

May 25, 2011

Ms. Lynn W. Richardson  
Subdivision Administrator  
Planning Department  
P.O. Box 54  
Pittsboro, NC 27312

Re: Phase 5 North Final Subdivision Plat

Ms. Richardson:

Thank you for your comments on the Final Subdivision Plat for Phase 5 North dated 18 May 2011. Responses to the comments are listed below.

1. *Have engineer address all seven conditions listed for preliminary plat approval. State condition and how each either has been addressed or will be addressed in the future.*

Conditions from Preliminary Plat Approval:

- A. *The final plat shall show all storm water features to be located out of the 10 foot no-build area.*
- B. *The final plat shall incorporate the road design changes as depicted on the revised road plan for Lots 507 through 514.*
- C. *The final plat shall list the correct road names as approved by the Chatham County Emergency Operations Office and the Chatham County Board of Commissioners.*
- D. *Storm water devices shall be as approved in the Stormwater Permit for Phase 5 North.*
- E. *Approval of the proposed road names as noted in tonight's agenda notes.*
- F. *It is recommended that the Fire Marshal and Chief Strowd continue to work with Briar Chapel and come up with a suitable situation.*
- G. *Incorporate the changes agreed upon by Chief Strowd, North Chatham Fire Department; Tom Bender, Fire Marshal; and Briar Chapel as follows:*
  1. *replace the blow-off with a fire hydrant near Lot #479*
  2. *extend the wider 20' alley to lot #479*
  3. *relocate parking spaces away from the west side of the triangular landscape area*
  4. *add grass pavers to the first 10' of the triangular*

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*landscape area producing a 32' wide travel area including the 22' wide paved alley.*

5. *"no parking-fire lane" striping painted along the edge of the alley on the grass paver side.*

Response: All conditions of Preliminary Plat Approval have been met and have been incorporated into the final subdivision plat where applicable or shown as attached exhibit A, B and C.

2. *Have engineer detail each change made between preliminary approval and final plat submittal.*

Response: The following changes have been made between the preliminary plat approval and the final subdivision plat:

- A. Deleted lot number 626 as identified on preliminary plat due to height of retaining wall and significant area of slope within the lot. In the before and after images below, you can see there were originally 5 lots on the west side of Serenity Hill Circle, and in the revised plan there are 4 lots shown.



*(Originally approved plan)*

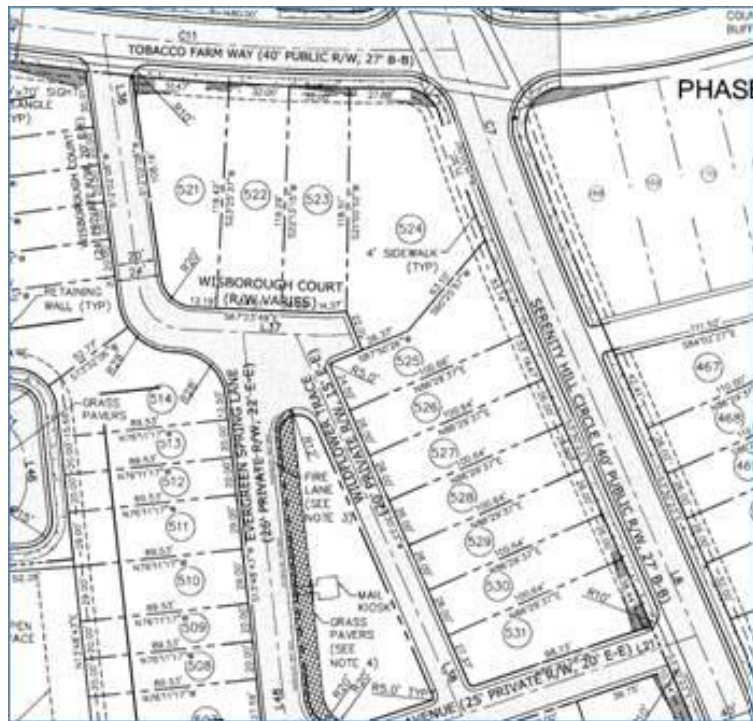


*(Revised plan)*

B. Added additional lot between lot number 521 and 531.



*(Originally approved plan)*



*(Revised plan)*

- C. Made revisions to Cross Meadow Drive and Wishing Well Lane in accordance with comments from Chief John Strowd and Fire Marshal Tom Bender (comment F and G from conditions of plat approval)



3. *What is grey area around each stormwater pond? Is it a maintenance easement, open space, etc.?*

Response: The grey area around the ponds is to be for the access and maintenance easement. The plat has been revised to show only that area that is needed and to be recorded as access and maintenance easement.

4. *Do we have a copy of O & M plan for stormwater ponds 7 & 8. Per Fred, the O & M agreement should be recorded along with final plat. Talk with Fred if there are questions.*

Response: Operation and Maintenance Agreements were required as part of the approved permit from NCDENR - DWQ. Copies of the signed and notarized O&M agreements are included with this response letter. Per approval by County, recordation of O&M is not required.

5. *Label all areas of open space.*

Response: Open space has been labeled accordingly.

6. *Better define the limits of the 100 year flood plain.*

Response: The line that delineates the 100 year flood plain has been added to the final subdivision plat.

7. *Identify type(s) of stream features and center line of stream.*

Response: Stream centerline and features have been added to the final subdivision plat.

8. *Need note identifying type of "20' Storm Drainage Easement". Is it NCDOT or NCDWQ?*

Response: Storm drain easements have been revised to be noted "Permanent Storm Drain Easement" or "Permanent SDE". This nomenclature matches the previous approved plats for Briar Chapel. The responsibilities for maintenance of the permanent storm drainage easements will fall to either the Briar Chapel HOA or to NCDOT upon conveyance of the public right of way.

9. *Show grass pavers and parking spaces as specified in Note # 3, under Additional Notes.*

Response: Refer to Exhibit A that shows the grass paver area on Owen Towne Road and Cross Meadow Drive.



10. *Show retaining wall and easement locations. Per Rachael Thorn's inspections, she thinks the retaining walls are currently built.*

Response: Refer to Exhibits B and C that shows the location of the two retaining walls near Pond #7 and Pond #8. The walls are on the opposite side of the ponds from the conservation easement and the no-build buffer. An as built survey of the walls will be provided to the County once the ponds have been completed and the site is stabilized. The walls are constructed on property maintained by the HOA and therefore will not require easements such as those found in Phase 5 South.

11. *Show 100 foot perimeter buffer along Marvin Meacham property line. All stormwater devices are to be located outside of perimeter buffers.*

Response: 100' perimeter buffer has been shown along the Meacham property. The use of existing vegetation and the planting of native species, if necessary, will preserve the intent of the buffer.

12. *Question from fire department—Are lots along Serenity Hill Circle rear loaded to be accessed off private alley or can they be accessed off public road?*

Response: Lots along Serenity Hill that have alleys in the rear will be accessed from the rear. Those lots along Serenity Hill that do not have alleys will be accessed from the public right of way.

Thank you for your assistance. Please let us know if you have any questions.

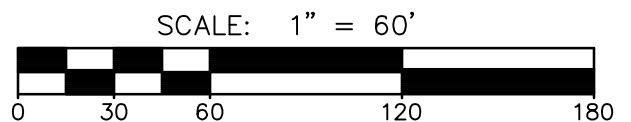
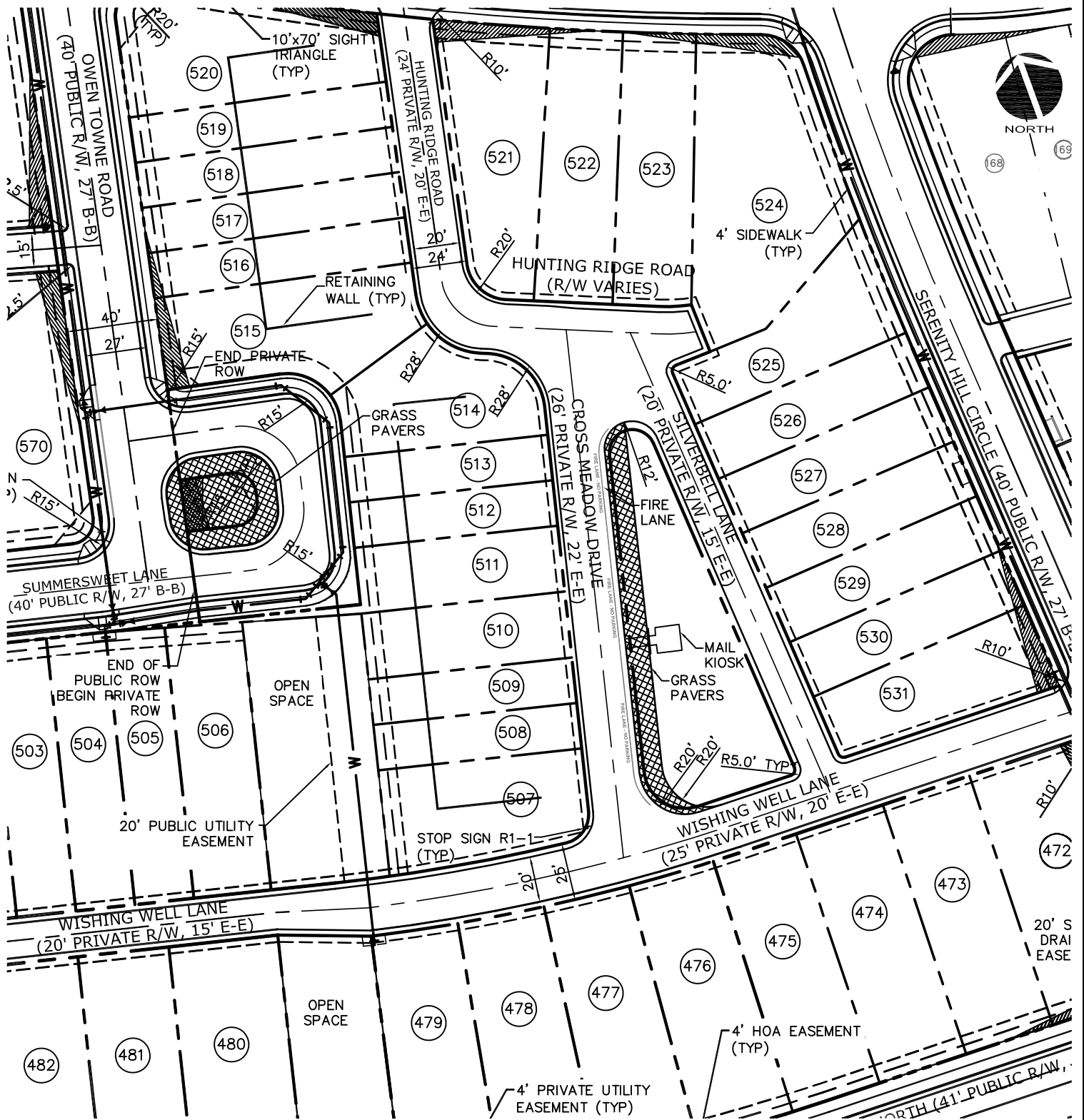
Sincerely,

McKIM & CREED, INC.



Grant Livengood, PE  
Project Manager

cc: Project File



**McKIM & CREED**

1730 Varsity Drive, Suite 500  
 Phone: (919)233-8091, Fax: (919)233-8031  
 F-1222

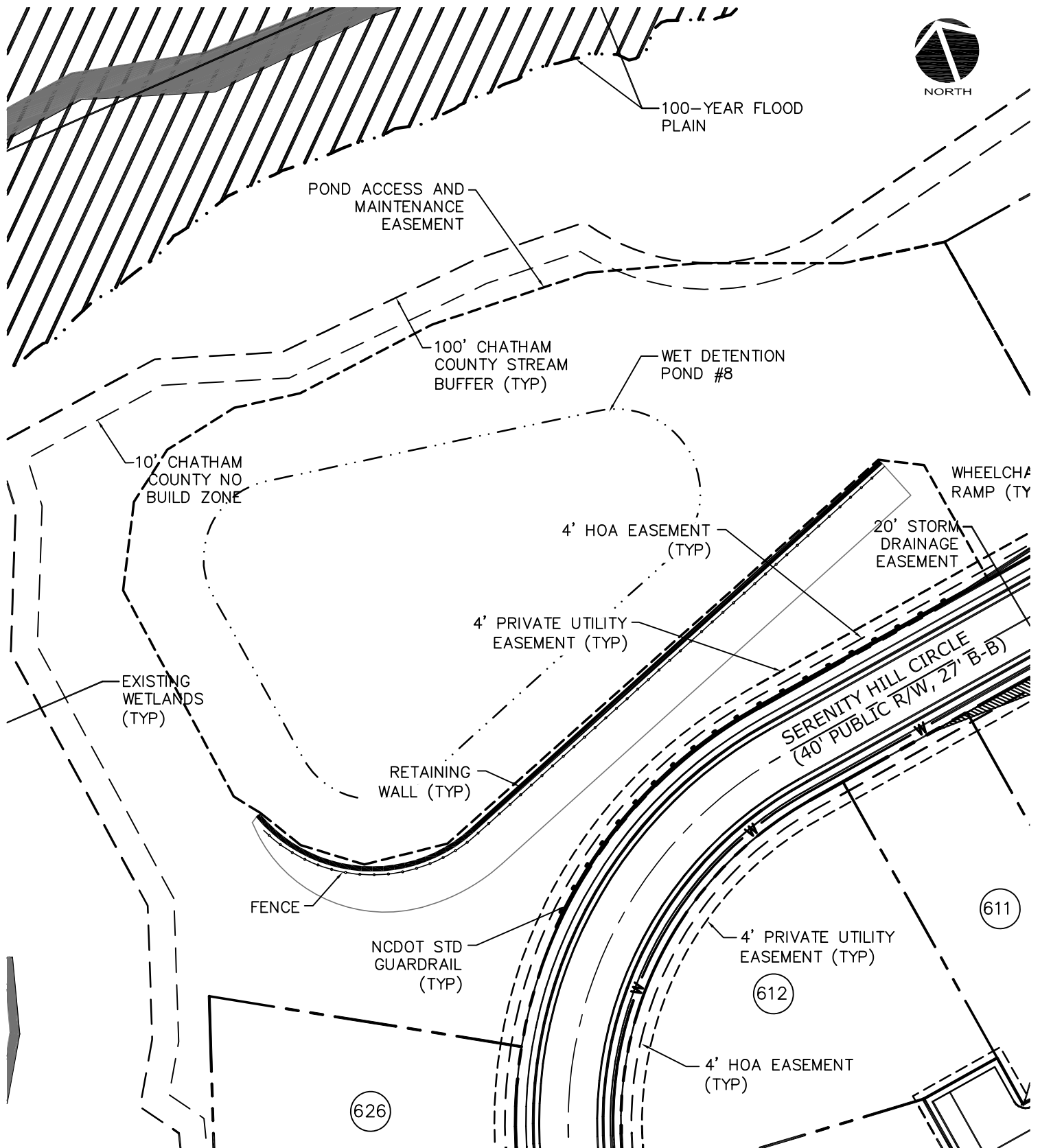
Raleigh

North Carolina

Briar Chapel - Phase 5 North

NNP Briar Chapel, LLC

Exhibit A



SCALE: 1" = 50'



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Raleigh

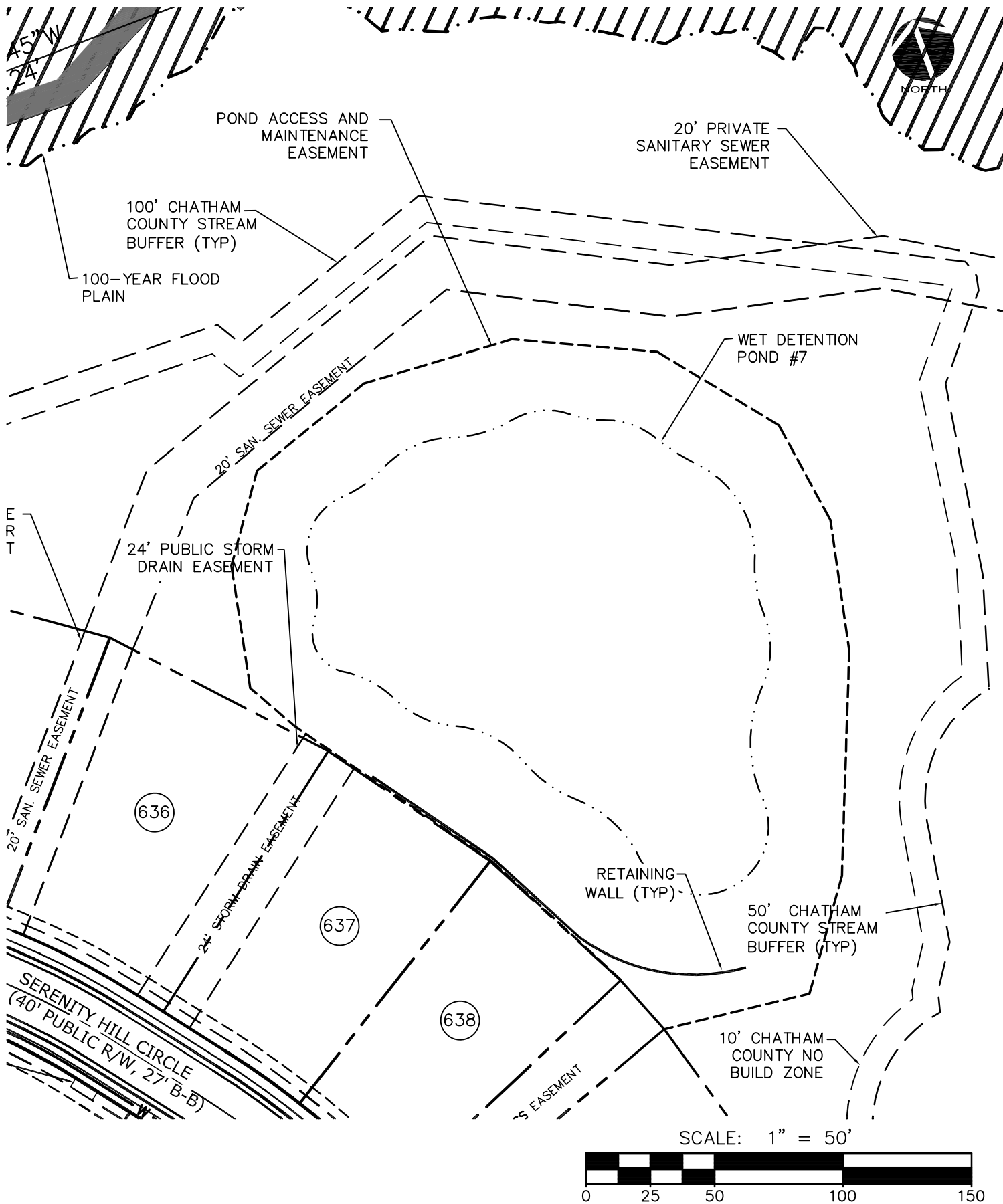
North Carolina

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Exhibit B





**McKIM & CREED**

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F-1222

Raleigh

North Carolina

Briar Chapel - Phase 5 North

NNP Briar Chapel, LLC

Exhibit C

Permit Number: \_\_\_\_\_  
(to be provided by DWQ)

Drainage Area Number: #7

## Wet Detention Basin Operation and Maintenance Agreement

I will keep a maintenance record on this BMP. This maintenance record will be kept in a log in a known set location. Any deficient BMP elements noted in the inspection will be corrected, repaired or replaced immediately. These deficiencies can affect the integrity of structures, safety of the public, and the removal efficiency of the BMP.

The wet detention basin system is defined as the wet detention basin, pretreatment including forebays and the vegetated filter if one is provided.

**This system (check one):**

☐ does ☒ does not incorporate a vegetated filter at the outlet.

**This system (check one):**

☐ does ☒ does not incorporate pretreatment other than a forebay.

Important maintenance procedures:

- Immediately after the wet detention basin is established, the plants on the vegetated shelf and perimeter of the basin should be watered twice weekly if needed, until the plants become established (commonly six weeks).
- No portion of the wet detention pond should be fertilized after the first initial fertilization that is required to establish the plants on the vegetated shelf.
- Stable groundcover should be maintained in the drainage area to reduce the sediment load to the wet detention basin.
- If the basin must be drained for an emergency or to perform maintenance, the flushing of sediment through the emergency drain should be minimized to the maximum extent practical.
- Once a year, a dam safety expert should inspect the embankment.

After the wet detention pond is established, it should be inspected **once a month and within 24 hours after every storm event greater than 1.0 inches (or 1.5 inches if in a Coastal County)**. Records of operation and maintenance should be kept in a known set location and must be available upon request.

Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

BMP element:	Potential problem:	How I will remediate the problem:
The entire BMP	Trash/debris is present.	Remove the trash/debris.
The perimeter of the wet detention basin	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
	Vegetation is too short or too long.	Maintain vegetation at a height of approximately six inches.

Permit Number: \_\_\_\_\_  
(to be provided by DWQ)

Drainage Area Number: \_\_\_\_\_

BMP element:	Potential problem:	How I will remediate the problem:
The inlet device: pipe or swale	The pipe is clogged.	Unclog the pipe. Dispose of the sediment off-site.
	The pipe is cracked or otherwise damaged.	Replace the pipe.
	Erosion is occurring in the swale.	Regrade the swale if necessary to smooth it over and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
The forebay	Sediment has accumulated to a depth greater than the original design depth for sediment storage.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the BMP.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
The vegetated shelf	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices
	Plants are dead, diseased or dying.	Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover if a soil test indicates it is necessary.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
The main treatment area	Sediment has accumulated to a depth greater than the original design sediment storage depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the BMP.
	Algal growth covers over 50% of the area.	Consult a professional to remove and control the algal growth.
	Cattails, phragmites or other invasive plants cover 50% of the basin surface.	Remove the plants by wiping them with pesticide (do not spray).

Permit Number: \_\_\_\_\_  
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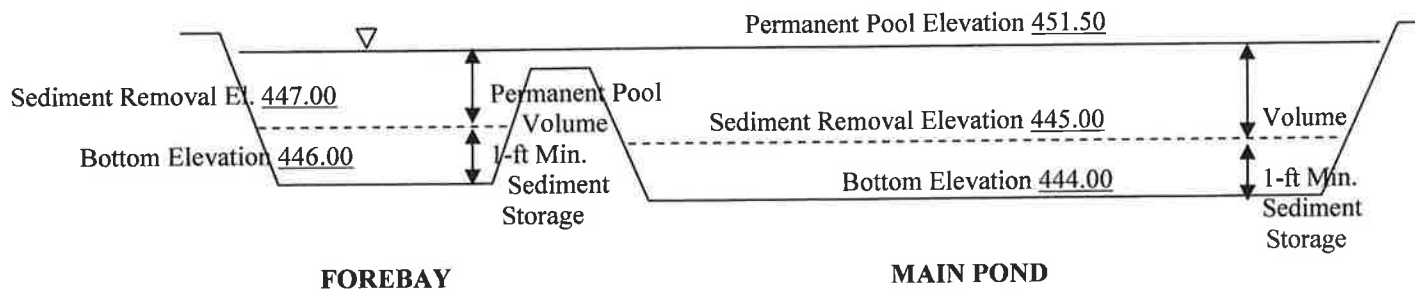
BMP element:	Potential problem:	How I will remediate the problem:
The embankment	Shrubs have started to grow on the embankment.	Remove shrubs immediately.
	Evidence of muskrat or beaver activity is present.	Use traps to remove muskrats and consult a professional to remove beavers.
	A tree has started to grow on the embankment.	Consult a dam safety specialist to remove the tree.
	An annual inspection by an appropriate professional shows that the embankment needs repair. (if applicable)	Make all needed repairs.
The outlet device	Clogging has occurred.	Clean out the outlet device. Dispose of the sediment off-site.
	The outlet device is damaged	Repair or replace the outlet device.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Contact the local NC Division of Water Quality Regional Office, or the 401 Oversight Unit at 919-733-1786.

The measuring device used to determine the sediment elevation shall be such that it will give an accurate depth reading and not readily penetrate into accumulated sediments.

When the permanent pool depth reads 6.50 feet in the main pond, the sediment shall be removed.

When the permanent pool depth reads 4.50 feet in the forebay, the sediment shall be removed.

### BASIN DIAGRAM (fill in the blanks)



Permit Number: \_\_\_\_\_  
(to be provided by DWQ)

I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed above. I agree to notify DWQ of any problems with the system or prior to any changes to the system or responsible party.

Project name: Briar Chapel Phase 5 North

BMP drainage area number: #7

Print name: Bill Mumford

Title: ~~Project Manager~~ ASSISTANT VICE PRESIDENT

Address: 16 Windy Knoll Circle, Chapel Hill, NC 27516

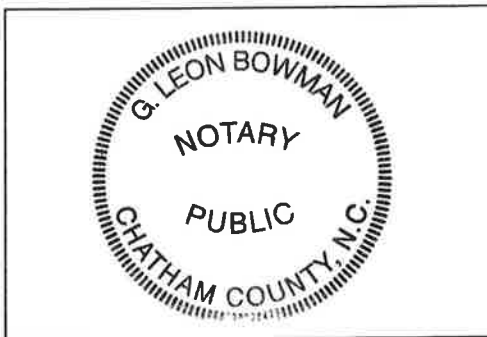
Phone: (919) 951-0700

Signature: 

Date: 8-9-10

Note: The legally responsible party should not be a homeowners association unless more than 50% of the lots have been sold and a resident of the subdivision has been named the president.

I, G. Leon Bowman, a Notary Public for the State of North Carolina, County of Chatham, do hereby certify that Bill Mumford personally appeared before me this 9<sup>th</sup> day of August, 2010, and acknowledge the due execution of the foregoing wet detention basin maintenance requirements. Witness my hand and official seal, G. Leon Bowman



SEAL

My commission expires 9/10/14

Permit Number: \_\_\_\_\_  
(to be provided by DWQ)  
Drainage Area Number: AB

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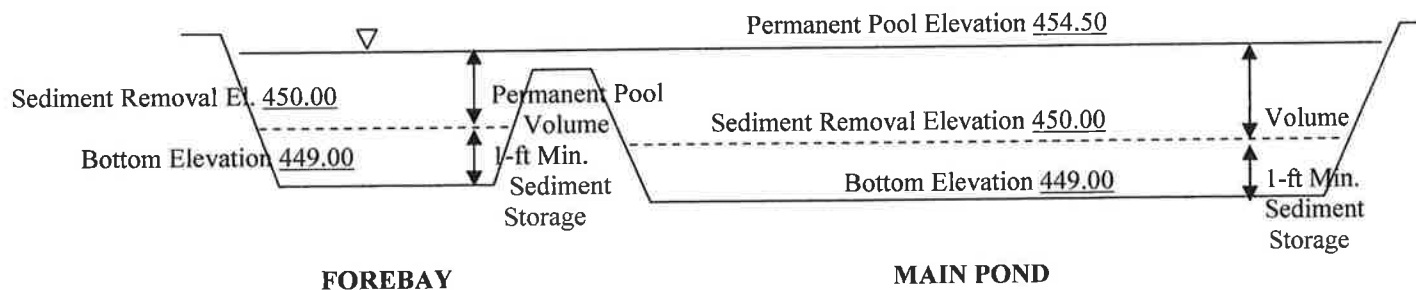
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Permit Number: \_\_\_\_\_  
(to be provided by DWQ)

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BMP drainage area number: #8

Print name: Bill Mumford

Title: ~~Project Manager~~ ASSISTANT VICE PRESIDENT

Address: 16 Windy Knoll Circle, Chapel Hill, NC 27516

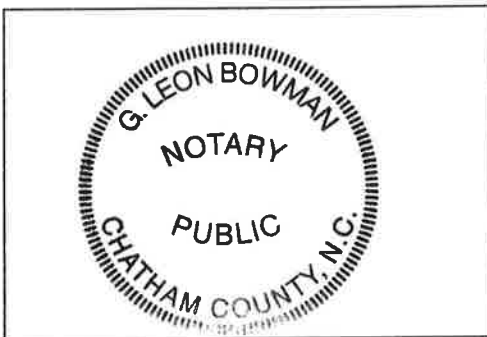
Phone: (919) 951-0700

Signature: *Bill Mumford*

Date: 8-9-2010

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I, G. Leon Bowman, a Notary Public for the State of  
North Carolina, County of Chatham, do hereby certify that  
Bill Mumford personally appeared before me this 9<sup>th</sup>  
day of August, 2010, and acknowledge the due execution of the  
forgoing wet detention basin maintenance requirements. Witness my hand and official  
seal, G. Leon Bowman



SEAL

My commission expires 9/14/10  
by