



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

DIVISION OF HIGHWAYS

EUGENE A. CONTI, JR.  
SECRETARY

September 9, 2010

**Chatham County**

**Subject: Subdivision – Final Plan Review – Phase 5 North of the Briar Chapel Subdivision**

McKim & Creed  
c/o Curt Blazier, PE  
200 MacKenan Court  
Cary, NC 27511

Dear Mr. Blazier:

The N. C. Department of Transportation, Division of Highways has reviewed the construction plans signed and sealed by Mr. Grant Livengood, PE on August 6, 2010 as submitted to this office and approval is granted subject to the following stipulations and recommendations:

1. All Construction is to be in accordance with the details as shown on the plans, as well as conform to the most recent edition of the *Standard Specifications for Roads and Structures*.
2. A Driveway Permit is not needed for this package.
3. The entire proposed right of way is to be cleared and grubbed throughout the whole phase of the project. Please be aware that the areas within the sight distance quadrants are to be treated as right of way.
4. All soil areas within the proposed right of way and any other soil areas disturbed during construction shall be seeded and mulched immediately upon completion of roadway construction. The seeding shall be done as outlined in the seeding specification attachment.
5. The crossline drainage is approved as proposed on the construction plans. If, however field conditions dictate any changes, these shall be made upon approval by NCDOT. If any of the property owners desire to pipe their ditches within the proposed NCDOT right of way, please advise them that this work should conform to NCDOT specifications for this type of work (see attached). If any ditches are piped and not satisfactorily completed to NCDOT specifications, this could result in the road not being accepted for addition to the state maintained system of roads. Any ditches piped or other encroachment prior to addition to the state maintained system are subject to an encroachment agreement, as are utility companies, when the road is added.

6. The typicals as shown in the plans, are approved.
7. The Division of Highways will only allow mailboxes, with non-rigid type post, such as 4" x 4" wooden or small diameter metal type on new additions. Brick columns or mailboxes on rigid stands such as block, stone or any other type deemed to be a traffic hazard will not be allowed within the right of way. This policy applies to all roads being considered for addition to the State Maintained System.
8. An erosion control plan shall require approval from Chatham County. The developer should forward this plan to Mr. Jim Willis, Erosion and Sediment Control Officer, 80 East, P.O. Box 130, Pittsboro, N.C. 27312, phone (919) 545-8343 for his review and approval.
9. As this subdivision is proposed to be public and is likely to be requested to be added to the state maintained system of roads, the developer will be responsible for providing a PE Certification, (See Attached) and testing results for base and asphalt density stating that the streets have been built in accordance with the most current "Subdivision Roads: Minimum Construction Standards" manual and with the attached approved plans. Please be advised that this PE Certification does not approve the road for addition to the State Highway System for maintenance. When the proper home density is achieved and roads have been satisfactorily maintained, the developer or property owners must submit Form SR-1, Petition for Road Addition (copy attached to this correspondence), and four (4) copies of the recorded plat to request that the road or roads be added to the State Highway system. Any maintenance problems found when the road is requested to be added must be repaired by the developer prior to the road becoming state maintained. As stated in GS 136-102.6, final acceptance by the Division of Highways of the public streets and placing them on the State highway system for maintenance shall be conclusive proof that the streets have been constructed according to the minimum standards of the Board of Transportation.
10. The developer shall comply with all applicable local, state, and federal environmental regulations, and shall obtain all necessary local, state, and federal environmental permits, including, but not limited to, those related to sediment control, stormwater, wetlands, streams, endangered species, and historical sites.
11. A properly completed Verification of Compliance with the Department of Environment and Natural Resources (DENR)(page 35, attached) must be submitted prior to the road(s) being considered for addition to the NCDOT System.
12. In preparing the final plat for certification by this office and subsequent recording, the following information will be incorporated:
  - A. The sight distance quadrants at the intersections shall be shown either as a public easement or as the property line.
  - B. Public easements for drainage throughout the development.
  - C. All roads shall be shown as public and the right of way width shown

13. If the plans of this subdivision change in a way that would cause a change in the classification of these roads from Local Residential to Residential Collector the developer will be responsible for upgrading roads to meet Residential Collector standards prior to addition the state maintenance system.
- 
14. This approval does not approve the utilities within this subdivision. Any utilities shall be submitted for approval to this office via a properly executed Encroachment Agreement to be approved at the time the roads within the subdivision are petitioned to be added to the state system for maintenance. Please note that water valves should be located a minimum of 6' from edge of pavement, fire hydrants should be behind the right of way line and all service taps should be installed prior to paving.

If you have any further questions regarding this matter, please do not hesitate to call this office at (336) 629-1423.

Yours truly,



Reuben Blakley, PE  
District Engineer

Attachments

cc: Tim Johnson, P.E., Division Engineer  
B.F. Sloan, County Maintenance Engineer  
Lynn Richardson, Chatham County Planning  
File



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

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DIVISION OF HIGHWAYS

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SECRETARY

PROFESSIONAL ENGINEER CERTIFICATION  
SUBDIVISIONS AND COMMERCIAL DRIVEWAYS  
DIVISION 8, DISTRICT 1

DATE: \_\_\_\_\_

COUNTY: \_\_\_\_\_

SUBDIVISION NAME: \_\_\_\_\_

STREET NAMES \_\_\_\_\_ From Sta. No. \_\_\_\_\_ To Sta. No. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This is to certify that the above listed roads have been constructed in accordance with the approved plans and all aspects of the most current Subdivision Roads: Minimum Construction Standards manual.

NAME: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_  
NC PE LICENSE #: \_\_\_\_\_

Professional Engineer Seal

**North Carolina Department of Transportation  
Division of Highways  
Petition for Road Addition**

**ROADWAY INFORMATION:** (Please Print/Type)

County: \_\_\_\_\_ Road Name: \_\_\_\_\_  
(Please list additional street names and lengths on the back of this form.)

Subdivision Name: \_\_\_\_\_ Length (miles): \_\_\_\_\_

Number of occupied homes having street frontage: \_\_\_\_\_ Located (miles): \_\_\_\_\_

miles N  S  E  W  of the intersection of Route \_\_\_\_\_ and Route \_\_\_\_\_  
(Check one) (SR, NC, US) (SR, NC, US)

We, the undersigned, being property owners and/or developers of \_\_\_\_\_ in \_\_\_\_\_ County, do hereby request the Division of Highways to add the above described road.

**CONTACT PERSON:** Name and Address of First Petitioner. (Please Print/Type)

Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Street Address: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

**PROPERTY OWNERS**

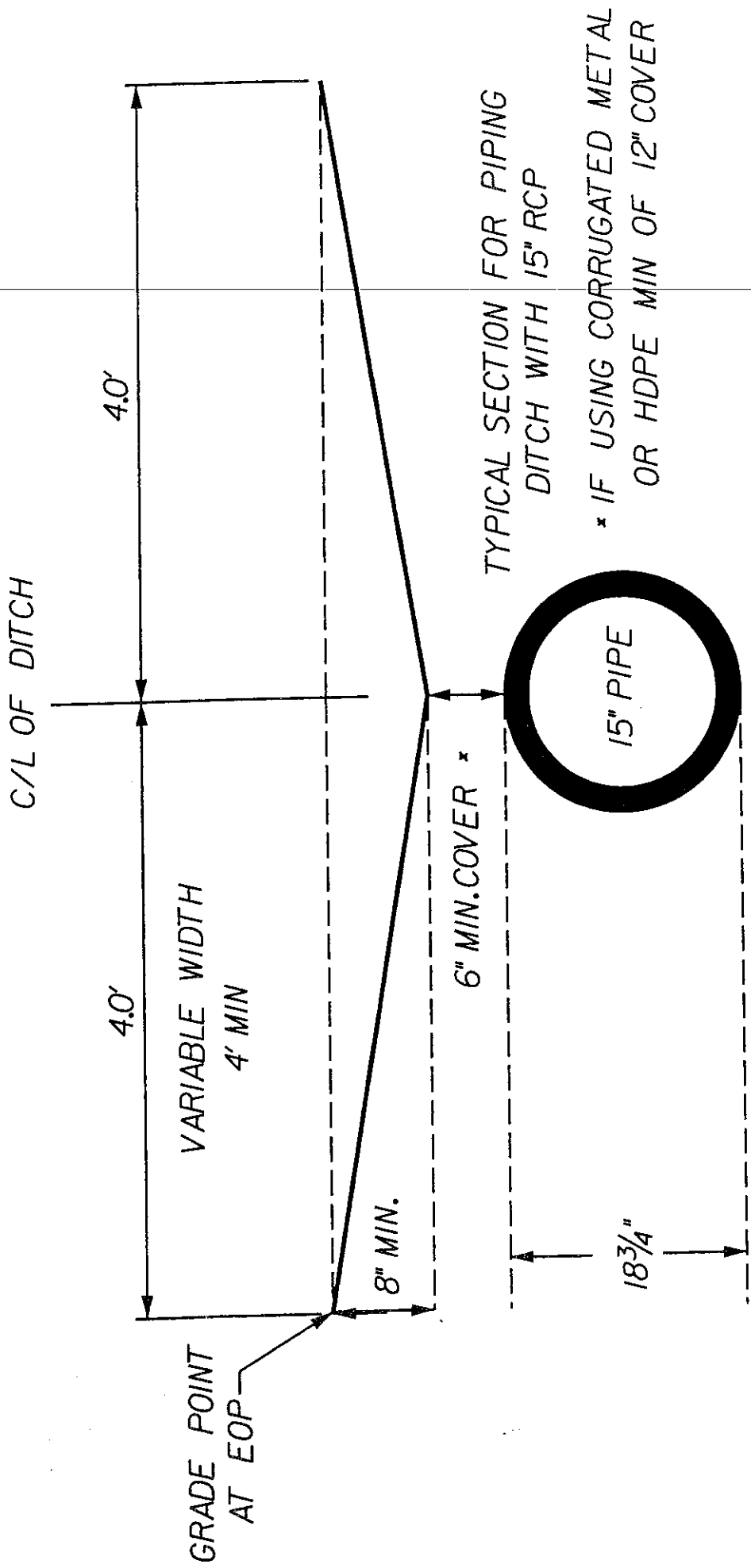
Name

Mailing Address

Telephone

<u>Name</u>	<u>Mailing Address</u>	<u>Telephone</u>





C/L OF DITCH

4.0'

4.0'

VARIABLE WIDTH  
4' MIN

GRADE POINT  
AT EOP

8" MIN.

8" MIN. COVER \*

TYPICAL SECTION FOR PIPING  
DITCH WITH 18" RCP

22"

18" PIPE

\* IF USING CORRUGATED METAL  
OR HDPE MIN OF 12" COVER



**POSSIBLE SUPPLIERS FOR  
GRATES AND FRAMES**

SOUTHERN FOUNDRY  
P.O. BOX 186  
APEX, N.C. 27502  
(919) 362-7744

NORFOLK CAST, INC.  
P.O. BOX 328  
NORFOLK, VA. 23501

VULCAN FOUNDRY CORP.  
P.O. BOX 905  
DENHAM SPRINGS, LA.  
1(800)626-4653

US FOUNDRY  
8351 N. W. 93<sup>RD</sup> ST  
MEDLEY, FLA. 33166  
(305) 885-0301 FAX (305) 844-3253

SUPER CAST, INC.  
1104 US HWY. 117 BYPASS, S.  
GOLDSBORO, N.C. 27530  
(919) 736-9010 FAX (919) 736-0290

BUNCH PATTERN WORKS, INC.  
P.O. BOX 267 HWY 308 N.  
LEWISTON-WOODVILLE, N.C. 27849

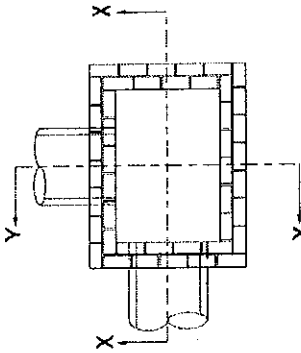
CAPITAL FOUNDRY OF VIRGINIA, INC.  
P.O. BOX 2212  
VIRGINIA BEACH, VIRGINIA 23450

EMPORIA FOUNDRY, INC.  
620 RIESE STREET  
EMPORIA, VIRGINIA 23847

ENNIS ENTERPRISES  
P.O. BOX 931  
WILMINGTON, N.C. 28402  
(910) 371-9323

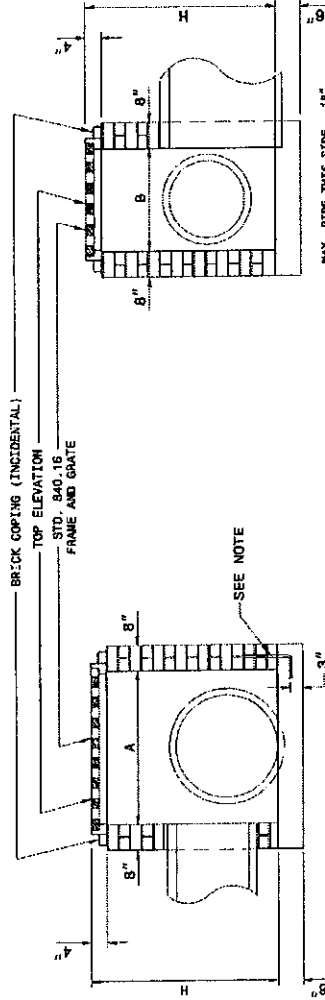
**GENERAL NOTES:**

- MORTAR JOINTS  $1/2"$   $\pm$   $1/8"$  THICK.
- USE CLASS "B" CONCRETE THROUGHOUT.
- USE FORMS FOR CONSTRUCTION OF THE BOTTOM SLAB.
- USE #4 BAR DOWELS AT 12" CENTERS.
- DUCT FOR PIPE(S) FROM TOTAL CU. YDS. OF BRICK MASONRY.
- PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
- USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
- IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB FOR 8'-0" IN HEIGHT OR LESS. USE 8" WALL OVER 8'-0" IN HEIGHT. USE 12" WALL TO 8'-0" FROM TOP OF WALL AND 8" WALL FOR THE REMAINING 6'-0". QUANTITIES TO BE ADJUSTED ACCORDINGLY.
- DO NOT USE BRICK MASONRY DROP INLET IN LOCATIONS SUBJECT TO TRAFFIC.
- CHAMFER ALL EXPOSED CORNERS 1".
- DRAWING NOT TO SCALE.



**PLAN**

WITH COPING REMOVED



**SECTION Y-Y**

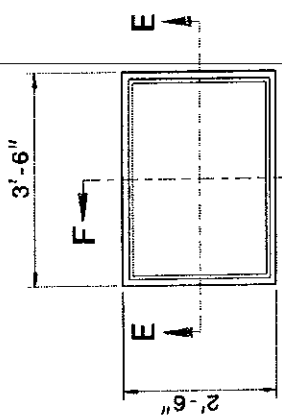
**SECTION X-X**

PIPE	DIMENSIONS OF BOX & PIPE		CUBIC YARDS CONCRETE		CUBIC YARDS BRICK MASONRY		DEDUCTIONS FOR ONE PIPE	
	SPAN	WIDTH	BOTTOM SLAB	WALL PER FOOT HT.	TOTAL BRICK MIN. HEIGHT, H	C.S.	R.C.	
12"	3'-0"	2'-0"	0.268	0.313	0.522	0.020	0.032	
15"	/	2'-3"	0.268	0.313	0.800	0.031	0.047	
18"	/	2'-6"	0.268	0.313	0.878	0.044	0.065	
24"	/	3'-0"	0.268	0.313	0.835	0.078	0.113	
30"	3'-0"	2'-0"	0.268	0.313	0.891	0.122	0.170	

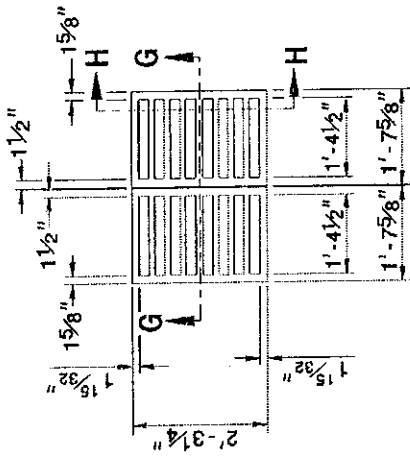
STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR  
**DROP INLET FRAME AND GRATES**  
 FOR USE WITH STD. DWG.S 840.14 AND 840.15

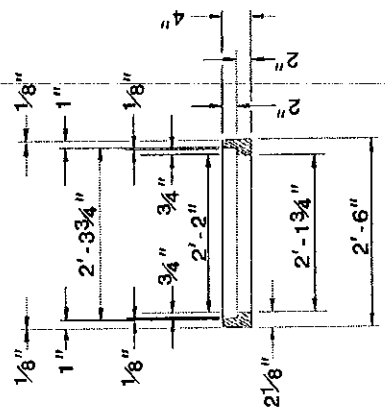
SHEET 1 OF 1  
**840.16**



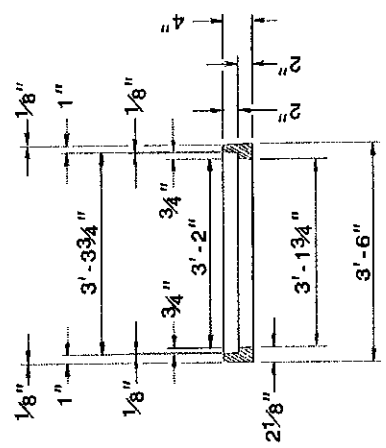
**PLAN OF FRAME**  
 CAST IRON



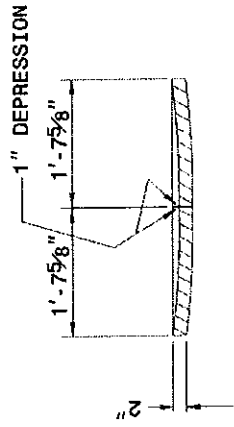
**PLAN OF GRATING**  
 CAST IRON



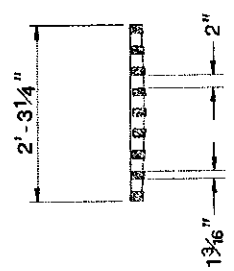
**SECTION F-F**



**SECTION E-E**



**SECTION G-G**



**SECTION H-H**

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR  
**DROP INLET FRAME AND GRATES**  
 FOR USE WITH STD. DWG.S 840.14 AND 840.15

SHEET 1 OF 1  
**840.16**

**VERIFICATION OF COMPLIANCE WITH  
ENVIRONMENTAL REGULATIONS**

(Check Appropriate Box)

- ~~Permits from the N.C. Department of Environment and Natural Resources and the U.S. Army Corp of Engineers are not required for this project. However, all applicable federal and state regulations have been followed.~~
- The required permits from the N.C. Department of Environment and Natural Resources and the U.S. Army Corp of Engineers have been obtained for this project. Copies of permits and Completion Certificates are attached.
- All applicable NPDES Stormwater Permit requirements have been met for this project. (The applicant should contact the N.C. Division of Water Quality in Raleigh to determine if a stormwater permit is required.)
- The project is in compliance with all applicable sedimentation and erosion control laws and regulations.

Project Name: \_\_\_\_\_

Township: \_\_\_\_\_

County: \_\_\_\_\_

Project Engineer: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Project Contact: \_\_\_\_\_

Applicants Name: \_\_\_\_\_

P.E. SEAL

Date Submitted: \_\_\_\_\_

(Reference Page 11, Item 10)

11/07/2003

## ATTACHMENT "A"

Seeding and mulching shall be in accordance with Section 090 of the North Carolina Standard Specifications for Roads and Structures, except that ~~Articles 040-01(B)~~ shall not apply. Final determination of soil type shall be made by the Engineer. The following rates in pounds per acre shall apply:

<u>SANDY SOIL</u>	<u>CLAY SOIL</u>
50# - KY 31 Tall Fescue or Alta Tall Fescue	100# - KY 31 Tall Fescue or Alta Tall Fescue
5# - Centipede	15# - Kenblue Bluegrass
50# - Pensacola Bahiagrass	500# - Fertilizer
500# - Fertilizer	4000# - Limestone
4000# - Limestone	

Add 10# Kobe or Korean Lespedeza and 10# Millet to the above mixture from May 1 to August 31.

On cut and fill slopes 2:1 or steeper, add 30# Sericea Lespedeza from January 1 to December 31.

Fertilizer shall be 10-20-20 analysis. Upon written approval of the Engineer, a different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis.