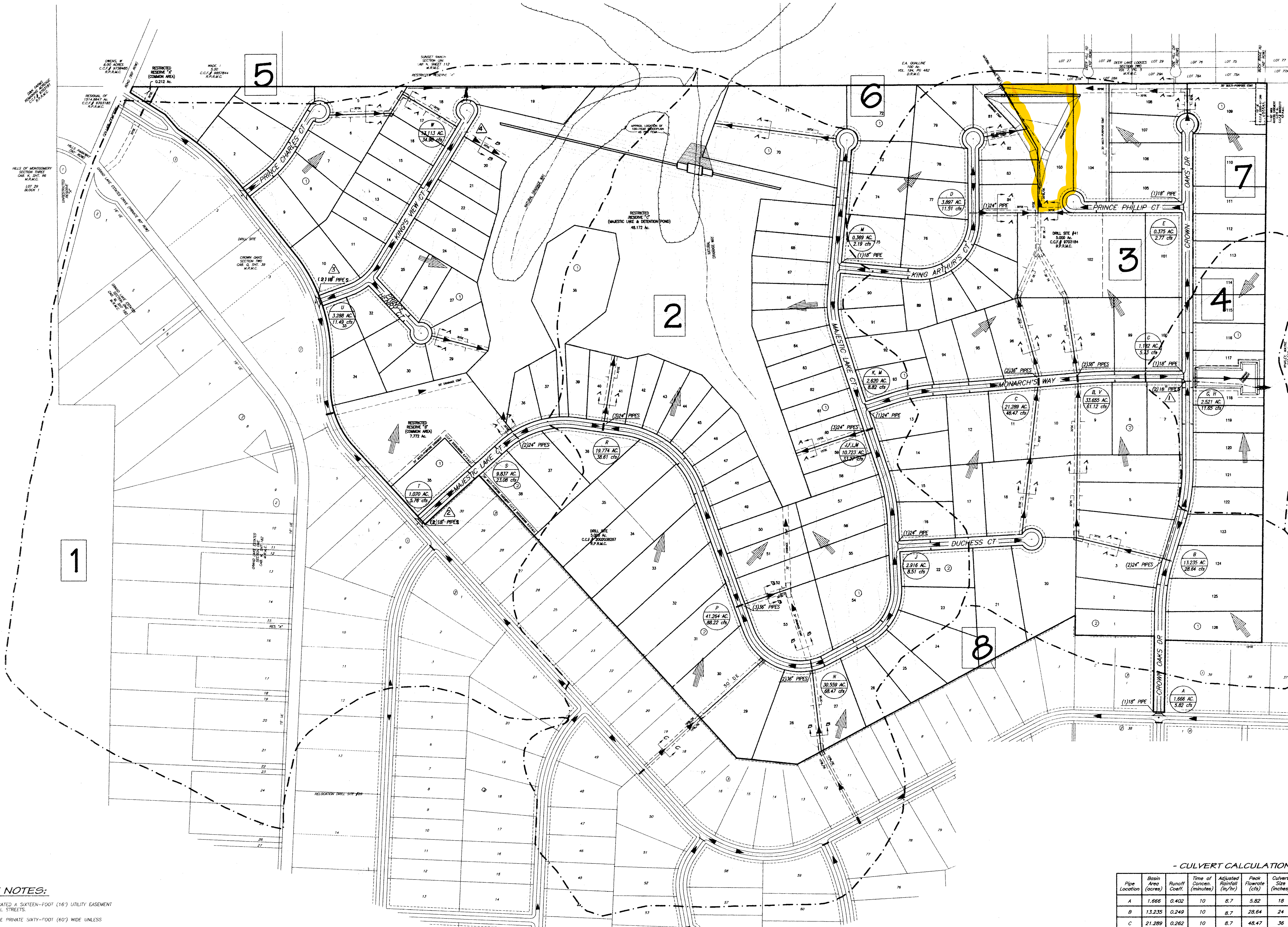


DRAINAGE NOTES:

1) THERE IS HEREBY DEDICATED A SIXTEEN–FOOT (16') UTILITY EASEMENT ALONG BOTH SIDES OF ALL STREETS.

2) ALL RIGHTS–OF–WAY ARE PRIVATE SIXTY–FOOT (60') WIDE UNLESS OTHERWISE INDICATED.

3) THIS GENERAL DRAINAGE PLAN IS BASED UPON U.S.G.S. QUADRANGLE MAPS AND INITIAL FIELD INSPECTIONS. THE ENGINEER AND THE DEVELOPER RESERVE THE RIGHT TO MAKE MINOR CHANGES AND ADJUSTMENTS TO THE LOCATIONS OF DRAINAGE STRUCTURES TO BETTER CONFORM TO THE NATURAL TOPOGRAPHY.

4) ALL ROAD CULVERTS SHALL CONFORM TO MONTGOMERY COUNTY STANDARDS AND MAY BE EITHER REINFORCED CONCRETE OR CORRUGATED PLASTIC PIPES.

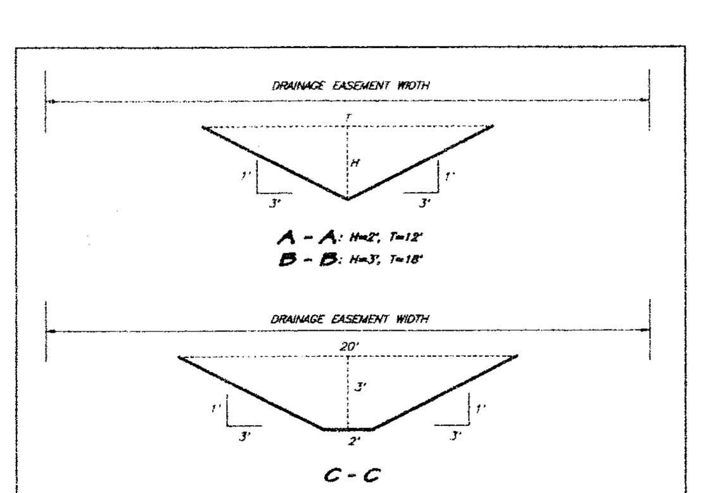
5) MAX. GRADE OF ROADWAY CULVERTS: (*BASED ON 5 FT/S VELOCITY FOR ROADSIDE DITCH DRAINAGE)

CORRUGATED PLASTIC		REINFORCED CONCRETE	
18" CPP:	0.416%	18" RCP:	0.704%
24" CPP:	0.284%	24" RCP:	0.480%
30" CPP:	0.211%	30" RCP:	0.356%
36" CPP:	0.165%	36" RCP:	0.279%
42" CPP:	0.135%	42" RCP:	0.227%
48" CPP:	0.113%	48" RCP:	0.190%
54" CPP:	0.096%	54" RCP:	0.163%
60" CPP:	0.084%	60" RCP:	0.141%

6) GRASS–SEED ALL EMBANKMENT SIDE SLOPES AND DISTURBED AREAS WITH BERMUDA SEED @20/AC (HULLED) WITH FERTILIZER 13–13–13 @ 500 LB/AC.

7) ALL DRAINAGE EASEMENTS MUST MEET MINIMUM COUNTY GRADE REQUIREMENTS (0.10%).

8) THIS PROPERTY LOCATED IN ZONE "A" AND IS PARTIALLY WITHIN THE 100–YEAR FLOODPLAIN AS PER FEMA PANEL No. 48339C0345 F, DATED DECEMBER 19, 1996. (NO LOTS ARE WITHIN THE 100–YEAR FLOODPLAIN)



DITCH SECTION DETAILS
–NOT TO SCALE–

LEGEND

- NATURAL DRAINAGE
- DRAINAGE AREA
- DRAINAGE ESMT.
- AREA(S) ACRES CFS
- DRAINAGE AREA

- CULVERT CALCULATIONS -

Pipe Location	Basin Area (acres)	Runoff Coeff.	Time of Concen. (minutes)	Adjusted Rainfall (in/hr)	Peak Flowrate (cfs)	Culvert Size (inches)	# of Culverts (pipes)	Capacity per culv (cfs)	Pipe Capacity (%)
A	1.666	0.402	10	8.7	5.82	18	1	8.84	65.8%
B	13.235	0.249	10	8.7	28.64	24	2	15.71	91.1%
C	21.289	0.262	10	8.7	48.47	36	2	35.34	68.6%
D	3.897	0.340	10	8.7	11.51	24	1	15.71	73.3%
E	0.375	0.850	10	8.7	2.77	18	1	8.84	31.3%
G	1.182	0.558	10	8.7	5.73	18	1	8.84	64.8%
H	2.521	0.532	10	8.7	11.65	18	2	8.84	74.2%
J	2.916	0.336	10	8.7	8.51	24	1	15.71	54.2%
K	2.620	0.392	10	8.7	8.92	24	1	15.71	56.8%
L	10.723	0.357	10	8.7	33.27	24	3	15.71	70.6%
M	0.369	0.682	10	8.7	2.19	18	1	8.84	24.7%
N	30.559	0.291	14	7.7	68.47	36	2	35.34	96.9%
P	41.264	0.299	17	7.2	88.22	36	3	35.34	83.2%
R	19.774	0.250	13	7.8	38.61	24	3	15.71	81.9%
S	9.837	0.270	10	8.7	23.08	24	2	15.71	73.5%
T	1.070	0.620	10	8.7	5.76	18	2	8.84	65.2%
U	3.288	0.402	10	8.7	11.49	18	2	15.71	73.1%
V	33.655	0.254	17	7.2	61.12	36	2	35.34	86.5%
W	13.113	0.307	10	8.7	34.98			15.71	74.2%

30 Apr 2002

REVISED: 4/25/03 – AS BUILTS
1. CHANGED FROM (1) 24" TO (2) 18" PIPES
2. CHANGED FROM (1) 18" TO (2) 18" PIPES
3. CHANGED FROM (1) 24" TO (2) 18" PIPES
4. TOOK OUT PIPES REROUTED DITCH.

MONTGOMERY COUNTY ENGINEER

COUNTY ENGINEER: MARK J. MOONEY, P.E.

DATE: 4/30/02

POWERS ENGINEERING
3706 W. DAVIS - CONROE, TEXAS 77304

DRAINAGE PLAN

CROWN OAKS
SECTION THREE

SCALE
—PLAN VIEW—
1" = 300'

SHEET 2 OF 23