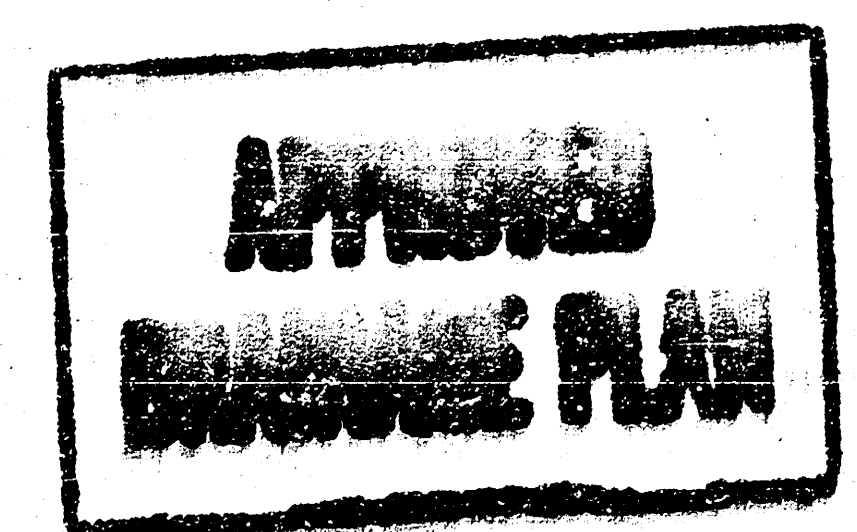
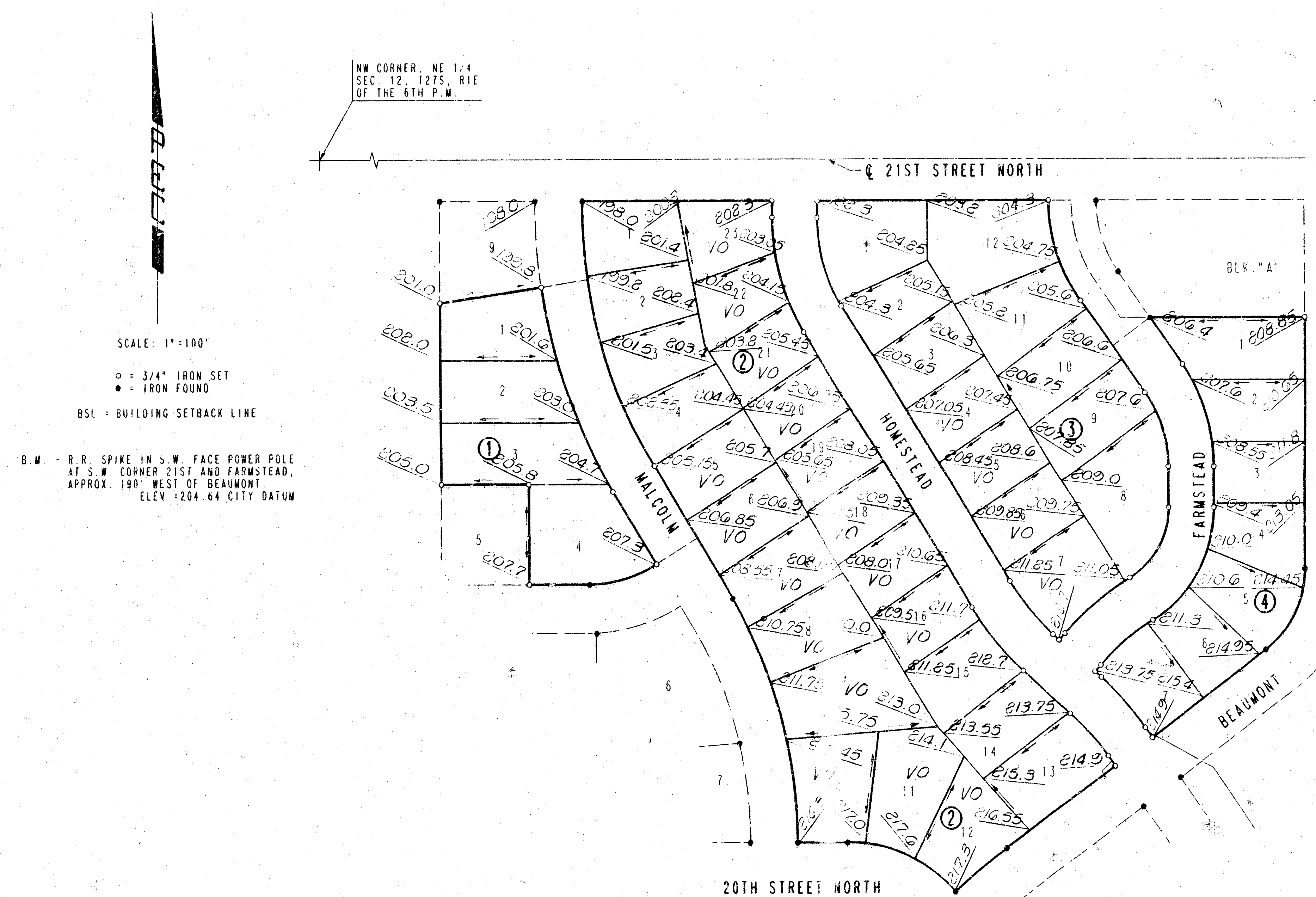


FOURTH ADDITION TO CRESTVIEW HEIGHTS TO WICHITA, SEDGWICK COUNTY, KANSAS



LEGEND

- Drainage Basin Boundary
- Drainage Direction Major Storm
- Drainage Direction Minor Storm
- Prop. Storm Water Sewer & Manhole
- Street Grade
- ③ Basin Designation
- ② Storm Sewer Node No.
- Exist. Storm Water Sewer & Manhole
- V.G. Valley Gutter
- Prop. Elev.

DRAINAGE PLAN 3-15-93

FOURTH ADDITION TO CRESTVIEW HEIGHTS

OWNER : SOCORA VILLAGE COMPANY
% LARRY A. CHAMBERS, PRESIDENT
104 S. BROADWAY, SUITE 200
WICHITA, KANSAS 67202-4165

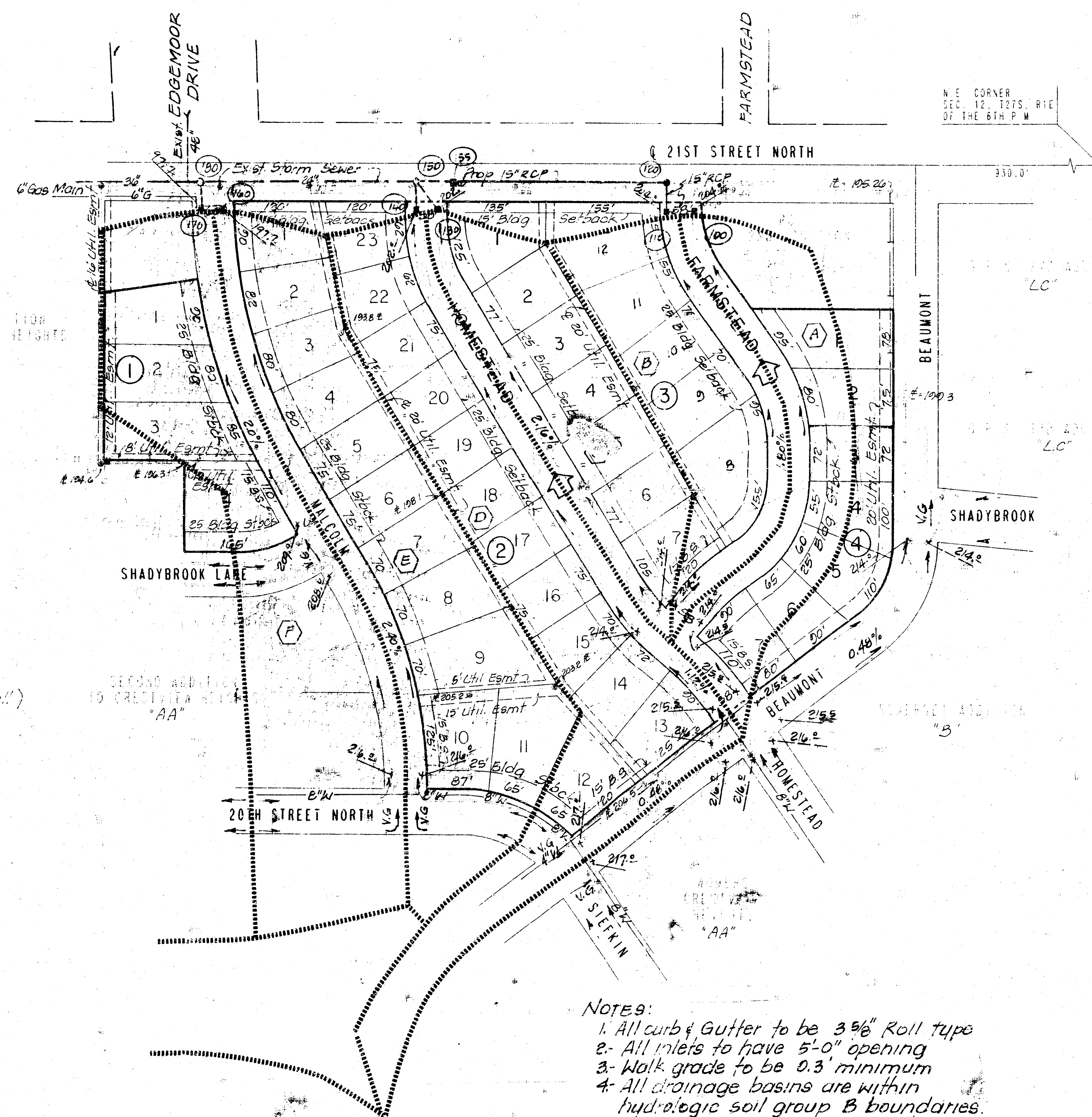
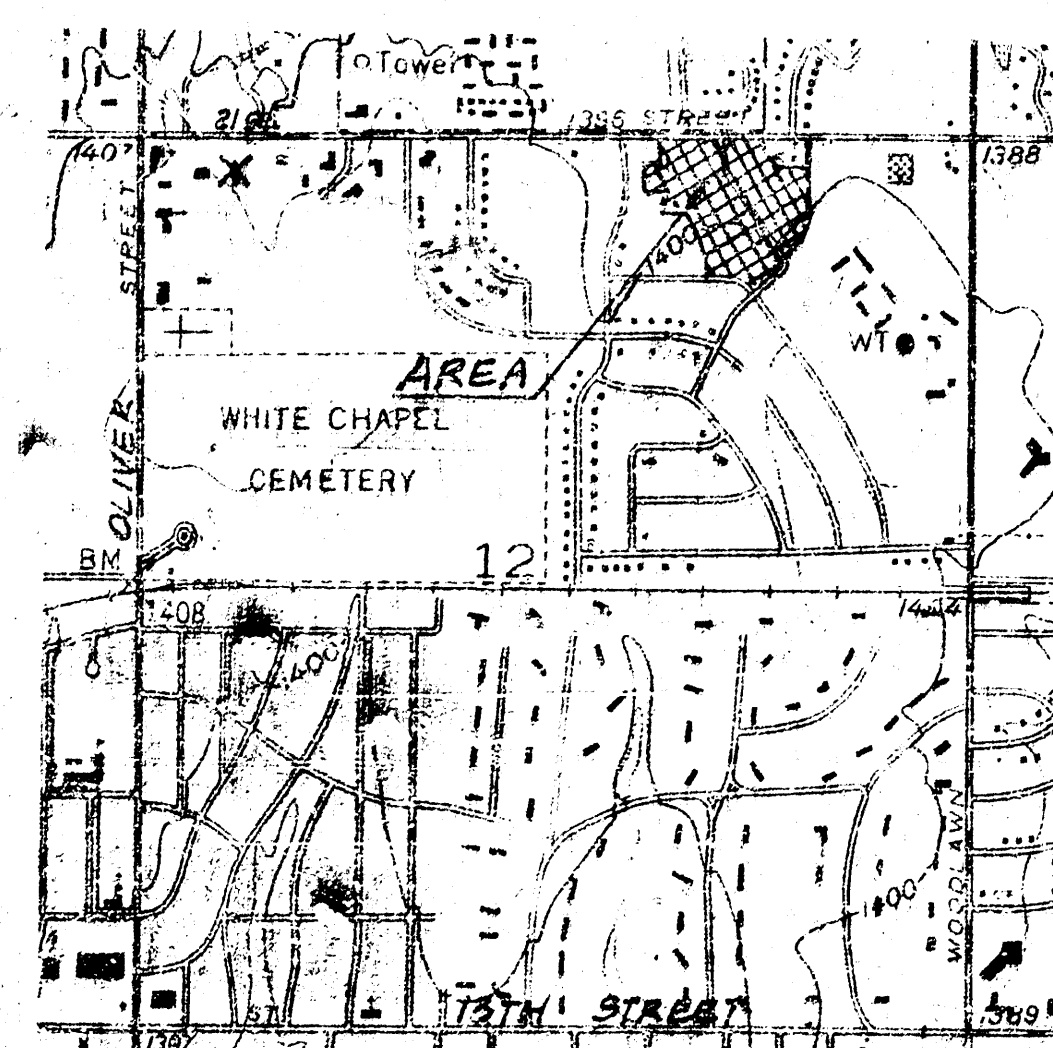
ENGINEER: PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 S. TOPEKA
WICHITA, KANSAS 67202

City B.M. Disc at N.E. Cor. retaining wall
at S.W. Cor. of Woodlawn & 21st Street No.
Elev. = 203.95 City Datum.

SCALE: 1"=100'
Feb. 1993

B.W. - R.R. SPIKE IN S.W. FACE POWER POLE
AT S.W. CORNER 21ST AND FARMSTEAD,
APPROX. 190' WEST OF BEAUMONT
ELEV. = 204.64 CITY DATUM
Topo - Feb. 1993

- Notes:
- 1- 12KV 34, 4wire aerial Power Line
East-West on South side 21st Street (K.G. & E.)
 - 2- Underground East-West Telephone
Line on South side 21st Street (S. Western Bell)
 - 3- 12" H.P. Gas Main East-West on
South side 21st St. (Gas Service.)



HYDROLOGY

RI = 2

RAINFALL INTENSITY

a = 57.46 b = 0.82 b = 12.2

HYDRO-35 IDF FORMULA

NO.	AREA (ACRES)	LEN	WIMP	WLM	CN	ADJ	S	LAG	F1	Fh	Tc	i	RI	C	Q	
A	1.67	700	1.40	38	100	75	75	3.33	0.21	0.79	0.46	15	3.83	2	0.33	2.1
B	1.83	620	1.40	38	100	75	75	3.33	0.19	0.79	0.46	15	3.83	2	0.33	2.3
C	1.79	615	1.40	38	100	75	75	3.33	0.17	0.79	0.46	15	3.83	2	0.33	2.3
D	3.94	1450	2.10	38	100	75	75	3.33	0.34	0.79	0.46	15	3.83	2	0.33	5.0
E	3.75	970	2.10	38	100	75	75	3.33	0.24	0.79	0.46	15	3.83	2	0.33	4.8
F	3.87	1005	2.10	38	100	75	75	3.33	0.25	0.79	0.46	15	3.83	2	0.33	5.0

RI = 100

RAINFALL INTENSITY

a = 51.66 b = 0.66 b = 10

HYDRO-35 IDF FORMULA

NO.	AREA (ACRES)	LEN	WIMP	WLM	CN	ADJ	S	LAG	F1	Fh	Tc	i	RI	C	Q	
A	1.67	700	1.40	38	100	75	75	3.33	0.21	0.79	0.46	15	7.37	100	0.49	6.0
B	1.83	620	1.40	38	100	75	75	3.33	0.19	0.79	0.46	15	7.37	100	0.49	6.5
C	1.79	615	1.40	38	100	75	75	3.33	0.17	0.79	0.46	15	7.37	100	0.49	6.4
D	3.94	1450	2.10	38	100	75	75	3.33	0.34	0.79	0.46	15	7.37	100	0.49	14.2
E	3.75	970	2.10	38	100	75	75	3.33	0.24	0.79	0.46	15	7.37	100	0.49	13.5
F	3.87	1005	2.10	38	100	75	75	3.33	0.25	0.79	0.46	15	7.37	100	0.49	13.9

FLOODED INLET MANHOLE USING ROLL TYPE (3) COMBINED CURB & GUTTER

2-YEAR STORM : 1" TYPE 1A INLET - Q MAX. = 8.9 cfs
100-YEAR STORM : 1" TYPE 1A INLET - Q MAX. = 18.0 cfs

EQUATION : ALLOWABLE Q = 0.56(2/n)(1/2)d^(8/3)

n = Reciprocal of pavement cross-slope
n = Roughness coefficient
S = Longitudinal pavement slope (ft./ft.)
d = Maximum allowable depth (above)

NODE	TOWN	AMOUNT	FROM	2-YEAR	100-YEAR	Q (cfs)	Q (cfs)	z	n	S	ALLOWABLE	ALLOWABLE
				Q (cfs)	Q (cfs)						2-YEAR	100-YEAR
100	10th S	4.3		6.0	32	0.016	0.0180				6.1	38.5
110	10th S	4.3		6.5	32	0.016	0.0180				6.1	38.5
130	10th S	4.3		6.4	32	0.016	0.0216				6.6	42.2
140	10th S	5.0		14.2	32	0.016	0.0216				6.6	42.2
160	10th S	4.8		13.5	32	0.016	0.0200				6.4	40.6
170	10th S	5.0		13.9	32	0.016	0.0200				6.4	40.6

REQUIRED INLET LENGTHS FOR THE 2-YEAR STORM

2-YEAR STORM : 5' TYPE 1A INLET - Q MAX. = 8.9 cfs
10' TYPE 1A INLET - Q MAX. = 18.0 cfs

INLET	INLET	Q	LENGTH
NUMBER	CONDITION	(cfs)	(ft.)
100	SUMP	2.1	5
110	SUMP	2.3	5
130	SUMP	2.3	5
140	SUMP	5.0	5
160	SUMP	4.8	5
170	SUMP	5.0	5