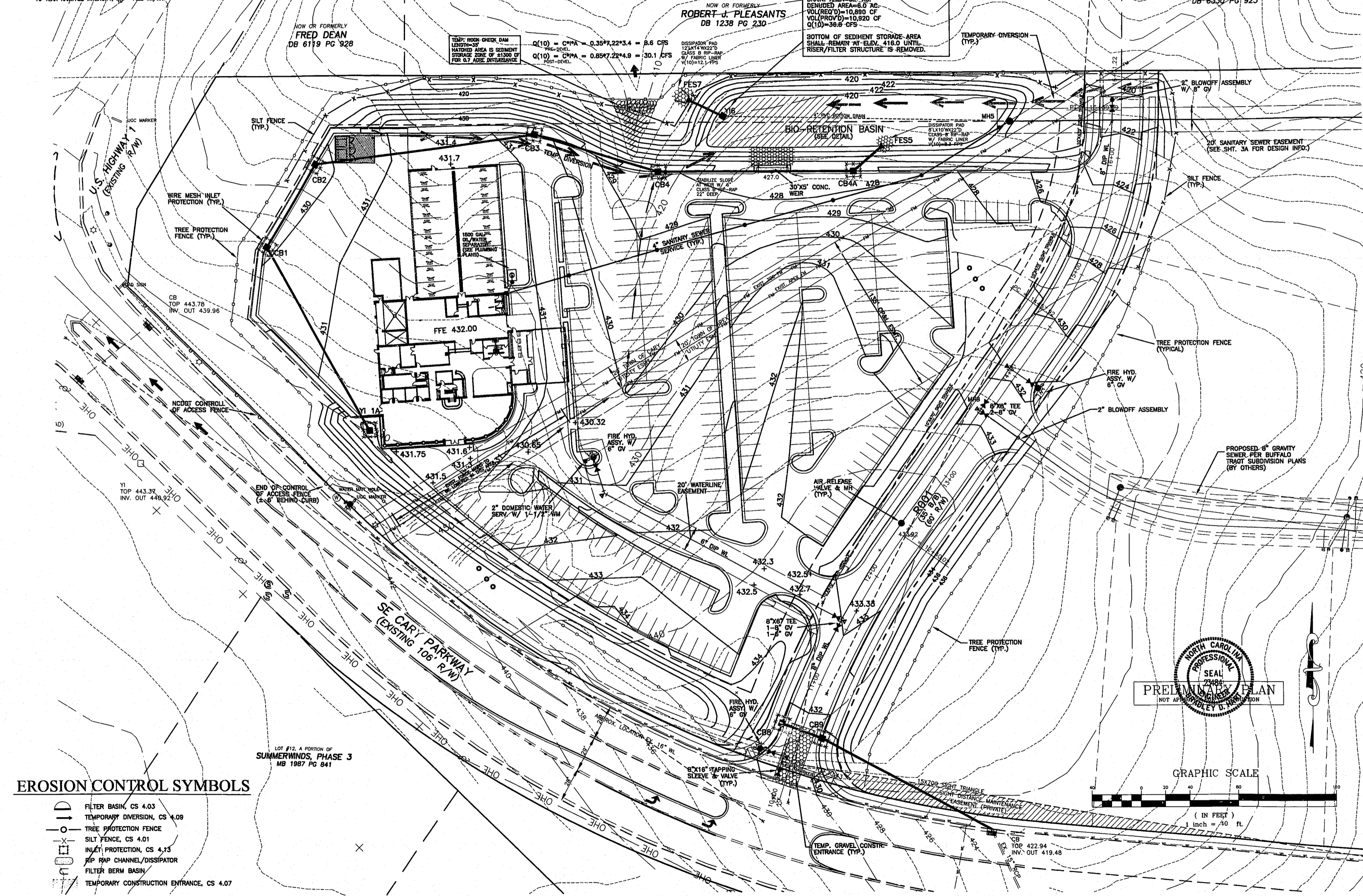


**STORM DRAINAGE PIPE SCHEDULE**

From	To	Rim	Pipe Area (sq)	Discharge Q(10) (cfs)	Actual Diameter D (in)	Pipe Length L (ft)	Upper Inv. Elev (ft)	Lower Inv. Elev (ft)	Pipe Slope S (%)	
Y1	1A	CB1	Y1 1A/429.50	0.20	1.2	15	169	428.20	425.30	0.53
CB1	CB2	CB1	430.40	0.70	4.3	15	79	425.10	424.60	0.83
CB2	CB3	CB2	430.80	1.05	6.4	15	161	424.40	422.80	0.88
CB3	CB4	CB3	429.70	1.15	7.0	18	105	422.60	422.05	0.52
CB4	CB4A	CB4	428.70	2.05	18.1	24	160	421.50	420.89	0.59
CB4A	FESS	CB4A	427.85	3.15	19.3	24	32	420.40	420.10	0.84
Y16	FES7	Y16	421.87	5.00	30.2	24	32	415.00	414.30	2.19
CB8	CB9	CB8	431.89	0.25	1.5	15	35	427.60	427.10	1.14
CB9	EX.CB	CB9	431.89	0.45	2.8	15	157	428.60	429.00	4.58

NOTES: RUNOFF COEFFICIENT, C = 0.85  
10 YEAR RAINFALL INTENSITY, I<sub>10</sub> = 7.22 in./hr.

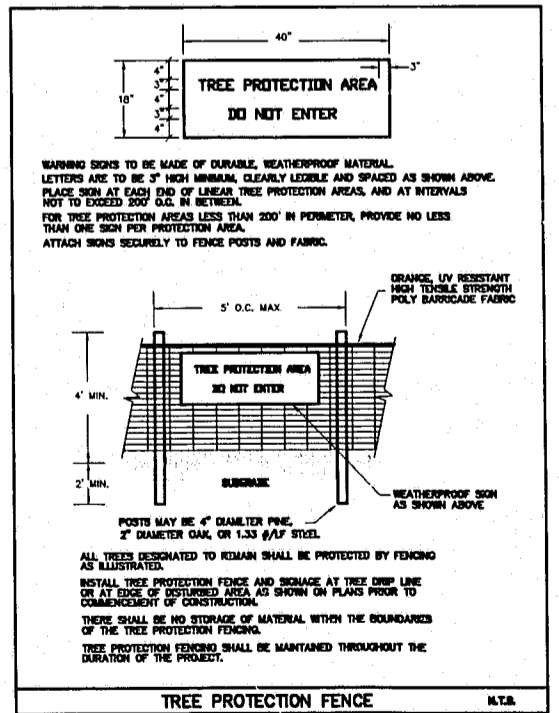
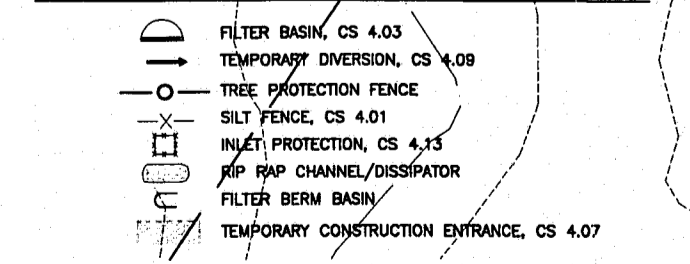


**EROSION CONTROL NARRATIVE:**  
THIS 7.39 ACRE SITE IS LOCATED IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF US 1 & 64 AND CARY PARKWAY IN CARY, NC. CONSTRUCTION WILL CONSIST OF A PUBLIC STREET AND A 6.5 AC. CAR DEALERSHIP. A PORTION OF THE PROPOSED BIO-RETENTION POND WILL BE USED FOR SEDIMENT STORAGE DURING THE CONSTRUCTION PHASE IN CONJUNCTION WITH A CATCH BASIN RISER/FILTER STRUCTURE. IN ADDITION TO THE RISER/FILTER, SEDIMENT RUNOFF WILL ALSO BE CONTROLLED BY WIRE MESH INLET PROTECTION AND SILT FENCE. RUNOFF FROM THIS SITE IS TRIBUTARY TO SWIFT CREEK. TOTAL DENUDED AREA IS APPROXIMATELY 6.4 ACRES.

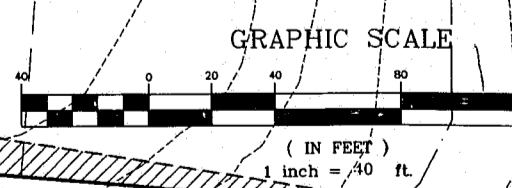
- NOTES:**
- EXISTING TOPOGRAPHY SHOWN THROUGHOUT THE SITE IS FROM TOWN OF CARY AERIAL TOPOGRAPHY.
  - EXISTING ROADWAY TOPOGRAPHY ALONG CARY PARKWAY IS FROM FIELD SURVEY BY WITHERS & RAVENEL ENGINEERING AND SURVEYING, INC.
  - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF CARY STANDARD SPECIFICATIONS AND DETAILS.
  - LOCATION OF EXISTING UTILITIES IS BASED UPON THE BEST AVAILABLE INFORMATION AND SHOULD BE CONSIDERED ONLY AS APPROXIMATE.
  - CONTRACTOR SHALL CALL CALL U-LOCO FOR LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  - THERE IS NO FEMA MAPPED FLOODPLAIN ON THIS SITE PER FIRM PANEL 37183CO 504 DATED MARCH 3, 1992.
  - CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 15 DAYS OF ANY PHASE OF GRADING.
  - THIS PROJECT MAY REQUIRE A PRECONSTRUCTION CONFERENCE BEFORE THE GRADING PERMIT IS ISSUED.
  - THE STREETS IN FRONT OF THE PROJECT SHALL BE KEPT CLEAN AT ALL TIMES OR THE TOWN OF CARY MAY REQUIRE A WASH STATION.
  - TREE PROTECTION FENCING MUST BE INSTALLED AND INSPECTED PRIOR TO ISSUANCE OF A GRADING PERMIT.
  - THE TREE PROTECTION FENCING SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION PRIOR TO THE CERTIFICATE OF OCCUPANCY (CO) IS SCHEDULED. THE FENCING SHALL BE REMOVED PRIOR TO FINAL SITE INSPECTION FOR THE CO.
  - A WATERSHED BOND FOR 125% OF THE COST OF THE WATERSHED DEVICE WILL HAVE TO BE POSTED BY THE OWNER BEFORE THE GRADING PERMIT IS ISSUED.
  - THERE ARE NO WETLANDS ON THIS SITE PER SITE EVALUATION BY SOIL & ENVIRONMENTAL CONSULTANTS, INC.

- CONSTRUCTION SEQUENCE**
- OBTAIN GRADING PERMIT.
  - INSTALL TEMPORARY ROCK DAM IN THE DRAW AT THE NORTHERN PROPERTY LINE AS SHOWN AS WELL AS SILT FENCE ALONG TOE OF PROPOSED FILL-SLOPE IN THAT AREA. CLEAR AND GRADE ONLY AS NECESSARY.
  - BEGIN EXCAVATION OF CATCH BASIN RISER/FILTER, WHILE USING GENERATED MATERIAL TO CONSTRUCT FILL-SLOPE AT THE DRAW. ONCE FILL-SLOPE IS COMPLETED, INSTALL TEMPORARY DIVERSION AT THE TOP OF SLOPE SO AS TO DIRECT ALL RUNOFF FROM THE SITE INTO THE CATCH BASIN RISER/FILTER STRUCTURE.
  - INSTALL THE CATCH BASIN RISER/FILTER AND OUTLET PIPE (Y16 TO FES7) WITH APPROPRIATE SEDIMENT STORAGE AREA AS SHOWN. CLEAR AND GRADE ONLY AS NECESSARY TO INSTALL THIS DEVICE.
  - INSTALL TREE PROTECTION FENCING, SILT FENCING, TEMPORARY DIVERSIONS AND OTHER EROSION CONTROL MEASURES AS SHOWN ON THE PLAN.
  - PROCEED WITH GRADING. INSTALL STORM DRAINAGE SYSTEM WITH APPROPRIATE INLET PROTECTION AS SHOWN.
  - CLEAN SEDIMENT STORAGE BASIN WHEN HALF FULL.
  - SEED AND MULCH DENUDED AREA WITHIN 15 DAYS AFTER FINISHED GRADES ARE ESTABLISHED.
  - MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
  - REQUEST FINAL APPROVAL BY TOWN EROSION CONTROL ENGINEER.
  - REMOVE SOIL EROSION CONTROL MEASURES AND STABILIZE THESE AREAS.

**EROSION CONTROL SYMBOLS**



**PRELIMINARY PLAN**  
NOT APPROVED FOR CONSTRUCTION



**WITHERS & RAVENEL Engineering & Surveying, Inc.**  
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919-469-3340 FAX 919-467-6008

**Revisions**

No.	Description	Date	By
1.	PER TOC 1st REVIEW	9/12/99	BDH
2.	PER TOC 2nd REVIEW	10/15/99	BDH
3.	PER TOC 3rd REVIEW	11/22/99	BDH

**SOUTHERN STATES NISSAN**  
CARY, NC

**GRADING, STORM DRAINAGE, UTILITY & EROSION CONTROL PLAN**

Designer	Scale	CAD File
W&R	1"=40'	SHDET.DWG
Drawn By	Date	Sheet No.
BDH	8/8/99	2
Checked By	Job No.	
BDH	99145	

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