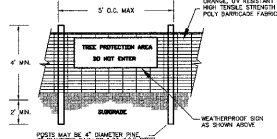




WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS ARE TO BE 2" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS SHOWN ABOVE. PLACE SIGN AT EACH END OF LINEAR TREE PROTECTION AREAS, AND AT INTERVALS NOT TO EXCEED 500' O.C. IF NECESSARY.
FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.



POSTS MAY BE 4" DIAMETER PIPE, 1/2\"/>

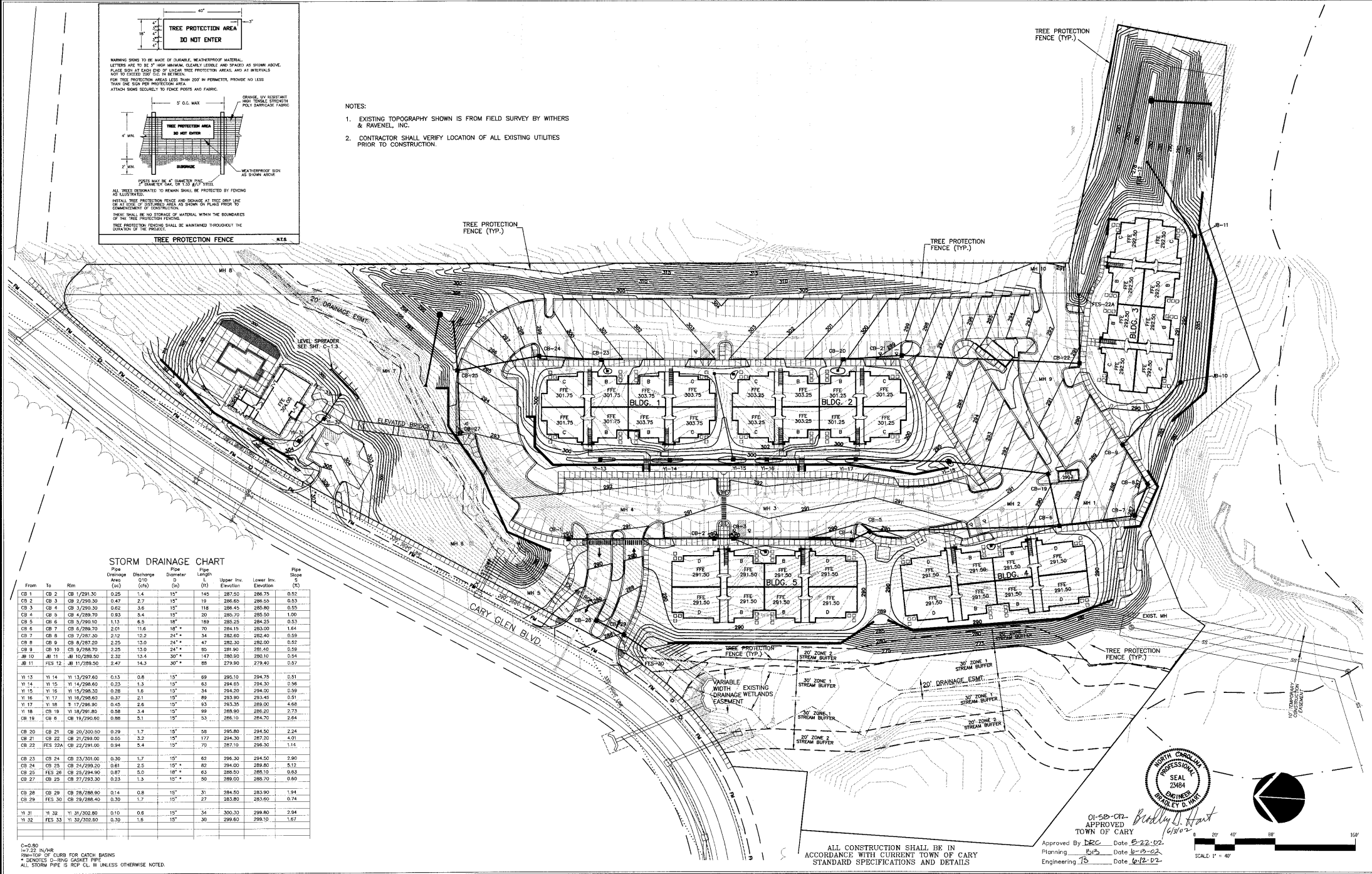
ALL TREES DETERMINED TO REMAIN SHALL BE PROTECTED BY FENCING AS SHOWN/NOTED.

METAL TREE PROTECTION FENCE AND SIGNS AS THIS SHEET USE SHALL BE LOCATED AT THE END OF EACH PROTECTION AREA, OR SHOWN ON PLANS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

THERE SHALL BE NO STORAGE OF MATERIAL WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.

TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

- NOTES:
- EXISTING TOPOGRAPHY SHOWN IS FROM FIELD SURVEY BY WITHERS & RAVENEL, INC.
 - CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.



STORM DRAINAGE CHART

| From | To | Rm | Pipe Diameter (in) | Discharge Area (sq ft) | Rise (ft) | Pipe Slope (%) | Pipe Length (ft) | Upper Inv. Elevation (ft) | Lower Inv. Elevation (ft) | Pipe Slope (%) |
|-------|---------|--------------|--------------------|------------------------|-----------|----------------|------------------|---------------------------|---------------------------|----------------|
| CB 1 | CB 2 | CB 1/291.30 | 0.25 | 1.4 | 15" | 145 | 287.50 | 286.75 | 0.52 | |
| CB 2 | CB 3 | CB 2/290.30 | 0.47 | 2.7 | 15" | 19 | 286.65 | 286.55 | 0.53 | |
| CB 3 | CB 4 | CB 3/290.30 | 0.62 | 3.6 | 15" | 118 | 286.45 | 286.60 | 0.55 | |
| CB 4 | CB 5 | CB 4/289.70 | 0.93 | 5.4 | 15" | 20 | 286.70 | 286.50 | 1.00 | |
| CB 5 | CB 6 | CB 5/290.10 | 1.13 | 6.3 | 18" | 189 | 285.25 | 284.25 | 0.53 | |
| CB 6 | CB 7 | CB 6/289.70 | 2.01 | 11.6 | 18" | 70 | 284.15 | 283.00 | 1.64 | |
| CB 7 | CB 8 | CB 7/287.20 | 2.12 | 12.2 | 24" | 34 | 282.62 | 282.40 | 0.59 | |
| CB 8 | CB 9 | CB 8/287.20 | 2.25 | 13.0 | 24" | 47 | 282.30 | 282.00 | 0.52 | |
| CB 9 | CB 10 | CB 9/288.70 | 2.25 | 13.0 | 24" | 85 | 281.90 | 281.40 | 0.59 | |
| MB 10 | MB 11 | MB 10/289.50 | 2.32 | 13.4 | 30" | 147 | 280.50 | 280.10 | 0.54 | |
| MB 11 | FES 12 | MB 11/289.50 | 2.47 | 14.3 | 30" | 88 | 279.90 | 279.40 | 0.57 | |
| YI 13 | YI 14 | YI 13/297.60 | 0.13 | 0.8 | 15" | 69 | 295.10 | 294.75 | 0.51 | |
| YI 14 | YI 15 | YI 14/296.60 | 0.23 | 1.3 | 15" | 63 | 294.55 | 294.30 | 0.56 | |
| YI 15 | YI 16 | YI 15/298.30 | 0.28 | 1.8 | 15" | 34 | 294.20 | 294.00 | 0.59 | |
| YI 16 | YI 17 | YI 16/296.60 | 0.37 | 2.1 | 15" | 89 | 293.90 | 293.45 | 0.51 | |
| YI 17 | YI 18 | YI 17/296.60 | 0.45 | 2.8 | 15" | 93 | 293.35 | 289.00 | 4.66 | |
| YI 18 | CB 19 | YI 18/291.80 | 0.58 | 3.4 | 15" | 99 | 288.90 | 286.20 | 2.73 | |
| CB 19 | CB 6 | CB 19/290.60 | 0.88 | 5.1 | 15" | 53 | 286.10 | 284.70 | 2.84 | |
| CB 20 | CB 21 | CB 20/300.00 | 0.29 | 1.7 | 15" | 58 | 295.80 | 294.50 | 2.24 | |
| CB 21 | CB 22 | CB 21/299.00 | 0.50 | 3.2 | 15" | 177 | 294.30 | 287.50 | 4.91 | |
| CB 22 | FES 22A | CB 22/299.00 | 0.94 | 5.4 | 15" | 77 | 292.70 | 294.50 | 1.15 | |
| CB 23 | CB 24 | CB 23/301.00 | 0.30 | 1.7 | 15" | 60 | 296.30 | 294.50 | 2.90 | |
| CB 24 | CB 25 | CB 24/299.30 | 0.61 | 3.5 | 15" | 62 | 294.00 | 289.80 | 3.15 | |
| CB 25 | FES 26 | CB 25/294.90 | 0.87 | 5.0 | 18" | 63 | 288.50 | 288.10 | 0.63 | |
| CB 27 | CB 25 | CB 27/283.30 | 0.23 | 1.3 | 15" | 50 | 289.00 | 288.70 | 0.60 | |
| CB 28 | CB 29 | CB 28/288.80 | 0.14 | 0.8 | 15" | 31 | 284.50 | 283.90 | 1.94 | |
| CB 29 | FES 30 | CB 29/288.40 | 0.30 | 1.7 | 15" | 27 | 283.80 | 283.60 | 0.74 | |
| YI 31 | YI 32 | YI 31/302.80 | 0.10 | 0.6 | 15" | 54 | 300.30 | 299.80 | 2.94 | |
| YI 32 | FES 33 | YI 32/302.80 | 0.30 | 1.8 | 15" | 30 | 299.60 | 299.10 | 1.67 | |

C=0.80
I=1.22 IN/HR
DRAINAGE OF CURB FOR CATCH BASINS
* DENOTES C-DRING GASKET PIPE
ALL STORM PIPE @ 2% SLOPE UNLESS OTHERWISE NOTED

APPROVED
TOWN OF CARY

01-58-02-2
APPROVED
DATE 6-22-02

Planning Dept Date 6-19-02
Engineering TS Date 6-12-02

WITHERS & RAVENEL
SEAL 2584
DAMES & MOHR
WALTER D. HART

1" = 40'

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT TOWN OF CARY STANDARD SPECIFICATIONS AND DETAILS

| No. | Revision | Date | By |
|-----|----------------------------|---------|-----|
| 1. | REVISED LEASING OFFICE USE | 4/16/03 | BEH |
| 2. | PER 100' REVIEW | 6/3/02 | BEH |

| | | | |
|------------|-----|------------|-------------|
| Designer | BEH | Scale | 1"=40' |
| Drawn by | BEH | Date | 01/MARCH/02 |
| Checked by | BEH | Job No. | |
| | BEH | 2012.08.00 | |

THE GROVE AT CARY PARK

OVERALL GRADING AND STORM DRAINAGE PLAN

WITHERS & RAVENEL
ENGINEERS | PLANNERS | SURVEYORS
111 Maclean Drive Cary, North Carolina 27511 | tel: 919-468-3340 | fax: 919-467-6009 | www.wITHERSRAVENEL.com