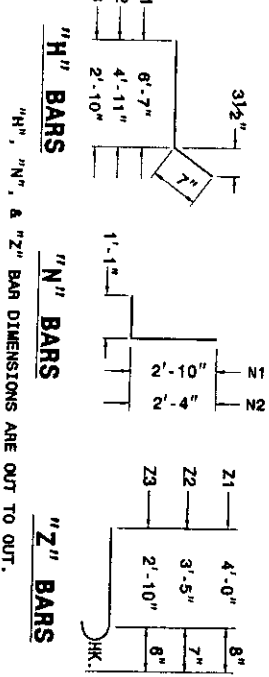
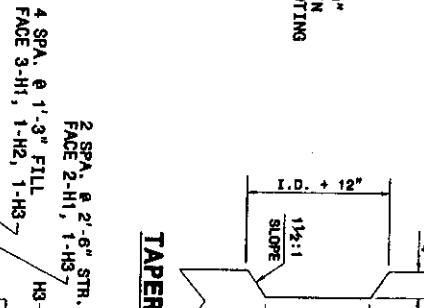
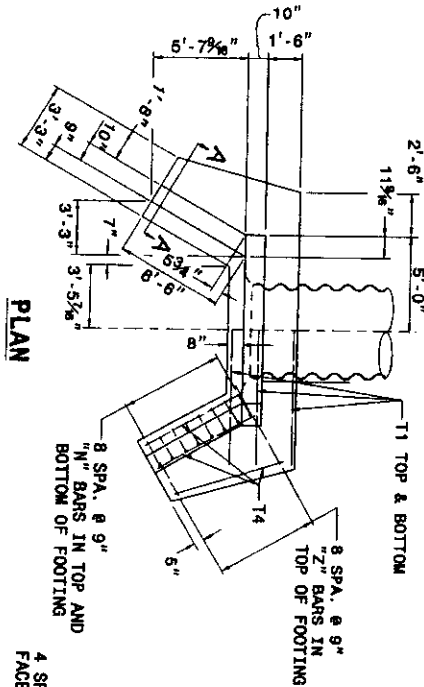
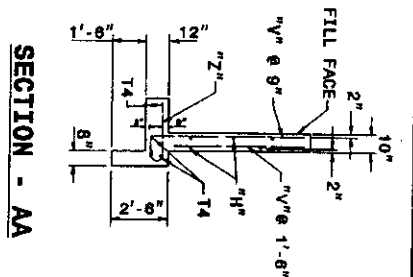
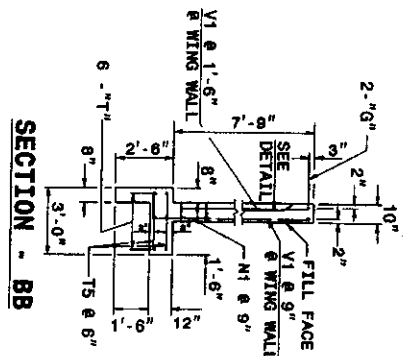
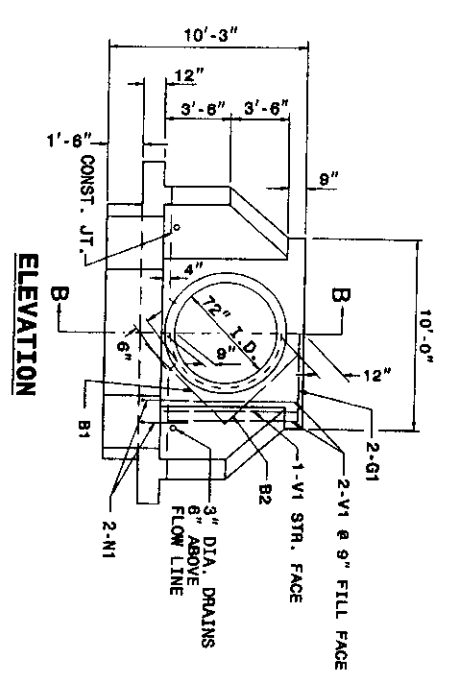
SCALE: 1" = 20'



7-06

ENGLISH STANDARD DRAWING FOR  
REINFORCED CONCRETE ENDWALL  
FOR SINGLE 72" PIPE 90° SKEW

SHEET 2 OF 2  
838.39



SEE STD. # 838.45 FOR GENERAL NOTES.

BILL OF MATERIAL FOR ENDWALL				
REIN. STEEL	NO.	PIPE		
BAR SIZE	LENGTH		WEIGHT	
B1	#4	5'-6"	4	15
B2	#4	4'-6"	4	12
G1	#7	9'-8"	2	40
H1	#4	7'-2"	10	48
H2	#4	5'-6"	2	7
H3	#4	3'-5"	4	9
N1	#5	3'-11"	14	57
N2	#4	3'-5"	8	18
T1	#4	14'-6"	6	58
T4	#4	6'-9"	6	27
T5	#4	2'-6"	40	67
V1	#4	7'-3"	6	29
V2	#4	5'-10"	10	39
V3	#4	5'-0"	6	20
V4	#4	4'-1"	6	16
V5	#4	3'-2"	6	13
Z1	#6	4'-8"	6	42
Z2	#5	4'-0"	6	25
Z3	#4	3'-4"	6	13
REIN. STEEL LBS.			555	
CON. / C.S. CU. YDS			7.5	

ENGLISH STANDARD DRAWING FOR  
REINFORCED CONCRETE ENDWALL  
FOR SINGLE 72" PIPE 90° SKEW

SHEET 2 OF 2  
838.39

# WETLAND IMPACTS

## Section E

**U.S. ARMY CORPS OF ENGINEERS  
WILMINGTON DISTRICT**

Action Id. 200430736County CabarrusQuad HARRISBURG

**GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION**

Property owner: Carolina International Schools, Att'n: Mr. Ben Berry  
Address: 4713 Walden Court  
Charlotte, NC 28210

Telephone No:

Zone: 44UTM or LAT/LONG: North: 3905648 East: 466194

Size and Location of project (water body, road name/number, town, etc.): Hickory Ridge Road School Site located on approx. 35 acre tract on the west side of Hickory Ridge Road; near Harrisburg

Description of Activity: Impact <150 LF of an unnamed, intermittent tributary to Reedy Creek and 0.006 acre of wetlands for the purpose of accomodating the construction of school facilities and associated parking, roads, and ballfields. All remaining stream channels and wetlands on the site will remain undisturbed. In addition, a minimum 75 foot wide buffer will be maintained adjacent to Reedy Creek.

Applicable Law:  Section 404 (Clean Water Act, 33 U.S.C. 1344)  
(check all that apply)        Section 10 (River and Harbors Act of 1899)

Authorization: NW39 Nationwide Permit Number

Your work is authorized by this Regional General (RGP) or Nationwide Permit (NWP) provided it is accomplished in strict accordance with the attached conditions and your submitted plans. If your activity is subject to Section 404 (if Section 404 block above is checked), before beginning work you must also receive a Section 401 water quality certification from the N.C. Division of Water Quality, telephone (919) 733-1786. For any activity within the twenty coastal counties, before beginning work you must contact the N.C. Division of Coastal Management, telephone (919) 733-2293.

Please read and carefully comply with the attached conditions of the RGP or NWP. Any violation of the conditions of the RGP or the NWP referenced above may subject the permittee to a stop work order, a restoration order, and/or appropriate legal action.

This Department of the Army RGP or NWP verification does not relieve the permittee of the responsibility to obtain any other required Federal, State, or local approvals/permits. The permittee may need to contact appropriate State and local agencies before beginning work.

If there are any questions regarding this authorization or any of the conditions of the General Permit or Nationwide Permit, please contact the Corps Regulatory Official specified below.

Date: May 10, 2004Corps Regulatory Official: Stephen D. ChapinTelephone No.: (828) 271-7980 x 224Expiration Date of Verification: May 10, 2006cc: WNR (Mr. Tamp Bandy)

CEBAW Form 501



# WNR



Wetland and Natural Resource  
Consultants, Inc.

April 14, 2004

US Army Corps of Engineers  
Attn: Mr. Steve Chapin  
151 Patton Ave, Room 208  
Asheville, North Carolina 28801-5006

## COPY

Re: Carolina International Schools, Hickory Ridge Road Site  
Cabarrus County, North Carolina

Mr. Chapin:

The purpose of this correspondence is to request authorization for impacts associated with the proposed school site on Hickory Ridge Road. Impacts requested include less than 150 linear feet of intermittent stream bed assessed to have important aquatic function due to the presence of aquatic life and adjacent wetland seep. Impacts will approach 150 linear feet due to adjacent topography to the streams. Avoidance and minimization measures such as head walls, etc. will be utilized to ensure that impacts do not exceed 149 linear feet. Total wetlands impacts are assessed to be minimal and are estimated to be 0.006 acres of wetland fill. All remaining streams on the property will be preserved and avoided from any future impacts.

Wetland data forms, maps, and photos have been previously submitted for your review. Feel free to call with any questions that you may have.

Best regards,

*Tamp Bandy*  
Tamp Bandy

Newton Office  
PO Box 224  
Newton, NC 28658  
828-465-3035  
828-465-3050 Fax

wnrinc.com

Clyde Office  
217 Paragon Parkway, #142  
Clyde, NC 28721  
828-627-0051  
828-627-0052 Fax

Office Use Only:

Form Version May 2002

USACE Action ID No. \_\_\_\_\_

DWQ No. \_\_\_\_\_

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

**I. Processing**

1. Check all of the approval(s) requested for this project:
 

<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Riparian or Watershed Buffer Rules
<input type="checkbox"/> Section 10 Permit	<input type="checkbox"/> Isolated Wetland Permit from DWQ
<input type="checkbox"/> 401 Water Quality Certification	
2. Nationwide, Regional or General Permit Number(s) Requested: 39
3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here:
4. If payment into the North Carolina Wetlands Restoration Program (NCWRP) is proposed for mitigation of impacts (verify availability with NCWRP prior to submittal of PCN), complete section VIII and check here:
5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here:

**II. Applicant Information**

1. Owner/Applicant Information

Name: Carolina International Schools  
 Mailing Address: Attn: Mr. Ben Barry  
4713 Walden Court  
Charlotte, NC 28210

Telephone Number: \_\_\_\_\_  
 E-mail Address: \_\_\_\_\_

Fax Number: \_\_\_\_\_

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: Tamp Bandy  
 Company Affiliation: Wetland and Natural Resource Consultants, Inc.  
 Mailing Address: P.O. Box 224  
Newton, North Carolina 28658

Telephone Number: 828-302-3437  
 E-mail Address: wnrinc@aol.com

Fax Number: 828-465-3050

**III. Project Information**

Attach a vicinity map clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed site plan showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-

size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: Hickory Ridge Road School Site
2. T.I.P. Project Number or State Project Number (NCDOT Only): n/a
3. Property Identification Number (Tax PIN): 5516451542, 5516443125
4. Location  
County: Cabarrus Nearest Town: Harrisburg  
Subdivision name (include phase/lot number): n/a  
Directions to site (include road numbers, landmarks, etc.): From Harrisburg Hwy 49, south on Hickory Ridge Road, Site on west side of road, see attached USGS
5. Site coordinates, if available (UTM or Lat/Long): 35°17'32"N 80°37'38"W  
(Note - If project is linear, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
6. Property size (acres): +/-35 acres
7. Nearest body of water (stream/river/sound/ocean/lake): Reedy Creek
8. River Basin: Yadkin  
(Note - this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: site consists of abandoned agricultural, forested areas. Adjacent properties consist of wooded, agricultural, and residential uses.
10. Describe the overall project in detail, including the type of equipment to be used: Project will include the construction of school facilities and associated parking, roads, and ball fields.
11. Explain the purpose of the proposed work: access high ground, facilitate construction of roads, ball fields, etc.

#### IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules.  
Site visit with Army Corps conducted to verify wetland delineation.

#### V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.  
No future additional impacts anticipated

#### VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water and stream channels associated with the project. The applicant must also provide justification for these impacts in Section VII below. All proposed impacts, permanent and temporary, must be listed herein, and must be clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) must be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly

for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: Road crossing utilizing pipe and rip-rap and minimal wetland fill for Ball field.

2. Individually list wetland impacts below:

Wetland Impact Site Number (on map)	Type of Impact*	Area of Impact (acres)	Located within 100-year Floodplain** (yes/no)	Distance to Nearest Stream (linear feet)	Type of Wetland***
1	fill	0.006	y	100	forested

\* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

\*\* 100-Year floodplains are identified through the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM), or FEMA-approved local floodplain maps. Maps are available through the FEMA Map Service Center at 1-800-358-9616, or online at <http://www.fema.gov>.

\*\*\* List a wetland type that best describes wetland to be impacted (e.g., freshwater/saltwater marsh, forested wetland, beaver pond, Carolina Bay, bog, etc.) Indicate if wetland is isolated (determination of isolation to be made by USACE only).

List the total acreage (estimated) of all existing wetlands on the property: 0.544  
 Total area of wetland impact proposed: 0.006

3. Individually list all intermittent and perennial stream impacts below:

Stream Impact No. (on map)	Type of Impact*	Impact Length (linear ft)	Stream Name**	Average stream width Before Impact	Perennial or Intermittent? (please specify)
1	pipe / rip-rap	149	UT to Reedy Ck	2	intermittent

\* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: culverts and associated rip-rap, dams (separately list impacts due to both structure and flooding), relocation (include linear feet before and after, and net loss/gain), stabilization activities (cement wall, rip-rap, crib wall, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included.

\*\* Stream names can be found on USGS topographic maps. If a stream has no name, list as UT (unnamed tributary) to the nearest downstream named stream into which it flows. USGS maps are available through the

USGS at 1-800-358-9616, or online at www.usgs.gov. Several internet sites also allow direct download and printing of USGS maps (e.g., www.topozone.com, www.mapquest.com, etc.).

Cumulative impacts (linear distance in feet) to all streams on site: 149

4. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.) below:

Open Water Impact No. (on map)	Type of Impact*	Area of Impact (acres)	Name of Waterbody (if applicable)	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)
n/a				

\* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: fill, excavation, dredging, flooding, drainage, bulkheads, etc.

5. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply):  uplands  stream  wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): n/a

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.): n/a

Size of watershed draining to pond: n/a Expected pond surface area: n/a

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts.

Impacts are assessed to minimal, stream impacts are necessary for access to high ground and will utilize construction methods to ensure that impact is less than 150 linear feet in light of challenging approach grades / topography (headwalls, retaining walls, etc).

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE - In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on March 9, 2000, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining

acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCWRP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.  
All remaining channels and wetlands on site will remain undisturbed. Minimum 75 foot buffer will be maintained adjacent to Reedy Creek.

2. Mitigation may also be made by payment into the North Carolina Wetlands Restoration Program (NCWRP). Please note it is the applicant's responsibility to contact the NCWRP at (919) 733-5208 to determine availability and to request written approval of mitigation prior to submittal of a PCN. For additional information regarding the application process for the NCWRP, check the NCWRP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCWRP is proposed, please check the appropriate box on page three and provide the following information:

Amount of stream mitigation requested (linear feet): n/a  
 Amount of buffer mitigation requested (square feet): n/a  
 Amount of Riparian wetland mitigation requested (acres): n/a  
 Amount of Non-riparian wetland mitigation requested (acres): n/a  
 Amount of Coastal wetland mitigation requested (acres): n/a

**IX. Environmental Documentation (required by DWQ)**

Does the project involve an expenditure of public (federal/state) funds or the use of public (federal/state) land?

Yes  No

If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)? Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.

Yes  No

If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter.

Yes  No

**X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)**

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify n/a)?

Yes  No  If you answered "yes", provide the following information:

Identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1	n/a	3	n/a
2	n/a	1.5	n/a
Total	n/a		n/a

\* Zone 1 extends out 30 feet perpendicular from near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Conservation Easement, Riparian Buffer Restoration / Enhancement, Preservation or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0260.

n/a

**XI. Stormwater (required by DWQ)**

Describe impervious acreage (both existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property.

to be dictated by local requirements

**XII. Sewage Disposal (required by DWQ)**

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.

2.5 in force main to existing utility to be installed in proposed road stream crossing

**XIII. Violations (required by DWQ)**

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?

Yes  No

Is this an after-the-fact permit application?

Yes  No

**XIV. Other Circumstances (Optional):**

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints

associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

Applicant requests review at earliest possible convenience. On site construction scheduled to commence in May for temporary classrooms. Impacts to regulated wetlands and streams will not commence until authorized by US Army Corps.

*Lamp Bandy*

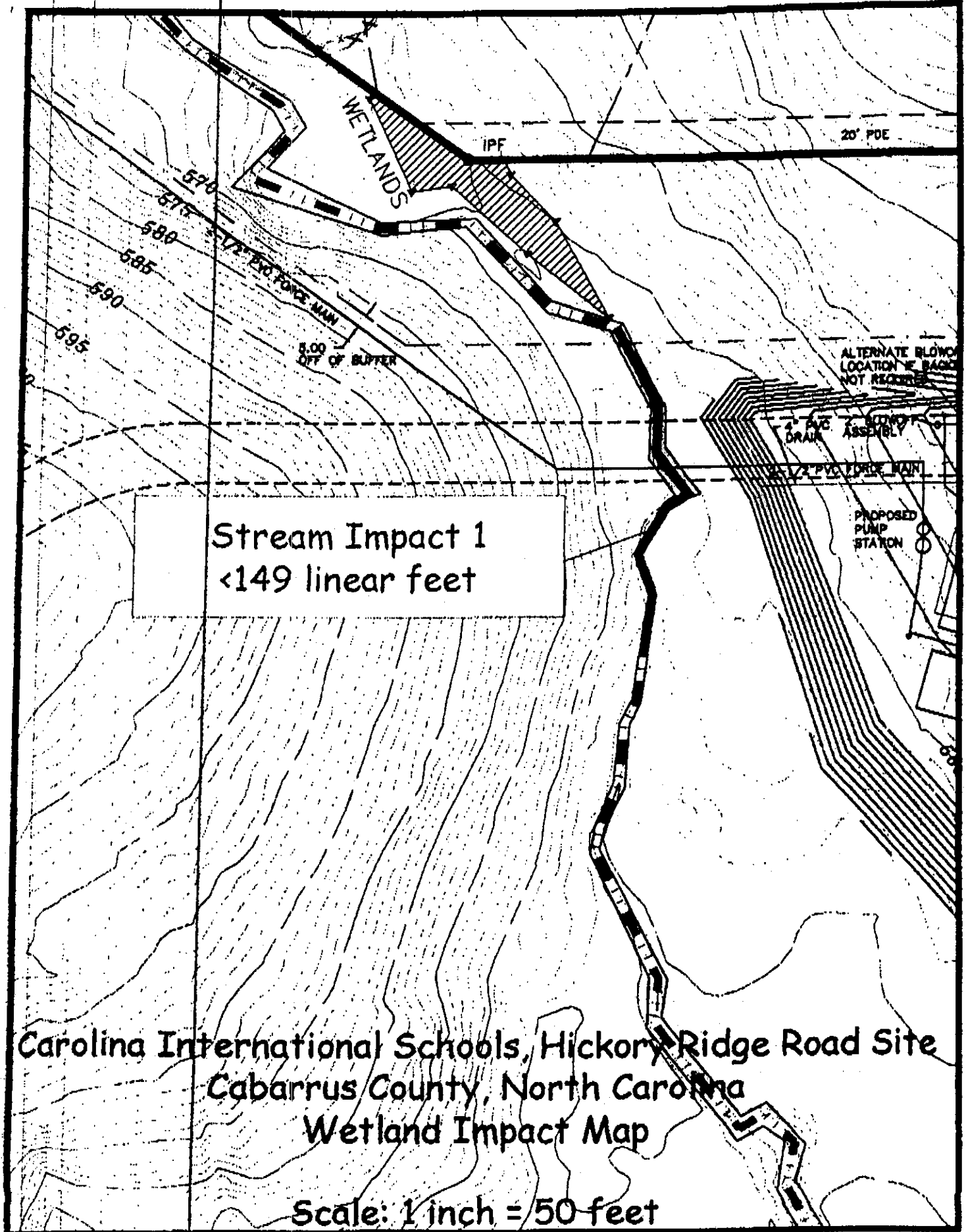
*4/14/04*

Applicant/Agent's Signature

Date

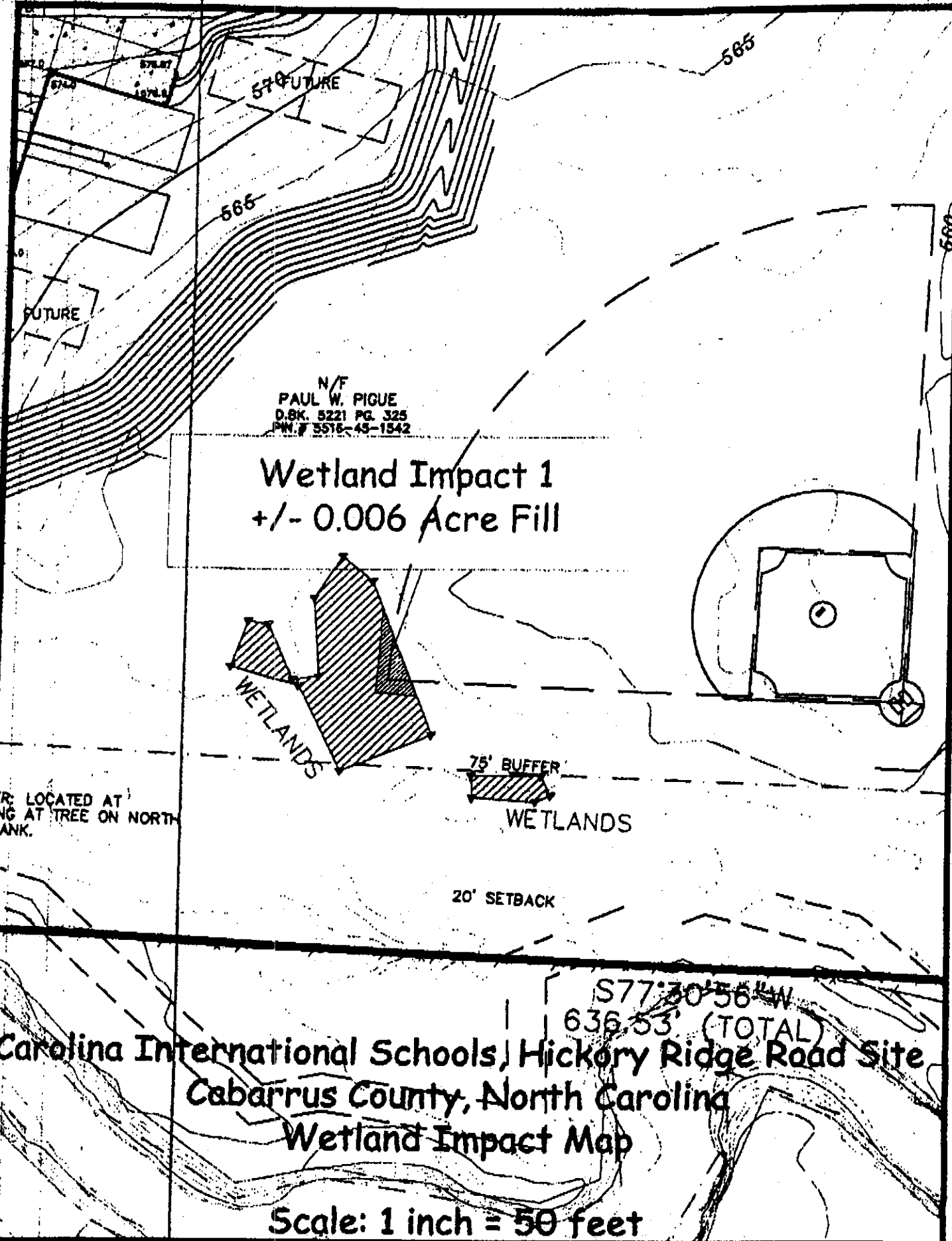
(Agent's signature is valid only if an authorization letter from the applicant is provided.)





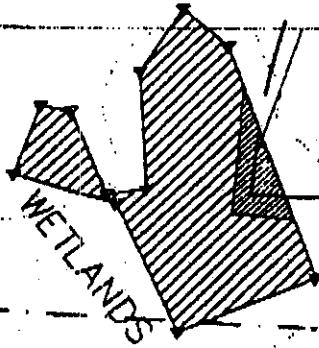
Carolina International Schools, Hickory Ridge Road Site  
 Cabarrus County, North Carolina  
 Wetland Impact Map

Scale: 1 inch = 50 feet



N/F  
 PAUL W. FIGUE  
 D.B.K. 5221 PG. 325  
 P.W. # 5518-45-1542

**Wetland Impact 1**  
 +/- 0.006 Acre Fill



20' SETBACK

ER: LOCATED AT  
 NG AT TREE ON NORTH  
 BANK.

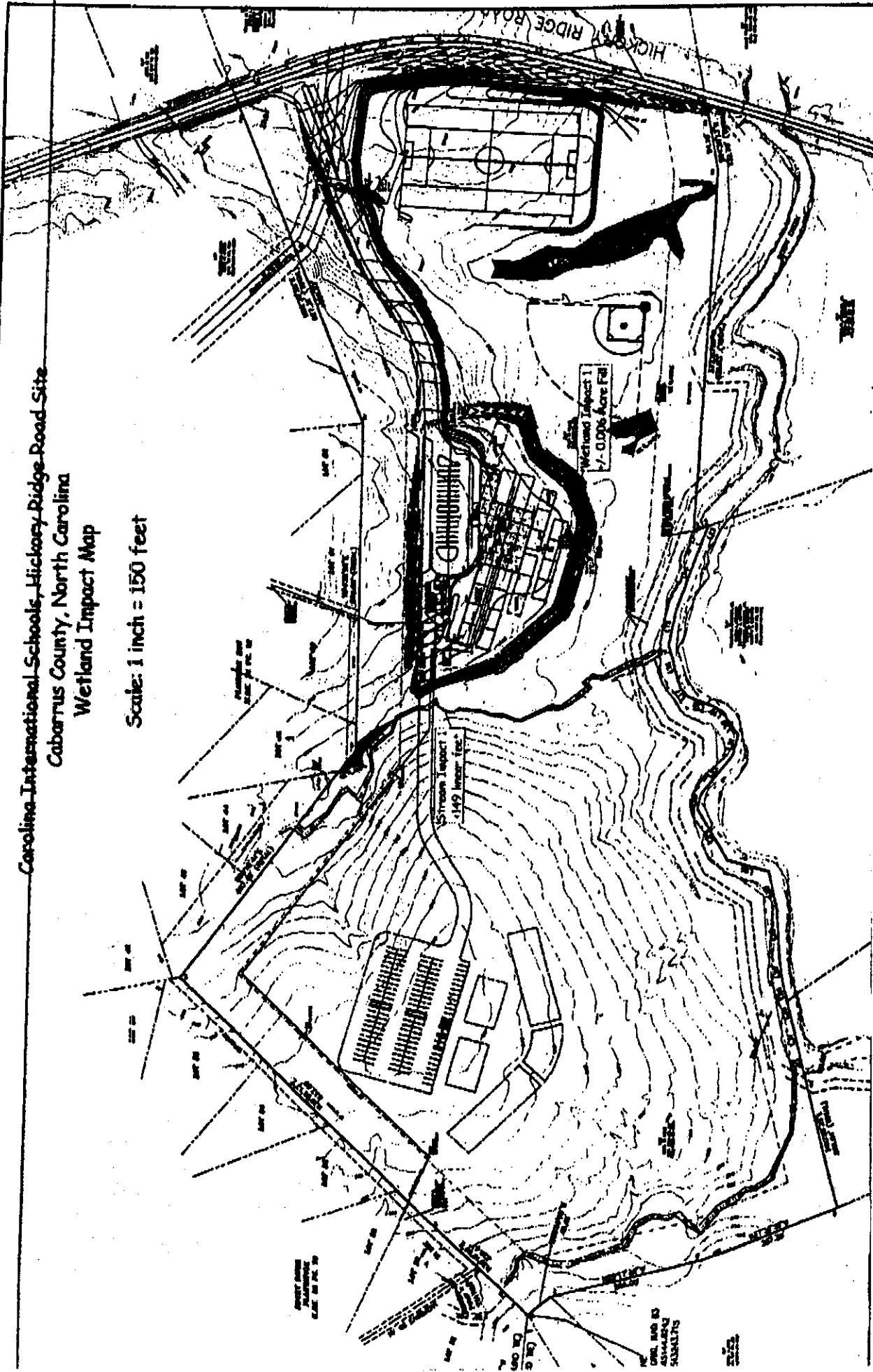
S77°30'56"W  
 636.53' (TOTAL)

**Carolina International Schools, Hickory Ridge Road Site**  
**Cabarrus County, North Carolina**  
**Wetland Impact Map**

**Scale: 1 inch = 50 feet**

Carolina International Schools, Hickory Ridge Road Site  
 Cabarrus County, North Carolina  
 Wetland Impact Map

Scale: 1 inch = 150 feet



**WNR**

Wetland and Natural Resource  
Consultants, Inc.

March 4, 2004

Carolina International School  
Attn: Mr. Ben Barry  
4713 Walden Court  
Charlotte, North Carolina 28210

RE: Hickory Ridge Road Site,  
Cabarrus County, North Carolina

At your request, the Hickory Ridge Road Property was evaluated for the presence of jurisdictional wetlands and Waters of the United States. Methodologies were consistent with the Corps of Engineers Wetlands Delineation Manual (1987) and Corps Regulatory Guidance Letters. The evaluation generally follows Section D, Subsection 2 of the Corp's manual. The Corps is the ultimate authority for wetland and channel determinations for Waters of the U.S. Consultants' findings are subject to verification by the Corps of Engineers and the North Carolina Division of Water Quality.

WNR performed the wetland evaluation with the intent of approximating the extents of jurisdiction on only those areas exhibiting all three required wetland characteristics. Wetland areas, when identified in this report, exhibit positive indicators of wetland hydrology in areas with hydric soils and a wetland plant community.

Channel determinations are based primarily on the definition of Water of the US found in 33 Code of Federal Regulations, Section 328. The jurisdictional extent is considered the upper limits of the ordinary high-water mark as found in the field. The Corps District Office has provided additional regional guidance to assist consultants in the identification of regulated channels. Not all drainage features are subject to the Corps jurisdiction. Only those channels with adequate flow to maintain an intermittent channel are found to be subject to jurisdiction. Depending on certain weather patterns or other natural events, areas that are presented as non-jurisdictional (wetland or channel) may be captured by the Corps during a field verification of the delineation.

### FINDINGS

#### Channels:

Waters of the US in the form of channels are present on the property. These channels are unnamed intermittent and perennial tributaries to Reedy Creek. These tributaries are classified as Class C waters by the NCDWQ. The regulated channels as assessed by WNR are shown on the attached map as blue dash-dotted lines. These channels are assessed to be important in aquatic function due to the presence of fish, crayfish, and salamanders. The first drainage west of

Newton Office  
PO Box 224  
Newton, NC 28658  
828-465-3035  
828-465-3050 Fax

wnrinc.com

Clyde Office  
217 Paragon Parkway, #142  
Clyde, NC 28721  
828-627-0051  
828-627-0052 Fax

Hickory Ridge Road is shown as an intermittent stream on the USGS TopoQuad. However, this drainage is assessed to be primarily for the conveyance of stormwater flows only, and not regulated by the Corps or the NC DWQ. All other drainage features within the evaluated area are assessed to be non-jurisdictional storm-water drains.

#### Wetlands:

Potential wetland areas were evaluated for the presence of hydric soils, hydrophytic vegetation, and wetland hydrology indicators. In these areas, hydrologic proof would be the existence of hydric soils with oxidized root channels in the upper 12 inches of the "A" horizon. Other indicators of hydrology may include water borne deposits, drift lines, scour marks, or other regional indicators of soil saturation.

Areas subject to regulation are shown on the attached map as green polygons. The largest wetland polygon is delineated in the floodplain with 1000-1022 and 1100-1018 numbered flagging. This wetland is located within the 100 year floodplain and will be subject to special permitting conditions. Wetland 2000-2008 is located just below the adjacent subdivision and adjacent to the stream that dissects the property near the middle of the project site. No other regulated wetland areas were assessed to be present within the evaluated area; However, there are several additional "marginal" areas within the floodplain that were inundated during our site visit that currently possess the necessary hydrology and vegetation for a wetland designation. Soils within these marginal areas are most similar to Chewacla soil series and do not appear to fully meet the criteria of a hydric soil, which is also necessary for the capture of an area as a regulated wetland.

#### Regulatory Summary

The Army Corps will need to verify our findings prior to submittal of a request for proposed impacts. We are currently scheduled to meet with the Corps on March 23, 2004 to complete an on-site verification of the delineation. At this meeting a final determination of the limits of jurisdictional will be decided, at which point the wetlands will need to be surveyed along with the centerlines of the regulated channels. Surveyors should locate the centerlines of all streams, including Reedy Creek, located on the property and hang a flag at each shot location. Once the regulated areas have been surveyed, a map of the delineation can be prepared for Corps certification. A signed map can be relied upon for a period not to exceed 5 years, and for submittal of permit application impact assessments.

The Corps will need to be notified of any impacts to open waters, including intermittent or perennial channels prior to any proposed impacts. We recommend that impacts associated with development be permitted under Nationwide 39. This permits allow for the construction of institutional facilities and their infrastructure. Authorization will require Pre-Construction Notification to the Corps, while notification to DWQ will depend on impact length (if total impacts equal or exceed 150 linear feet and/or 1/10 acre of jurisdictional waters including wetlands under Nationwide Permit 39). Channel impacts are measured along the centerline of the channel, and may be in one contiguous length or broken into multiple segments.

Newton Office  
PO Box 224  
Newton, NC 28658  
828-465-3035  
828-465-3050 Fax

wnrinc.com

Clyde Office  
217 Paragon Parkway, #142  
Clyde, NC 28721  
828-627-0051  
828-627-0052 Fax

Nationwide Permit regional conditions limit impacts to "important" perennial or intermittent channels for any single project, as determined by the Corps, to 300 linear feet of channel and  $\frac{1}{4}$  acre of wetland impacts under any combination of permits. Additionally, stormwater management facilities on perennial channels or fill of wetlands within the 100 year floodplain are prohibited by the Wilmington District's Regional Conditions when using Nationwide Permit 39.

If impacts to wetlands within the 100 year floodplain are unavoidable, it may be necessary to request up to 1/10 acre of impacts under Nationwide Permit 18.

Normally, compensatory mitigation is required by the Corps for impacts that require notification in the form of avoidance and minimization, riparian buffer conservation easements, and/or restoration. Impacts exceeding 150 linear feet, but less than 300 linear feet of important channel will be more difficult to attain and will be subject to a more thorough review for avoidance, minimization, and mitigation. Typically, this mitigation must account for the restoration of the same length of channel that is impacted by the development by the Division of Water Quality if aquatic life is present (fish, crayfish, aquatic salamanders). The channel restoration could be accomplished through a state in lieu fee or by mitigating on site. Additionally the North Carolina Division of Water Quality will require storm water detention and treatment facilities for any institutional project that requires pre-construction notification.

Please call us with any questions that you may have.

Best regards,

*Tamp Bandy*

Tamp Bandy

# WATER ANALYSIS

## Section F

**CAROLINA INTERNATIONAL SCHOOL  
WATER DISTRIBUTION SYSTEM ANALYSIS**

The proposed waterline connection has been modeled in Watergems software using data from a hydrant test performed by Cabarrus County on 9/5/06.

**Hydrant Test:**

The hydrant test performed on a fire hydrant on 9/5/06 at the lower campus of CIS yielded the following results:

Flow Rate (gpm)	Pressure (psi)
0	70
1913	44
2723	20
3003	10

**Model Calibration:**

The hydrant test data was used to calibrate a model in Watergems. The hydraulic losses were used to model a length of pipe from an upstream reservoir.

The results of the calibration are below:

Flow Rate (gpm)	Pressure (psi)	Error
0	69.9	-0.1%
1913	44.3	0.7%
2723	20.6	3%
3003	10.8	8%

The model appears to be calibrated with good agreement to the hydrant test results.

**Demand Flow:**

Demands flows of 41 gpm for the upper campus and 25 gpm for the lower campus were applied to the system yielding the following results.

Junction/Hydrant	Pressure (psi)
H-3	52.3
H-2	54.2
H-1	55.5
J-1 (lower campus)	69.9



These results show pressures between 50 and 80 psi, which is well with in the desired range.

**Fire Flow:**

A fire flow of 1500 gpm, applied to the system in addition to the demand flows, yielding the following results.

Junction/Hydrant	Pressure (psi)
H-3	27.8
H-2	29.2
H-1	29.8
J-1 (lower campus)	52.2

The results indicate pressures above the 20 psi minimum required.

**2 Hour Fire Flow Capacity:**

According to a report from Kimley-Horn and Associates sealed Febuary 16<sup>th</sup>, 2007 the existing system can provide adequate fire flow at 500 gpm assuming that both pumps are functioning.

**Table 1 - Design Flows vs Supply and Capacity**

	<i>Supply</i>	<i>Demand</i>
Average Daily Flow (gpd)	-	28,500
Maximum Daily Flow (gpd)	-	71,250
Primary Well Supply Rate (gpd)	46,800	-
Auxiliary Well Supply Rate (gpd)	39,600	-
Storage Tank Capacity (gallons)	100,000	-

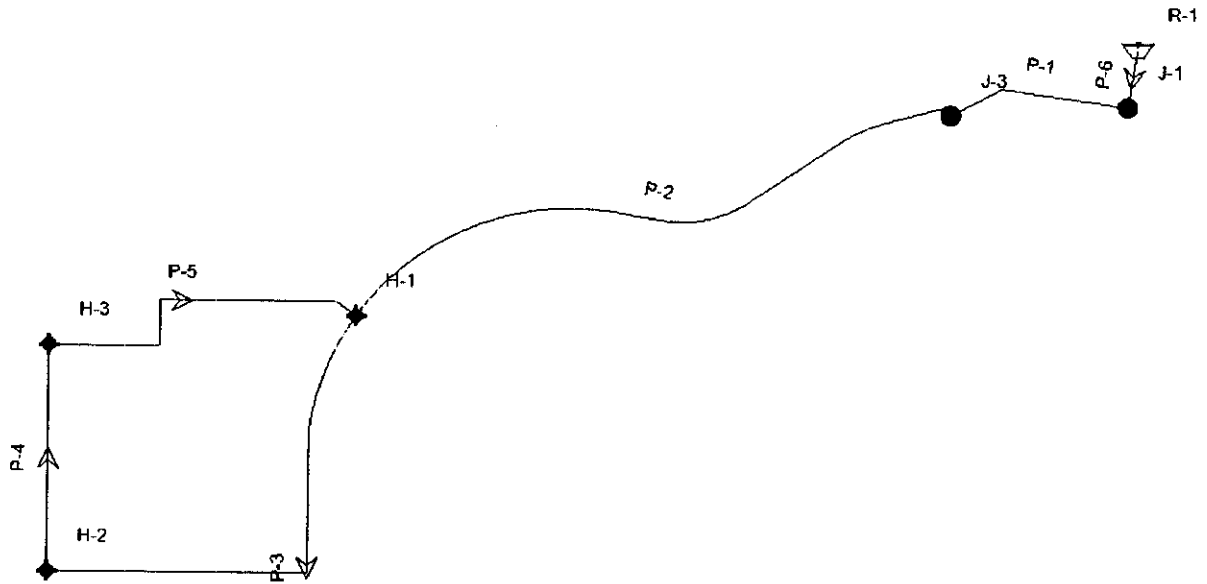
Source: *Engineering Report for Carolina International School Water Line Extension, Kimly-Horn and Associates Inc. 2007*

However, the requirement according to the Cabarrus County fire marshal is 1500 gpm, yielding:

$$\text{Fire Flow} = 1500 \text{ gpm} \times 60 \text{ min/hr} \times 2 \text{ hr} = 180,000 \text{ gal}$$

Since the fire flow exceeds the size of the storage tank, possible remedies proposed are that the building have an automatic sprinkler system and/or an onsite facility provide additional water storage for the purpose of fire fighting. The storage facility could be in the form of a pond located in the middle of the loop road, an underground facility, likely under the parking area or an above ground storage tank. The design of such facilities would be coordinated with the fire marshal.

# Scenario: Base



CALIBRATION

**FlexTable: Pipe Table Report**

Label	Start Node	Stop Node	Diameter (ft)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)	Length (ft)
P-1	21: J-1	24: J-3	8.0	PVC	150.0	0.00	0.00	0.000	130
P-2	24: J-3	26: H-1	8.0	PVC	150.0	0.00	0.00	0.000	467
P-3	26: H-1	28: H-2	8.0	PVC	150.0	0.48	0.00	0.000	372
P-5	30: H-3	26: H-1	8.0	PVC	150.0	0.24	0.00	0.000	251
P-5	30: H-3	26: H-1	8.0	PVC	150.0	0.24	0.00	0.000	251
P-4	30: H-3	28: H-2	8.0	PVC	150.0	-0.48	0.00	0.000	160
P-6	22: R-1	21: J-1	12.0	Ductile Iron	130.0	1,913.00	5.43	0.008	7,040

CALIBRATION

### FlexTable: Junction Table Report

	Label	Flow	Design	Hydraulic	Flow
J-1	581.4	1,913.00	683.7	44.3	
J-3	573.8	0.00	683.7	47.6	

### FlexTable: Hydrant Table Report

ID	Pressure (psi)	Elevation (ft)	Demand (gpm)	Hydraulic Grade (m)
30	28.4	618.0	0.00	683.7
28	29.7	615.0	0.00	683.7
26	29.9	614.5	0.00	683.7

DEMAND

### FlexTable: Hydrant Table Report

	Pressure (psi)	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)
30	52.3	622.1	41.00	742.9
28	54.2	617.6	0.00	742.9
26	55.5	614.5	0.00	742.9

### FlexTable: Junction Table Report

	581.4	25.00	742.9	69.9
J-1	573.8	0.00	742.9	73.2
J-3				

# FIRE Flow

## FlexTable: Hydrant Table Report

	Flow (gpm)	Elevation (ft)	Static Elevation (ft)	Hydrant Grade (ft)
30	27.8	618.0	1,541.00	682.2
28	29.2	615.0	0.00	682.6
26	29.8	614.5	0.00	683.4



FIRE Flow

### FlexTable: Junction Table Report

J-1	581.4	25.00	702.1	52.2
J-3	573.8	0.00	698.0	53.7

# Fire Hydrant Flow Test Application Form

Date: 8-23-06

Applicant: CAROLINA INTERNATIONAL SCHOOL

Address: 8810 HICKORY RIDGE RD.  
(of test site) HARRISBURG, NC 28075

Doc. Rec. #: 458-3847

# of hydrants: ONE  
(\$50 per hydrant)

Total fee due: \$ 50.00

Ck# 1570

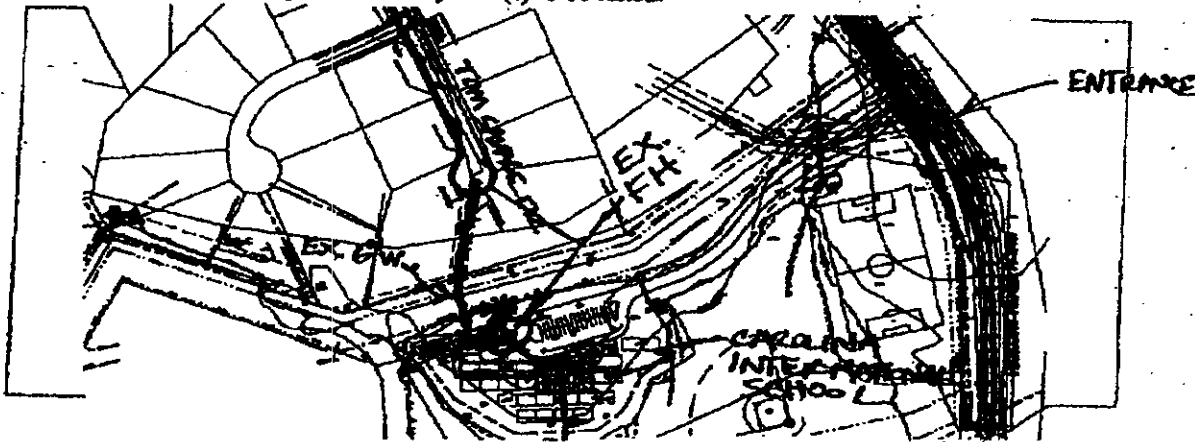
Rec'd by: [Signature]

Signed by: Robert S. Smith

**Hydrant(s) to be flowed MUST be clearly marked:**

**\* FH TO BE TESTED**

Site drawing showing location of hydrant(s) to be tested:



(FOR OFFICIAL USE ONLY)

RESULTS: Static 70 Residual 44 Flow 1.30

Inspected by: [Signature] Date: 9/5/06

Hydrant Flow 1.913 gpm  
Flow @ 20psi 2.723 gpm  
Flow @ 10psi 3.003 gpm

**Water Resources, Inc.**

Post Office Box 11269  
4108 Park Road, Suite 406  
Charlotte, North Carolina 28220-1269  
OFFICE (704) 527-2314 FAX (704) 527-1304

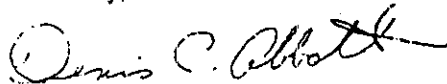
April 30, 2004

To: Joe Hughes  
704-841-2567

Dear Sir,

Please be advised that Water Resources, Inc. has the capacity and agrees to provide water to Carolina International School (private school). If you need any additional information, please call our office.

Sincerely,



Dennis C. Abbott  
President  
Water Resources Inc.

# MACCAFERRI

## Gabions & Reno Mattresse CONFORM TO ASTM A975-97

### Gabions & Reno Mattresses

are rectangular baskets made of heavily galvanized, double twisted, steel woven wire mesh. The single unit constructed baskets are assembled, laced together and then filled with stone to form a monolithic structure. Gabions and Reno mattresses are used for retaining walls, sound barriers, channel linings, slope stabilization, dams and weirs. They are particularly effective in restoring the environment and promoting vegetation growth. Our mesh is also used very successfully for rockfall protection and mechanically stabilized soil walls (Terramesh®). All the physical and mechanical properties of Maccaferri gabions and Reno mattresses meet or exceed the requirements of ASTM A975-97.



### Main Features

**ENVIRONMENTAL FRIENDLINESS**—Gabions and Reno mattresses are environmentally friendly products. The blending of gabion and Reno mattress structures into the environment is rapid and pleasing. The voids in the rockfill become progressively filled with silt, promoting vegetation growth which is essential to the preservation and maintenance of the ecological balance of the surrounding environment.

**FLEXIBILITY**—The woven mesh system has the capability of withstanding unexpected and/or localized stresses due to ground settlements and scour by deflection while maintaining its structural integrity.

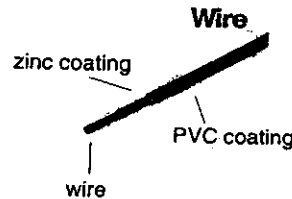
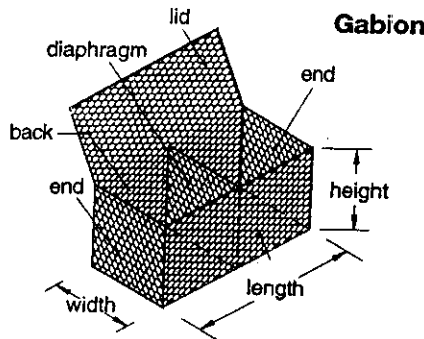
**PERMEABILITY**—The stone fill allows the water to seep through the structure while retaining the soil, therefore no additional drainage is required to relieve the hydrostatic pressures.

**COST EFFECTIVE, EASY TO BUILD**—Gabions and Reno mattresses construction does not require skilled labor because they are very easy to build. Standard construction equipment can be used. Structures can be built in stages, if necessary, and baskets can be prefilled and launched to enable the installation under water. Site assistance is available from any Maccaferri area office.

Due to their proven success, Maccaferri products are approved by many federal, state and local authorities.



GABIONS* (8 x 10 MESH TYPE)						
Letter Code	Length ft.	Width ft.	Height ft.	# of Cells	Capacity Ou. Yds.	Color Code
A	6	3	3	2	2.0	Blue
B	9	3	3	3	3.0	White
C	12	3	3	4	4.0	Black
D	6	3	1.5	2	1.0	Red
E	9	3	1.5	3	1.5	Green
F	12	3	1.5	4	2.0	Yellow
G	6	3	1	2	0.66	Blu/red
H	9	3	1	3	1.0	Blu/yel
I	12	3	1	4	1.33	Blue/grn
SP	4.5	3	3	1	1.5	Brown



**PVC COATED WIRE MESH**—To extend the life span of a structure used in water, polluted or corrosive environments, gabions and Reno mattresses can be supplied with an additional grey and PVC (Polyvinyl Chloride) coating.

**MACCAFERRI, INC.** has been manufacturing gabion products for over 125 years. In addition to these products, Maccaferri offers a wide range of other materials for the soil erosion control market such as polyester geogrids, woven and nonwoven geotextiles and erosion control blankets. For all these products and their applications Maccaferri offers technical and design support, design software and jobsite assistance. Contact our nearest Maccaferri office for more information.

The information presented in this report is illustrative general information for comparative estimating purposes only. Maccaferri, Inc. assumes no responsibility for either the design or actual cost of any structures resulting from the use of information in this report. Anyone relying upon or making use of this information does so at his own risk and assumes any and all liability or other consequences resulting therefrom.

visit us at our website: [www.maccaferri.com](http://www.maccaferri.com)

**MACCAFERRI**

Headquarters:  
10303 Governor Lane Boulevard  
Williamsport, MD 21795-3116  
tel: 301-223-6910  
fax: 301-223-6134

**MACCAFERRI, INC.**

West Coast:  
3650 Seaport Boulevard  
West Sacramento, CA 95691-3400  
tel: 916-371-5805  
fax: 916-371-0764

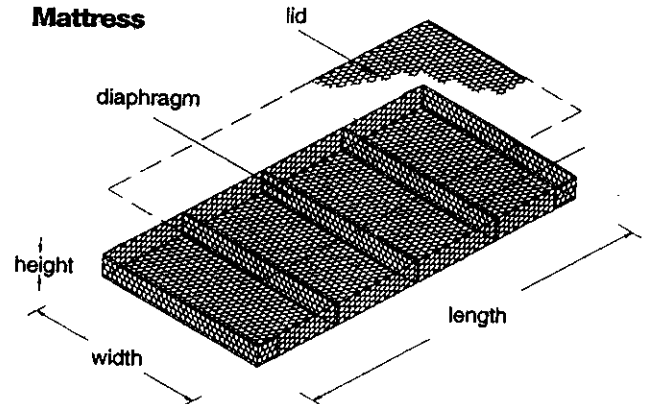
e-mail: [hdqtrs@maccaferri-usa.com](mailto:hdqtrs@maccaferri-usa.com)  
website: [www.maccaferri.com](http://www.maccaferri.com)

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RENO MATTRESSES* (6 X 8 MESH TYPE)							
Letter Code	Length ft.	Width ft.	Thickness in.	# of Cells	Area Sq. Yds.	Capacity Ou. Yds.	Color Code
Q	9	6	6	3	6	1.00	Whi/Yel
R	12	6	6	4	8	1.33	Whi/Grn
T	9	6	9	3	6	1.50	Red/Yel
U	12	6	9	4	8	2.00	Red/Grn
Z	12	6	12	4	8	2.67	Brown

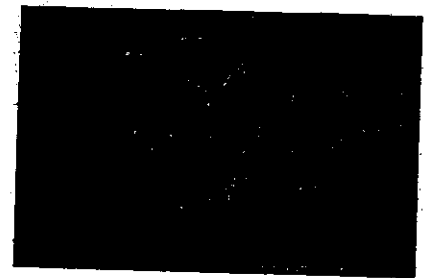
- \* All dimensions are nominal. Sizes and mechanical properties conform to ASTM A975-97.
- Available in zinc coated, Galvan coated, and zinc + PVC coated wire.
  - Metric sizes are also available. Please inquire about special sizes.

### Reno Mattress



**FASTENING TOOLS**—The ultimate alternative to hand lacing! Consider the use of pneumatic or hand fastening tools instead of lacing wire to expedite your construction operations. The hand lacing time for **assembly and installation operations can be reduced up to 50%** with the use of our fastening system. The rings can be either heavily galvanized or stainless steel. The latter is for use with PVC coated gabions.

Fastening Tool



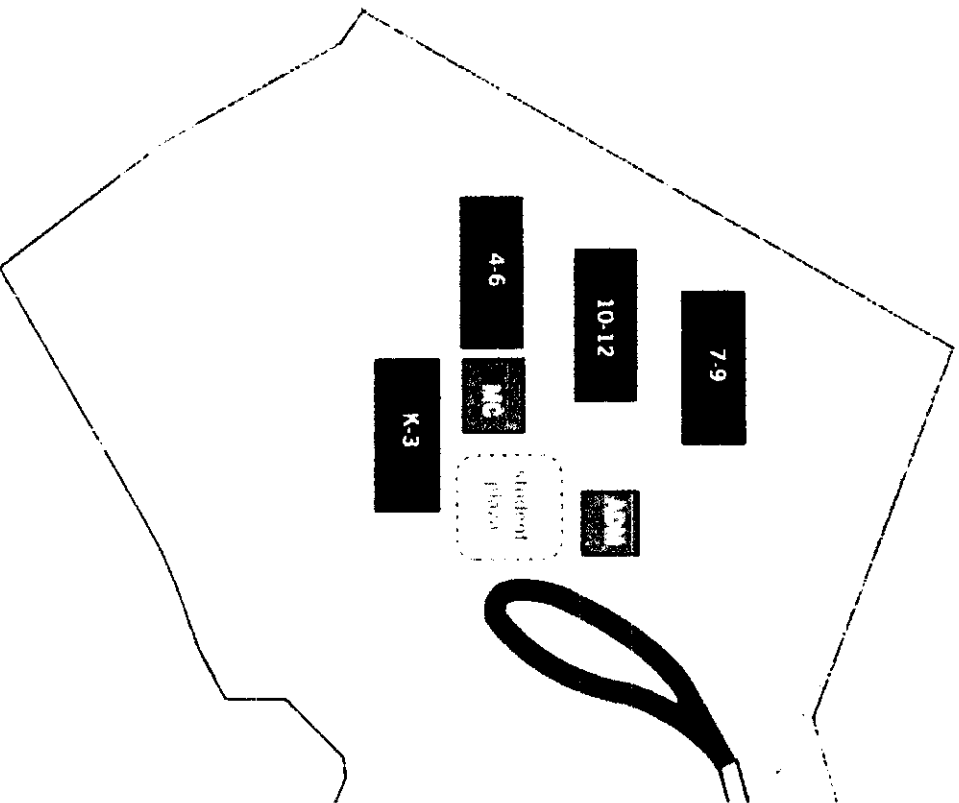
MAY 17, 2007  
Planning and Zoning Commission Meeting

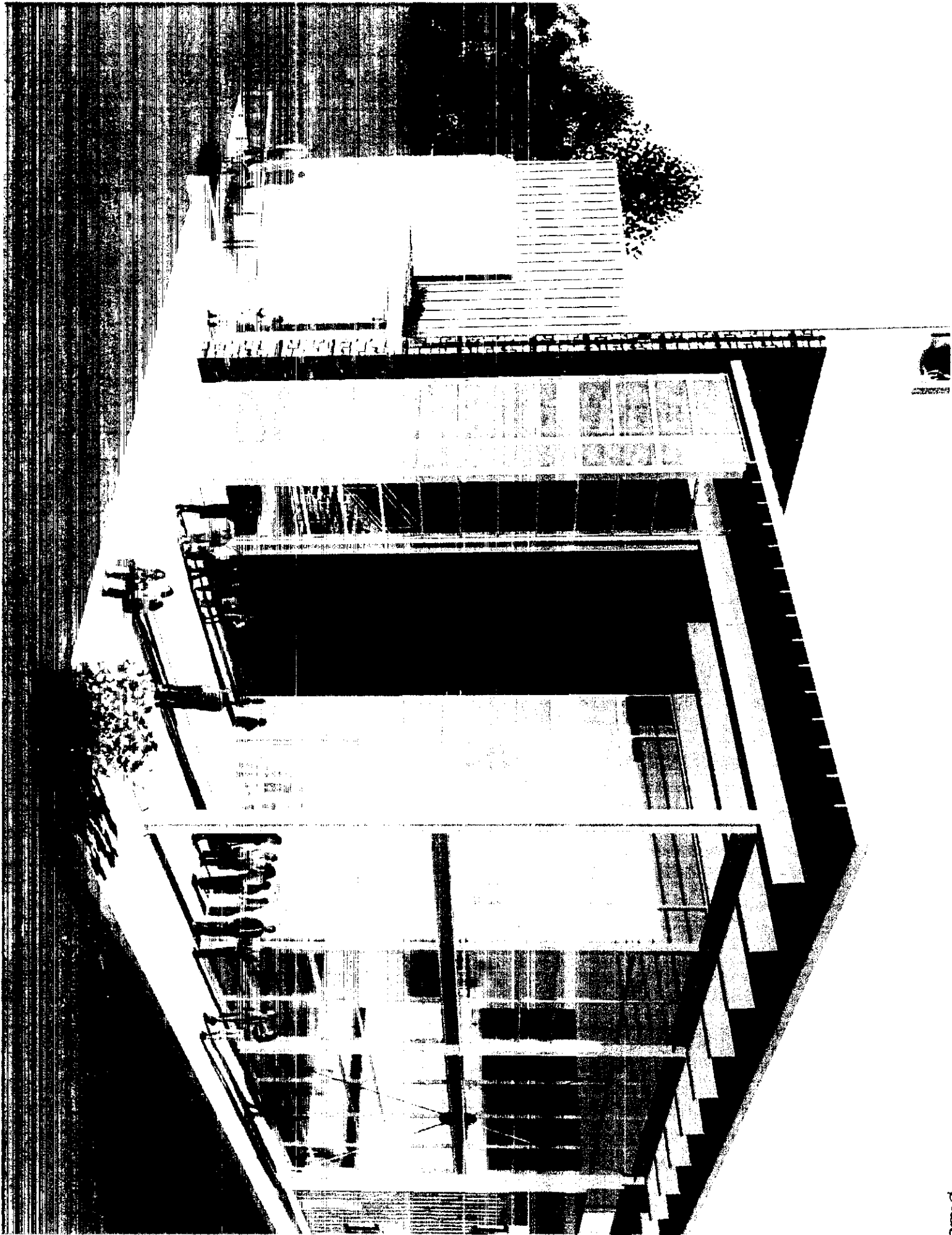
Condition Use Application  
CASE #757-C  
CAROLINA INTERNATIONAL SCHOOL  
Richard Beall  
8810 Hickory Ridge Road  
Harrisburg, NC 28075

EXHIBIT C (map)

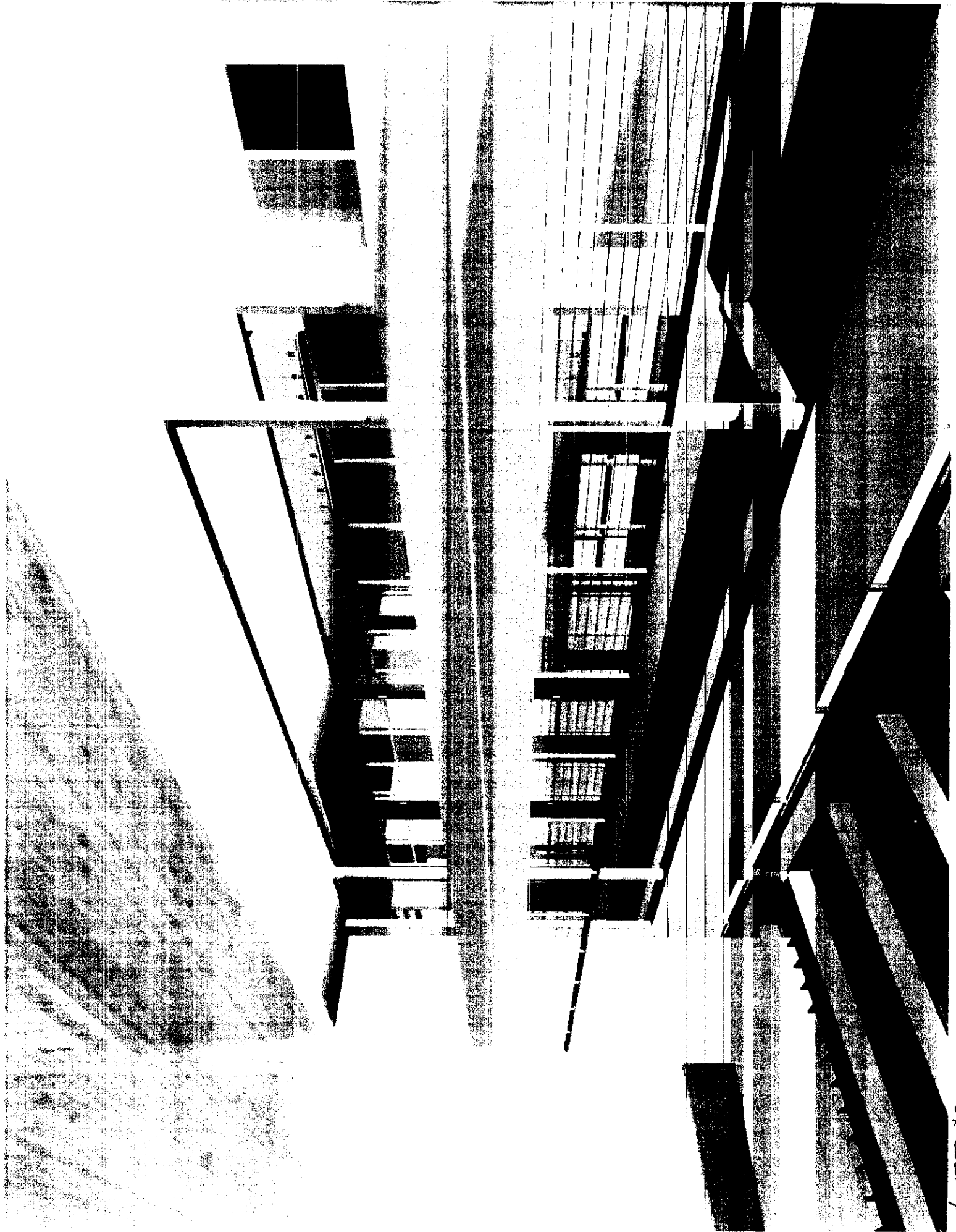
(See File)

# phase 01: site diagram

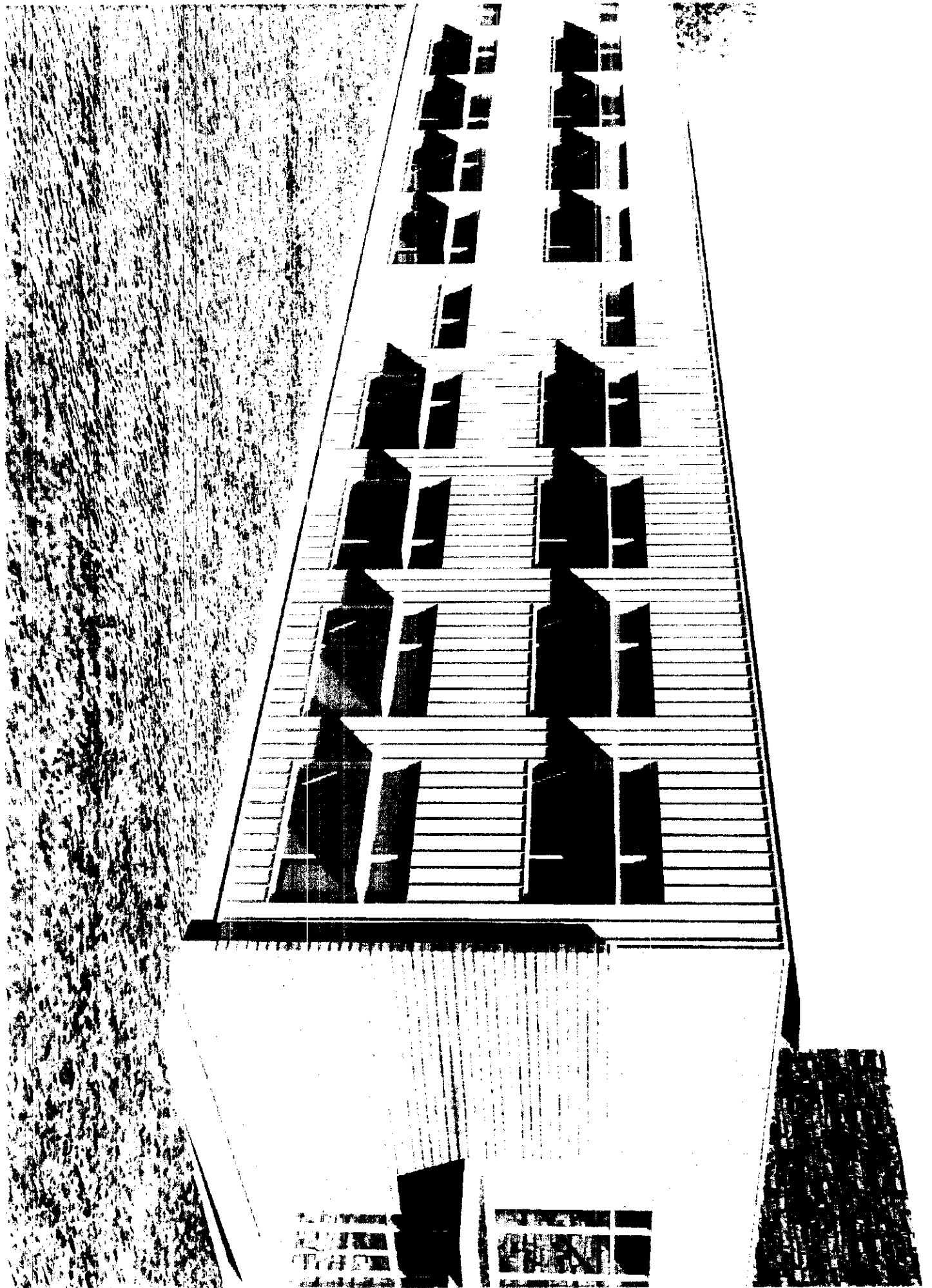








Exterior 1



Richard G.

CABARRUS COUNTY  
Post Office Box 707  
Concord, North Carolina 28026

Application Number C-757

COUNTY OF CABARRUS  
STATE OF NORTH CAROLINA

ORDER GRANTING A CONDITIONAL USE PERMIT


The Board of Adjustment for the County of Cabarrus, having held a public hearing on May 17, 2007, to consider application number C-757, submitted by Dr. Richard Beall, Carolina International School, a request for a conditional use permit to redesign the configuration of the school facility previously approved (752-C) by the Planning and Zoning Commission on November 16, 2006, and having heard all of the evidence and arguments presented at the hearing, makes the following FINDINGS OF FACT and draws the following CONCLUSIONS:

1. The Board makes and adopts the Findings of Fact contained in the attached Exhibit 1 labeled Findings of Fact.
2. It is the Board's CONCLUSION that the proposed use does satisfy the first General Standard listed in Section 8.3 of the Cabarrus County Zoning Ordinance ("Ordinance"); namely, that the use will promote the public health, safety and general welfare, if located where proposed and developed and operated according to the plan as submitted.
3. It is the Board's CONCLUSION that the proposed use does satisfy the second General Standard listed in the Ordinance; namely, that the use will maintain or enhance the value of contiguous property.
4. It is the Board's Conclusion that the proposed use does satisfy the third General Standard listed in the Ordinance; namely, the use assumes the adequacy of sewage disposal facilities, solid waste and water, police, fire and rescue, equal protection, schools, transportation systems (in and around the site) and other public facilities.
5. It is the Board's CONCLUSION that the proposed use does satisfy the fourth General Standard listed in the Ordinance; namely, the use is in compliance with the general plans for the physical developments of the County as embodied in the Ordinance or in the Comprehensive Plan, or portion thereof, adopted by the Board of County Commissioners.

6. It is the Board's CONCLUSION that the proposed use does satisfy the specific standards listed in the Ordinance for this use.

Therefore, because the Board concludes that all of the general and specific conditions precedent to the issuance of a CONDITIONAL USE PERMIT has been satisfied, it is ORDERED that the application for the issuance of a CONDITIONAL USE PERMIT be GRANTED, subject to the conditions contained in the staff report, if any, and Finding of Fact. The applicant shall fully comply with all the applicable, specific requirements in the Ordinance and must develop the property in accordance with the site plan submitted and approved. If any of the conditions shall be held invalid, this permit shall become void and of no effect.

Ordered this 17th day of May 2007.

  
Chairman of the Cabarrus County  
Planning and Zoning Commission

  
Secretary

NOTE: If you are dissatisfied with the decision of this Board, an appeal may be taken to the Superior Court of Cabarrus County within thirty (30) days after the date of this order. See Section 12-25 of the Ordinance.

**Exhibit 1**  
**FINDINGS OF FACT**  
**APPLICATION C-757**

1. The Board adopts as its own findings the responses of the applicant under the general and specific requirements section of the application.
2. That the existing entrance be widened to accommodate two (2) inbound lanes in accordance with NCDOT requirements.
3. That with the "future expansion", a right turn lane will be added onto Hickory Ridge Road in accordance with NCDOT requirements.
4. That the applicant will submit plans for "future improvements" to NCDOT for review and approval to assess the impact on the State maintained road.
5. That the overall square footage for the permanent school facility at build out shall be less than 181,000 sq. ft.
6. That any ball field or playing fields will not have lights.
7. That the entire site be in compliance with the current flood plain ordinance by August 1, 2007.

Planning Staff Report  
to Cabarrus County Planning and Zoning Board  
May 17, 2007

Petition: C2007-03(R) Zoning Atlas Amendment

Property Owner: James M. Jr. & Norma Floyd  
5665 HWY 24/27 E  
Midland, NC 28107

Thomas L. & Doris Price  
PO Box 847  
Locust, NC 28097

C.B. Brooks, Jr.  
5445 Hwy 24/27  
Midland, NC 28107

Existing Zoning: OI – Office Institutional

Proposed Zoning: LDR – Low Density Residential

Purpose: The purpose of this rezoning is to return residential and farm land from the current Office Institutional zoning district designation to a residential zoning district designation that is compatible with the actual use of the property.

Township: Number 10 - Midland

Property Location: Properties are located on the north side of NC Hwy 24/27 on the east side of Midland at Rocky River.

PIN#: 5555-71-0593 (Property 1), 5555-72-3039 (Property 2), 5555-72-5488 (Property 3), 5555-82-7488 (Property 4)

Area: +/- 88.6 acres

Site Description: Property 1 is occupied by a single family residence. Property 2 is a vacant field. Property 3 is occupied by a single family residence and various outbuildings that appear to be associated with agricultural/farm use. Property 4 is occupied by a field, a single family residence and various outbuildings that appear to be associated with a farm as well.

Zoning History: The property was rezoned during the June 2005 Countywide change in zoning from LDR – Low Density Residential to OI – Office/Institutional.

Planning Staff Report  
to Cabarrus County Planning and Zoning Board  
May 17, 2007

Area Relationship: North: LDR (Low Density Residential) and AO (Agricultural Open)  
South: LDR (Low Density Residential)  
East: AO (Agriculture/Open)  
West: LDR (Low Density Residential) and OI (Office Institutional)

Exhibits: 1. List of Adjacent Property Owners  
2. List of Permitted Uses in OI  
3. List of Permitted Uses in LDR  
4. Vicinity Map – submitted by staff  
5. Midland Area Plan – Future Land Use Map  
6. Aerial Map

Comments: This property was rezoned as part of the county-wide rezoning that was approved on June 20, 2005. Most of the areas that were rezoned to Office/Institutional were preliminarily identified as future employment areas in the Strategic Plan for Economic Development, which was finalized and presented in March of 2006. These particular properties were not identified in the Strategic Plan as an economic growth area.

Since the June 2005 rezoning, several property owners have expressed their opposition to having the O/I zoning designation placed on their property. Many of these owners have argued that the district is not appropriate for their property and the existing land uses in place. Based on discussions with the Cabarrus County Board of County Commissioners, it was determined that the Commerce Department Planning Services Division would review these requests as they are submitted and handle them as administrative rezonings, eliminating the filing costs and paperwork for the landowners who feel the zoning is unjustified and unfair.

In this particular case, Mr. Floyd contacted the Planning Division to inquire about a rezoning. After an analysis of his two properties, the land use plan, and the surrounding area, it was determined that it is appropriate for his properties, as well as two adjacent properties, to be returned to the pre-June 2005 zoning district of LDR – Low Density Residential. These properties are currently used for residential or agricultural purposes. There is no current access to public water or sewer service. There are also environmental issues, including large amounts of floodplain and

Planning Staff Report  
to Cabarrus County Planning and Zoning Board  
May 17, 2007

the River Stream Overlay Zone, on the largest property, consequently decreasing its desirability and potential for non-residential development. An attempt was made with the areas being rezoned to maintain part of the existing Office/Institutional district to provide a buffer between the General Commercial district (at the location of the Pepsi bottling facility) and residential land uses that currently exist.

Code Considerations:

Per the Cabarrus County Zoning Ordinance, lands in the O/I district are used to provide low intensity office and institutional uses that can be complementary to adjacent residential land uses. This district features employment options and essential services which require a moderate number of average daily trips. These uses will have a minimum impact on the surrounding area because these trips will generally occur during regular business hours, thus, not competing with residential traffic at peak hours and weekends. This district should be located adjacent to residential zones or in areas where its use would serve as a transition between residential land use and higher intensity non-residential land use. Higher intensity non-residential land use may include commercial zones, light industrial or mixed use zones. When bordering residential zones, care should be taken to assure natural or manmade buffering and/or architectural compatibility so that the non-residential activities are not a nuisance to residential use.

Pre the Cabarrus County Zoning Ordinance, lands in the LDR zoning district are designed to provide permanent protection for those who want to live in a low density residential environment. The district, while focused on single-family residential development, is designed to allow a wide variety of residential types.

Other Considerations:

The Midland Future Land Use map identifies this property for future limited commercial activities. According to the land use plan, these areas are reflective of the existing commercial uses in Midland. These areas shall be of a variety of commercial uses ranging in intensity and will not incorporate residential areas. Large-scale commercial development should be considered carefully on a case by case basis.

The current land uses on these properties are residential and agricultural. These uses are consistent with the Low Density Residential zoning district. They are not consistent with the Office Institutional zoning district.



Planning Staff Report  
to Cabarrus County Planning and Zoning Board  
May 17, 2007  
Conclusions:

The Midland Area Land Use Plan does not fully support this rezoning. The text of the land use plan is not consistent with the future land use map and existing conditions on the subject properties. The text clearly reflects a desire not to identify existing residential areas as future limited commercial areas, which is what occurred with these particular properties.

Recommendation:

The proposed rezoning is not consistent with the future land use map in the Midland Area Land Use Plan. However, it is consistent with the intent of the Midland Area Land Use Plan. Consequently, the Planning and Zoning Board needs to review the evidence presented for this particular case and decide whether or not, based on the uses, the land use plan and the intent of the mass rezoning, to return the zoning designation of the subject properties to the pre-2005 zoning designation of LDR.

POVA DAVID L

5515 HIGHWAY 24-27

MIDLAND NC 281070000

TROUTMAN HOWARD GLENN JR  
TROUTMAN HOPE/WIFE  
11859 MCMANUS ROAD

MIDLAND NC 281070000

JORDAN JAMES R SR & ANN H

5350 HWY 24/27

MIDLAND NC 281070000

WALKER JAMES LARRY &  
WALKER SUE F/WIFE  
10850 HARTSELL ROAD

MIDLAND NC 281070000

VITANGCOL LEMUEL Z & JANICE/WF  
KORENKO DONALD D & NECY /WF  
6100 WATERS EDGE DR

MIDLAND NC 281070000

LONG ROBERT M  
LONG JOHNNIE MAY FISHER  
4208 STONEHENGE ROAD

GREENSBORO NC 274060000

SISSON TRAVIS  
SISSON RHONDA / WIFE  
11100 HARTSELL ROAD

MIDLAND NC 281070000

PARK ROAD SHOPPING CENTER INC

P O BOX 11795

CHARLOTTE NC 282200000

GORDON CURTIS G & WIFE  
GORDON JUDITH F  
11000 HARTSELL ROAD

MIDLAND NC 281070000

WATERS EDGE ASSOCIATION INC

PO BOX 162

MIDLAND NC 281070000

STALLINGS HELEN B AND  
BROOKS PEGGY ELAINE  
1125 BRAFFORD DRIVE

CONCORD NC 280250000

HUNEYCUTT JUDY HILL &HSB  
HUNEYCUTT JERRY DEAN  
5400 HIGHWAY 24-27

MIDLAND NC 281070000

PHARR EMMY L

1642 OLD CHARLOTTE ROAD

CONCORD NC 280250000

TURBYFILL REBECCA ANN HARTSELL

10900 HARTSELL ROAD

MIDLAND NC 281070000

GARNER JASON A  
GARNER JENNIFER S/WIFE  
1639 FLOWER FIELD DRIVE

CONCORD NC 280250000

HUNEYCUTT PHYLLIS T

5361 HIGHWAY 24-27

MIDLAND NC 281070000

LONG ROBERT M  
LONG JOHNNIE MAY FISHER  
4208 STONEHENGE ROAD

GREENSBORO NC 274060000

WILLIAMS STONEY C  
WILLIAMS DARLA J/WIFE  
555 HIGHWAY 24/27

MIDLAND NC 281070000

TROUTMAN HOWARD G SR TRUSTEE  
TROUTMAN ELIZABETH C TRUSTEE  
TROUTMAN REV. LIVING TRST  
5540 HIGHWAY 24-27

MIDLAND NC 281070000

## **USES IN LOW DENSITY RESIDENTIAL:**

### Permitted Uses

Agriculture, excluding livestock  
Family care home  
Group care facility  
Nursery/Greenhouse  
Semi-attached house  
Single family detached residential

### Permitted based on Standards (PBS)

Accessory apartment  
Agriculture, including livestock  
Bank/financial institution/ATM  
Bed and breakfast  
Cemetery  
Civic organization facility  
Convenience store with petroleum sales  
Convenience store without petroleum sales  
Gas station  
Home occupation  
Home occupation, rural  
Landfill, demolition (one acre or less)  
Mobile home class I  
Mobile office, temporary  
Nursery/daycare  
Public cultural facility  
Religious institution (total seating capacity 350 or less)  
Rest/convalescent home with 10 beds or less  
Restaurant, excluding drive-thru  
Stables, commercial

### Conditional Uses

Colleges & universities  
Elementary & secondary schools  
Public service facility  
Public use facility  
Recreational facility, outdoor  
Religious institution (total seating capacity 351 or more)  
Religious institution including school  
Rest/convalescent home with more than 10 beds

**Uses in the Office/ Institutional Zone:**

**Permitted Uses**

Bank/ financial institution/ ATM  
Civic organization facility  
Colleges & universities  
Funeral home  
Group care facility  
Hospitals/ medical facilities  
Office, professional less than 30,000 square feet  
Office, professional greater than 30,000 square feet or more  
Parking lot, commercial or private  
Printing & reprographic facility  
Public cultural facility  
Public use facility

**Permitted based on Standards (PBS)**

Catering service  
Home occupation  
Mobile office, temporary  
Nursery/ daycare center  
Recreational facility, indoor  
Recyclable materials drop-off  
Religious institution (with a total seating capacity of 350 or less)  
Rest/ convalescent home (10 beds or less)

**Conditional Uses**

Communications tower  
Elementary and secondary schools  
Public service facility  
Recreational facility, outdoor  
Religious institution (with a total seating capacity of 351 or more)  
Religious institution with school  
Rest/ convalescent home (more than 10 beds)  
Trade & vocational schools  
Wireless telecommunication services (WTS)

C2007-03 (R) Zoning Atlas  
Amendment

Current Zoning





Administrative Rezoning

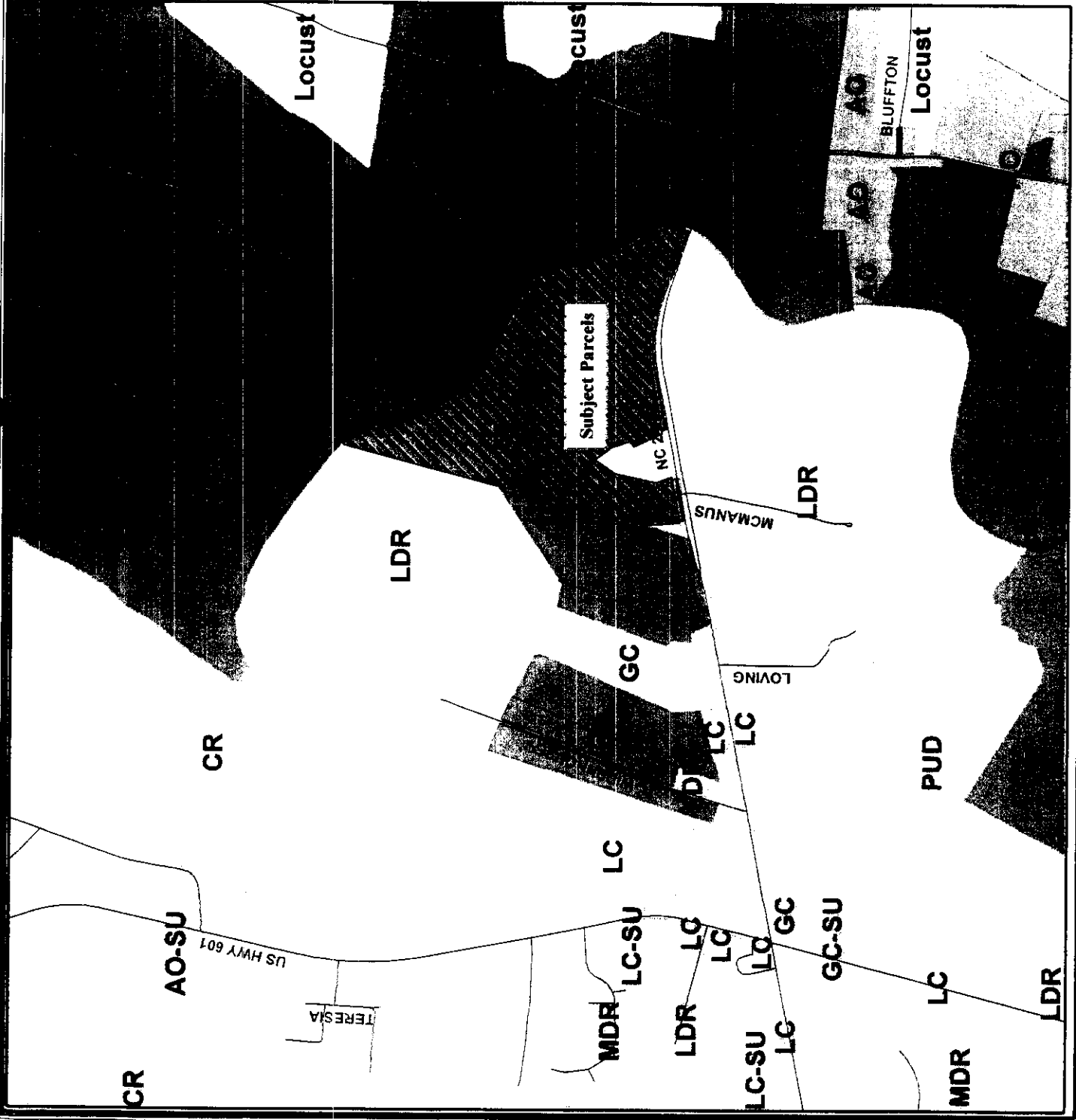
From Office Institutional  
to LDR Low Density  
Residential

Parcel Numbers  
5555-71-0593  
5555-72-3039  
5555-72-5488  
5555-82-7488



**Legend**

-  Subject Property
-  CITY OF LOCUST
-  TOWN OF MIDLAND
-  TaxParcel



C2007-03 (R) Zoning Atlas  
Amendment

Future Land Use

Administrative Rezoning

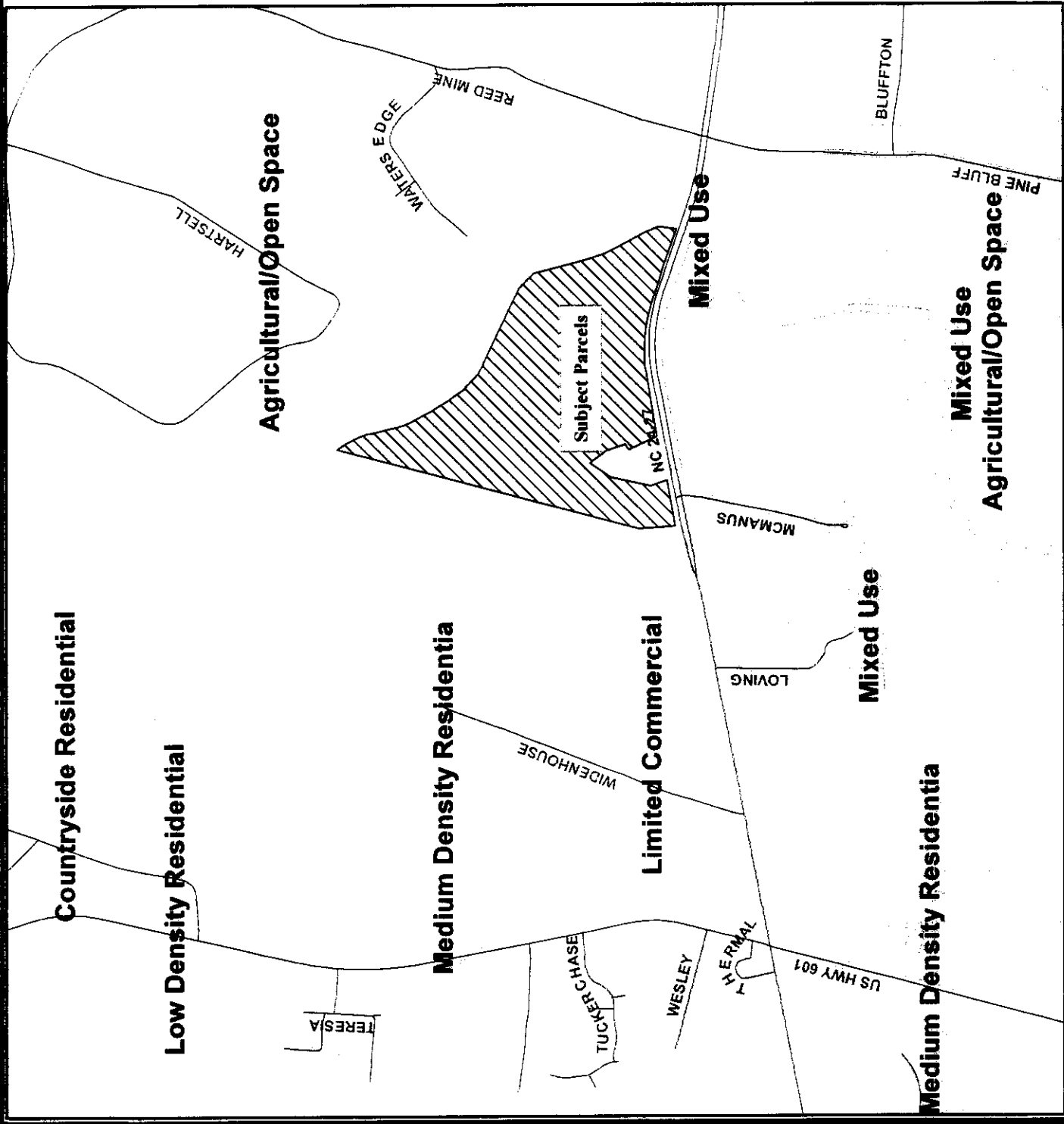
From Office Institutional  
to LDR Low Density  
Residential

Parcel Numbers  
5555-71-0593  
5555-72-3039  
5555-72-5488  
5555-82-7488



**Legend**

- Subject Property (hatched area)
- CITY OF LOCUST
- TOWN OF MIDLAND
- TaxParcel



C2007-03 (R) Zoning Atlas  
Amendment

Aerial Photos

Administrative Rezoning

From Office Institutional  
to LDR Low Density  
Residential

Parcel Numbers  
5555-71-0593  
5555-72-3039  
5555-72-5488  
5555-82-7488



**Legend**

- Subject Property
- Tax Parcel



# Memo

**To:** Cabarrus County Planning and Zoning Commission  
**From:** Susie Zakraisek, AICP, Planning and Zoning Manager  
**CC:** File  
**Date:** May 1, 2007  
**Re:** Text Amendment C2007-05-ZT-Appendix A, Typical Street Standards

---

Attached you will find proposed changes to the typical street standards in Appendix A.

These proposed changes relate to the administration of the street standards that were adopted as part of the ordinance update that occurred in June of 2005. The standards that were adopted are not consistent with the standards that the NCDOT uses. Streets must comply with the established NCDOT standards for the streets to be accepted by the NCDOT for maintenance and repair.

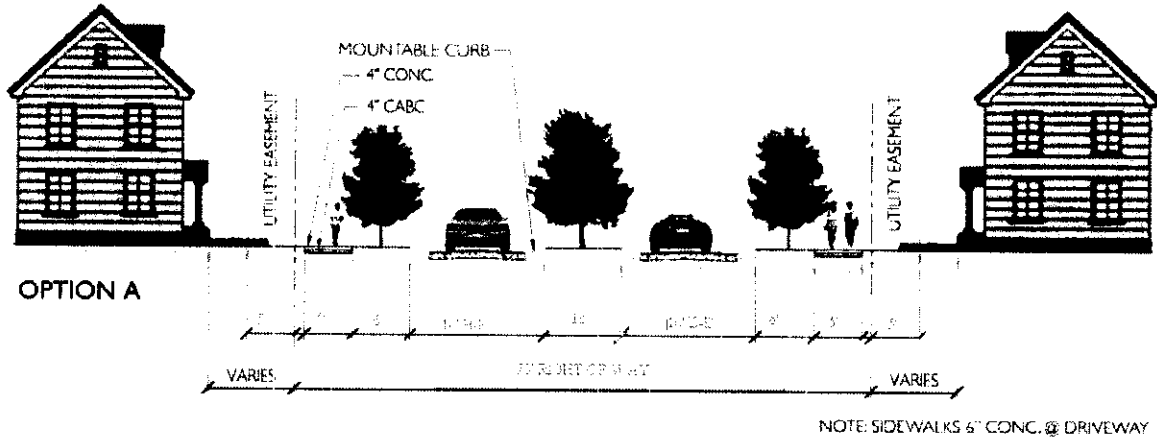
Staff will discuss the proposed changes at the meeting and provide the Planning and Zoning Commission with the history related to the proposed amendments.

Please look over the materials and be prepared to discuss the proposed text and to make a recommendation to the Board of Commissioners regarding the changes.



# NEW STANDARDS

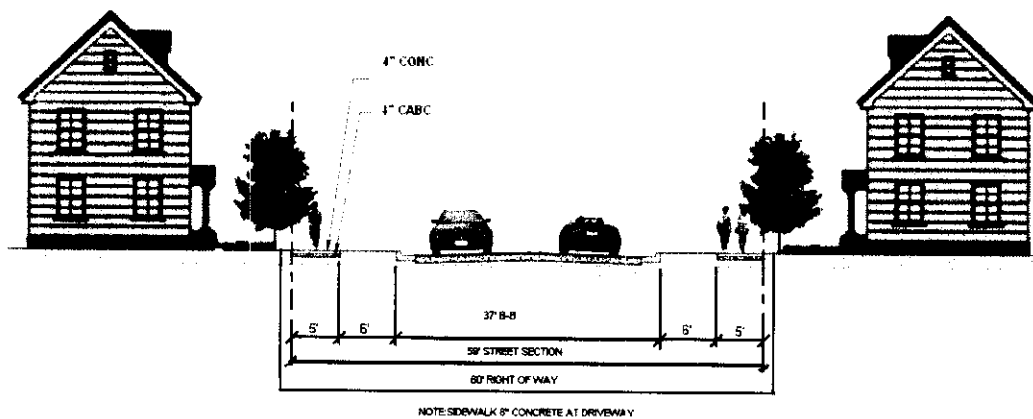
## RESIDENTIAL COLLECTOR (PARKWAY)



Right-of-Way	Sidewalks	Planting Strips	Street Width	Median	Parking	Design Speed	Curb Type
70'	5'	6'	2 x 16'	16'	None	40 mph	30" Standard

- NO DIRECT LOT ACCESS ALONG RESIDENTIAL COLLECTOR (PARKWAY)
- THE MEDIANS OF THE PARKWAY SHALL TERMINATE 100' EACH WAY FROM THE CENTERLINE OF ALL INTERSECTIONS

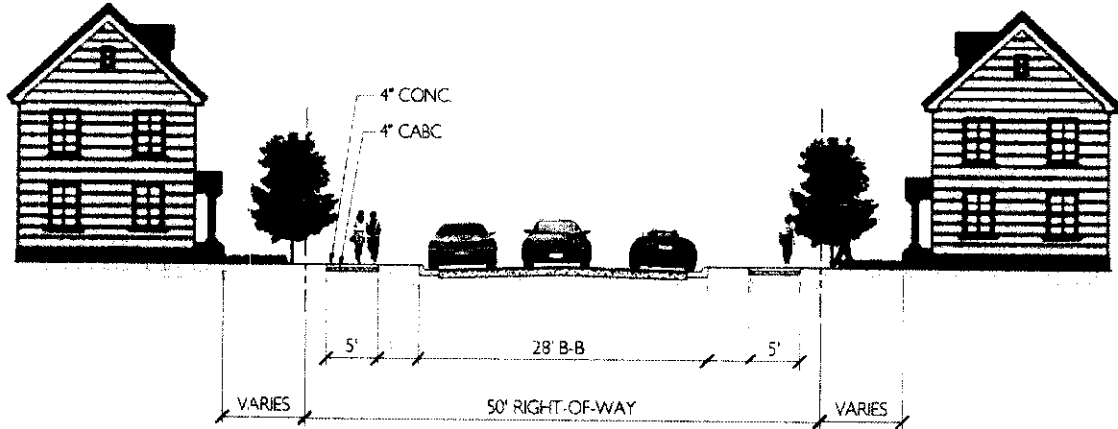
## RESIDENTIAL COLLECTOR



Right-of-Way	Sidewalks	Planting Strips	Street Width	Parking	Design Speed	Curb Type
60'	5'	6'	37'	One Side	40 mph	30" Standard

NEW STANDARDS

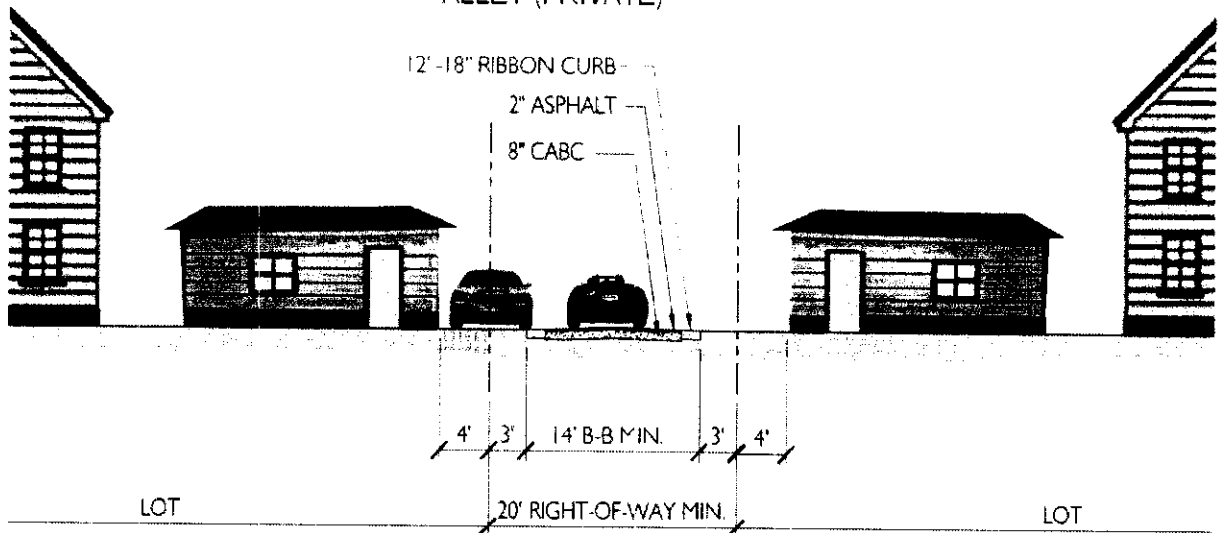
RESIDENTIAL STREET



NOTE: SIDEWALK 6" CONC. @ DRIVEWAY

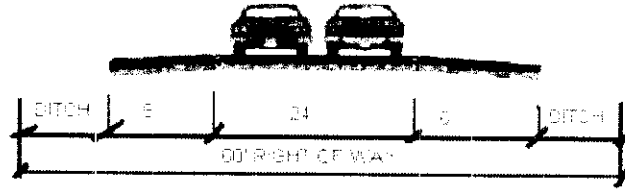
Right-of-Way	Sidewalks	Planting Strips	Street Width	Parking	Design Speed	Curb Type
50'	5'	6'	28'	One	35 mph	Standard or Valley

ALLEY (PRIVATE)



Right-of-Way	Grass Strips	Street Width	Curb Type
20'	3'	14'	Ribbon Or None

### Rural Residential Street

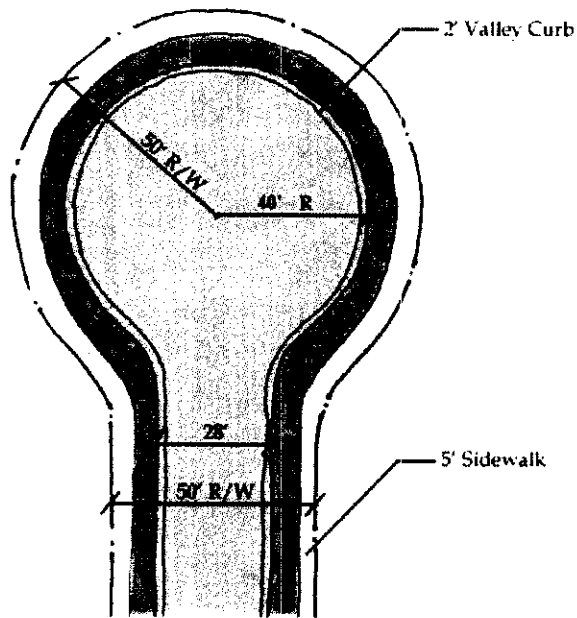


Right-of-Way	Planting Strips	Street Width	Parking	Design Speed	Curb Type
60'	6'	24'	None	20 mph	Ribbon or None

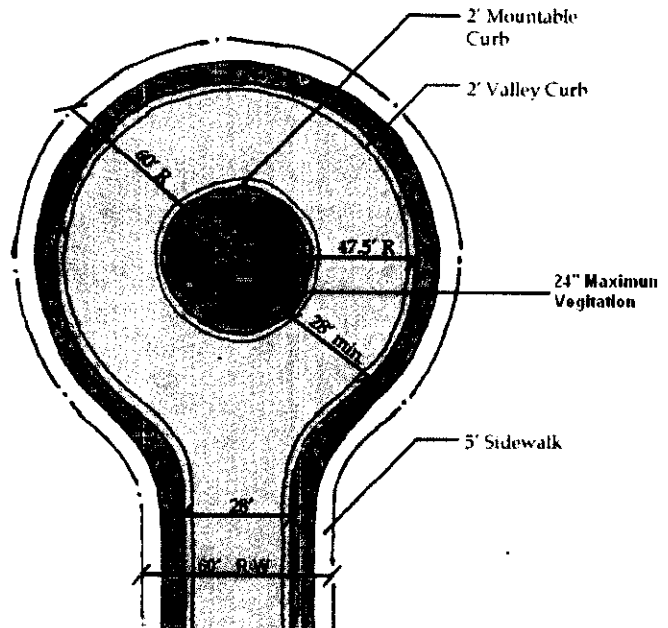
### Requirements for Dead-End and Stub Streets

Length (feet)	Width (feet)	Turnaround Required
0 to 150	Varies (28' minimum)	<b>Stub Street:</b> None required <b>Cul-de-Sac:</b> 80' diameter <b>Hammerhead:</b> 60' stub-see detail (rural and suburban tiers)
151 to 400	Varies (28' minimum)	<b>Stub Street:</b> 80' temporary cul-de-sac or 60' hammerhead (all weather surfaced) <b>Cul-de-Sac:</b> 95' diameter (rural and suburban tiers) <b>Hammerhead:</b> Not allowed
401 to 600	Varies (28' minimum)	<b>Stub Street:</b> Not allowed <b>Cul-de-Sac (suburban tier):</b> 95' diameter with center island <b>Hammerhead:</b> Not allowed
601-1,000 (rural tier only)	Varies (22' minimum)	<b>Stub Street:</b> Not allowed <b>Cul-de-Sac (rural tier):</b> 95' diameter with center island <b>Hammerhead:</b> Not allowed
> 1,000	Not allowed	Not allowed

## NEW STANDARDS



**Cul-de-Sac**

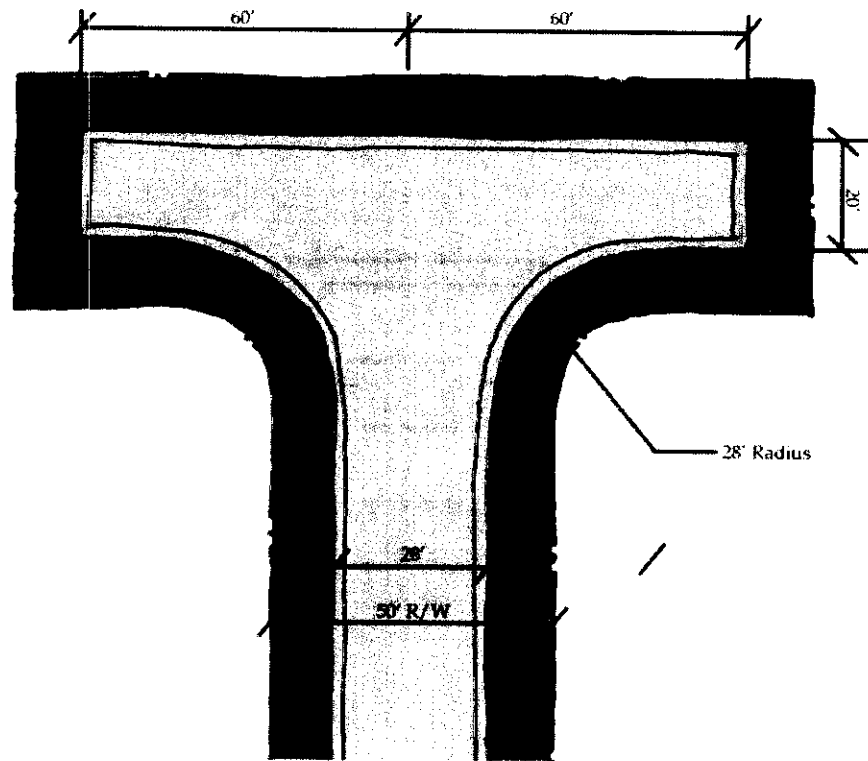


**Cul-de-Sac with Island**

### NOTES:

- VEGETATION WITHIN MEDIANS AND/OR PLANTING STRIPS CAN NOT EXCEED 24' IN HEIGHT
- VEGETATION IN MEDIAN/PLANTING STRIP IS TO BE MAINTAINED BY OWNERS, HOME OWNER'S ASSOCIATION OR OTHERS
- ALL PLANTINGS SHOULD CONFIRM TO THE NCDOT PUBLISHING TITLED "GUIDELINES FOR PLANTINGS WITHIN HIGHWAY RIGHT OF WAY"

NEW STANDARDS



**Hammerhead**

**PAVEMENT SCHEDULE**

Classification		Base Course	Intermediate Course	Surface Course
Major Thoroughfare	All	*	*	*
Minor Thoroughfare	All	*	*	*
Major Collector	Non-Residential	*	*	*
	Residential	10" CABC or 5" B-25.0X	2.25" I-19.0X	2.0" SF 9.5X
Minor Collector	Non-Residential	*	*	*
	Residential	10" CABC or 5" B-25.0X	2.25" I-19.0X	2.0" SF 9.5X
Local Street	Non-Residential	*	*	*
	Residential	8" CABC or 4" B-25.0X	2.25" I-19.0X	2.0" SF 9.5X
Alley	All	8" CABC		2.0" SF 9.5X

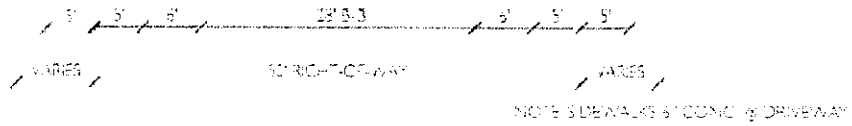
\* Pavement cross sections must be designed on a case by case basis.

# Appendix A Typical Street Cross-Sections

## RESIDENTIAL COLLECTOR



OPTION A

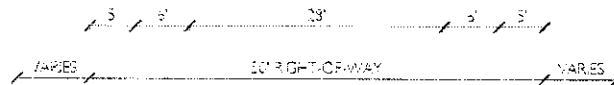


Right-of-Way	Sidewalks	Planting Strips	Street Width	Parking	Design Speed	Curb Type
50'	5'	6'	28'	None	25 mph	Drop or Valley

## RESIDENTIAL COLLECTOR



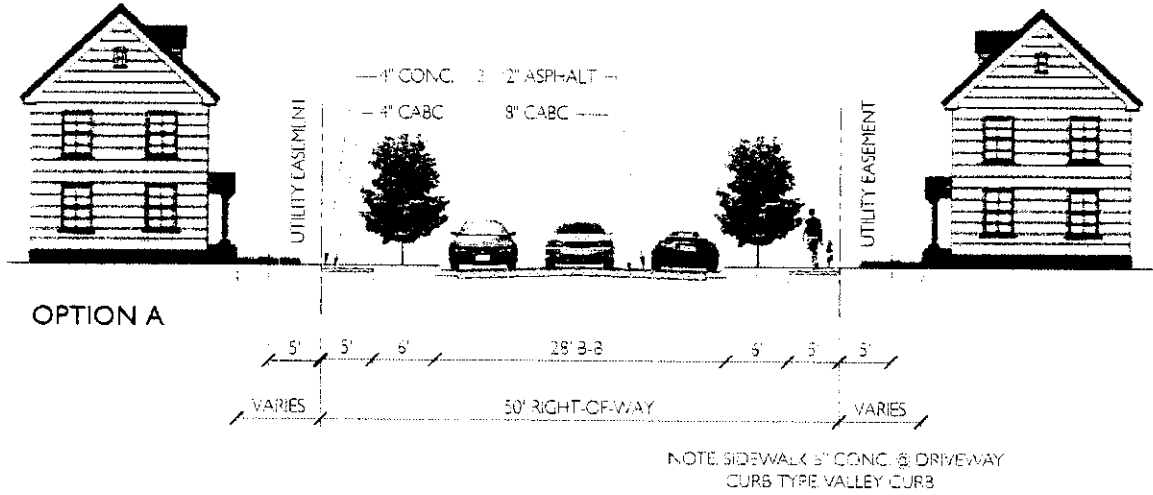
OPTION B



Right-of-Way	Sidewalks	Planting Strips	Street Width	Parking	Design Speed	Curb Type
50'	5'	6'	28'	None	25 mph	Drop or Valley

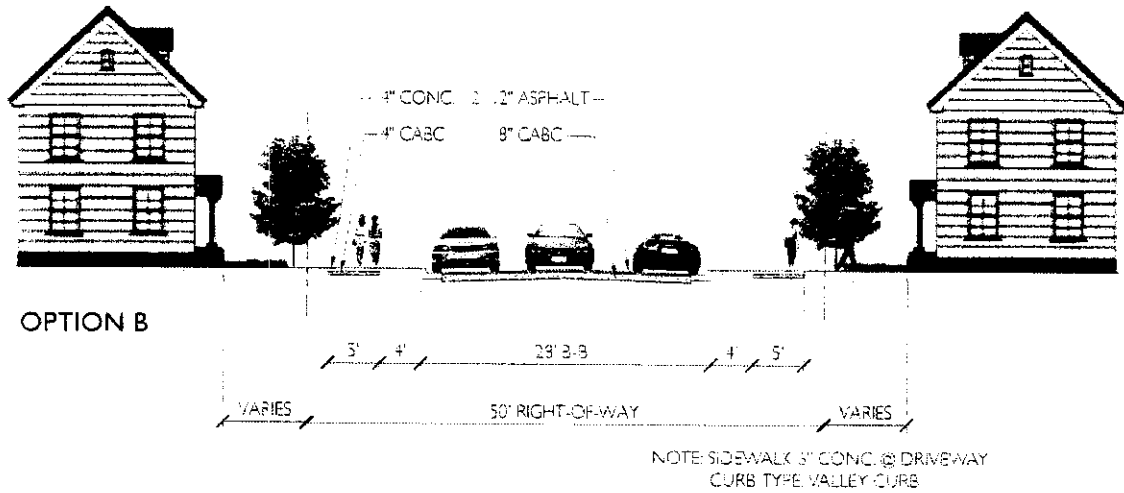
# Appendix A Typical Street Cross-Sections

## RESIDENTIAL STREET



Right-of-Way	Sidewalks	Planting Strips	STREET Street Width	Parking	Design Speed	Curb Type
50'	5'	6'	28'	Both	20 mph	Drop or Valley

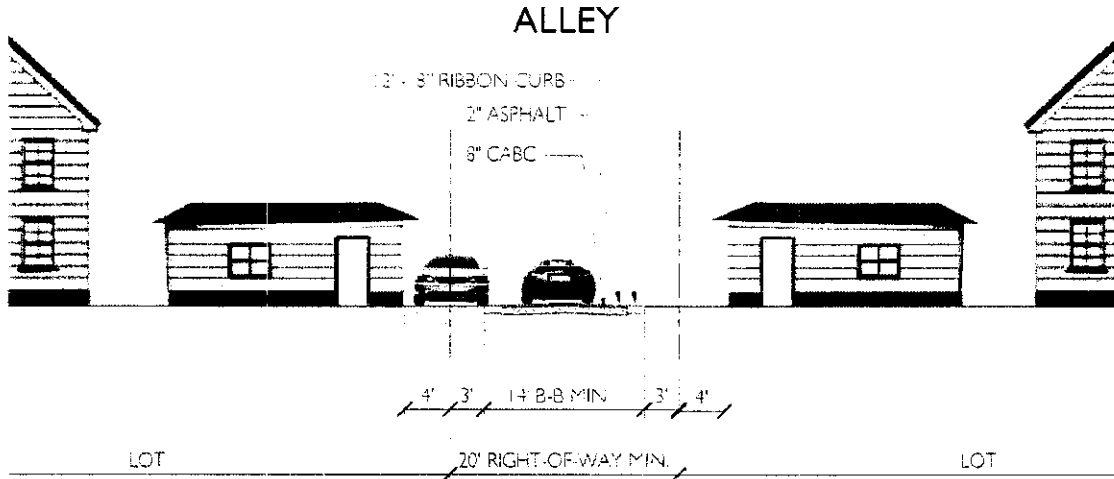
## RESIDENTIAL STREET



Right-of-Way	Sidewalks	Planting Strips	STREET Street Width	Parking	Design Speed	Curb Type
50'	5'	6'	28'	Both	20 mph	Drop or Valley

# Appendix A

## Typical Street Cross-Sections



**ALLEY**

Right-of-Way	Grass Strips	Street Width	Curb Type
20'	3'	14'	Ribbon

### Rural Residential Street



Right-of-Way	Planting Strips	Street Width	Parking	Design Speed	Curb Type
50'	6'	22'	None	20 mph	Ribbon or None

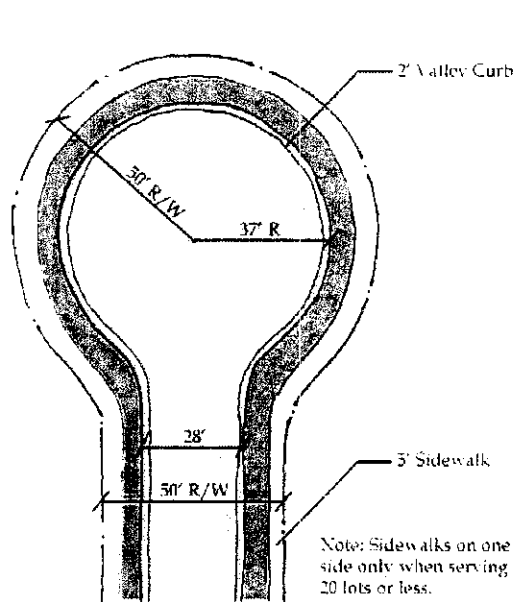


# Appendix A

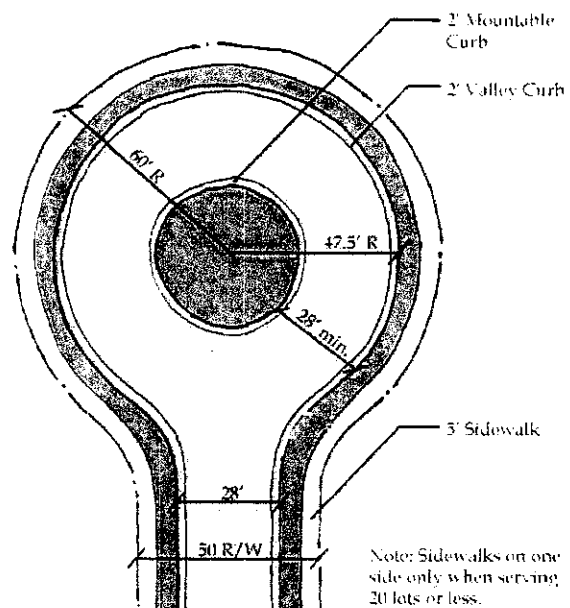
## Typical Street Cross-Sections

### Requirements for Dead-End and Stub Streets

Length (feet)	Width (feet)	Turnaround Required
0 to 150	Varies (28' minimum)	<b>Stub Street:</b> None required <b>Cul-de-Sac:</b> 70' diameter <b>Hammerhead:</b> 60' diameter (rural and suburban tiers)
151 to 400	Varies (28' minimum)	<b>Stub Street:</b> 70' temporary cul-de-sac or 60' hammerhead (all weather surfaced) <b>Cul-de-Sac:</b> 70' diameter (rural and suburban tiers) <b>Hammerhead:</b> Not allowed
401 to 600	Varies (28' minimum)	<b>Stub Street:</b> Not allowed <b>Cul-de-Sac (suburban tier):</b> 95' diameter with center island <b>Cul-de-Sac (rural tier):</b> 70' diameter (ditch and swale section only) <b>Hammerhead:</b> Not allowed
601-1,000 (rural tier only)	Varies (22' minimum)	<b>Stub Street:</b> Not allowed <b>Cul-de-Sac (rural tier):</b> 70' diameter (ditch and swale section only) <b>Hammerhead:</b> Not allowed
> 1,000	Not allowed	Not allowed



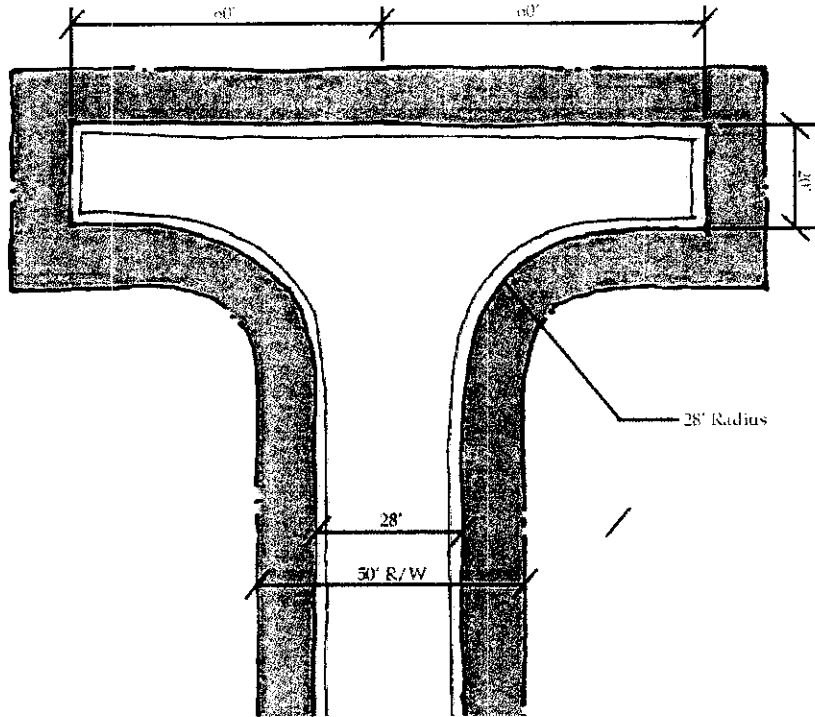
**Cul-de-Sac**



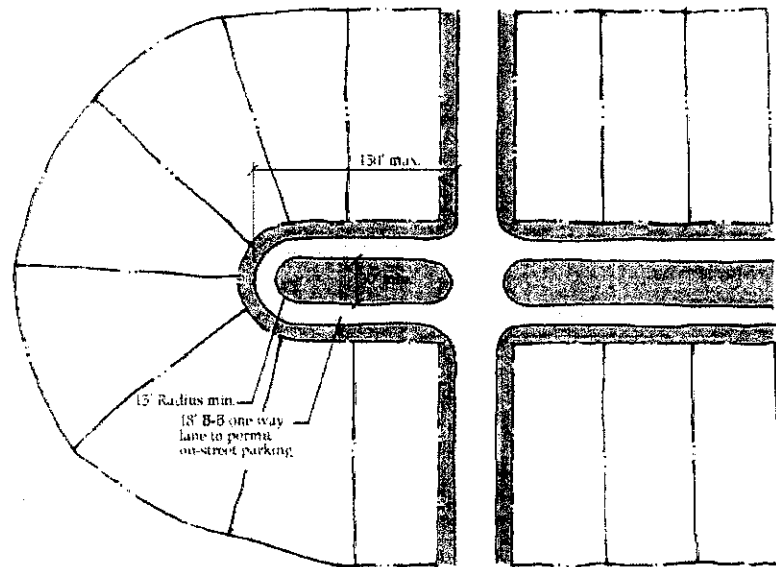
**Cul-de-Sac with Island**

# Appendix A

## Typical Street Cross-Sections



**Hammerhead**



**Loop Lane**

# Memo

**To:** Cabarrus County Planning and Zoning Commission  
**From:** Susie Zakraisek, AICP, Planning and Zoning Manager  
**CC:** File  
**Date:** May 1, 2007  
**Re:** Text Amendment C2007-06-ZT-Amenity Subdivision Standards and Anti-Monotony Standards

---

Attached you will find proposed changes to Chapter 5 of the Cabarrus County Zoning Ordinance.

These proposed changes relate to the administration of the architectural standards that were adopted as part of the ordinance update that occurred in June of 2005.

Staff will discuss the proposed changes at the meeting and provide the Planning and Zoning Commission with the history related to the proposed amendments.

Please look over the materials and be prepared to discuss the proposed text and to make a recommendation to the Board of Commissioners regarding the changes.

EXISTING TEXT

A. *Special standards for amenity subdivisions.*

1. *Subdivision design.*

a. *Block elements.*

No block shall be longer than 600 feet in length unless a mid-block pedestrian and bicycle connection is provided, in which case the block may extend up to 1,000 feet. A single-loaded street (houses on only one side) shall not be restricted in length, provided that mid-block pedestrian and bicycle connections are made at the rate of one for every 600 feet in length.

b. *Residential collector streets.*

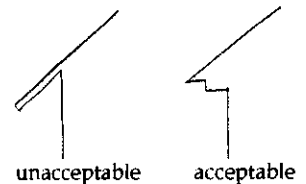
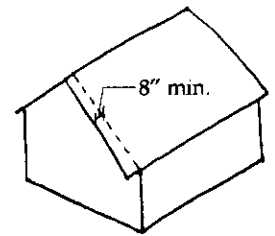
All residential collector streets shall be designed as parkways.

2. *Site and building elements.*

All housing types shall comply with the following standards.

a. *Roof overhang.*

- i. Eaves shall extend no less than 12 inches beyond the supporting walls.
- ii. Gable end rakes shall overhang at least eight inches.
- iii. Eaves and rakes on smaller accessory buildings and dormers shall overhang at least eight inches.
- iv. Soffits shall be placed perpendicular to the building wall, not sloping in plane with the roof (except for gable end rakes).
- v. Applied mansard roofs shall not be permitted.



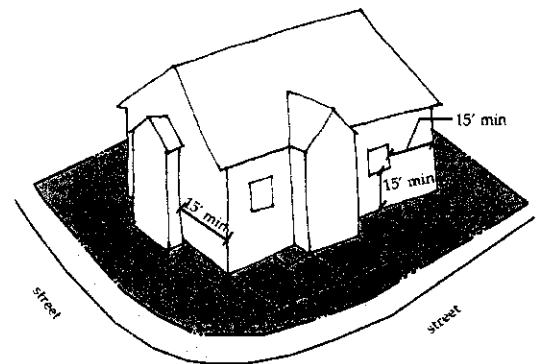
b. *Additional standards for corner lots.*

i. *Side wall articulation.*

The street facing side wall of the home shall not run unbroken (unarticulated) for a distance greater than 24 linear feet. All wall offsets shall be a minimum of two feet in depth and three feet in width.

ii. *Blank wall area.*

Blank wall areas shall not exceed 15 feet in vertical direction and 15 feet in the



EXISTING TEXT

horizontal direction along the street facing side façade.

c. *Front yard fences.*

Front yard fences, including fences on corner lots, shall not exceed four feet in height. Such fences shall also be subject to the provisions of Section 6-8.

d. *Front yard trees.*

i. One canopy tree shall be provided for each 1,000 square feet of area in the required front yard. For the purpose of calculating required trees, any fraction shall require an additional tree (always round up). Portions of the required front yard covered by allowed encroachments such as front porches (see section 6-15) shall be deleted from the calculation. The tree shall have a minimum size of 2½-inch caliper. Two ornamental trees may be substituted for one canopy tree in a front yard.

ii. One additional front yard tree shall be required in any front (corner) yard.

iii. Any existing tree in the required front yard area over 6 caliper inches shall be credited for one required tree to be planted.

e. *Alternative Compliance.*

Where an applicant chooses not to meet the amenity requirements of this section based on an alternative design, the County staff may approve such alternative provided that the design meets or exceeds the intent of the standards of this section.

**Section 5-2. Residential development standards (all subdivisions).**

**A. *Open space.***

**1. *Applicability.***

Open space is an integral part of both the open space subdivision and the amenity subdivision. The minimum protected open space for each subdivision type by district is set forth in **Error! Reference source not found.** and **Error! Reference source not found.**. Once this minimum open space requirement has been met, no additional open space shall be required on the site, except where otherwise required by state or federal law.

**2. *Primary open space.***

The following are considered primary open space areas and are shall be included within the open space, unless the Applicant demonstrates that this provision would constitute an unusual hardship and is counter to the purposes of this chapter:

- a. The 100-year floodplain;
- b. Stream buffer areas required by the County along each side of all perennial and intermittent streams;
- c. Slopes above 25 percent of at least 10,000 square feet contiguous area;
- d. Jurisdictional wetlands under federal law (Section 404) that meet the definition applied by the Army Corps of Engineers;
- e. Habitat for federally-listed endangered or threatened species;
- f. Archaeological sites, cemeteries and burial grounds;
- g. State-designated Natural Heritage Sites;
- h. Existing healthy native forests of at least 10 contiguous acres in size that are subject to a forestry management plan approved by the NC Division of Forestry; and
- i. Agricultural lands of at least 20 contiguous acres located in the Rural Tier containing at least 25 percent prime farmland soils or other soils of statewide importance.

**3. *Secondary open space.***

The following are considered secondary open space areas and shall be included within the required open space to the maximum extent feasible.

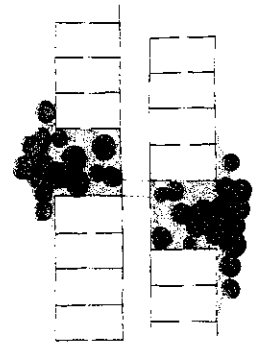
- a. Important historic sites;
- b. Existing healthy, native forests of at least one acre contiguous area;
- c. Individual existing healthy trees greater than 12 inches DBH;

EXISTING TEXT

- d. Other significant natural features and scenic viewsheds such as ridge lines, hedge rows, field borders, meadows, fields, peaks and rock outcroppings, particularly those that can be seen from public roadways;
- e. Agricultural lands of at least five contiguous acres located in the Suburban Tier containing at least 25 percent prime farmland soils or other soils of statewide importance;
- f. Areas that connect the tract to neighboring open space, trails or greenways;
- g. Soils with "Severe" limitations for development due to drainage problems, including but not limited to, Armenia loam (Ar) Altavista sandy loam (AaB), Chewacia sandy loam (Ch), Iredell loam (IdA), Sedgfield sandy loam (SfB) and Wedhadkee (We); and
- h. Landscaped site elements such as arterial street buffers, district boundary buffers, civic greens and landscaped medians.

4. *Configuration of open space.*

- a. The minimum width for any required open space shall be 50 feet. Exceptions may be granted for items such as trail easements, mid-block crossings, linear parks/ medians, when their purpose meets the intent of the open space section.
- b. At least 60 percent of the required open space shall be in a contiguous tract. For the purposes of this section, contiguous shall include any open space bisected by a residential street (including a residential collector), provided that:
  - i. A pedestrian crosswalk is constructed to provide access to the open space on both sides of the street; and
  - ii. The right-of-way area is not included in the calculation of minimum open space required.
- c. The open space shall adjoin any neighboring areas of open space, other protected areas, and non-protected natural areas that would be candidates for inclusion as part of a future area of protected open space.
- d. At least 25 percent of the open space shall be made accessible with trails, active recreation areas or other similar improvements. Trails shall be developed in accordance with the County Trail Design Standards (providing for neighborhood, connector and regional corridors). Active recreation areas shall be developed in accordance with the requirements in Chapter 5, Recreational Areas, of the Subdivision Ordinance. Where open space consists of prime agricultural land, this accessibility requirement shall not apply.



## EXISTING TEXT

- e. The open space shall be directly accessible to the largest practicable number of lots within the subdivision. Non-adjointing lots shall be provided with safe, convenient access to the open space (i.e. mid-block connections in logical locations). No lot within the subdivision shall further than a ¼-mile radius from the required open space. This radius shall be measured in a straight line, without regard for street, sidewalk or trail connections to the open space.

### 5. *Permitted uses of open space.*

Uses of open space may include the following:

- a. Conservation areas for natural, archeological or historical resources;
- b. Meadows, woodlands, wetlands, wildlife corridors, game preserves, or similar conservation-oriented areas;
- c. Pedestrian or multipurpose trails;
- d. Passive recreation areas, including pocket parks;
- e. Active recreation areas, such as ballfields and playgrounds, provided that impervious area is limited to no more than 10 percent of the total open space (active recreation areas in excess of this impervious area limit shall be located outside of the protected open space);
- f. Golf courses in the suburban tier (excluding clubhouse areas and maintenance facilities), provided the area does not exceed 50 percent of the required open space, and further provided that impervious area is limited to no more than 10 percent of the total open space;
- g. Above-ground utility rights-of-way, provided the area does not exceed 50 percent of the required open space;
- h. Water bodies, such as lakes and ponds, and floodways provided the total surface area does not exceed 50 percent of the required open space;
- i. Agriculture, horticulture, silviculture or pasture uses as provided for in a conservation plan approved by the Cabarrus Soil and Water Conservation District;
- j. Landscaped stormwater management facilities;
- k. Easements for drainage, access, and underground utility lines; and
- l. Other conservation-oriented uses compatible with the purposes of these regulations.

### 6. *Prohibited uses of open space.*

Open space shall not include the following:

- a. Golf courses and above-ground utility rights-of-way in the Rural Tier.
- b. Community or individual wastewater disposal systems in the Rural Tier;



EXISTING TEXT

- c. Streets (except for street crossings as expressly provided above) and parking areas;
- d. Agricultural and forestry activities not conducted according to a conservation plan approved by the Cabarrus Soil and Water Conservation District or a forest management plan approved by the NC Division of Forestry; and
- e. Other activities as determined by the applicant and recorded on the legal instrument providing for permanent protection.

7. *Ownership and management of open space.*

a. *Ownership of open space.*

No residential lots shall be allowed to extend into the required open space. Open space shall be accepted and owned by one of the following entities:

- i. Cabarrus Soil and Water Conservation District. The responsibility for maintaining the open space and any facilities shall be borne by the District.
- ii. Cabarrus County. The responsibility for maintaining the open space and any facilities shall be borne by the County.
- iii. Land conservancy or land trust. The responsibility for maintaining the open space and any facilities shall be borne by a land conservancy or land trust.
- iv. Homeowners association. A homeowners association representing residents of the subdivision shall own the open space. Membership in the association shall be mandatory and automatic for all homeowners of the subdivision and their successors. The Homeowners' Association shall have lien authority to ensure the collection of dues from all members. The responsibility for maintaining the open space and any facilities shall be borne by the Homeowner's Association.
- v. Private landowner. A private landowner may retain ownership of open space, provided that a conservation easement approved by the Cabarrus County Soil and Water Conservation District is recorded. The responsibility for maintaining the open space and any facilities shall be borne by the private landowner.

b. *Management plan.*

Applicants shall submit a Plan for the management of open space and other common facilities that:

- i. Allocates responsibility and guidelines for the maintenance and operation of the open and any facilities located thereon, including provisions for ongoing maintenance and for long-term capital improvements;

EXISTING TEXT

- ii. Estimates the costs and staffing requirements needed for maintenance and operation of, and insurance for, the open space and outlines the means by which such funding will be obtained or provided;
  - iii. Provides that any changes to the Plan be approved by the County; and
  - iv. Provides for enforcement of the Plan.
- c. *Maintenance of open space.*
- i. Passive open space maintenance is limited to removal of litter, dead tree and plant materials (that is obstructing pedestrian movement), and brush; weeding and mowing. Natural water courses are to be maintained as free-flowing and devoid of debris. Stream channels shall be maintained so as not to alter floodplain levels.
  - ii. No specific maintenance is required for agricultural uses.
  - iii. Active open space areas shall be accessible to all residents of the development. Maintenance is limited to ensuring that there exist no hazards, nuisances or unhealthy conditions.
- d. *Failure to maintain open space.*
- In the event the party responsible for maintenance of the open space fails to maintain all or any portion in reasonable order and condition, the County may assume responsibility for its maintenance and may enter the premises and take corrective action, including the provision of extended maintenance. The costs of such maintenance may be charged to the Homeowner's Association, or to the individual property owners that make up the Homeowner's Association, and may include administrative costs and penalties. Such costs shall become a lien on all subdivision properties.
8. *Legal instrument for permanent protection.*
- a. The open space shall be protected in perpetuity by a binding legal instrument that is recorded with the deed. The instrument shall be one of the following:
    - i. *A permanent conservation easement in favor of either:*
      - a) The Cabarrus Soil and Water Conservation District; or
      - b) A land trust or similar conservation-oriented non-profit organization with legal authority to accept such easements. The organization shall be *bona fide* and in perpetual existence and the conveyance instruments shall contain an appropriate provision for re-transfer in the event the organization becomes unable to carry out its functions; or
      - c) A governmental entity with an interest in pursuing goals compatible with the purposes of this ordinance. If the entity

EXISTING TEXT

accepting the easement is not the County, then a third right of enforcement favoring the County shall be included in the easement.

- ii. A permanent restrictive covenant for conservation purposes in favor of a governmental entity.
  - iii. An equivalent legal tool that provides permanent protection, if approved by the County.
- b. The instrument for permanent protection shall include clear restrictions on the use of the open space. These restrictions shall include all restrictions contained in this chapter, as well as any further restrictions the Applicant chooses to place on the use of the open space. Where appropriate, the instrument shall allow for stream or habitat restoration within the easement area.

**B. *Stream buffer limitations.***

- 1. Land within a stream buffer shall not be used to meet minimum lot size requirements, except where lots are greater than one acre in area, in which case at least 50 percent of the lot shall remain outside the stream buffer. For additional stream buffer requirements see Section 4-11.
- 2. Buildings and other features that require grading and construction shall be set back at least twenty feet from the edge of any stream buffer.

**C. *Utilities.***

To the maximum extent determined feasible, utilities in open space and amenity subdivisions shall be placed underground.

**D. *Perimeter compatibility.***

**1. *Applicability.***

Perimeter compatibility is required along project boundaries for both open space and amenity subdivisions to provide a suitable transition between the proposed subdivision and adjacent development.

**2. *Buffer required.***

A landscaped buffer shall be required along all boundaries of an open space or amenity subdivision. This buffer shall be a natural, undisturbed wooded area where possible, and shall count towards the provision of open space for the development where the buffer is not platted and made part of an individual, privately-owned lot. Where an existing natural, undisturbed wooded area does not exist, a planted buffer shall be required as follows:

**a. *Project Boundary Buffer.***

A project boundary buffer shall be provided along all project boundaries other than arterial streets, and shall be measured perpendicular to the property lines that define the project area.

EXISTING TEXT

b. *Minimum Project Boundary Buffer Width.*

- i. The minimum width of the project boundary buffer shall be 25 feet where the width of the project's perimeter lots adjacent to the buffer is equal to or greater than the minimum lot width of the adjoining development or the minimum lot width required by the zoning district applied to any adjoining undeveloped parcel.
- ii. Where narrower lot widths are provided, the minimum buffer width shall be 50 feet.
- iii. In the Suburban Tier, the required width of any project boundary buffer may be reduced by 33 percent, provided a minimum six-foot tall opaque wall is constructed along the project boundary.

c. *Arterial Street Buffer.*




An arterial street buffer shall be provided along any project boundary that abuts an arterial street. The buffer shall be measured perpendicular to the right-of-way line that defines the project area.

- i. The minimum width of the buffer shall be 50 feet.
- ii. In the Suburban Tier, the required width of a project boundary buffer may be reduced by 33 percent, provided that an opaque wall is constructed along the arterial street.
- iii. Where a berm is created in an unvegetated portion of buffer, the shrub planting requirement below shall be waived. Such berms shall have a minimum height of three feet and a maximum height of six feet. The maximum slope of the berm shall be 3:1. Berms shall vary in size (length and width) and in shape to avoid a strictly linear or repetitive appearance.

d. *Required Buffer Planting.*

Required project boundary and arterial street buffers shall incorporate existing natural vegetation to the maximum extent feasible. Prior to disturbance of a required buffer approval shall be obtained from Cabarrus County. Where existing vegetation is inadequate to meet the planting standards below, additional plant material shall be required. The planting standard below is intentionally over-planted at maturity, in order to provide an immediate beneficial impact.

EXISTING TEXT

		
<i>Large Trees</i>	<i>Small Trees</i>	<i>Shrubs</i>
3 per 100 linear feet 2" caliper minimum 50% evergreen	6 per 100 linear feet 1" caliper minimum	22 per 100 linear feet 24" height minimum 50% evergreen

e. *Credit for Existing Vegetation*

Credit shall be given for existing vegetation within the required buffer area that meets the planting requirements above.

f. *Trails within Required Buffers*

Trails may be incorporated into required buffer areas provided adequate width (minimum 15 feet) is added to the required buffer width to accommodate both the trail and the required buffer plantings. Buffers with trails may also count toward the provision of open space for the development.

E. *Anti-Monotony.*

1. *Applicability.*

- a. No building permit shall be issued for any new home that has been determined to be similar in appearance to any home near the proposed home in accordance with the review criteria below.
- b. The following homes or projects shall be exempt from the provisions of this section.
  - i. Any subdivision with lots of one acre or more;
  - ii. Any home for which a building permit was approved before June 20, 2005, including a home being remodeled, reconstructed or replaced after damage by fire, windstorm or other casualty; and
  - iii. Any multifamily units, including apartments.

2. *Lots to be reviewed.*

- a. Differences shall be reviewed for two lots on either side of the proposed home on the same side of the street.

## EXISTING TEXT

- b. Where lots are interrupted by an intervening street, parkland or similar feature of at least 50 feet in width, no review shall be necessary.
- c. The proposed home shall be considered different from any vacant lot for which no building permit has been issued without requiring further documentation.

### 3. *Review criteria.*

In determining whether a proposed home is similar in appearance, the following elements shall be considered. At least one of the elements of the proposed home must differ from each existing or permitted home.

- a. Number of stories;
- b. Garage location;
- c. Roof type; and
- d. Articulation of front façade.

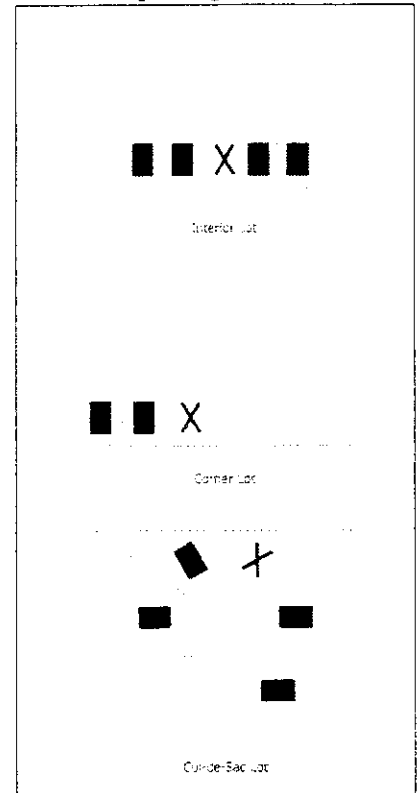
### 4. *Review procedure.*

- a. A subdivision or phase of a subdivision may be reviewed as a whole for conformity with this requirement, provided that adequate documentation to ensure conformity is submitted with the plat. Such documentation is not required to be recorded as part of the plat.
- b. Acceptable documentation may include photographs of any existing structures in question (no building elevations are required).
- c. The County shall review the submitted documentation and make a determination. Where the County finds that a home for which a building permit is being requested is similar in appearance based on the standards above, the permit shall be denied.

## F. *Garage location.*

### 1. *Applicability.*

On lots of less than one acre, garage placement shall match one of the following garage standards.

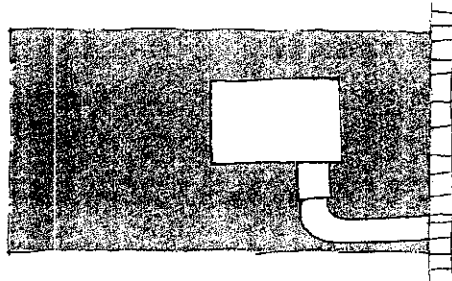


EXISTING TEXT

2. *Garage Standards*

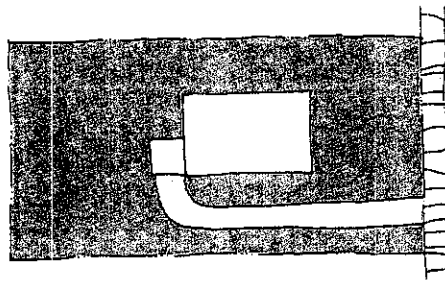
a. *Side-loaded garage.*

Orient the garage door perpendicular to the street.



b. *Rear yard garage (alley or front loaded).*

Locate the garage behind the rear of the principal building.



c. *Front-loaded garage.*

Orient the garage toward the street, provided the following conditions are met.

- i. Position garage door at least four feet behind the primary front wall plane of the building front; or
- ii. Position the garage door flush with or forward of the front of the building and provide an integrated architectural treatment such as columns and a trellis or eyebrow roof to visually diminish the impact of the garage doors. No individual garage door may exceed 12 feet in width when applying this alternative, and a maximum of two garage doors shall be allowed.

G. *Accessory structures.*

1. *Height.*

An accessory structure shall not exceed the height of the principal structure.

2. *Setbacks.*

- a. Accessory structures up to 15 feet in height shall meet the front and side setback requirements of the principal structure. The rear setback shall be no less than five feet.

EXISTING TEXT

b. Accessory structures greater than 15 feet in height shall meet the setback requirements of the principal structure.

3. *Additional requirements.*

For additional requirements see Section 7-4.1, Accessory building and apartments.



PROPOSED TEXT

A. *Special standards for amenity subdivisions.*

1. *Subdivision design.*

a. *Block elements.*

No block shall be longer than 600 feet in length unless a mid-block pedestrian and bicycle connection is provided, in which case the block may extend up to 1,000 feet. A single-loaded street (houses on only one side) shall not be restricted in length, provided that mid-block pedestrian and bicycle connections are made at the rate of one for every 600 feet in length.

b. *Residential collector streets.*

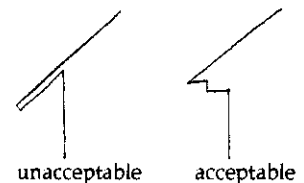
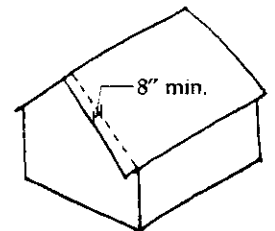
All residential collector streets shall be designed as parkways.

2. *Site and building elements.*

All housing types shall comply with the following standards.

a. *Roof overhang.*

- i. Eaves shall extend no less than 12 inches beyond the exterior face.
- ii. Gable end rakes shall overhang at least eight inches from the exterior face.
- iii. Eaves and rakes on smaller accessory buildings and dormers shall overhang at least six inches.
- iv. Soffits shall be placed perpendicular to the building wall, not sloping in plane with the roof (except for gable end rakes and when in keeping with the architectural style).
- v. Applied mansard roofs shall not be permitted.



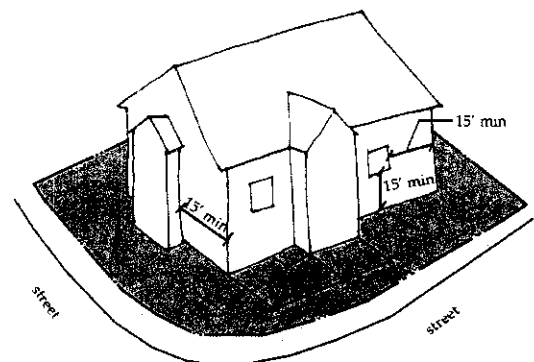
b. *Additional standards for corner lots.*

i. *Side wall articulation.*

The street facing side wall of the home shall not run unbroken (unarticulated) for a distance greater than 24 linear feet. All wall offsets shall be a minimum of two feet in depth and three feet in width.

ii. *Blank wall area.*

Blank wall areas shall not exceed 12 feet in vertical



PROPOSED TEXT

direction and 12 feet in the horizontal direction along the street facing side façade.

c. *Front yard fences.*

Front yard fences, including fences on corner lots, shall not exceed four feet in height. Such fences shall also be subject to the provisions of Section 6-8.

d. *Front yard trees.*

i. One canopy tree shall be provided for each 1,000 square feet of area in the required front yard. For the purpose of calculating required trees, any fraction shall require an additional tree (always round up). Portions of the required front yard covered by allowed encroachments such as front porches (see section 6-15) shall be deleted from the calculation. The tree shall have a minimum size of 2½-inch caliper. Two ornamental trees may be substituted for one canopy tree in a front yard.

ii. One additional front yard tree shall be required in any front (corner) yard.

iii. Any existing tree in the required front yard area over 6 caliper inches shall be credited for one required tree to be planted.

e. *Side Load Garages*

f. *Alternative Compliance.*

Where an applicant chooses not to meet the amenity requirements of this section based on an alternative design, the **Planning and Zoning Commission** may approve such alternative provided that the design meets or exceeds the intent of the standards of this section.

**Section 5-2. Residential development standards (all subdivisions).**

**A. *Open space.***

**1. *Applicability.***

Open space is an integral part of both the open space subdivision and the amenity subdivision. The minimum protected open space for each subdivision type by district is set forth in **Error! Reference source not found.** and **Error! Reference source not found.**. Once this minimum open space requirement has been met, no additional open space shall be required on the site, except where otherwise required by state or federal law.

**2. *Primary open space.***

The following are considered primary open space areas and are shall be included within the open space, unless the Applicant demonstrates that this provision would constitute an unusual hardship and is counter to the purposes of this chapter:

- a. The 100-year floodplain;
- b. Stream buffer areas required by the County along each side of all perennial and intermittent streams;
- c. Slopes above 25 percent of at least 10,000 square feet contiguous area;
- d. Jurisdictional wetlands under federal law (Section 404) that meet the definition applied by the Army Corps of Engineers;
- e. Habitat for federally-listed endangered or threatened species;
- f. Archaeological sites, cemeteries and burial grounds;
- g. State-designated Natural Heritage Sites;
- h. Existing healthy native forests of at least 10 contiguous acres in size that are subject to a forestry management plan approved by the NC Division of Forestry; and
- i. Agricultural lands of at least 20 contiguous acres located in the Rural Tier containing at least 25 percent prime farmland soils or other soils of statewide importance.

**3. *Secondary open space.***

The following are considered secondary open space areas and shall be included within the required open space to the maximum extent feasible.

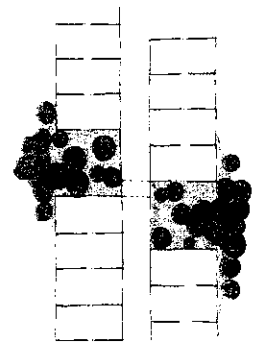
- a. Important historic sites;
- b. Existing healthy, native forests of at least one acre contiguous area;
- c. Individual existing healthy trees greater than 12 inches DBH;

PROPOSED TEXT

- d. Other significant natural features and scenic viewsheds such as ridge lines, hedge rows, field borders, meadows, fields, peaks and rock outcroppings, particularly those that can be seen from public roadways;
- e. Agricultural lands of at least five contiguous acres located in the Suburban Tier containing at least 25 percent prime farmland soils or other soils of statewide importance;
- f. Areas that connect the tract to neighboring open space, trails or greenways;
- g. Soils with "Severe" limitations for development due to drainage problems, including but not limited to, Armenia loam (Ar) Altavista sandy loam (AaB), Chewacia sandy loam (Ch), Iredell loam (IdA), Sedgfield sandy loam (SfB) and Wedhadkee (We); and
- h. Landscaped site elements such as arterial street buffers, district boundary buffers, civic greens and landscaped medians.

**4. Configuration of open space.**

- a. The minimum width for any required open space shall be 50 feet. Exceptions may be granted for items such as trail easements, mid-block crossings, linear parks/ medians, when their purpose meets the intent of the open space section.
- b. At least 60 percent of the required open space shall be in a contiguous tract. For the purposes of this section, contiguous shall include any open space bisected by a residential street (including a residential collector), provided that:



- i. A pedestrian crosswalk is constructed to provide access to the open space on both sides of the street; and
  - ii. The right-of-way area is not included in the calculation of minimum open space required.
- c. The open space shall adjoin any neighboring areas of open space, other protected areas, and non-protected natural areas that would be candidates for inclusion as part of a future area of protected open space.
- d. At least 25 percent of the open space shall be made accessible with trails, active recreation areas or other similar improvements. Trails shall be developed in accordance with the County Trail Design Standards (providing for neighborhood, connector and regional corridors). Active recreation areas shall be developed in accordance with the requirements in Chapter 5, Recreational Areas, of the Subdivision Ordinance. Where open space consists of prime agricultural land, this accessibility requirement shall not apply.

## PROPOSED TEXT

- e. The open space shall be directly accessible to the largest practicable number of lots within the subdivision. Non-adjoining lots shall be provided with safe, convenient access to the open space (i.e. mid-block connections in logical locations). No lot within the subdivision shall further than a  $\frac{1}{4}$ -mile radius from the required open space. This radius shall be measured in a straight line, without regard for street, sidewalk or trail connections to the open space.

### 5. *Permitted uses of open space.*

Uses of open space may include the following:

- a. Conservation areas for natural, archeological or historical resources;
- b. Meadows, woodlands, wetlands, wildlife corridors, game preserves, or similar conservation-oriented areas;
- c. Pedestrian or multipurpose trails;
- d. Passive recreation areas, including pocket parks;
- e. Active recreation areas, such as ballfields and playgrounds, provided that impervious area is limited to no more than 10 percent of the total open space (active recreation areas in excess of this impervious area limit shall be located outside of the protected open space);
- f. Golf courses in the suburban tier (excluding clubhouse areas and maintenance facilities), provided the area does not exceed 50 percent of the required open space, and further provided that impervious area is limited to no more than 10 percent of the total open space;
- g. Above-ground utility rights-of-way, provided the area does not exceed 50 percent of the required open space;
- h. Water bodies, such as lakes and ponds, and floodways provided the total surface area does not exceed 50 percent of the required open space;
- i. Agriculture, horticulture, silviculture or pasture uses as provided for in a conservation plan approved by the Cabarrus Soil and Water Conservation District;
- j. Landscaped stormwater management facilities;
- k. Easements for drainage, access, and underground utility lines; and
- l. Other conservation-oriented uses compatible with the purposes of these regulations.

### 6. *Prohibited uses of open space.*

Open space shall not include the following:

- a. Golf courses and above-ground utility rights-of-way in the Rural Tier.
- b. Community or individual wastewater disposal systems in the Rural Tier;

PROPOSED TEXT

- c. Streets (except for street crossings as expressly provided above) and parking areas;
- d. Agricultural and forestry activities not conducted according to a conservation plan approved by the Cabarrus Soil and Water Conservation District or a forest management plan approved by the NC Division of Forestry; and
- e. Other activities as determined by the applicant and recorded on the legal instrument providing for permanent protection.

7. *Ownership and management of open space.*

a. *Ownership of open space.*

No residential lots shall be allowed to extend into the required open space. Open space shall be accepted and owned by one of the following entities:

- i. Cabarrus Soil and Water Conservation District. The responsibility for maintaining the open space and any facilities shall be borne by the District.
- ii. Cabarrus County. The responsibility for maintaining the open space and any facilities shall be borne by the County.
- iii. Land conservancy or land trust. The responsibility for maintaining the open space and any facilities shall be borne by a land conservancy or land trust.
- iv. Homeowners association. A homeowners association representing residents of the subdivision shall own the open space. Membership in the association shall be mandatory and automatic for all homeowners of the subdivision and their successors. The Homeowners' Association shall have lien authority to ensure the collection of dues from all members. The responsibility for maintaining the open space and any facilities shall be borne by the Homeowner's Association.
- v. Private landowner. A private landowner may retain ownership of open space, provided that a conservation easement approved by the Cabarrus County Soil and Water Conservation District is recorded. The responsibility for maintaining the open space and any facilities shall be borne by the private landowner.

b. *Management plan.*

Applicants shall submit a Plan for the management of open space and other common facilities that:

- i. Allocates responsibility and guidelines for the maintenance and operation of the open and any facilities located thereon, including provisions for ongoing maintenance and for long-term capital improvements;

PROPOSED TEXT

- ii. Estimates the costs and staffing requirements needed for maintenance and operation of, and insurance for, the open space and outlines the means by which such funding will be obtained or provided;
  - iii. Provides that any changes to the Plan be approved by the County; and
  - iv. Provides for enforcement of the Plan.
- c. *Maintenance of open space.*
- i. Passive open space maintenance is limited to removal of litter, dead tree and plant materials (that is obstructing pedestrian movement), and brush; weeding and mowing. Natural water courses are to be maintained as free-flowing and devoid of debris. Stream channels shall be maintained so as not to alter floodplain levels.
  - ii. No specific maintenance is required for agricultural uses.
  - iii. Active open space areas shall be accessible to all residents of the development. Maintenance is limited to ensuring that there exist no hazards, nuisances or unhealthy conditions.

d. *Failure to maintain open space.*

In the event the party responsible for maintenance of the open space fails to maintain all or any portion in reasonable order and condition, the County may assume responsibility for its maintenance and may enter the premises and take corrective action, including the provision of extended maintenance. The costs of such maintenance may be charged to the Homeowner's Association, or to the individual property owners that make up the Homeowner's Association, and may include administrative costs and penalties. Such costs shall become a lien on all subdivision properties.

8. *Legal instrument for permanent protection.*

- a. The open space shall be protected in perpetuity by a binding legal instrument that is recorded with the deed. The instrument shall be one of the following:
  - i. *A permanent conservation easement in favor of either:*
    - a) The Cabarrus Soil and Water Conservation District; or
    - b) A land trust or similar conservation-oriented non-profit organization with legal authority to accept such easements. The organization shall be *bona fide* and in perpetual existence and the conveyance instruments shall contain an appropriate provision for re-transfer in the event the organization becomes unable to carry out its functions; or
    - c) A governmental entity with an interest in pursuing goals compatible with the purposes of this ordinance. If the entity

PROPOSED TEXT

accepting the easement is not the County, then a third right of enforcement favoring the County shall be included in the easement.

- ii. A permanent restrictive covenant for conservation purposes in favor of a governmental entity.
  - iii. An equivalent legal tool that provides permanent protection, if approved by the County.
- b. The instrument for permanent protection shall include clear restrictions on the use of the open space. These restrictions shall include all restrictions contained in this chapter, as well as any further restrictions the Applicant chooses to place on the use of the open space. Where appropriate, the instrument shall allow for stream or habitat restoration within the easement area.

**B. *Stream buffer limitations.***

1. Land within a stream buffer shall not be used to meet minimum lot size requirements, except where lots are greater than one acre in area, in which case at least 50 percent of the lot shall remain outside the stream buffer. For additional stream buffer requirements see Section 4-11.
2. Buildings and other features that require grading and construction shall be set back at least twenty feet from the edge of any stream buffer (no build buffer).

**C. *Utilities.***

To the maximum extent determined feasible, utilities in open space and amenity subdivisions shall be placed underground.

**D. *Perimeter compatibility.***

**1. *Applicability.***

Perimeter compatibility is required along project boundaries for both open space and amenity subdivisions to provide a suitable transition between the proposed subdivision and adjacent development.

**2. *Buffer required.***

A landscaped buffer shall be required along all boundaries of an open space or amenity subdivision. This buffer shall be a natural, undisturbed wooded area where possible, and shall count towards the provision of open space for the development where the buffer is not platted and made part of an individual, privately-owned lot. Where an existing natural, undisturbed wooded area does not exist, a planted buffer shall be required as follows:

**a. *Project Boundary Buffer.***

A project boundary buffer shall be provided along all project boundaries other than arterial streets, and shall be measured perpendicular to the property lines that define the project area.



PROPOSED TEXT

**b. *Minimum Project Boundary Buffer Width.***

- i. The minimum width of the project boundary buffer shall be 25 feet where the width of the project's perimeter lots adjacent to the buffer is equal to or greater than the minimum lot width of the adjoining development or the minimum lot width required by the zoning district applied to any adjoining undeveloped parcel.
- ii. Where narrower lot widths are provided, the minimum buffer width shall be 50 feet.
- iii. In the Suburban Tier, the required width of any project boundary buffer may be reduced by 33 percent, provided a minimum six-foot tall opaque wall is constructed along the project boundary.

**c. *Arterial Street Buffer.***




An arterial street buffer shall be provided along any project boundary that abuts an arterial street. The buffer shall be measured perpendicular to the right-of-way line that defines the project area.

- i. The minimum width of the buffer shall be 50 feet.
- ii. In the Suburban Tier, the required width of a project boundary buffer may be reduced by 33 percent, provided that an opaque wall is constructed along the arterial street.
- iii. Where a berm is created in an unvegetated portion of buffer, the shrub planting requirement below shall be waived. Such berms shall have a minimum height of three feet and a maximum height of six feet. The maximum slope of the berm shall be 3:1. Berms shall vary in size (length and width) and in shape to avoid a strictly linear or repetitive appearance.

**d. *Required Buffer Planting.***

Required project boundary and arterial street buffers shall incorporate existing natural vegetation to the maximum extent feasible. Prior to disturbance of a required buffer approval shall be obtained from Cabarrus County. Where existing vegetation is inadequate to meet the planting standards below, additional plant material shall be required. The planting standard below is intentionally over-planted at maturity, in order to provide an immediate beneficial impact.

PROPOSED TEXT

		
<i>Large Trees</i>	<i>Small Trees</i>	<i>Shrubs</i>
3 per 100 linear feet 2" caliper minimum 50% evergreen	6 per 100 linear feet 1" caliper minimum	22 per 100 linear feet 24" height minimum 50% evergreen

e. *Credit for Existing Vegetation*

Credit shall be given for existing vegetation within the required buffer area that meets the planting requirements above.

f. *Trails within Required Buffers*

Trails may be incorporated into required buffer areas provided adequate width (minimum 15 feet) is added to the required buffer width to accommodate both the trail and the required buffer plantings. Buffers with trails may also count toward the provision of open space for the development.

E. *Anti-Monotony.*

1. *Applicability.*

- a. No building permit shall be issued for any new home that has been determined to be similar in appearance to any home near the proposed home in accordance with the review criteria below.
- b. The following homes or projects shall be exempt from the provisions of this section.
  - i. Any subdivision with lots of one acre or more;
  - ii. Any home for which a building permit was approved before June 20, 2005, including a home being remodeled, reconstructed or replaced after damage by fire, windstorm or other casualty; and
  - iii. Any multifamily units, including apartments.

2. *Lots to be reviewed.*

- a. Differences shall be reviewed for two lots on either side of the proposed home on the same side of the street.

PROPOSED TEXT

- b. Where lots are interrupted by an intervening street, parkland or similar feature of at least 50 feet in width, no review shall be necessary.
- c. The proposed home shall be considered different from any vacant lot for which no building permit has been issued without requiring further documentation.

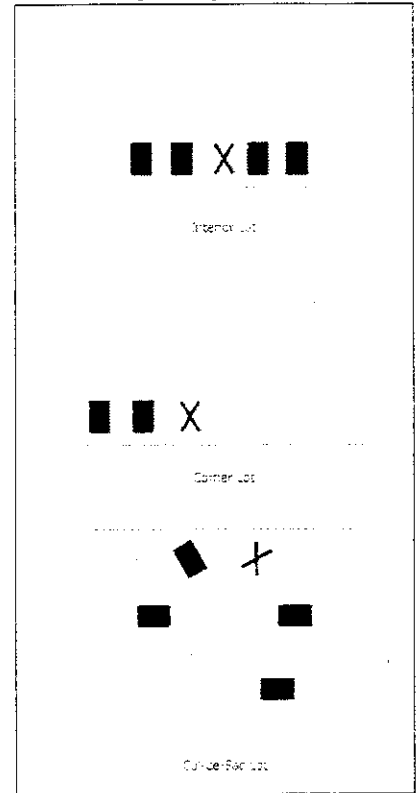
3. *Review criteria.*

In determining whether a proposed home is similar in appearance, the following elements shall be considered. At least one of the elements of the proposed home must differ from each existing or permitted home.

- a. Number of stories;
- b. Garage location;
- c. Articulation of front façade.

4. *Review procedure.*

- a. A subdivision or phase of a subdivision may be reviewed as a whole for conformity with this requirement, provided that adequate documentation to ensure conformity is submitted with the plat. Such documentation is not required to be recorded as part of the plat.
- b. Acceptable documentation may include photographs of any existing structures in question (no building elevations are required).
- c. The County shall review the submitted documentation and make a determination. Where the County finds that a home for which a building permit is being requested is similar in appearance based on the standards above, the permit shall be denied.



F. *Garage location.*

1. *Applicability.*

On lots of less than one acre, garage placement shall match one of the following garage standards.

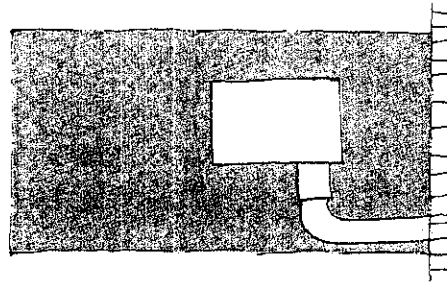
2. *Garage Standards*

a. *Side-loaded garage.*

- i. Orient the garage door perpendicular to the street and provide an integrated architectural treatment such as columns and a trellis, eyebrow roof, decorative masonry or other materials to

PROPOSED TEXT

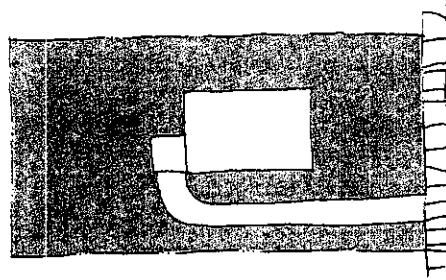
provide articulation and to visually diminish the impact of the



garage doors.

b. *Rear yard garage (alley or front loaded).*

Locate the garage behind the rear of the principal building.



c. *Front-loaded garage.*

Orient the garage toward the street, provided the following conditions are met.

- i. Position garage door at least four feet behind the primary front wall plane of the building front; or
- ii. Position the garage door flush with or forward of the front of the building and provide an integrated architectural treatment such as columns and a trellis, eyebrow roof, decorative masonry or other materials to provide articulation and to visually diminish the impact of the garage doors. No individual garage door may exceed 12 feet in width when applying this alternative, and a maximum of two garage doors shall be allowed.

G. *Accessory structures.*

1. *Height.*

An accessory structure shall not exceed the height of the principal structure.

2. *Setbacks.*

Accessory structures up to 15 feet in height shall meet the front and side setback requirements of the principal structure. The rear setback shall be

# Memo

**To:** Cabarrus County Planning and Zoning Commission  
**From:** Susie Zakraisek, AICP, Planning and Zoning Manager  
**CC:** File  
**Date:** April 17, 2007  
**Re:** Update on Refund Policy and Proposed Text Amendment for Cases Including 50 Parcels or More (C2007-04-ZT)

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At the April 16, 2007 meeting of the Board of Commissioners, the Commissioners considered the recommendations from the Planning and Zoning Commission for a policy regarding refunds and for additional noticing for cases involving more than 50 parcels.

At the March 15th meeting, the Planning and Zoning Commission voted 9-0 to recommend that refunds for planning and zoning items *not be issued* for cases that have been noticed properly and that have been processed (or are being processed) by staff. During that discussion, the County Attorney informed the Planning and Zoning Commission that applicants could make requests for refunds, even if a no refund policy was adopted. Consequently, regarding requests for refunds, the Planning and Zoning Commission suggested that any requests received be heard and decided by the Planning and Zoning Commission. The Board of Commissioners acted to *adopt the refund policy* as recommended by the Planning and Zoning Commission.

Regarding the current noticing policy, at that same meeting, the Planning and Zoning Commission voted 9-0 to follow the standards established by the State Statutes for planning and zoning items. After reviewing the language of the State Statutes (see attached), the Commission decided that additional noticing was not necessary. The Board of Commissioners, however, decided that additional noticing is preferred for cases involving more than 50 parcels. Attached you will find proposed text to amend the current language for notification to include sending individual notices to all affected property owners (in the rezoning area, abutting the rezoning area or across the street from the rezoning area.)

Please look over the materials and be prepared to discuss the proposed text and to make a recommendation to the Board of Commissioners regarding the change.

#### EXISTING TEXT

3. The zoning reclassification action directly affects more than fifty (50) properties, owned by a total of at least fifty (50) different property owners;
4. The reclassification is an amendment to the zoning text; or
5. The County is adopting a water supply watershed protection program as required by G.S. 143-214.5.

In any case where this subsection eliminates the notice required earlier in this section, the County shall publish notice of the hearings required by G.S. 153A-323, but provided that each of the advertisements shall not be less than one-half (1/2) of a newspaper page in size. The notice shall only be effective for property owners who reside in the area of general circulation of the newspaper which publishes the notice. Property owners who reside outside of the County's jurisdiction or outsider of the newspaper circulation area, according to the address listed on the most recent property tax listing for the affected property shall be notified by mail pursuant to this section. The person or persons mailing the notices shall certify to the decision making body that fact, and the certificates shall be deemed conclusive in the absence of fraud.

Posting of Signs. The County shall post one or more prominent signs immediately adjacent to the subject area of a rezoning petition reasonably calculated to give public notice of the proposed rezoning.

•Step 7: Timing of Public Hearing by County Commissioners. If the Planning and Zoning Commission action is appealed as described in Step 4 above, then the party pursuing the action before the Board of Commissioners shall pay the advertising fee and the action shall be re-advertised. Within forty-five (45) days of a recommendation by the Planning and Zoning Commission on an application to amend text or atlas, or, within the lapse of forty-five (45) days with no recommendation, a public hearing may be scheduled with the County Commissioners to be held at their next available meeting. Notification of the hearing shall follow the requirements of Step 6 above.

•Step 8: Factors Weighed at Public Hearing. When evaluating a proposed amendment, both the Planning and Zoning Commission and the Board of Commissioners will consider the following:

1. the amendment application itself and the information presented within;
2. the testimony presented at the public hearing;

### PROPOSED TEXT

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1. the amendment application itself and the information presented within;
2. the testimony presented at the public hearing;

**AN ORDINANCE AMENDING THE CABARRUS COUNTY  
ZONING ORDINANCE (C2007-04-ZT)**

**BE IT ORDAINED** that the Cabarrus County Zoning Ordinance is hereby amended as follows:

Chapter 13, Section 13-12 Zone change filing procedures

DELETE the following language in Step 6, Notification (Electronic Publication, Newspaper Advertisements, Mailed Notices and Posting of Signs):

The notice shall only be effective for property owners who reside in the area of general circulation of the newspaper which publishes the notice. Property owners who reside outside of the County's jurisdiction or outsider of the newspaper circulation area, according to the address listed on the most recent property tax listing for the affected property shall be notified by mail pursuant to this section.

ADD the following:

In addition, individual letters describing the rezoning request or action shall be sent to all affected property owners (in the rezoning area, abutting the rezoning area or across the street from the rezoning area).

Adopted this the \_\_\_\_ day of \_\_\_\_\_ by the Cabarrus County Board of Commissioners.

\_\_\_\_\_  
Robert W. Carruth, Chairman  
Cabarrus County Board of Commissioners

ATTEST:

\_\_\_\_\_  
Kay Honeycutt, Clerk to the Board



Cabarrus County	Position garage door at least four feet behind the primary front wall plane of the building front.
OR	Position the garage door forward of the front of the house to provide an integrated treatment such as a recessed porch, trellis or eyebrow treatment. No individual doors shall exceed 12' in width for residential use. Info from Carla Knott, Davidson County w/ Front-Load garage
Front Porch Requirements (Alley Load House in Cabarrus County & City of Concord, / Residential in Huntersville & Cornelius)	Foundation Requirements (Alley Load House in Cabarrus County & City of Concord, / Residential in Huntersville & Cornelius)

Rural Requirements	Town of Huntersville	Town of Cornelius	Davidson
rd	recessed at least 10' of the front facade of the building.	Garages shall be recessed from the front facade of the home and visually designed to form a secondary building. At all times, the garage must be set back a minimum of 20' from the facade to allow unobstructed access.	Garages must be set back 10' from the front facade of the main building. If a front porch covers X% of the front facade, garage must be set back a minimum of 6' from the front facade.

# Memo

**To:** Cabarrus County Planning and Zoning Commission  
**From:** Susie Zakraisek, AICP, Planning and Zoning Manager  
**CC:** File  
**Date:** April 17, 2007  
**Re:** Rules and Procedures

---

At the April 16, 2007 meeting of the Board of Commissioners, the Commissioners considered the recommendations from the Planning and Zoning Commission for a policy regarding refunds. Attached you will find revised Rules and Procedures to reflect the policy change.

This will be the first reading to add the language to the Rules and Procedures

The second reading and vote to amend the Rules and Procedures will occur at the following Planning and Zoning Commission meeting.

## **PLANNING AND ZONING COMMISSION RULES AND PROCEDURES**

### **ORGANIZATIONAL MEETING**

On the date and at the time of the first regular meeting in September of each year, the newly appointed members shall take and subscribe the oath of office as the first order of business. As the second order of business, the Commission shall elect a Chair and a Vice Chair from among the regular members. The Director of Planning and Zoning shall preside during the election process for Chair.

A simple majority of those present shall be necessary to elect the Chair or Vice Chair. The Chair's term of office shall be one year and until a successor is elected. Likewise, the Vice Chair shall be selected in the same manner and for the same term.

### **DUTIES OF CHAIR AND VICE CHAIR**

The Chair shall in an orderly fashion preside at all meetings, which includes conducting all scheduled business and public hearings, deciding all points of order and procedure, appointing all standing and ad hoc committees, administer oaths to witnesses, and soliciting public comments at each meeting. The Chair may take part in deliberations and vote on all issues.

Additionally, the Chair is expected to present Planning and Zoning Commission recommendations to the Cabarrus County Board of Commissioners. Said presentations are to reflect the vote of the Board and the character of the decision-making process that was used by the Board. The Chair may, with the voting approval of the other members, appoint a parliamentarian.

The Vice Chair shall serve in the absence of the Chair and may serve as parliamentarian. Should both the chair and vice chair be vacant for a meeting, the Chair shall designate a regular member to preside.

### **DUTIES AND RESPONSIBILITIES OF MEMBERSHIP**

Members shall be appointed by the Board of County Commissioners according to law. Members may be appointed to successive terms without limitations.

Regular members may be removed by the Board of County Commissioners for good cause, including but not limited to, failure to attend at least two-thirds of the regularly scheduled monthly meetings of the calendar year. Alternate

members may be removed for good cause, including but not limited to, repeated failure to attend or participate in meetings when requested to do so in accordance with regularly established procedures.

If a regular planning and zoning member moves outside of the area in which he or she represents or an alternate moves outside of Cabarrus County, that shall constitute a resignation from the commission, effective upon the date a replacement is appointed by the Board of County Commissioners.

Planning and Zoning Commission members shall be adequately prepared to act on a particular case in front of them at the meeting. This involves reading the meeting packet in advance, carefully listening to evidence and testimony and reports presented at the meetings, and carefully deliberating the issues.

Members are encouraged to review issues with the knowledgeable Planning, Zoning and Building Inspection Department personnel. Members are encouraged to visit all sites under review in advance. Members are cautioned not to discuss the merits or flaws of that issue with any potentially related party prior to the hearing or meeting in which the pertinent information is to be presented. Furthermore, members shall not express individual opinions on the proper judgment of any case in which the decision is quasi-judicial in nature. A member shall not intentionally attend an outside meeting (i.e., a non-Cabarrus County Planning and Zoning Commission meeting) to discuss scheduled agenda items unless all other members have been invited, or it is disclosed to the Chair or the Director of Planning and Zoning, and Building Inspection.

#### PRESIDING OFFICER WHEN CHAIR IS IN ACTIVE DEBATE

The Chair shall preside at meetings of the Commission unless he or she becomes actively engaged in debate on a particular proposal, In which case he or she shall designate another Commission member to preside over the debate. The Chair shall resume presiding as soon as action on the matter is concluded.

#### ACTION BY THE COMMISSION

The Commission shall proceed by motion. Any member may make a motion.

#### SECOND REQUIRED

A motion shall require a second.

#### ONE MOTION AT A TIME

A member may make only one motion at a time.

## SUBSTANTIVE MOTIONS

A substantive motion is out of order while another substantive motion is pending.

### ADOPTION BY MAJORITY VOTE

A motion shall be adopted by a majority of the votes cast, a quorum being present, unless otherwise required by these rules or the laws of North Carolina.

### VOTING BY WRITTEN BALLOT

The Commission may choose by majority to use written ballots in voting on a motion. Such ballots shall be signed, and the minutes of the Commission shall show the vote of each member voting. The ballots shall be available for public inspection in the office of the Clerk immediately following the meeting at which the vote took place and until the minutes of that meeting are approved, at which time the ballots may be destroyed.

## DEBATE

The Chair shall state the motion and then open the floor to debate on it. The Chair shall preside over the debate according to the following general principles:

- (a) The introducer (the member who makes the motion) is entitled to speak first;
- (b) A member who has not spoken on the issue shall be recognized before someone who has already spoken;
- (c) To the extent possible, the debate shall alternate between opponents and proponents of the measure.

## PROCEDURAL MOTIONS

In addition to substantive proposals, the following procedural motions, and no others, shall be in order. Unless otherwise noted, each motion is debatable, may be amended, and requires a majority of the votes cast, a quorum being present, for adoption.

In order of priority (if applicable), the procedural motions are:

- (1) **To Adjourn.** The motion may be made only at the conclusion of action of a pending substantive matter; it cannot interrupt deliberation of a pending matter.

- (2) **To Recess to a Time and Place Certain.** The motion shall state the time and place when the meeting shall reconvene and no further notice need be given of a recessed session of a properly called meeting.
- (3) **To Take a Brief Recess.** This motion is in order at any time. The Chair may call a brief recess without a motion or vote.
- (4) **Call to Follow the Agenda.** The motion must be made at the first reasonable opportunity, or the right to make it is waived for the out-of-order item in question.
- (5) **To Suspend the Rules.** The motion requires for adoption a vote equal to two-thirds of the actual membership of the Commission. The Commission may not suspend provisions of the rules that State requirements impose by law on the Commission.
- (6) **To Divide a Complex Motion and Consider it by Paragraph.** This motion is debatable.
- (7) **To Defer Consideration.** A substantive motion the consideration of which is deferred expires after one hundred (100) days have elapsed following the day of deferral unless a motion to revive consideration is adopted. This motion is similar to, but differs from, a motion to lay on the table.
- (8) **Call of the Previous Question.** The motion is not in order until there have been at least twenty (20) minutes of debate, and every member has had opportunity to speak once.
- (9) **To Postpone to a Certain Time or Day.** This motion is appropriate prior to consideration of a matter when more information is necessary or more time is needed. It differs from a recess after consideration has begun and differs from a motion to defer consideration.
- (10) **To Refer to a Committee.** Sixty (60) days or more after a motion has been referred to a committee, the introducer may compel consideration of the measure by the entire Commission, whether or not the committee has reported the matter to the Commission.
- (11) **To Amend.** An amendment to a motion must be pertinent to the subject matter of the motion. An amendment is improper if adoption

of the amended motion has the same effect as rejection of the original motion.

A motion may be amended, and that amendment may be amended, but no further amendments may be made until the last-offered amendment is disposed of by a vote.

(12)**To Revive Consideration.** The motion is in order at any time within the one hundred (100) days after the day of a vote to defer consideration. A substantive motion on which the consideration has been deferred expires after one hundred (100) days have elapsed following the deferral unless a motion to revive consideration is adopted.

(13)**To Reconsider.** The motion must be made by a member who voted with the prevailing side, and only at the meeting during which the original vote was taken, including any continuation of that meeting through a recess to a time and place certain. The motion cannot interrupt deliberation on a pending matter, but is in order at any time before final adjournment of the meeting. In the event a motion is reconsidered and the meeting at which the evidence is heard is recessed to a time and place certain, the Commission shall be reconvened by the same members who heard the evidence at the previous meeting.

(14)**To Rescind or Repeal.** The motion is not in order if rescission or repeal of an action is forbidden by law.

#### WITHDRAWAL OF MOTION

A motion may be withdrawn by the introducer at any time before a vote.

#### DUTY TO VOTE

Every member must vote unless excused by the remaining members. A member who wishes to be excused from voting shall so inform the Chair, who shall take a vote of the remaining members. No member shall be excused from voting except upon matters involving the consideration of his or her own financial interests or official conduct. In all other cases, a failure to vote by a member who is physically present in the Commission chamber, or who has withdrawn without being excused by a majority vote of the remaining members present, shall be recorded as an affirmative vote.

If, prior to a meeting, a member knows or believes that there may be a conflict of interest, bias, or prejudice, the member shall inform the Chair or the Director who shall arrange for an alternate member to attend the meeting in the member's place for the particular issue or for the entire meeting at the direction of the recused member. By timely informing the Chair or the Director of a potential conflict, prior to a meeting so that an alternate member can be present, a member may recuse (excuse because of interest or prejudice) himself or herself without a majority vote of the Commission.

If a member knows or believes that there may be a conflict of interest, bias, or prejudice, a declaration of that possible conflict shall be made and the Commission shall determine whether or not a conflict in fact exists. Any person in attendance may also issue a challenge of existence of a conflict of interest. Should this occur, the Chair shall immediately review the allegations by hearing sworn testimony and competent evidence. The Commission shall then make a final determination as to the existence of a conflict of interest, bias, or prejudice by a majority vote.

A member may be excused from voting on a particular issue by a majority vote if there is a conflict of interest, bias, or prejudice. The member shall state the conflict and refrain from any and all deliberations. At the discretion of the Chair, the member may be asked to leave the room until the issue has been voted upon. A member may be allowed to withdraw from the remainder of a meeting for any good and sufficient reason, and with the majority vote of the remaining members present. In any matter in which a member is excused or recused and an applicant is necessarily prejudiced or requests that the matter be recessed to a time and place certain, said matter shall be recessed to a time and place certain, and the excused member shall be replaced by an alternate member for that meeting.

#### FINALITY OF ACTIONS

Unless otherwise stated in the Cabarrus County Zoning Ordinance or according to law, all actions of the Planning and Zoning Commission become final with the approval of the minutes in which the meeting was held or through the issuance of a zoning permit obtained in good faith and reliance on a commission action.

#### QUORUM

Five members of the Commission shall constitute a quorum. A member who has withdrawn from a meeting without being excused by a majority vote of the remaining members present shall be counted as present for purposes of determining whether or not a quorum is present.



## MEETINGS

Regular business meetings of the Cabarrus County Planning and Zoning Commission shall be held on the third Thursday of each month at 7:00 p.m. in the Commissioners Room of the Cabarrus County Governmental Center. In the event that this date falls on a holiday, the meeting is to be scheduled on the second Thursday of that month. On rare occasions, there may be a need to hold additional meetings. When this occurs, the meeting will be scheduled by the Chair and termed (1) an emergency meeting if an unexpected circumstance has arisen which requires immediate consideration by the Commission, (2) a special meeting, or (3) a continued meeting.

All meetings shall be conducted upon prior public notice in accordance with the requirements of the open meetings laws pursuant to N.C.G.S. 143-318.12 and in accordance with the notice and advertising requirements of the Zoning Ordinance.

By a majority vote of the Commission, the Commission may move into closed executive session to discuss any proper purpose defined by N.C.G.S 143-318-11 including but not limited to litigation, industrial/business located or expansion, specific personnel matters, state and/or federally required confidential information, and investigations. Before entering into closed executive session, the general nature of the business to be discussed must be stated. The Commission may not discuss matters in closed executive session which were not of the nature announced to the public prior to moving into the closed executive session. An executive session shall include only Planning and Zoning Commission members, the Commission secretary, the Commission attorney, the Director of Planning, Zoning, and Building Inspection, and anyone specifically invited by the Commission who are necessary or appropriate to conduct the business of the executive session.

## PUBLIC HEARINGS

The Chair may apply rules (subject to a contrary majority vote of the Commission) appropriate to the proper conduct of a public hearing. The Commission must provide a reasonable amount of time for a petitioner to introduce all the evidence required by the ordinance to approve an application. The rules may include, but are not limited to, rules (a) fixing the maximum time allotted to each speaker; (b) providing for the designation of spokespersons for groups of persons supporting or opposing the same positions; (c) providing for the selection of delegates from groups of persons supporting or opposing the same positions when the number of persons wishing to attend the hearing exceeds the capacity of the hall (so long as arrangements are made for those

excluded from the hall to listen to the hearing); and (d) provide for the maintenance of order and decorum in the conduct of the hearing.

All notice and other requirements of the Open Meetings Law applicable to Commission meetings shall also apply to public hearings at which a majority of the Commission is present. A public hearing for which any notices required by the Open Meetings Law or other provisions of law have been given may be continued to a time and place certain without further advertisement. The requirements of the Rule concerning Recessed Meetings shall be followed in continuing a hearing at which a majority of the Commission is present.

At the time appointed for the hearing, the Chair or his or her designee shall call the meeting to order and then preside over it. When the allotted time expires or when no one wishes to speak who has not done so, the presiding officer shall declare the hearing ended.

#### QUORUM AT PUBLIC HEARINGS

A quorum of the Commission shall be required at all public hearings required by state law. If a quorum is not present at such a hearing, the hearing shall be continued until the next regular Commission meeting without further advertisement.

#### MINUTES

Full and accurate minutes of the Commission proceedings shall be kept and shall be open to the inspection of the public, except as otherwise provided in this rule. The results of each vote shall be recorded in the minutes, and on the request of any member of the Commission, the "aye's" and "no's" upon any question shall be taken.

Full and accurate minutes shall be kept of all actions taken during executive sessions. Minutes and other records of an executive session may be withheld from public inspection so long as public inspection would frustrate the purpose of the executive session.

#### REFERENCE TO ROBERT'S RULES OF ORDER

To the extent not provided for in these rules, and to the extent it does not conflict with North Carolina law or with the spirit of these rules, the Commission shall refer to Robert's Rules of Order, Revised, to answer unresolved procedural questions.

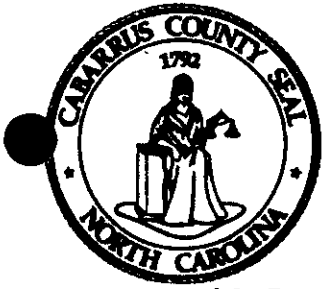
## AMENDMENTS

These Rules and Procedures may be amended at any time by an affirmative vote of at least seven of the members. Any amendments shall be presented in writing at a regular or special meeting before the meeting in which the vote is taken.

## REFUNDS

It is the policy of the Commerce Department and the Planning and Zoning Commission that refunds of fees paid for Planning and Zoning Commission and Board Adjustment matters shall not be given if these matters have been properly noticed and properly processed by staff.

Appeal of this policy shall be heard by the Planning and Zoning Commission.



Planning and Zoning Commission Minutes  
May 17, 2007  
7:00 P.M.

Mr. Roger Haas, Chairman, called the meeting to order at 7:00 p.m. Members present, in addition to the Chair, were Mr. Todd Berg, Mr. Danny Fesperman, Mr. Larry Griffin, Mr. Ted Kluttz, Mr. Thomas Porter Jr., and Mr. Ian Prince. Attending from the Planning and Zoning Division were Ms. Susie Zakraisek, Planning and Zoning Manager, Mr. Jay Lowe, Zoning Officer, Mr. Chris Moore, Planner, Ms. Arlena Roberts, Clerk to the Board and Mr. Richard Koch, County Attorney.

**Roll Call**

**Approval of Minutes**

Mr. Danny Fesperman, **MOTIONED, SECONDED** by Mr. Larry Griffin, to **APPROVE** the March 15, 2007 meeting minutes. The vote was unanimous.

**New Business – Board of Adjustment Function:**

The Chair introduced **Conditional Use Application 757-C**

**1. Applicant:** Dr. Richard Beall, Carolina International School

**Request:** Permission to redesign the configuration of the school facility that was previously approved (752-C) by the Planning and Zoning Commission on November 16, 2006.

The chair swore in Mr. Jay Lowe, Mr. Richard Beall, Ms. Joelle Mirco, Mr. Brad Johnson and Mr. Chuck Sigler.

Mr. Jay Lowe addressed the board, stating this is Conditional Use Application 757-C, the applicant is Dr. Richard Beall of Carolina International School. The owner of the property is Paul Pigue of Richmond, Texas. The zoning is Countryside Residential; the property in question is 8810 Hickory Ridge Road, Harrisburg, NC. The size of the property in question is 35.37 acres. The applicant has submitted a complete application form and the information required by the Cabarrus County Zoning Ordinance for a Conditional Use. The adjacent property owners have been notified by mail. The letter and a list of those contacted were included in the packets. The notice of public hearing was published on May 6<sup>th</sup> and May 10<sup>th</sup> of 2007 in the Cabarrus Neighbors and May 3<sup>rd</sup> and May 7<sup>th</sup> of 2007 in the Independent Tribune.

Mr. Lowe said in 2004, the Carolina Charter International School applied for, and received, a Conditional Use permit for a public school; he thinks it was October 2004. The preliminary site plan indicated that the size of the facility would not be more than 60,000 sq. ft. at the time of final build out. After operating out of temporary buildings on

the site for two years, the applicant decided to construct the permanent facility. They submitted an amended application and appeared before the Board of Adjustment in October 2006. He said that application was approved for a permanent facility with no more than 181,000 sq. ft. at total build out. However, due to financial concerns, the project has not commenced construction.

Mr. Lowe said since 2006, the school has changed the plans once again. They have decided to change the configuration and the design of the project. He said the applicant will still have no more than 181,000 sq. ft. of total building square footage at final build out.

Mr. Lowe said should the Board choose to approve the new plan for the facility, staff recommends the following conditions be placed on the approval.

1. With the expansions that are shown on this plan, it is required that the existing entrance be widened to accommodate two (2) inbound lanes.
2. With the "future expansion", a right turn lane will be required on Hickory Ridge Road.
3. Applicant will submit plans for "future improvements" to NCDOT for review and approval to assess the impact on the State maintained facilities.
4. The overall square footage for the permanent school facility at build out shall be less than 181,000 sq. ft.

Mr. Lowe said that last time there were some erosion control and flood plain issues on this site and there was a condition placed on the school at that time that they would bring that property into compliance by August 1, 2007. He said they have made headway in doing so, and staff recommends that this condition is placed on the applicant. He talked with the applicant and they seemed to think that they will be in compliance by that time period without any problems. He said the applicant has already made headway with erosion control and the flood plain issues to this point.

Mr. Lowe said the only difference between this conditional use and the last one the Board approved is the configuration of the buildings and the placement of those buildings. They may not be in the exact same spot on the property, but all the buffers are in place and so forth. He said the impact of this conditional use does not seem to be of any more intensity than the last one that was approved, in some ways it could be less.

The Chair asked if there were any questions.

Mr. Richard Beall, Carolina International School, 8424 Piccadilly Lane, Harrisburg, NC, addressed the Board stating that after the original design was approved by the Board in November 2006, they had numbers done by their general contractor R. J. Griffin, and discovered that the configuration and infrastructure in particular was going to cost more

than their budget could sustain. He said the road looped around the north side of the property and would have required a lot of retaining walls and so on. They had to go back to the drawing board with their architect and the team that they have compiled of engineers and contractors resulting in the configuration being simpler and the footprint being smaller because it is a two story building. He said they have reduced the number of buildings on the sight because of this.

Ms. Joelle Mirco, Project Manager and Architect with Perkins and Wills, addressed the Board. She said they had some challenges to overcome with the desired scope, the infrastructure required to support that scope, and the budget. She said these changes are a direct result of limited funding and they feel that the changes result in a more compressed design, create less impact to the site, less impact to the trees around the site and a simpler design. She said one of the main points they would like to bring to the Board's attention is that the issues last time with the flood plain compensation have actually turned out to be, not surprisingly very good for half of the school. She said a survey provided to them by a licensed surveyor was actually referencing an incorrect benchmark elevation and there was a 0.8 ft discrepancy over the entire site and is what resulted in the majority of the flood plains storage issues, or the lack thereof. She said, luckily they have been able to have a new survey provided to the flood plain administrator and it meets his satisfaction. They are very close to having compliance with the requirements for the site to hold water and feel very strongly that the new design will be able to support total compliance by the date previously imposed, August 1, 2007.

The Chair asked if there were any questions.

Mr. Brad Johnson, Civil Engineer, 2057 Atherton Heights Lane, Charlotte, NC, addressed the Board. He said the site will comply with all the erosion control issues for the state of North Carolina and the impact will be minimized for any disturbance to the site. He said with respect to the flood plain compensation, their registered land surveyor, Jay Stackleather, has verified that the benchmark used by the previous surveyor was off by 0.8 ft and they have recalculated the amount of flood plain compensation required and they have a plan in place that addresses those issues.

Mr. Berg recalls that bringing that into compliance was some how tied into the first phase of construction. He asked if that is still the case, will they fix that independent of construction or is it still a part of the first phase of construction.

Mr. Johnson said the compensation will be completed ahead of the first phase of construction.

Mr. Chuck Sigler, 8766 Hickory Ridge Road, Harrisburg, NC, addressed the Board. He said the school property and his property are adjoining on the same side of the road. He said two years ago when this first conditional use was put into place, a portion of his entire frontage was used for the road widening. He said tonight is the first time he has heard that a right turn lane would be required, so we will probably go through that routine

once again, the on taking of our frontage. He is concerned about the traffic impact and the value of his property.

Mr. Sigler said in the zoning minutes from March 18, 2004, it spoke to approving the original conditional use based upon whether or not there would be lighted ball fields, at that time it was approved that they would not have lighted ball fields. His concern is, with this additional conditional use, whether or not it would carry through and continue to be something they would not be able to approve.

Mr. Lowe said, this being a new application the Board has the ability to speak with the applicant and place the condition that they not have lighted ball fields on them. He said for example, the last time we placed a condition on them that they would be in compliance with erosion control by August 1, 2007, we need to mention that again if the Board so chooses. He said as long as the applicant is still in agreement with things, the Board has the ability to place that as a condition on this application and probably should do so. He said the Board needs to look at this as a completely new application.

Mr. Koch agrees with Mr. Lowe. He thinks out of abundance of caution, the Board needs to capture all of the previous conditions to the extent that this new application changes some of those old conditions, and if the board chooses to approve the new application, then it will technically mend those conditions that it affects. He thinks it would be better in a motion to approve it, that all the conditions that have been proposed on this property as the result of the conditional use applications that have been submitted since 2004, that they all be captured with this so that it is clear not only to the Board but also to the applicant what all the conditions are that they have to meet.

Mr. Berg asked for Mr. Bealle or the architect to speak on the lighted ball field issue.

Mr. Bealle said there is a security light at the intersection; but they do not have any intentions of having more lights on the ball field.

Mr. Fesperman asked how it was looking dealing with NCDOT; it is going to require two inbound lanes, he assumes that is not a problem.

Ms. Mirco said it is not a problem; it is her recollection from the last time that the two inbound lanes would be required with future construction, not this Phase I, and the turn lane would not be required until certain threshold of student population was met and that would be determined by NCDOT. She said one of the things in her discussions with NCDOT that has come up is that if planned developments along Hickory Ridge Road are going to have a bigger impact to the street than Carolina International School will, then ultimate road widening will take place that can run concurrent with the turn lane as development occurs down the street. She said they have plans for traffic lights to come in that vicinity, so it would all happen at the same time.

Mr. Fesperman asked if the right of ways had been purchased.

Ms. Mirco said no, she was told by NCDOT that they will handle the purchase of the right of way as part of the overall road widening for service in that area.

She said this first phase has no impact; in fact the stacking of cars is going to be improved with the construction of the loop road and the expansion onto the western portion of their site. She said it does not have a negative impact on the street and traffic right now. She said car count may be more but they will be able to be contained better onsite and will not be stacking up in the street.

Mr. Prince said the prior application had the facilities being LEED certified, is that still in the plan?

Ms. Mirco said yes, that is one reason for the redesign, it is important to the school to maintain an environmentally sustainable project. She said they redesigned for a more compact site, less disturbance to the site in order to afford the architectural features of a sustainable building, including recycled materials, recycled content and careful selection of finishes.

Mr. Prince asked if the applicant is willing to make that a condition on this conditional use, that it be LEED certified.

Ms. Mirco said that is up to the owner. They have every intention of pursuing certification; they are already registered with US Green Building Council to certify the project, but as designers they cannot guarantee if the project will meet GBC's point system until the building is constructed. They are targeting LEED goal but cannot guarantee that.

The Chair asked what the present enrollment is and where do they see that threshold when the future expansion is begun.

Mr. Bealle said there are 415 students right now, kindergarten through grade 9. He said they are adding a grade each year to be a full K-12 system; next year they will need a 10<sup>th</sup> grade, so they will bump up to just about 40 students for next year. He said the following year, assuming they are able to complete the construction and occupancy in July 2008, they would not only move the secondary school over to the west side of campus and then occupy this building but that would allow them a little more space and they would expand and have a third class with 20 students at each grade level, beginning with kindergarten, first, second and third grades. He said that would mean a bump up in enrollment to about 550 at that point. He said at full build out they would allow that to go up incrementally year after year, they would not reach full capacity until 2017, that would be about 834 students.

Mr. Haas asked if the buildings themselves were designed to be exactly 181,000 sq. ft. or will it be less.



Ms. Mirco said it would be less than that. She said they provided that number to accommodate any fluctuation for size of circulation spaces and things of that nature.

Mr. Haas said originally the Board approved it to be no more than, which means it could have been 181,000, this one says build out shall be less than 181,000, he is asking because this would require you to be less than 181,000.

Ms. Mirco said it was more of a number they took for general foot print calculations.

Ms. Mirco shows illustrations depicting the new revised design. She said it illustrates the intent for the LEED Gold Project. She said in their opinion it is a simpler construction model, it uses traditional steel frame construction and more conventional structural and building systems. They think by using those primary systems it will help them to get the project closer in budget. She said they have found that the subcontractors are a little bit leery of alternative construction models right now and they tend to apply premiums to things that they are not comfortable with, are use to doing. She said that was another reason for changing structural systems, to be able to be more inline with what the local trades are capable and willing to do.

Mr. Bealle said this is a new design of the road and he thinks one of the benefits of this new design is it is going to take them further from the neighbors in that vicinity, shortening the road and minimize the site.

Ms. Mirco said they have developed pass that and every thing is inline now

The Chair asked if there were any questions.

Mr. Berg asked Mr. Lowe for clarification on one of the suggested conditions; the first one widening the entrance to two lanes, he asked if it the intent was with the first phase of construction.

Mr. Lowe said we want them to follow what the NCDOT guidelines are. He is not sure what phase they wanted that put in.

Mr. Griffin asked if it would be sufficient to say that they will satisfy all of NCDOT/AFPO requirements.

Mr. Lowe said it would be fair to say that the applicant needs to follow all Cabarrus County ordinance guidelines as well as all NCDOT guidelines.

The Chair asked if any of these conditions were new to the applicant or were all of these conditions in the previously approved conditions.

Mr. Lowe said the only thing that he is not sure about is the lighting issue, but the applicant has agreed to that, so the Board could make that a condition. He looked back to

2004, and he has not found where that condition was placed on that application at that time.

Mr. Koch said what he is trying to reconcile is in the March 2004 minutes it indicates that there will be 150 foot left turn lane installed. He said it would appear that it is not specifically mentioned in the new conditions. Mr. Koch asked if it was known if it was required.

Mr. Berg said the applicant said it was already installed.

Mr. Koch asked the Chair to ask the applicant if the Army Corp of Engineers study that is mentioned in the March 2004 minutes as a condition has been incorporated in their final plan.

The Chair said the applicant says it has been done.

Mr. Koch said it appears to him that the Board has all the new conditions that are in the existing application and the ones that would need to be carried forward from prior applications are:

1. The ball field would be unlit, which the applicant has agreed too.
2. The site must be in compliance with the current flood plain ordinance by August 1, 2007.

The Chair acknowledged additional persons to speak and swore them in.

Ms. Laura Carricker, resident, 9058 Hickory Ridge Road, Harrisburg NC, addressed the Board. Ms. Carricker apologized for being late. She said they live next door to the school and the flood plain is a concern of theirs. She said there is sedimentation going into the creek; and recently a temporary silt fence had been put up that does not meet DOH standards. She said they still have a lot of erosion in the front and back and along the school and on the road. She said there is a lot of silt sedimentation that gets into the creek, also when they filled in at the end of the soccer field it displaced a lot of the flood plain which is now coming over onto their property. She said that is pasture for them and they mow that for hay. She said the developer did not plant the right kind of grass in there and they have been trying to get in along the creek bottom where the right of way is, they have plowed it up because it was rye and/or millet and they needed fescue. She said because of the excessive flooding, the water displacement keeps the creek bottom so wet that they cannot get in there to plant their seed and to get that part back into productive pasture because they bail that for their horses.

Ms. Carricker said they also wanted to be sure that the zoning still restricted the lighting of the ball field.

Mr. William Carricker, resident, 9058 Hickory Ridge Road, Harrisburg NC, addressed the Board. Mr. Carricker believes that at the last hearing of the Carolina International

School, a condition was attached to the permit to occupy a new facility they were proposing, they had this flood plain issue taken care of prior to occupancy. He said it was winter time last year and they could not really do much in the bad weather, but he thinks it is time that some action should be taken while we have the season where it can be addressed.

The Chair said one of the conditions stated that August 1, 2007, is the date that they must be in compliance with the flood plain issues in addition to the lighted ball fields.

The Chair asked if a motion could include conditions captured in the previously approved application would be included.

Mr. Koch said that is a catch all and he does not have a problem with a catch all. He said sometimes it is not entirely clear whether these things completely overlap or not. He said if the Board prefers to do that he does not have a problem with it, but trying to identify all of the conditions from the previous applications was the reason; to try and make sure it was clear to everyone what the conditions were as best you could make them clear.

Mr. Berg thinks they have gone through the list and think they have a comprehensive list of conditions now.

Mr. Carricker asked what the difference is in this hearing and the previous hearing in October; she thought all of the issues were addressed then.

The Chair said the difference is a reconfiguration and design of the buildings, a different design to the buildings that accommodates more of what they were looking for.

Mr. Fesperman said hearing them talk about environmental issues, an issue we have had in the past, he is amazed that fencing is improperly placed or not in place or there has been sediment that has reached water. He said in Mecklenburg County there is a \$5000 fine and they start from that point on, no sediment reaches any water or if it does you are fined immediately. He said if this is the case, we have had concerns about this in the past, and he would hope this is not the case.

Mr. Lowe said Cabarrus County has its own Erosion Control Program, but our County department cannot handle this project. He said this project is receiving state funding so they have to go through the Mooresville office to handle the erosion control concerns. He spoke to Ed Robinette with the State concerning that and he indicated that he has spoken with the applicant and they are taking measures to bring the property into compliance. He said as far as the erosion control concerns, you are right, if it were many other projects we have the same fines in place as well. He said there are some projects that are state projects that our Department cannot handle.

There being no further discussion, Mr. Berg **MOTIONED**, to **APPROVE Conditional Use Application 757-C** with the following conditions:

1. The existing entrance be widened to accommodate two (2) inbound lanes in accordance with NCDOT requirements.
2. With the "future expansion", a right turn lane will be added onto Hickory Ridge Road in accordance with NCDOT requirements.
3. The applicant will submit plans for "future improvements" to NCDOT for review and approval to assess the impact on the State maintained road.
4. The total square footage for the permanent school facility at build out be less than 181,000 sq. ft.
5. Any ball field or play fields will not be lighted
6. The entire sight be in compliance with the current flood plain ordinance by August 1, 2007.

The motion was **SECONDED** by Mr. Griffin. The vote was unanimous.

**New Business - Planning Board Function:**

**The Chair introduced Petition C2007-03(R), (OI) Office Institutional to (LDR) Low Density Residential.** Request to return the current (OI) Office Institutional zoning district designation back to a residential zoning designation.

Mr. Chris Moore, Planner, addressed the board stating that this is Petition C2007-03(R), (OI) Office Institutional to (LDR) Low Density Residential. He said this petition is another rezoning involving some of the (OI) Office Institutional district that was applied on June 20, 2005, as a result of the mass county wide rezoning. He said that the Board of Commissioners has asked that as these request come in, we handle them administratively to count down on the amount of paper work that is necessary for the residents to complete and to eliminate the fees for residents who for one reason or another were not aware of this rezoning.

Mr. Moore said this particular case was brought to us by Mr. James Floyd, who owns two of these properties. He said the four properties total 88.6 acres; they are residential and agricultural in nature. The property owners were notified via U.S. Mail that this rezoning would take place; it was also advertised in the Independent Tribune and Charlotte Observer. He said all adjacent property owners were notified, staff received a few calls from the adjacent property owners and none of them expressed any opposition to the proposal.

Mr. Moore said the future land use map shows these properties as (LC) Limited Commercial. He said the Limited Commercial text in the Midland Area Future Land Use Plan indicates that areas along thoroughfares that are expected to be developed as commercial properties be designated as such and it also indicated that care should be

taken to not identify residential properties as limited commercial in future land use maps. However, for some reason the map does not reflect the text, so there is contradiction within the land use plan regarding this; both supports and does not support this rezoning request.

Mr. Griffin asked if there were any comments from Midland about this request.

Mr. Moore said he spoke with the Mayor, he felt that any properties that are residential should remain residential. He said these properties were zoned (LDR) Low Density Residential prior to the June 20, 2005 rezoning, this would restore that original zoning designation to these four properties.

Mr. Fesperman asked what did the county do; shot gun the whole county to see if some of it was going to stick. He said we need commercial and we need this in certain areas. He gets distressed that every month they are sitting in here; a lot of time has been wasted by a lot of people on this. He does not know if it was poor planning in 2005.

Mr. Moore said several of the areas that were rezoned to the (OI) Office Institutional were the result of an economic development study that was conducted by Leak-Goforth in 2005. He said, the plan was presented that March (2005) and most of the areas were designated in that plan as future employment growth areas, this one was not. He does not know the reasoning behind having these parcels as OI, the only explanation he can come up with for it is that it was designated as a limited commercial area in a future land use map and in his opinion that would be a logical assumption. However, he was not part of the process that resulted in these rezoning so he does not have personal knowledge of that.

The Chair opened the floor to public comment.

Mr. James M. Floyd, Jr., 5665 Highway 24/27 E, Midland, NC, addressed the Board. He said they were unaware of the rezoning until they received the tax reassessment a year later. He said they did not subscribe to the Tribune which is where he thinks this was posted, so they had no idea what was going on. He said the reason for applying for it to be returned is if in the future they wanted to build a one story house that they would be able to do that and also for their son to have property if he wanted to build. He said they would not be able to do it with it being zoned (OI) Office Institutional.

Mr. Fesperman asked if Mr. Floyd was looking to get his tax situation back on an even situation.

Mr. Floyd said he already gets the agriculture deferment because it is in farm use and part of the forestry as well.

The Chair asked if there were any additional comments.

Mr. Porter feels that this comes back down to what has been discussed before, owners' properties rights. He said what ever the case was they did not realize that they were being caught up in the county wide rezoning and in this case as in several others they are not asking for more, they are asking for a down zoning, which in affect would decrease the value their property if they were looking to market it at this point.

Mr. Porter, **MOTIONED, SECONDED** by Mr. Kluttz to **APPROVE** **Petition C2007-03 (R) (OI) Office Institutional to (LDR) Low Density Residential.** The vote was unanimous.

Mr. Koch provided the following consistency statement:

The proposed rezoning is not consistent with the Future Land Use Map in the Midland Area Land Use Plan but it is consistent with the intent of the Midland Area Land Use Plan and reasonable and in the public interest.

The Chair asked for a motion.

Mr. Porter **MOTIONED, SECONDED** by Mr. Kluttz to **APPROVE** the Consistency Statement. The vote was unanimous.

**The Chair introduced the next item on the Agenda, Proposed Text Amendments C2007-05-ZT – Appendix A., Typical Street Standards**

Ms. Susie Zakraisek, Planning and Zoning Manager, addressed the board. She said the Board has been hearing about the batches of text amendments that they will be seeing, this is part of some of what the Board will be seeing over next few months and things that have come up since 2005 when these standards were actually adopted.

Ms. Zakraisek said the first one is the street standards. The standards that were originally adopted in 2005 are not compatible with what NCDOT standards are and they will not take the streets the way that they are designed. She said for example: in the parkway cross section that is in the ordinance it had an eight foot median; NCDOT wants a 16 foot median. She said there are a lot of things that needed to be changed, some of the typicals had trees in between the street and the sidewalk, NCDOT will not accept that and the planting strip. She said they had to go in and look at what needed to be fixed; NCDOT and the City of Concord have all had their say in this. She said these typicals are the typicals that NCDOT says that they can live with and that Concord says that they can live with if they end up annexing a project in.

She said there was some litigation and the County agreed to some items as far as design standards and that is where all of that back in 2005 came from, part of the settlement with the City of Concord.

Ms. Zakraisek said there are changes to the actual cross section based on input from Emergency Services as well as the City of Concord. She said there are changes in the cross sections as far as how they are actually designed, based on what NCDOT wants and based on what Concord wants.

Ms. Zakraisek said in addition to what you had, if you look at what is in the existing, there was a residential collector parkway and a residential collector parkway Option A and Option B, they were the same thing and neither one was acceptable to NCDOT. She said the text that we will have now will have one parkway standard, one collector standard, one residential street standard, and one alley standard, (all alleys have to be private and that was not clarified before); the rural residential street: there are some changes to the requirements for dead end and stub streets because they were not appropriate for emergency access and for the fire trucks. She said cul-de-sacs and cul-de-sacs with the islands were all changed to accommodate emergency services as well as the hammer head and the pavement schedule was added in. There was no pavement schedule before.

She said everybody in the transportation business says these are acceptable, whether it is NCDOT or whether it is Concord. This is the middle ground where everybody can agree and will make the streets and agree to maintain them. She said the County is not in the business of maintaining streets.

The Chair asked if there were any questions.

The Chair said if he read it correctly, the alley way had a curb type that was recommended, now under the new standards there does not necessarily have to be curbing of any type, because it says curb or none.

Ms. Zakraisek said they want either a ribbon type curb or none. She said Concord was pretty specific as far as what they wanted; in most cases they wanted typical curb and gutter. She said NCDOT said no, they like the valley curb and gutter. She said this text is putting it all together to try and find the middle ground so that if they end up coming through our process, if they stay in the County then NCDOT takes them and hopefully it is an easy transition, if they are being annexed into Concord it is acceptable to Concord and it is an easy transition.

She said the street trees are not a primary concern because the County ordinance now requires those trees to be in the front yard. She said there is a front yard tree requirement for each house instead of having them in the 6 foot planting strip where they typically do not grow well.

Ms. Zakraisek said when Roycroft came in we had a lot of discussions with the developer because our ordinance did not specifically say that you could not access a parkway. NCDOT says that you cannot access a parkway, so some of the notes are clarifications to make sure that the NCDOT specifics are incorporated into our ordinance and in their design guidelines as well.

Mr. Griffin asked if the Planning and Zoning Board to make a recommendation to the Board of Commissioners.

Ms. Zakraisek said yes.

She said one other item is the Loop Lane; it has been eliminated per the request of NCDOT as well as the Fire Marshall's office.

There being no further discussion, Mr. Griffin **MOTION**, to **Recommend Approval** of the **Proposed Text Amendment C2007-05 ZT, Appendix A, Typical Street Standards, SECONDED** by Mr. Berg. The vote was unanimous.

**The Chair introduced the next item on the Agenda, Proposed Text Amendment C2007-06-ZT – Amenity Subdivision Standards and Anti-Monotony Standards**

Ms. Zakraisek addressed the Board stating that the Peach Orchard Estates project and the Shea Homes project came through as well as a couple of smaller subdivisions that are being looked at now. She said based on the experience that staff has had with them; it is staff's opinion that there are some modifications that need to be made to the architectural design standards. She said approximately 120 hours was spent working on the last subdivision, Peach Orchard. She has taken some of the plans that staff has and some of the plans that were proposed and hopefully the Board can see what staff is talking about. She has asked some representatives from Shea Homes to attend the meeting so that the Board could have the builders/developers point of view and to ask any questions.

Ms. Zakraisek met with Todd Berg, since he is an architect by trade, to get his opinion on what we were experiencing, what we have been seeing and what we have been hearing, and hopefully have some standards that will work for us and for the developer. She said there have been two projects, the Baker Residential project (or the Peach Orchard project) and the Shea Homes project; those are the two larger projects that the Board has seen. She said one of those has been approved as far as the actual elevations, and one is proposed, the Shea development Rustic Canyon (formerly named Bella Vista). She said Concord will have the chance to annex them in before the final plat. She said some of the challenges have been the application, the standards; the way that they are written leaves room for interpretation. In some ways they are very strict, the whole intent was to get us away from monotonous standards, now we are back to monotonous standards because now every house has to have an eyebrow roof or a trellis.

She said as far as architectural styles, with some of the items that are in the ordinance as far as not allowing the soffit to extend, and that everything needs to be perpendicular; some of the architectural styles are the Arts and Crafts and Tudor styles and that is not keeping with those styles. She said the styles that have been looked at and some of what has been proposed by other folks looks like they are making a come back; brick is not the standard any more, they are trying to make more interesting elevations and more



interesting type neighborhoods and diversified neighborhoods, so we are getting a lot of things in that are a little bit different or a mix of all of those types of styles.

Ms. Zakraisek said we probably have at least 120+ hours in reviewing the Bakers plans. There were 15 different elevations and each one of those elevations had 3 or 4 versions to it, in addition to a corner lot option.

Ms. Zakraisek showed a picture of a Tudor style house and explained that the ordinance would not allow the developer to do this type of house. She said it has the double doors and with the Tudor style with the gable, there is no soffit. She showed another example where they stayed in keeping with the architectural style, with the double doors and the projection but there is no eyebrow roof. She said this is to give the board an idea of how some of the other plans might be acceptable or they look okay but the ordinance would not allow a house like this to be built. She said our ordinance does not allow for any type of decorative masonry to be used on the garages to try and make them more architecturally appealing.

She showed elevations that would be built in the Baker projection. She said they mixed the brick with the Tudor style, and some of the other elevations showed the eyebrow roof and the eyebrow roof with the double doors. She said some of the items that they come across is that the ordinance requires dormers to be built at 8 inches, which is not typical of architectural standards.

Ms. Zakraisek said she would go through the proposed text and that the representatives from Shea Homes were present to answer any questions the Board may have and to help the Board understand the challenges that they are facing. She said they are the latest project to come in and they have some innovative products that they would like to use.

Ms. Zakraisek said, when you look at the roof over hang section, we would like to have that section amended to clarify that it is the exterior face, right now it says supporting wall so you do not get the one foot over hang that was originally intended. She said as far as the soffit that is where more flexibility is needed so that if someone wanted to do Tudor style or Arts and Crafts style, as long as it is in keeping with the architectural style then it would be permitted. She said as far as the blank wall area, there have been a lot of issues with that because people want to decide on their own how that should be interpreted. It says 15 x 15 and if they are at 14.99 then that is okay because they are not at 15; they are really stretching it. She said the intent of that was so that you would not have a blank wall on the corner lot and there are ways to get around that and to still have very large expanses because they can come into the middle and break it up if it is not a very deep house and you still get the large expanses.

Ms. Zakraisek said as far as the alternative compliance, we think that it would be better if someone wants to propose elevations that are a little bit different or not exactly keeping with the standards that the Board look at them and decide if they are appropriate, instead of having that at the staff level.

Ms. Zakraisek said there were no changes to the open space provisions. She said the next change would be where it talks about the review criteria and anti-monotony standards. She said with the review criteria we would delete the roof type since you can have the same elevation technically and put architectural shingles on one and twenty year shingles on the other and have the same elevation next to each other. She said that sort of defeats what we were trying to achieve by just doing the roof change, if it were metal versus shingle or something like that it may be different enough that it would not actually contradict that standard.

She said, as far as the garage location, for side loaded garages, currently there isn't anything that has to be done. She said what is being proposed is that they would have some type of treatment as far as the columns, trellis, eyebrow roof, masonry or other materials, to provide articulation, begin to diminish the garage doors because on a corner lot you can still have the large garage doors. She said as far as the front loaded garage we are asking that to add decorative masonry or other materials to provide articulation because we are getting into everybody has trellis, everybody has an eyebrow roof. She said in the Baker plans everything they had was a two story elevation, so you will not have a change from one to two or anything like that. She said everything is a two story, so it gets down to the elevation and changing the garage direction, right or left or the actual front façade itself. She said we are asking for a little more flexibility so that hopefully, since there is limited staff, we can move through the process a little more quickly. She said it is taking a lot of time for staff and for the developers because they cannot move on to final platting until all of the elevations are approved.

She said we talked before about potentially forming a committee, she does not know if that is something the Board is open too, right now we are asking to get a little more flexibility built in. She said if you want the outside perspective, we have some folks here tonight.

Mr. Berg said since they are here he would ask them to make comments.

Mr. Charles O'Melvery, Product Development Manager, Shea Homes addressed the Board. He said they are starting a new product that they have been working with Susie and Chris on and have come up with some challenges and are looking for some clarification. He said they are definitely for anti-monotony and some of the restrictions that Susie was talking about have them putting all the dormers the same, all the bays being the same. He said his architect is here and will talk about some of the architectural details they are striving for.

Mr. Victor Artuso, 8384 Rocky River Road, Harrisburg, NC, addressed the Board. He said one of items they wanted to talk about was the overhang. He said the interpretation of the overhang stating beyond supporting walls; they have always considered the framing as a supporting wall, brick is not a supporting member. He said they typically build everything with a 13 inch overhang off the supporting wall being a framing member.

Mr. Artuso showed some pictures. He said the challenges they have are for example on a full brick house, they end up with essentially an eight inch over hang if it were a full brick wrap (four sides). He said in the case of a brick front house, they unlike a lot of builders turn the corners of brick two feet. He said beyond that two feet they have a 13 inch over hang in addition to that 13 inch over hang they have a gutter which esthetically adds 4 to 5 more inches.

Another picture, showed 8 inches, he said because of the 5 inches of brick and a 4 or 5 inch gutter, what ever that adds to it, beyond that two feet they comply with the 12 inch over hang beyond the supporting wall. They will satisfy that with a full siding house or a brick front house with exception of the 2 feet that will not meet the 12 inch overhang.

He said as a production builder, he does not know too many that differ from this but you will find builders especially with gable end that has no over hang; which they do not do. They comply with 12 inch over hang with gable ends and they have trusses made that are made for a certain house; for example a full brick house, they have a set of roof trusses that go with the house and they have 8 inch overhangs if it is full brick house and 13 if there is no brick, there is one set of trusses that go on a house, they do not swap them out, there is a lot that changes with the actual drawing of a house to support two sets of roof trusses.

He said that is one of there challenges and better interpretation to what supporting walls actually matter is what they are looking for.

Mr. O'Melvery said currently, the way they see it, the supporting wall would be the framing wall, they meet all aspects of it and they wanted to make sure they had clarification on that. He said the next item is roof over hang and dormers and bays with the 8 inch over hang. He said one of the things they are trying to get away from is anti-monotony. He showed pictures of dormers with different over hangs and how it goes with the esthetic appeal of the house, which is getting away from the anti-monotony. He said these are some of the challenges with the current verbiage that they are having. He said they have a new product they would like to submit but it does not meet the qualifications for the current verbiage.

Mr. Ken James, 9628 Twin Falls Court, Charlotte, NC, addressed the board. He said they were challenged by Shea Homes to help them adapt existing product and come up with new product that met the standards for Cabarrus County. He said they are all for the anti-monotony, but when they try to bring in styles that maybe have not been introduced or a wide variety of styles, then are required that all of the dormers and gables and roofs have the save over hang, flat, 12 inch over hangs. He said it makes it very hard to keep that variety and anti-monotony. He said, when we have a specific style in mind there are certain architectural things about that style that are inherent to that style being very small over hangs on the dormers, especially multiple dormers on a roof and they all have 12 inch over hangs it gets very top heavy, looks like they are going to fly right off the roof. He said with the slope soffit it is very much in keeping with multiple styles, be it Craftsman or Tudor, they have the 12 inch over hang, we are not trying to cut that short;

to put a flat return on that and the little dog ears where the gable comes forward is going to then look like every other house as you march down the street. He said they are asking for clarification and the ability to if they do pick or choose a particular style to follow through with the specific aspects of that style to make it different.

He said in most cases you have no choice other than to put the garage door on the front, the lots are so narrow. He said that is economically driven, the developer wants to get as many house fronts on the street as they can, so they will split the doors up, use architecturally interesting doors where they can that have applied styles and tongue and groove wood or whatever but to be able to dress them up with stone, cast stone or stone jack arches, brick trim, rather than just come in and automatically plop a little bit of a trellis or a little bit of a shed roof across the front, so they can get the variety they need for the multiple applications that they will have.

Mr. Fesperman asked what Mecklenburg County requirements were compared to Cabarrus County.

Mr. James said Mecklenburg County was a little bit more specific per neighborhood. He said you have architectural controls most of the time by individual neighborhoods that are enforced by the developer not as much by the county. He said the stringency varies depending on the expense of the neighborhood so to speak, most of the upper end neighborhoods you cannot have your cornice come down and sit on top of the window. He said you have to have space above the window, but as far as Mecklenburg County saying you have to have a 12 inch overhang, they do not have that in any of their standards. He said it usually per neighborhood.

Mr. James said they do a lot of work around Lake Norman, usually custom work, and the guidelines imposed upon them there are specifically to that neighborhood usually.

Mr. Fesperman asked if this was to be Mr. James first project in Cabarrus County.

Mr. James said yes, of this type, Strayler Design is more of a high end single family. He said this is their first pour into the production line and they partnered with Shea Homes. He said they felt that Shea Homes was the ones who gave them freedom to have some vision and are interested in doing something a little bit different. He said they are trying to adapt the existing product that Shea has and also in the process of developing totally new product for them.

Mr. Griffin asked what Mr. James assessment of the proposed text changes were.

Mr. James said it is not to create more work to form a committee that has to look at every little thing, but sometimes too much regulation is worse than not enough. He said if there was some way to put that yes, there has to be a minimum of a 12 inch over hang from the supporting wall, but whether it is pitched or double pitched or flat should be up to the discretion of the architect based on the style that he is trying to achieve; especially the

dormers and the porches should be allowed to follow the particular version of that style they are trying to get across.

Ms. Zakraisek said they are not aware of the changes that are being proposed. She said they are not specific to their project. She said after meeting with Todd Berg, they talked about what they thought was reasonable changes and she asked them to come to explain some of the challenges that they are having. She said what we talked about tonight is not going to fix what they are talking about, we still have the 6 inch dormers and we still have some of those things, but where they are talking about different architectural styles they would be able to bring those types of plans to the Board and you could look at them and decide whether or not they are appropriate. She said these are not going to fix their particular issues if the Board decides that you want to move forward with what we have here this evening. She said they were not aware of what staff was proposing. They were here to address any questions or to let the Board know what their experience has been in the process thus far.

Mr. Berg thinks the dilemma is that it is very difficult to be prescriptive about this sort of thing and when we are, then we do not allow the kind of creativity. He thinks the majority of builders want to do the right thing and these were put in place for the minority that wants to get away with as little as possible. He does not know what the solution is; he thinks this addresses some of their concerns, for example doing away with the requirement for perpendicular soffits. He thinks the only way to successfully deal with it is to have some sort of committee or come before the whole commission to review maybe not everyone but the ones who want to try something different that may not comply with the letter of the ordinance.

Mr. Artuso said they would like for it to say that the 12 inch over hang is from the supporting wall. He said you can still get a significant overhang rather than actually coming from whatever the veneer type might be so they can give their home owners a stone option in variance areas where the house already set up for trusses, you still have the over hang and it is still 12 inches from the supporting wall but we could give them the option whether it be a 4 inch stone to 5 inches of brick or siding.

Mr. Berg thinks that might be possible, we would need to clarify where on the supporting wall, is it the outside face, is it the center line, is it the inside face? He said that makes a difference in 4 or 5 inches.

Mr. James said the truss manufacturer usually base everything from face of stud so if that would simplify outside face of stud, because no matter what kind of sheathing or airspace or veneer you have be it lap siding, brick or stucco that would be a consistent from the outside face of stud.

Mr. Prince asked about having an 80/20 rule, if 80 percent meets it than they would have 20 percent flexibility; eight meet the code 2 has flexibility. He said that would give some lee-way.

Ms. Zakraisek said that would make it more difficult, unless there are some volunteers for an 80/20 committee.

Mr. Griffin said we talked about this when these things were put into play. We talked about a situation where we would allow an approval authority to weigh those requirements if they thought the architecture was appropriate. We discussed allowing these in effect violations of these, if it were a good design.

Ms. Zakraisek said that is the problem with a lot of the discussions that took place during this; it did not make it into the ordinance and is not what the ordinance says.

Mr. Griffin said the Board of Commissioners went back and did not comply with what the Planning and Zoning Board recommended to them when it came to things like the over hangs and soffit.

Ms. Zakraisek does not believe that the Board of Commissioners realize what we are having to go through, some of that may come up when these standards get to them, as far as the review time and staff time and what is happening. She said it would allow a little bit of flexibility, having been through the first one and knowing the time she spent on it, she did the complete review. She said instead of looking for X, Y and Z, now you would have to look for X and Y. She said they need to be clear on what the standards are so that they can build to those standards, if they want to do something different then they would bring it to the Planning and Zoning Board.

She said we have to establish some reasonable minimum requirements and if someone wants to go above and beyond that's one thing or try a different style. She said there needs to be some flexibility built in to allow additional styles to happen, additional features to be used to count toward those credits and for the Planning and Zoning Board to sit as the final design review committee. She said if they want to do something different where they do not meet the standards, then they can bring it to the Planning and Zoning Board and not have to go through a variance procedure.

Ms. Zakraisek said no decision has to be made tonight.

There being no further discussion, **Mr. Berg** made a **MOTION** to **TABLE** the **Proposed Text Amendment C2007-06ZT Amenity Subdivision Standards and Anti-Monotony Standards** to allow time to gather additional information, the vote was **SECONDED** by **Mr. Griffin**. The vote was unanimous.

Mr. Lancaster asked if the plans for a subdivision were brought to Ms. Zakraisek for review and if she decided if they met the standards or not. He said it seems awfully time consuming for her to be the one doing that. He said we have a set of ordinances in place, why does the builder not review his plan to see if it meets the ordinance. He does not understand why Ms. Zakraisek is the one who has to look at 120 plans.

Ms. Zakraisek said they do review them and they make their own interpretations and turn them in and when they do not meet the standards then they want to spend time arguing with you about whether or not they meet the standards.

She said we did not have any that got it right on the first time. She said the Baker case had 5 or 6 options to each plan, you have review every one for the standards and that includes all four elevations, it is a very extensive review and time consuming. She said there are only 4 people on staff and these projects are very large projects.

Mr. Berg said revising the standards will not relieve the work load, they will be arguing about the new standards rather than the old ones.

Ms. Zakraisek said it seems like this might help a little bit.

Mr. Griffin said the wording is really ambiguous the way it is currently worded.

Ms. Zakraisek said unfortunately, we cannot just trust that whatever they turned in is right, we have to review it to make sure it is right, that it meets the standards of the ordinance.

Ms. Zakraisek asked if the Board is going to do research or was staff expected to do additional research.

Mr. Griffin said the first fundamental question is what do you want for a basic approach to help make the problem less?

Ms. Zakraisek said not only are we being faced with this portion of it, but any subdivision with the anti-monotony standards, we will have to review the house plans for any subdivision that comes into Cabarrus County now.

Mr. Griffin said fundamentally it looked like to him when we were going through these standards a lot of these architectural standards were put in to run the low cost home builders out of the county, the Centexes, the folks that build \$120,000 - \$150,000 homes. He said when you get up to \$300,000 to 400,000.00 you do not find a lot of really crummy architecture, with no eaves at all on a house that you have over in Cabarrus Crossing and those kinds of things, it seems like we are introducing a heck of a lot of problems to try to solve that problem where low end housing being built by these national builders in Cabarrus County. His comment at the time was when we rezone all this land from High Density, Medium Density to Country Residential and AO; he thinks we already solved the problem. He said you are not going to get those builders in here building on 1, 2, or 3 acre lots any how. He thinks some of these things are absolute over kill.

Ms. Zakraisek said this is only the front end of it, on any of those subdivisions regardless of whether its amenity subdivisions, we have to look at 2 to the right, 2 to the left, so we will have to have the elevations and the permitting staff. She said there is one person that

does zoning permitting, they rotate, there is 3 staff and they rotate but there is one desk. She said when the builders come in and want to pull 10 - 20 permits, they are going to have to pull out the plat, look at it 2 to the right, 2 to the left, mark down the elevation and make sure that is what is happening. She said it is a very involved process and we are trying to figure out the best way to get through it.

She said the Baker project will be the first one coming through, they did get a couple of their permits but they are on hold because of issues related to the plat. She said we will see how the permitting part will go because we have not begun to start that part yet, based on having one person there to do the permits and having to renew the anti-monotony. She said a lot of the builders are saying that does not matter because they control a lot of that on their own in their standards. She thinks this has turned out to be something a lot bigger than any one expected.

Mr. Lancaster said not really, he knew as soon as we placed architectural standards on builders it was going to be ridiculous. He said we had a problem with low end housing though. He thinks it is sad when you have to tell a guy who is going to build a \$400,000 house that he has to have an eyebrow above the garage, to him it is overkill.

Mr. Berg said it was said that in Mecklenburg County it was usually controlled neighborhood to neighborhood, he assumes that is just like the architectural standard that the neighborhood incorporates. He asked if we could ask them to develop their own architectural standards for the neighbor and submit that for our review and approval and not have to look at every single elevation.

Mr. Griffin said we recommended that we allow that. He said the Planning and Zoning Commission at that point in time made recommendations that would provide options, open things up for different architectural standards with approval by the County.

Mr. Koch is not sure that could be done or not. He said in the high end neighborhoods they do that as a matter of form. He said what you are essentially saying is that for every subdivision, it is going to have certain restrictions on them and those restrictions would include not only some of the typical ones you see that relate to the lots, but would relate to the style of the house. He said you could conceivably have a situation where you have a number of different builders in there that want to build a number of different types of houses and they did not want to put those kinds of restrictions on it.

Mr. Berg said he was trying to figure out a way to push the work back on them, so they would have to police themselves which sounds like what they were doing in Mecklenburg County.

Mr. Koch said what they do in the higher end ones, they have an architectural control committee that usually starts out being the developer and at some point it devolves to being an actual committee with several people, one usually being an architect. He said you would have to submit your plans to that crowd and they decide what you get to build and do not get to build.



Mr. Fesperman said that is what they do at River Run. He said we are the developer and we appoint an ARC. He said everything goes to the ARC, all plans, and an architect heads it and we have some community people as well. He said they approve their community but are still under Davidson to a degree. He said the Davidson Planning Department is telling them certain things they have to do as far as housing.

Mr. Griffin said you might have multiple builders, you do in up scale housing, but when you throw up some of the places like Cabarrus Crossing you do not have multiple builders in those.

Mr. Berg said even if you don't have multiple builders you can still have one set standard that they have to comply with.

Mr. Griffin said in a lot of neighborhoods the minimum standards are defined in the covenants and restrictions and if you want to build there you have to comply with those. He said there is always the out that, the architectural committee can make decisions which will allow people who are doing something that is considered to add value to the neighborhood and cannot comply with a few of those things to waiver.

Mr. Berg said it seems like in this case, what is happening is that Susie is serving as the architectural committee for the entire county.

Mr. Griffin said the County Commissioners are and Susie just has to enforce it.

Mr. Berg said right, but we have some standards and she is charged with reviewing everything in the entire county. He is trying to find a way to push it back on the developers and the builders and to make sure there are some standards. He said they may vary from neighborhood to neighborhood but they are charged with developing those and policing those rather than us.

Mr. Griffin said, we suggested that that be an option, you may have these standards but people that don't want to propose different standards and enforcement different standards, but the County Commissioners did not buy it.

Mr. Berg said lets try again.

Ms. Zakraisek believes that the City of Concord just recently adopted the same standards that we have.

Mr. Berg asked if what Mr. Griffin said was proposed before was we still have some design standards but they had the option to develop their own in lieu these.

Mr. Griffin said right, and proposed them to the County and the County would decide based on the character of the neighborhood that we would let them abide by there own by the standards that the County had approved.

Mr. Berg said that makes sense, then these standards become a default for the 10% that we were worried about any way.

Ms. Zakraisek said we have started the Shea review and they only submitted elevations that were forward facing, so we have no corner lot elevations from them yet. She said if the Board would like to think about it, come look at the plans to see what we are doing that is fine. She said if you want to form a subcommittee to talk about it that is fine or if you want to think about it on your own and then come back to the next meeting. She said it really needs to be resolved; we need to do something because Shea is mid to middle, if anything changes they need to have the option to go to what those changes are before they spend all of that money to fix all of their plans if it indeed ended up being unnecessary.

The Chair said we need to decide what we need to do as a commission; are we going to charge the planning staff with developing their ideas, do we reduce the work load, do we want to make a recommendation, do we want to appoint a committee of 2 or 3 who comes back to the board and says having looked at all of the possibilities here is what we think would be the best to help relieve the work load, or ask for 10 more people. He said the board needs to make some kind of decision.

Mr. Porter asked what Ms. Zakraisek and staffs opinion was on alleviating some of the problems.

Ms. Zakraisek said there are two different things they are dealing with; one is if you want the smaller lots you have to do additional standards. She said all of the subdivisions are subject to anti-monotony standards; we will have to go back and look at garage placements and all of those changes. She said some of this will make it a little more flexible and a little less time consuming if we can get some of these changes. She said a lot of times they do not label things on the plan, you have to look at the floor plan to figure out what it is or you have to look at the structural plan or the mechanicals or the actual floor plan to figure out where the windows are. She does not know if it should go off to somebody else, whether there should be a committee, or whether they should turn the plans in initially and the Board looks at them and says okay, you can have these 15 elevations in your subdivision and we are good with it. She said if they are doing the amenity type and the other ones so that it is not that individual review, maybe there are some minimum standards and then we look for those minimum things and move on from there.

Ms. Zakraisek said the anti-monotony standards are county wide, it does not matter what type of subdivision you do, whether it is conventional, amenity or open space it applies county wide. She said maybe we go one way or the other; maybe we have the anti-monotony standards but not necessarily the ones for the amenity subdivision; or maybe we have the ones for the amenity in the other subdivisions if you are doing a conventional subdivision with the larger lots. Her opinion is that it goes one of those ways instead of both.

The Chair recommends creating a committee. That we table this motion until the committee brings the recommendation back that says we have looked at all of these and we think this is the route that would best help us solve this problem.

The Chair recommended Todd Berg, Larry Griffin, Tommy Porter and Ian Prince as the committee.

Mr. Lancaster thinks that committee should strive for setting a minimum set of standards and the builder is required to meet the minimum set of standards instead of staff having to review each individual plan.

Mr. Berg said you could do that if it were well defined enough, there weren't any questions. He said the problem is there is so much room for interpretation, they may say they are complying and somebody else would say they are not.

Ms. Zakraisek said along the lines of the deed restrictions, if we get it to a place where it is clear what needs to be done or what needs to be accomplished, then if those were incorporated as some type of a covenant for the property that they could bring in at preliminary plat approval.

Mr. Koch said you could probably give them an option of setting up a scheme such as the one Danny was talking about that they have in River Run; where it would be in the covenants and restrictions. He said you would have to set that up and you would have to provide some evidence that you are actually following it. He said it works fine in better communities because there will be a lot of people who will take it seriously. He said you will have to figure out a scheme to actually supervise it in some fashion and then control it if you have a crowd that doesn't take it seriously. He said if you leave it self policing for them they are going to build what ever they feel like, and ignore it.

Mr. Griffin said that the state law now says that the Home Owner Associations have to enforce their own covenants and restrictions.

The Chair said we have to come up with what the scheme will be. He said he thinks the committee can review all the options come up with what they think is appropriate for the scheme and bring a recommendation back to us for discussion.

There being no further discussion, Mr. Berg **MOTIONED, SECONDED** by Mr. Griffin to establish a committee that will be appointed by the Chair to study the Amenity Subdivision and Anti-Monotony Standards. The vote was unanimous.

The Chair said the committee will consist of Todd Berg, Larry Griffin, Tommy Porter and Ian Prince. He asked them to coordinate a date, time and place. He said this particular issue is tabled until a recommendation from the committee is received.

**Directors Report:**

**Refund Policy/Proposed Text Amendment C2007-04:**

Ms. Zakraisek said staff took the Planning and Zoning Commission's recommendation as far as the refund policy and the additional noticing back to the Board of Commissioners, they agreed with the Planning and Zoning Commissions recommendation for the no refund policy but they did not agree with additional noticing policy.

She said this is a proposed text amendment for cases including 50 parcels or more and it includes anyone inside the rezoning so they would know that their property is being rezoned as well as any body abutting the rezoning area or across the street. She said we would send out two different letters, one to the property owner if it were effected and one to the folks on the edges of what is actually be rezoned. She said anyone being rezoned will get a letter telling them that they are being rezoned and anyone around the area being rezoned will get a letter telling them they are being rezoned.

Mr. Porter asked how many times in the past history a rezoning like this has taken placed where it would include more than 50 parcels.

She said the mass rezoning in 2005; she will not say that there will not be possibilities of these types of rezoning happening in the future.

There being no further questions, Mr. Berg **MOTIONED, SECONDED** by Mr. Griffin to **APPROVE** the Proposed Text Amendment C2007-04 ZT sent by the Board of Commissioners. The vote was unanimous.

**Revised Rules and Procedures – First Reading**

Ms. Zakraisek said is the first reading to add the language to the Rules and Procedures to reflect the policy change. The second reading and vote to amend the Rules and Procedures will occur at the following Zoning Commission meeting.

Ms. Zakraisek said, so that the Board is aware, at the last Board of Commissioners meeting they decided they wanted to have an APFO study committee. She said that committee is scheduled to meet on May 29, 2007; there will be one representative from the cities or towns, two representatives from the builders group, the realtors group, the school board and two representatives from the Commissioners. It is her understanding there will be only one meeting with a recommendation made to the Board of Commissioners at the June 2007 meeting. She said they will be looking at the text of the APFO as it was proposed back in 2005, and also the results of the Tischler Study and what the appropriate voluntary mitigation payment amount is. She said those are the two main focuses of that particular group, it is her understanding that it is not a long term working group, it is a short term working group to come to an agreement and get it moving along to the Board of Commissioners.

Mr. Porter said going back to the rezoning like we did tonight that you said would be an administrative rezoning, does he understand correctly that they did not have to pay filing fee?

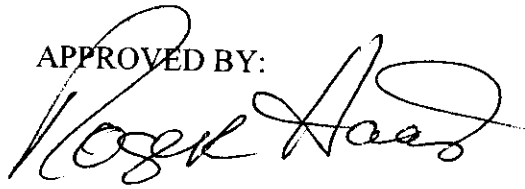
Ms. Zakraisek said that is correct.

Mr. Porter asked if it were retroactive, what about the other people that already come before us, for example the Smiths who asked for a refund. He asked how it affected those cases.

Mr. Koch said it doesn't, those have already been acted on, and the rezoning has already taken place. He said this is something that apparently was decided internally, it was not something approved at a Board of Commissioners meeting, and in fact it was not discussed last time when this issue about the refund policy came up. He was not involved in that decision.

There being no further discussion, Mr. Porter, **MOTIONED, SECONDED** by Mr. Berg to **ADJOURN** the meeting. The vote was unanimous. The meeting ended at 9:21 p.m.

APPROVED BY:

A handwritten signature in black ink, appearing to read "Roger Haas", written in a cursive style.

Roger Haas, Chairman

SUBMITTED BY:

Arlena B. Roberts

ATTEST BY:

Susie Zakraisek  
Planning and Zoning Manager