TOWNE PARC ADDN: DETENTION POND @ S.W. CORNER

By CB Date 1/12/89 Page / Of

BAUGHMAN COMPANY, P.A.

Soil Conditions: From SCS "Soil Survey of Sedgwick County, KS" The Major Soil Type = Hydrological Group "D".

Existing Drainage Basin to Inlet on AFB.

Area = 22.2 Acres

T_c (Kerby - Hathaway) = $0.8262\, L^{0.47}\, n^{0.47}\, s^{-0.235}$

L = 1500 feet
Top Elev = 215
Bott. Elev = 200 (@ Inlet)

Avg. Slope (Overland) = 1.5% = 0.015

n = Overland Flo Roughness factor

n = 0.4 Avg. Grass Cover n = 0.2 Poor Grass Cover

For a Crop of Wheat; use Avg. Value of 0.3 = n

$\therefore T_c = 0.6262\,(1500')^{0.47}\,(0.3)^{0.47}\,(0.015)^{-0.235}$

T_c = 39.1 Min; Use T_c = 39 minutes

For Undeveloped Peak Flo's: Use Rational Equ:

$Q = CiA$

C factors: From City of Wichita Drng. Policy

Existing Cond. of Small grain row crops; Type D soil, slope = 1 - 4%

C_2 = 0.30

C_5 = 0.35

C_{100} = 0.65

T_c = 39 min → From C. of Wichita Drng policy:

i_2 = 2.28"/hr
i_5 = 2.8"/hr
i_{100} = 4.73"/hr

} @ T_c = 39 min Duration

Existing Condition: (See printout) CN = 84

$Q_2 = (22.2 Ac)(2.28"/hr)(0.30) = 15.2$ cfs

$Q_5 = (22.2 Ac)(2.80"/hr)(0.35) = 21.8$ cfs

$Q_{100} = (22.2 Ac)(4.73"/hr)(0.65) = 68.3$ cfs

Improved Condition

Area = 20 Ac (Includes 610' x 190' South of Plat)
Type D soil
Length = 1550 feet
Avg slope = 1.5%

Check Tc = (Kirpich Method for Channel Flo)

$Tc = 0.00781\ L^{0.77}\ S^{-0.385}$

Note: Use slope of 1.0% for Assumed Street Slope.

$Tc = 0.00781\ (1550)^{0.77}\ (0.01)^{-0.385}$

Tc = 13.2 Minutes

Use Tc = 13 min for Analysis:

$i_2 = 4.08$"/hr $C_2 = 0.57$

$i_5 = 5.53$"/hr $C_5 = 0.61$

$i_{100} = 7.79$"/hr $C_{100} = 0.79$

} 1/8 Ac. lots from C of W Drg. Policy

Improved Condition:

$Q_2 = (20.0 Ac)(4.08"/hr)(0.57) = 46.5$ cfs

$Q_5 = (20.0 Ac)(5.53"/hr)(0.61) = 67.5$ cfs

$Q_{100} = (20.0 Ac)(7.79"/hr)(0.79) = 123.1$ cfs

TOWNE PARC ADDN.

3

By CB Date 11/2/89 Page Of

BAUGHMAN COMPANY, P.A.

DETENTION POND REQUIRED: Design Pond to limit outflow to the Existing Condition, 5yr Runoff = 21.8 cfs.

Detention Pond Parameters:

Design Storm: 100yr - 24 hr storm
Total Reinfall = 7.6"
(TR-55 - SCS)

For Improved Condition, Use Kinematic Wave option in HEC-1 Program.

Input Parameters

Area = 20.0 Ac = 0.0312 sq miles
SCS Curve Number: 92 (1/8 Ac lots, Type D soil)

Kinematic Wave Information:

LK Card: Length = 130 feet
Slope = 0.02 ft/ft
Rough. Coeff = 0.25 (Hec Manual)
% Area = 100

LK 150 0.02 0.25 100

RK Card: L = 1550'
Slope = 0.01
N = 0.013 (street)
CA = 0.0267
TRAP
WD = 10 feet (Cb. flo Each Side)
Z = 1
NO

RK 1550 0.01 0.013 0.0267 TRAP 10 1 NO

Initial HEC-1 Run:

Peak Runoff = 42 cfs

Total Volume of Runoff = 11 Ac.ft.

TOWNE PARC ADDN

By CB Date 1/17/89 Page 4 Of

BAUGHMAN COMPANY, P.A.

Try Pond 280' x 100' surf. Area.
Bottom = 198 Elev.
Top = 205 (3:1 side slopes)

(see P. 4 Do not use)

Elev =	S.A =	
205	28,000 ft²	0.642 Ac
204	25,972	0.596 Ac
203	23,944	0.550 Ac
202	21,916	0.503 Ac
201	19,888	0.457 Ac
200	17,860	0.410 Ac
199	15,832	0.363 Ac
198	13,804 ft²	0.317 Ac.

Outlet Pipe
Try 21" CMP *

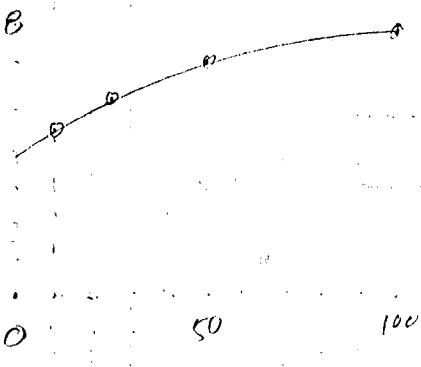
Depth	Hw/D	Q(cfs)	Elevs
0	—		198
1	0.57	3.5	199
2	1.14	10	200
3	1.71	14.5	201
4	2.29	19	202
5	2.86	20	203
6	3.43	24	204
7	4.0	26	205

* "Hydraulic Charts for the Selection of Highway Culverts"
U.S. Dept. of Trans.

HEC-1 Route

RS 1 Elev 198 ϕ
SQ } → SE Records
SA }

Result Peak Flo = 27 cfs
Peak Stg = 205.3
} Bigger Pond



TOWNE PARC ADDN.

By CB Date 1/19/89 Page 5 Of

BAUGHMAN COMPANY, P.A.

Try Pond 300 x 120 Top S.A.

USG

Bottom Elev = 198
Top = 205 (3:1 S.S.)

Elev		SA =	
	205	36,000 ft²	0.826 Ac
	204	33,732	0.774 Ac
	203	31464	0.722 Ac
	202	29,196	0.670 Ac
	201	26928	0.618 Ac
	200	24,660	0.566 Ac
	199	22,392	0.514 Ac
	198	SA = 20,124 ft²	0.462 Ac

Results: Peak Flo Out = 25 cfs
Max Stage = 204.4

For Preliminary Design:

Pond: Surface Area = 36,000 ft²
Depth = 7.5'
Bottom 198 Elev
Top 205.5 Elev (includes 1 ft. freeboard)
Side Slope = 3:1

(Raised all elev's 0.2')

TOWNE PARC ADDITION

By CB Date 11/17/89 Page 6 Of

BAUGHMAN COMPANY, P.A.

Summary

Rational Equation:

Existg. Peak	Developed Peak
Q_2 = 15.2 cfs	Q_2 = 46.5 cfs
Q_5 = 21.8 cfs	Q_5 = 67.5 cfs
Q_{100} = 68.3 cfs	Q_{100} = 123.1 cfs
(Area = 22.2 Ac)	(Area = 20 Ac)

For Detention Design (100yr-24hr. storm)

Developed Condition:

Peak flo = 42 cfs

Pond = 36,000 ft² surface Area. (300x120')
3:1 side slopes
Bottom Elev = 198 Elev
Top Elev = 205.5
M24 stage = 204.4
M24 flo Out = 26 cfs

Overflow channel @ Cul de Sac (S. of Towne Parc 3rd)

Q = 240 cfs use Manning equation

Try slope = 0.6%, [btm. = 15', 4:1 slopes], n = 0.030

y = 0.6' A = 10.44 sf WP = 19.95' r = 0.523 $r^{2/3}$ = 0.648

$$V = \frac{1.486(0.648)(0.077)}{0.030} = 2.49 \text{ fps}$$

Q = 26.0 cfs ok

1 ****

FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1.1985
U.S. ARMY CORPS OF ENGINEERS. THE HYDROLOGIC ENGINEERING CENTER. 609 SECOND STREET. DAVIS. CA. 95616
****

THIS HEC-1 VERSION CONTAINS ALL OPTIONS EXCEPT ECONOMICS. AND THE NUMBER OF PLANS ARE REDUCED TO 3

1 HEC-1 INPUT PAGE 1

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          LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

*** FREE ***
              1         ID   EXISTING CONDITION - TOWNE PARC FUTURE ADDITION
              2         ID    100 YR - 24 HR. STORM
              3         ID
              4         IT      10       0       0     145

              5         KK  TRIB-1
              6         KM   COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
              7         KM   AT THE S.W. CORNER OF THE ADDITION
              8         PB       0
              9         IN      60
             10         PC    0.00  0.0585  0.1287   0.126   0.312   0.419   0.566   0.712   0.858   1.053
             11         PC   1.297   1.641   3.705   5.811   6.201   6.503   6.747   6.937   7.108   7.250
             12         PC   7.371   7.487   7.600   7.703   7.800
             13         BA  0.0347
             14         LS       0      84       0
             15         UD    0.45
             16         ZZ
```

1 ****

EXISTING CONDITION - TOWNE PARC FUTURE ADDITION
100 YR - 24 HR. STORM

IT HYDROGRAPH TIME DATA

NMIN		10	MINUTES IN COMPUTATION INTERVAL
IDATE	1	0	STARTING DATE
ITIME		0000	STARTING TIME
NQ		145	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2	0	ENDING DATE
NDTIME		0000	ENDING TIME

COMPUTATION INTERVAL .17 HOURS
TOTAL TIME BASE 24.00 HOURS

ENGLISH UNITS

*** ***

****
* *
5 KK * TRIB-1 *
* *
****

COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
AT THE S.W. CORNER OF THE ADDITION

9 IN TIME DATA FOR INPUT TIME SERIES

JXMIN		60	TIME INTERVAL IN MINUTES
JXDATE	1	0	STARTING DATE
JXTIME		0	STARTING TIME

SUBBASIN RUNOFF DATA

13 BA SUBBASIN CHARACTERISTICS

TAREA	.03	SUBBASIN AREA

PRECIPITATION DATA

8 PB STORM 7.80 BASIN TOTAL PRECIPITATION

10 PI INCREMENTAL PRECIPITATION PATTERN

.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.00	.00	.00	.00	.00	.00	.03	.03
.03	.03	.03	.03	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.03	.03
.03	.03	.03	.03	.04	.04	.04	.04	.04	.04
.06	.06	.06	.06	.06	.06	.34	.34	.34	.34
.34	.34	.35	.35	.35	.35	.35	.35	.07	.07
.07	.07	.07	.07	.05	.05	.05	.05	.05	.05
.04	.04	.04	.04	.04	.04	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02						

14 LS SCS LOSS RATE

STRTL	.38	INITIAL ABSTRACTION
CRVNBR	84.00	CURVE NUMBER
RTIMP	.00	PERCENT IMPERVIOUS AREA

15 UD SCS DIMENSIONLESS UNITGRAPH

TLAG	.45	LAG

***

WARNING *** TIME INTERVAL IS GREATER THAN .29*LAG

UNIT HYDROGRAPH
15 END-OF-PERIOD ORDINATES

6.	22.	31.	28.	19.	11.	7.	4.	2.	1.
1.	1.	0.	0.	0.					

****

HYDROGRAPH AT STATION TRIB-1

DA	MON	HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q
1		0000	1	.00	.00	.00	0.
1		0010	2	.01	.01	.00	0.
1		0020	3	.01	.01	.00	0.
1		0030	4	.01	.01	.00	0.
1		0040	5	.01	.01	.00	0.
1		0050	6	.01	.01	.00	0.
1		0100	7	.01	.01	.00	0.
1		0110	8	.01	.01	.00	0.
1		0120	9	.01	.01	.00	0.
1		0130	10	.01	.01	.00	0.
1		0140	11	.01	.01	.00	0.
1		0150	12	.01	.01	.00	0.
1		0200	13	.01	.01	.00	0.
1		0210	14	.00	.00	.00	0.
1		0220	15	.00	.00	.00	0.
1		0230	16	.00	.00	.00	0.
1		0240	17	.00	.00	.00	0.
1		0250	18	.00	.00	.00	0.
1		0300	19	.00	.00	.00	0.
1		0310	20	.03	.03	.00	0.
1		0320	21	.03	.03	.00	0.
1		0330	22	.03	.03	.00	0.
1		0340	23	.03	.03	.00	0.
1		0350	24	.03	.03	.00	0.
1		0400	25	.03	.03	.00	0.
1		0410	26	.02	.02	.00	0.
1		0420	27	.02	.02	.00	0.
1		0430	28	.02	.02	.00	0.
1		0440	29	.02	.02	.00	0.
1		0450	30	.02	.02	.00	0.
1		0500	31	.02	.02	.00	0.
1		0510	32	.02	.02	.00	0.
1		0520	33	.02	.02	.00	0.
1		0530	34	.02	.02	.00	0.
1		0540	35	.02	.02	.00	0.
1		0550	36	.02	.02	.00	0.
1		0600	37	.02	.02	.00	0.
1		0610	38	.02	.02	.00	0.
1		0620	39	.02	.02	.00	0.
1		0630	40	.02	.02	.01	1.
1		0640	41	.02	.02	.01	1.
1		0650	42	.02	.02	.01	1.
1		0700	43	.02	.02	.01	1.
1		0710	44	.02	.02	.01	1.
1		0720	45	.02	.02	.01	1.
1		0730	46	.02	.02	.01	1.
1		0740	47	.02	.02	.01	1.
1		0750	48	.02	.02	.01	1.
1		0800	49	.02	.02	.01	1.
1		0810	50	.03	.02	.01	1.
1		0820	51	.03	.02	.01	1.
1		0830	52	.03	.02	.01	1.
1		0840	53	.03	.02	.01	1.
1		0850	54	.03	.02	.01	2.
1		0900	55	.03	.02	.01	2.
1		0910	56	.04	.02	.02	2.
1		0920	57	.04	.02	.02	2.
1		0930	58	.04	.02	.02	2.
1		0940	59	.04	.02	.02	2.
1		0950	60	.04	.02	.02	3.
1		1000	61	.04	.02	.02	3.
1		1010	62	.06	.03	.03	3.
1		1020	63	.06	.02	.03	3.
1		1030	64	.06	.02	.03	3.
1		1040	65	.06	.02	.03	4.
1		1050	66	.06	.02	.04	4.
1		1100	67	.06	.02	.04	4.
1		1110	68	.34	.11	.23	6.
1		1120	69	.34	.09	.25	10.
1		1130	70	.34	.08	.27	17.
1		1140	71	.34	.07	.28	24.
1		1150	72	.34	.06	.29	29.
1		1200	73	.34	.05	.30	32.
1		1210	74	.35	.04	.31	35.
1		1220	75	.35	.04	.31	37.
1		1230	76	.35	.03	.32	39.
1		1240	77	.35	.03	.32	40.
1		1250	78	.35	.03	.32	41.
1		1300	79	.35	.02	.33	42.
1		1310	80	.07	.00	.06	41.
1		1320	81	.07	.00	.06	36.
1		1330	82	.07	.00	.06	28.
1		1340	83	.07	.00	.06	20.
1		1350	84	.07	.00	.06	15.
1		1400	85	.07	.00	.06	12.
1		1410	86	.05	.00	.05	11.
1		1420	87	.05	.00	.05	9.
1		1430	88	.05	.00	.05	8.
1		1440	89	.05	.00	.05	8.
1		1450	90	.05	.00	.05	7.
1		1500	91	.05	.00	.05	7.
1		1510	92	.04	.00	.04	7.
1		1520	93	.04	.00	.04	6.
1		1530	94	.04	.00	.04	6.
1		1540	95	.04	.00	.04	6.
1		1550	96	.04	.00	.04	5.
1		1600	97	.04	.00	.04	5.
1		1610	98	.03	.00	.03	5.
1		1620	99	.03	.00	.03	5.
1		1630	100	.03	.00	.03	5.
1		1640	101	.03	.00	.03	4.
1		1650	102	.03	.00	.03	4.
1		1700	103	.03	.00	.03	4.
1		1710	104	.03	.00	.03	4.
1		1720	105	.03	.00	.03	4.
1		1730	106	.03	.00	.03	4.
1		1740	107	.03	.00	.03	4.
1		1750	108	.03	.00	.03	4.
1		1800	109	.03	.00	.03	4.
1		1810	110	.02	.00	.02	4.
1		1820	111	.02	.00	.02	4.
1		1830	112	.02	.00	.02	3.
1		1840	113	.02	.00	.02	3.
1		1850	114	.02	.00	.02	3.
1		1900	115	.02	.00	.02	3.
1		1910	116	.02	.00	.02	3.
1		1920	117	.02	.00	.02	3.
1		1930	118	.02	.00	.02	3.
1		1940	119	.02	.00	.02	3.
1		1950	120	.02	.00	.02	3.
1		2000	121	.02	.00	.02	3.
1		2010	122	.02	.00	.02	3.
1		2020	123	.02	.00	.02	3.
1		2030	124	.02	.00	.02	3.
1		2040	125	.02	.00	.02	3.
1		2050	126	.02	.00	.02	3.
1		2100	127	.02	.00	.02	2.
1		2110	128	.02	.00	.02	2.
1		2120	129	.02	.00	.02	2.
1		2130	130	.02	.00	.02	2.
1		2140	131	.02	.00	.02	2.
1		2150	132	.02	.00	.02	2.
1		2200	133	.02	.00	.02	2.
1		2210	134	.02	.00	.02	2.
1		2220	135	.02	.00	.02	2.
1		2230	136	.02	.00	.02	2.
1		2240	137	.02	.00	.02	2.
1		2250	138	.02	.00	.02	2.
1		2300	139	.02	.00	.02	2.
1		2310	140	.02	.00	.02	2.
1		2320	141	.02	.00	.02	2.
1		2330	142	.02	.00	.02	2.
1		2340	143	.02	.00	.02	2.
1		2350	144	.02	.00	.02	2.
2		0000	145	.02	.00	.02	2.

TOTAL RAINFALL = 7.80. TOTAL LOSS = 1.89. TOTAL EXCESS = 5.91

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.00-HR
+ (CFS)	(HR)				
		(CFS)			
+ 42.	13.00	17.	5.	5.	5.

CUMULATIVE AREA = .03 SQ MI

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS. AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+					6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT	TRIB-1	42.	13.00	17.	5.	5.	.03		

*** NORMAL END OF HEC-1 ***

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                                              ****
                         FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1.1985
            U.S. ARMY CORPS OF ENGINEERS. THE HYDROLOGIC ENGINEERING CENTER. 609 SECOND STREET. DAVIS. CA. 95616
                                              ****



           THIS HEC-1 VERSION CONTAINS ALL OPTIONS EXCEPT ECONOMICS. AND THE NUMBER OF PLANS ARE REDUCED TO 3


1                                           HEC-1 INPUT                                                 PAGE  1

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

*** FREE ***
           1           ID  IMPROVED CONDITION - TOWNE PARC FUTURE ADDITION
           2           ID  100 YR - 24 HR. STORM
           3           ID
           4           IT      10       0       0     145

           5           KK  TRIB-1
           6           KM  COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
           7           KM  AT THE S.W. CORNER OF THE ADDITION (IMPROVED)
           8           PB       0
           9           IN      60
          10           PC    0.00  0.0585  0.1287   0.126   0.312   0.419   0.566   0.712   0.858   1.053
          11           PC   1.297   1.641   3.705   5.811   6.201   6.503   6.747   6.937   7.108   7.250
          12           PC   7.371   7.487   7.600   7.703   7.800
          13           BA  0.0312
          14           LS       0      92       0
          15           UK     150    0.02    0.25     100
          16           RK    1550    0.01   0.013  0.0267    TRAP      10       1      NO

          17           KK    POND
          18           RS       1    ELEV     198       0
          19           SA    .462    .514    .566    .618    .670    .722    .774    .826
          20           SE     198     199     200     201     202     203     204     205
          21           SQ       0     3.5      10    14.5      19      20      24      26
          22           SE     198     199     200     201     202     203     204     205
          23           ZZ
1                                             ****
                         FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1.1985
            U.S. ARMY CORPS OF ENGINEERS. THE HYDROLOGIC ENGINEERING CENTER. 609 SECOND STREET. DAVIS. CA. 95616
                                              ****



                        IMPROVED CONDITION - TOWNE PARC FUTURE ADDITION
                        100 YR - 24 HR. STORM


   IT          HYDROGRAPH TIME DATA
                     NMIN          10  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1    0  STARTING DATE
                    ITIME        0000  STARTING TIME
                       NQ         145  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      2    0  ENDING DATE
                   NDTIME        0000  ENDING TIME

             COMPUTATION INTERVAL     .17 HOURS
                  TOTAL TIME BASE   24.00 HOURS

        ENGLISH UNITS


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


           **************
           *            *
   5 KK    *   TRIB-1   *
           *            *
```

COMPUTING RUNOFF HYDROGRAPH FOR THE AREA
AT THE S.W. CORNER OF THE ADDITION (IMPROVED)

9 IN — TIME DATA FOR INPUT TIME SERIES

JXMIN	60	TIME INTERVAL IN MINUTES
JXDATE	1 0	STARTING DATE
JXTIME	0	STARTING TIME

SUBBASIN RUNOFF DATA

13 BA — SUBBASIN CHARACTERISTICS

TAREA	.03	SUBBASIN AREA

PRECIPITATION DATA

8 PB

STORM	7.80	BASIN TOTAL PRECIPITATION

10 PI — INCREMENTAL PRECIPITATION PATTERN

.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.00	.00	.00	.00	.00	.00	.03	.03
.03	.03	.03	.03	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.03	.03
.03	.03	.03	.03	.04	.04	.04	.04	.04	.04
.06	.06	.06	.06	.06	.06	.34	.34	.34	.34
.34	.34	.35	.35	.35	.35	.35	.35	.07	.07
.07	.07	.07	.07	.05	.05	.05	.05	.05	.05
.04	.04	.04	.04	.04	.04	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02						

14 LS — SCS LOSS RATE

STRTL	.17	INITIAL ABSTRACTION
CRVNBR	92.00	CURVE NUMBER
RTIMP	.00	PERCENT IMPERVIOUS AREA

KINEMATIC WAVE

15 UK — OVERLAND-FLOW ELEMENT NO. 1

L	150.	OVERLAND FLOW LENGTH
S	.0200	SLOPE
N	.250	ROUGHNESS COEFFICIENT
PA	100.0	PERCENT OF SUBBASIN

16 RK — MAIN CHANNEL

L	1550.	CHANNEL LENGTH
S	.0100	SLOPE
N	.013	CHANNEL ROUGHNESS COEFFICIENT
CA	.03	CONTRIBUTING AREA
SHAPE	TRAP	CHANNEL SHAPE
WD	10.00	BOTTOM WIDTH OR DIAMETER
Z	1.00	SIDE SLOPE
RUPSTQ	NO	ROUTE UPSTREAM HYDROGRAPH

***

COMPUTED KINEMATIC PARAMETERS

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)
1	.8429	1.667	10.00	75.00
3	3.0869	1.479	10.00	775.00

HYDROGRAPH AT STATION TRIB-1

DA	MON	HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q	DA	MON	HRMN	ORD	RAIN	LOSS	EXCESS	COMP Q
1		0000	1	.00	.00	.00	0.	1		1210	74	.35	.01	.34	40.
1		0010	2	.01	.01	.00	0.	1		1220	75	.35	.01	.34	40.
1		0020	3	.01	.01	.00	0.	1		1230	76	.35	.01	.34	41.
1		0030	4	.01	.01	.00	0.	1		1240	77	.35	.01	.34	41.
1		0040	5	.01	.01	.00	0.	1		1250	78	.35	.01	.34	41.
1		0050	6	.01	.01	.00	0.	1		1300	79	.35	.01	.34	41.
1		0100	7	.01	.01	.00	0.	1		1310	80	.07	.00	.06	42.
1		0110	8	.01	.01	.00	0.	1		1320	81	.07	.00	.06	26.
1		0120	9	.01	.01	.00	0.	1		1330	82	.07	.00	.06	8.
1		0130	10	.01	.01	.00	0.	1		1340	83	.07	.00	.06	7.
1		0140	11	.01	.01	.00	0.	1		1350	84	.07	.00	.06	7.
1		0150	12	.01	.01	.00	0.	1		1400	85	.07	.00	.06	8.
1		0200	13	.01	.01	.00	0.	1		1410	86	.05	.00	.05	8.
1		0210	14	.00	.00	.00	0.	1		1420	87	.05	.00	.05	7.
1		0220	15	.00	.00	.00	0.	1		1430	88	.05	.00	.05	6.
1		0230	16	.00	.00	.00	0.	1		1440	89	.05	.00	.05	6.

1	0250	18	.00	.00	.00	0.	*	1	1500	91	.03	.00	.03	8.
1	0300	19	.00	.00	.00	0.	*	1	1510	92	.04	.00	.04	6.
1	0310	20	.03	.03	.00	0.	*	1	1520	93	.04	.00	.04	5.
1	0320	21	.03	.03	.00	0.	*	1	1530	94	.04	.00	.04	5.
1	0330	22	.03	.03	.00	0.	*	1	1540	95	.04	.00	.04	5.
1	0340	23	.03	.03	.00	0.	*	1	1550	96	.04	.00	.04	5.
1	0350	24	.03	.03	.01	0.	*	1	1600	97	.04	.00	.04	5.
1	0400	25	.03	.02	.01	0.	*	1	1610	98	.03	.00	.03	5.
1	0410	26	.02	.01	.00	0.	*	1	1620	99	.03	.00	.03	4.
1	0420	27	.02	.01	.01	0.	*	1	1630	100	.03	.00	.03	4.
1	0430	28	.02	.01	.01	0.	*	1	1640	101	.03	.00	.03	4.
1	0440	29	.02	.01	.01	0.	*	1	1650	102	.03	.00	.03	4.
1	0450	30	.02	.01	.01	0.	*	1	1700	103	.03	.00	.03	4.
1	0500	31	.02	.01	.01	0.	*	1	1710	104	.03	.00	.03	4.
1	0510	32	.02	.01	.01	0.	*	1	1720	105	.03	.00	.03	4.
1	0520	33	.02	.01	.01	1.	*	1	1730	106	.03	.00	.03	3.
1	0530	34	.02	.01	.01	1.	*	1	1740	107	.03	.00	.03	3.
1	0540	35	.02	.01	.01	1.	*	1	1750	108	.03	.00	.03	3.
1	0550	36	.02	.01	.01	1.	*	1	1800	109	.03	.00	.03	3.
1	0600	37	.02	.01	.01	1.	*	1	1810	110	.02	.00	.02	3.
1	0610	38	.02	.01	.01	1.	*	1	1820	111	.02	.00	.02	3.
1	0620	39	.02	.01	.01	1.	*	1	1830	112	.02	.00	.02	3.
1	0630	40	.02	.01	.01	1.	*	1	1840	113	.02	.00	.02	3.
1	0640	41	.02	.01	.01	1.	*	1	1850	114	.02	.00	.02	3.
1	0650	42	.02	.01	.01	2.	*	1	1900	115	.02	.00	.02	3.
1	0700	43	.02	.01	.01	2.	*	1	1910	116	.02	.00	.02	3.
1	0710	44	.02	.01	.02	2.	*	1	1920	117	.02	.00	.02	3.
1	0720	45	.02	.01	.02	2.	*	1	1930	118	.02	.00	.02	3.
1	0730	46	.02	.01	.02	2.	*	1	1940	119	.02	.00	.02	2.
1	0740	47	.02	.01	.02	2.	*	1	1950	120	.02	.00	.02	2.
1	0750	48	.02	.01	.02	2.	*	1	2000	121	.02	.00	.02	2.
1	0800	49	.02	.01	.02	2.	*	1	2010	122	.02	.00	.02	2.
1	0810	50	.03	.01	.02	2.	*	1	2020	123	.02	.00	.02	2.
1	0820	51	.03	.01	.02	2.	*	1	2030	124	.02	.00	.02	2.
1	0830	52	.03	.01	.02	2.	*	1	2040	125	.02	.00	.02	2.
1	0840	53	.03	.01	.02	2.	*	1	2050	126	.02	.00	.02	2.
1	0850	54	.03	.01	.02	3.	*	1	2100	127	.02	.00	.02	2.
1	0900	55	.03	.01	.02	3.	*	1	2110	128	.02	.00	.02	2.
1	0910	56	.04	.01	.03	3.	*	1	2120	129	.02	.00	.02	2.
1	0920	57	.04	.01	.03	3.	*	1	2130	130	.02	.00	.02	2.
1	0930	58	.04	.01	.03	3.	*	1	2140	131	.02	.00	.02	2.
1	0940	59	.04	.01	.03	3.	*	1	2150	132	.02	.00	.02	2.
1	0950	60	.04	.01	.03	4.	*	1	2200	133	.02	.00	.02	2.
1	1000	61	.04	.01	.03	4.	*	1	2210	134	.02	.00	.02	2.
1	1010	62	.06	.01	.05	4.	*	1	2220	135	.02	.00	.02	2.
1	1020	63	.06	.01	.05	4.	*	1	2230	136	.02	.00	.02	2.
1	1030	64	.06	.01	.05	5.	*	1	2240	137	.02	.00	.02	2.
1	1040	65	.06	.01	.05	5.	*	1	2250	138	.02	.00	.02	2.
1	1050	66	.06	.01	.05	5.	*	1	2300	139	.02	.00	.02	2.
1	1100	67	.06	.01	.05	6.	*	1	2310	140	.02	.00	.02	2.
1	1110	68	.34	.04	.30	6.	*	1	2320	141	.02	.00	.02	2.
1	1120	69	.34	.03	.31	18.	*	1	2330	142	.02	.00	.02	2.
1	1130	70	.34	.03	.32	36.	*	1	2340	143	.02	.00	.02	2.
1	1140	71	.34	.02	.32	38.	*	1	2350	144	.02	.00	.02	2.
1	1150	72	.34	.02	.33	39.	*	2	0000	145	.02	.00	.02	2.
1	1200	73	.34	.01	.33	39.	*							

****

TOTAL RAINFALL = 7.80. TOTAL LOSS = .95. TOTAL EXCESS = 6.85

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.00-HR
+ (CFS)	(HR)					
		(CFS)				
+ 42.	13.17		17.	6.	6.	6.
		(INCHES)	5.119	6.665	6.665	6.665
		(AC-FT)	9.	11.	11.	11.

CUMULATIVE AREA = .03 SQ MI

*** ***

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          ###############
          #             #
17 KK     #     POND    #
          #             #
          ###############
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HYDROGRAPH ROUTING DATA

18 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES

RSVRIC 198.00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

19 SA	AREA	.5	.5	.6	.6	.7	.7	.8	.8
20 SE	ELEVATION	198.00	199.00	200.00	201.00	202.00	203.00	204.00	205.00
21 SQ	DISCHARGE	0.	4.	10.	15.	19.	20.	24.	26.
22 SE	ELEVATION	198.00	199.00	200.00	201.00	202.00	203.00	204.00	205.00

***

COMPUTED STORAGE-ELEVATION DATA

STORAGE	.00	.49	1.03	1.62	2.26	2.96	3.71	4.51
ELEVATION	198.00	199.00	200.00	201.00	202.00	203.00	204.00	205.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.49	1.03	1.62	2.26	2.96	3.71	4.51
OUTFLOW	.00	3.50	10.00	14.50	19.00	20.00	24.00	26.00
ELEVATION	198.00	199.00	200.00	201.00	202.00	203.00	204.00	205.00

HYDROGRAPH AT STATION POND

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	198.0	1		0810	50	1.	.2	198.4	1		1620	99	11.	1.1	200.2
1		0010	2	0.	.0	198.0	1		0820	51	1.	.2	198.4	1		1630	100	10.	1.1	200.1
1		0020	3	0.	.0	198.0	1		0830	52	1.	.2	198.4	1		1640	101	9.	1.0	199.9
1		0030	4	0.	.0	198.0	1		0840	53	2.	.2	198.4	1		1650	102	9.	.9	199.8
1		0040	5	0.	.0	198.0	1		0850	54	2.	.2	198.5	1		1700	103	8.	.8	199.7
1		0050	6	0.	.0	198.0	1		0900	55	2.	.2	198.5	1		1710	104	7.	.8	199.6
1		0100	7	0.	.0	198.0	1		0910	56	2.	.2	198.5	1		1720	105	7.	.8	199.5
1		0110	8	0.	.0	198.0	1		0920	57	2.	.3	198.5	1		1730	106	6.	.7	199.4
1		0120	9	0.	.0	198.0	1		0930	58	2.	.3	198.6	1		1740	107	6.	.7	199.4
1		0130	10	0.	.0	198.0	1		0940	59	2.	.3	198.6	1		1750	108	5.	.6	199.3
1		0140	11	0.	.0	198.0	1		0950	60	2.	.3	198.6	1		1800	109	5.	.6	199.2
1		0150	12	0.	.0	198.0	1		1000	61	2.	.3	198.7	1		1810	110	5.	.6	199.2
1		0200	13	0.	.0	198.0	1		1010	62	3.	.3	198.7	1		1820	111	5.	.6	199.2
1		0210	14	0.	.0	198.0	1		1020	63	3.	.4	198.8	1		1830	112	4.	.6	199.1
1		0220	15	0.	.0	198.0	1		1030	64	3.	.4	198.8	1		1840	113	4.	.5	199.1
1		0230	16	0.	.0	198.0	1		1040	65	3.	.4	198.9	1		1850	114	4.	.5	199.1
1		0240	17	0.	.0	198.0	1		1050	66	3.	.5	198.9	1		1900	115	4.	.5	199.0
1		0250	18	0.	.0	198.0	1		1100	67	3.	.5	199.0	1		1910	116	4.	.5	199.0
1		0300	19	0.	.0	198.0	1		1110	68	4.	.5	199.0	1		1920	117	3.	.5	199.0
1		0310	20	0.	.0	198.0	1		1120	69	5.	.6	199.2	1		1930	118	3.	.5	199.0
1		0320	21	0.	.0	198.0	1		1130	70	8.	.9	199.7	1		1940	119	3.	.5	199.0
1		0330	22	0.	.0	198.0	1		1140	71	12.	1.3	200.4	1		1950	120	3.	.5	198.9
1		0340	23	0.	.0	198.0	1		1150	72	14.	1.6	201.0	1		2000	121	3.	.4	198.9
1		0350	24	0.	.0	198.0	1		1200	73	17.	1.9	201.5	1		2010	122	3.	.4	198.9
1		0400	25	0.	.0	198.0	1		1210	74	19.	2.2	201.9	1		2020	123	3.	.4	198.9
1		0410	26	0.	.0	198.0	1		1220	75	19.	2.5	202.4	1		2030	124	3.	.4	198.8
1		0420	27	0.	.0	198.0	1		1230	76	20.	2.8	202.8	1		2040	125	3.	.4	198.8
1		0430	28	0.	.0	198.0	1		1240	77	21.	3.1	203.2	1		2050	126	3.	.4	198.8
1		0440	29	0.	.0	198.0	1		1250	78	22.	3.4	203.5	1		2100	127	3.	.4	198.8
1		0450	30	0.	.0	198.0	1		1300	79	24.	3.6	203.9	1		2110	128	3.	.4	198.8
1		0500	31	0.	.0	198.0	1		1310	80	24.	3.9	204.2	1		2120	129	3.	.4	198.8
1		0510	32	0.	.0	198.0	1		1320	81	25.	4.0	204.4	1		2130	130	3.	.4	198.8
1		0520	33	0.	.0	198.0	1		1330	82	24.	3.9	204.2	1		2140	131	3.	.4	198.7
1		0530	34	0.	.0	198.1	1		1340	83	24.	3.7	203.9	1		2150	132	3.	.4	198.7
1		0540	35	0.	.0	198.1	1		1350	84	23.	3.4	203.7	1		2200	133	3.	.4	198.7
1		0550	36	0.	.0	198.1	1		1400	85	22.	3.2	203.4	1		2210	134	3.	.3	198.7
1		0600	37	0.	.1	198.1	1		1410	86	21.	3.1	203.1	1		2220	135	2.	.3	198.7
1		0610	38	0.	.1	198.1	1		1420	87	20.	2.9	202.9	1		2230	136	2.	.3	198.7
1		0620	39	1.	.1	198.2	1		1430	88	20.	2.7	202.6	1		2240	137	2.	.3	198.7
1		0630	40	1.	.1	198.2	1		1440	89	19.	2.5	202.4	1		2250	138	2.	.3	198.7
1		0640	41	1.	.1	198.2	1		1450	90	19.	2.3	202.1	1		2300	139	2.	.3	198.7
1		0650	42	1.	.1	198.2	1		1500	91	18.	2.2	201.8	1		2310	140	2.	.3	198.7
1		0700	43	1.	.1	198.2	1		1510	92	17.	2.0	201.6	1		2320	141	2.	.3	198.7
1		0710	44	1.	.1	198.3	1		1520	93	16.	1.8	201.4	1		2330	142	2.	.3	198.6
1		0720	45	1.	.1	198.3	1		1530	94	15.	1.7	201.1	1		2340	143	2.	.3	198.6
1		0730	46	1.	.1	198.3	1		1540	95	14.	1.6	200.9	1		2350	144	2.	.3	198.6
1		0740	47	1.	.2	198.3	1		1550	96	13.	1.5	200.7	2		0000	145	2.	.3	198.6
1		0750	48	1.	.2	198.3	1		1600	97	12.	1.3	200.5							
1		0800	49	1.	.2	198.4	1		1610	98	12.	1.2	200.4							

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.00-HR
+ (CFS)	(HR)				

		(INCHES)	4.915	6.483	6.483	6.483
		(AC-FT)	8.	11.	11.	11.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.00-HR
+ (AC-FT)	(HR)				
4.	13.33	2.	1.	1.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.00-HR
+ (FEET)	(HR)				
204.36	13.33	201.78	199.31	199.31	199.31

CUMULATIVE AREA = .03 SQ MI

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS. AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+					6-HOUR	24-HOUR	72-HOUR			
	HYDROGRAPH AT									
+		TRIB-1	42.	13.17	17.	6.	6.	.03		
	ROUTED TO									
+		POND	25.	13.33	16.	5.	5.	.03		
+									204.36	13.33

*** NORMAL END OF HEC-1 ***

WILLIAM L. KORBER, L.S.
N. BRENT WOOTEN, P.E.

BAUGHMAN COMPANY, P.A.
SURVEYING & ENGINEERING
316/262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

May 18, 1990

Vicky Huang, P.E.
City Engineer's Office
455 N. Main
Wichita KS 67202

re: Drainage Report for Towne Parc 3rd Addition

Vicky:

Attached is a final drainage report for the referenced plat. Please note that the storm sewer system has been sized using the Rational Method peak Q values from the report. The detention pond has been sized by routing the 100-yr. 24-hr. storm through the HEC-1 program (Kinematic Wave Method). Printouts of the existing condition runoff and the developed condition runoff with routing are included in the report.

The Drainage Plan also includes a revised Drainage Concept for the overall development area.

Tom

Tom Ruggles

SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION

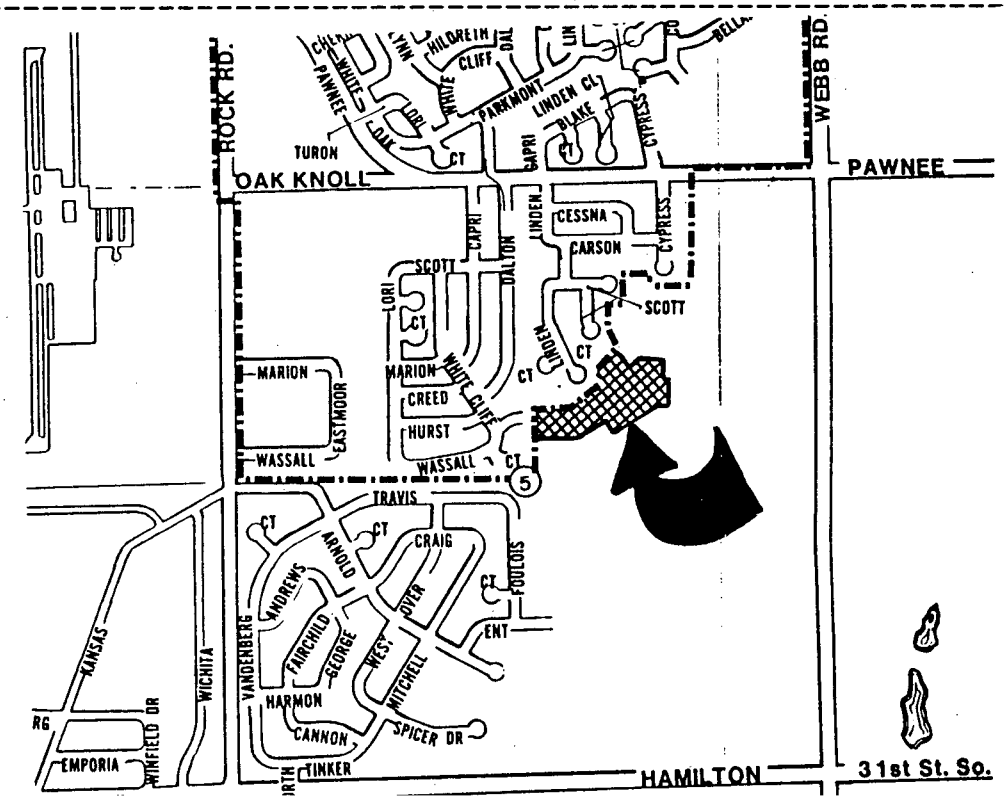
AGENDA ITEM NO. 8

May 31, 1990

STAFF REPORT
(Preliminary Plat)

CASE NUMBER:	**S/D 90-37 - TOWNE PARC 3RD ADDITION**
OWNER/APPLICANT:	I.T.J. Investment Inc.
SURVEYOR/ENGINEER:	Baughman Company, P.A.
LOCATION:	In an area south of Pawnee and east of Rock Rd.
SITE SIZE:	10 Acres
NUMBER OF LOTS	
Residential:	40
Office:	
Commercial:	
Industrial:	
Total:	40
MINIMUM LOT AREA:	7,200 sq. ft.
CURRENT ZONING:	"R-1" General Residential
PROPOSED ZONING:	"AA" One Family Dwelling (Upon annexation)

VICINITY MAP:



STAFF COMMENTS:

NOTE: This site is presently within the county and under "R-1" suburban residential zoning which requires a minimum lot size of 20,000 square feet. The applicant has, however, filed for annexation to Wichita which would result in the site being zoned "AA" (City) one-family and thereby allow the lot sizes indicated for this plat.

This site is also the 3rd Addition of an overall development planned for half of a quarter section. An overall preliminary was, however, never formally approved for the overall area and the applicant is consequently platting the area by doing a preliminary and final plat for each subsequent addition.

A. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

B. The applicant shall guarantee the extension of City water to serve the lots being platted.

C. The applicant shall guarantee any drainage improvements required by the platting of this property.

D. The applicant shall guarantee the paving of the proposed interior streets. This petition shall also provide for the construction of sidewalks along the east side of Linden and the south side of Creed. This segment is intended to tie into a system initiated with the platting of the first Towne Parc Addition which required a sidewalk along the east side of Cypress. Eventually a continuous sidewalk is to be provided out to Pawnee along Linden, Creed, and Cypress Streets.

E. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

F. In order to allow the lot sizes being platted, the applicant has filed for annexation to Wichita. This plat will not be scheduled for City Council review until annexation has occurred.

G. The applicant shall grant by separate instrument, temporary culs-de-sac for the termination of Creed and Hurst. This instrument shall indicate that the temporary dedications will expire upon the extension of each street into subsequent developments. Unless approved by City Engineering, these temporary culs-de-sac are to be provided off-site.

H. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

I. The final plat shall indicate the platting of 25-foot front yard setbacks and 15-foot side yard setbacks on corner lots.

J. The applicant shall submit an avigational easement covering all of subject plat and a restrictive covenant assuring that adequate construction methods will be used to minimize the effects of noise pollution in the habitable structures constructed on subject property.

K. Prior to or at the time of submitting the final plat, the applicant shall submit a drainage plan to City Engineering for review and approval.

L. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

M. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

N. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations.

O. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

P. The representatives from the utility companies should be prepared to comment on the need for utility easements to be platted on this property.

Q. The representative from City Engineering should be prepared to comment on the status of the applicant's drainage concept.

SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION

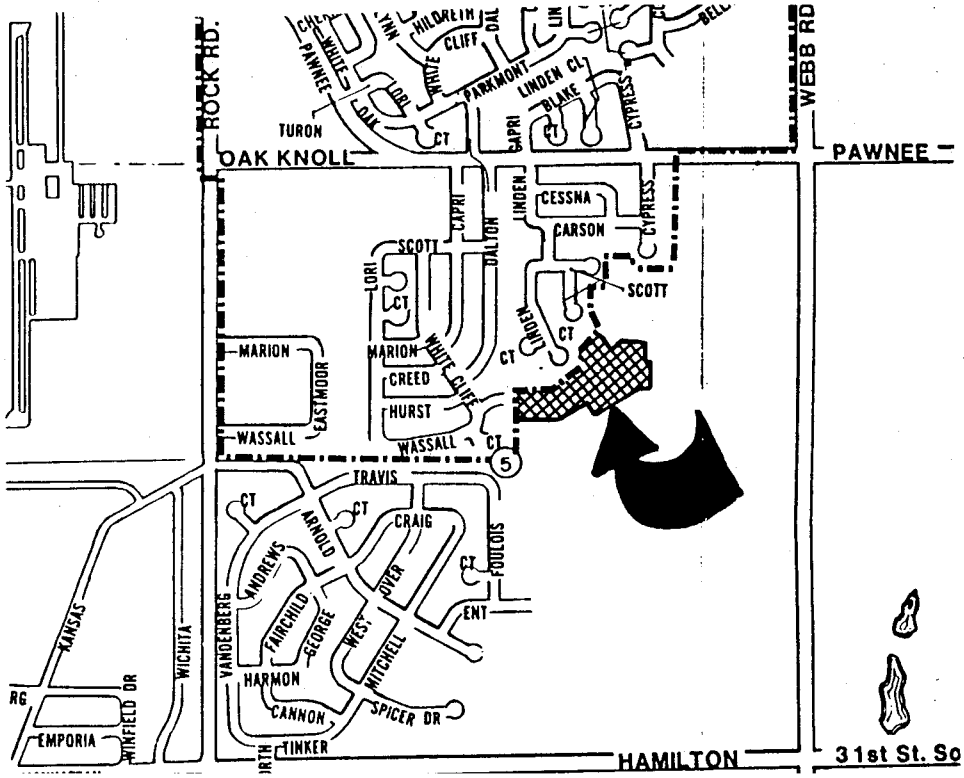
AGENDA ITEM NO. 4

June 14, 1990

STAFF REPORT
(Final Plat; Preliminary Plat Approved 5/31/90)

CASE NUMBER:	**S/D 90-37 - TOWNE PARC 3RD ADDITION**
OWNER/APPLICANT:	I.T.J. Investment Inc.
SURVEYOR/ENGINEER:	Baughman Company, P.A.
LOCATION:	In an area south of Pawnee and east of Rock Rd.
SITE SIZE:	10 Acres
NUMBER OF LOTS	
Residential:	40
Office:	
Commercial:	
Industrial:	
Total:	40
MINIMUM LOT AREA:	7,200 sq. ft.
CURRENT ZONING:	"R-1" General Residential
PROPOSED ZONING:	"AA" One Family Dwelling (Upon annexation)

VICINITY MAP:



STAFF COMMENTS:

NOTE: This site is presently within the county and under "R-1" suburban residential zoning which requires a minimum lot size of 20,000 square feet. The applicant has, however, filed for annexation to Wichita which would result in the site being zoned "AA" (City) one-family and thereby allow the lot sizes indicated for this plat.

This site is also the 3rd Addition of an overall development planned for half of a quarter section. An overall preliminary was, however, never formally approved for the overall area and the applicant is consequently platting the area by doing a preliminary and final plat for each subsequent addition.

A. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

B. The applicant shall guarantee the extension of City water to serve the lots being platted.

C. The applicant shall guarantee any drainage improvements required by the platting of this property.

D. The applicant shall guarantee the paving of the proposed interior streets. This petition shall also provide for the construction of sidewalks along the east side of Linden and the south side of Creed. This segment is intended to tie into a system initiated with the platting of the first Towne Parc Addition which required a sidewalk along the east side of Cypress. Eventually a continuous sidewalk is to be provided out to Pawnee along Linden, Creed, and Cypress Streets.

E. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

F. In order to allow the lot sizes being platted, the applicant has filed for annexation to Wichita. This plat will not be scheduled for City Council review until annexation has occurred.

G. The applicant shall grant by separate instrument, temporary culs-de-sac for the termination of Creed and Hurst. This instrument shall indicate that the temporary dedications will expire upon the extension of each street into subsequent developments. Unless approved by City Engineering, these temporary culs-de-sac are to be provided off-site.

H. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

I. The applicant shall submit an avigational easement covering all of subject plat and a restrictive covenant assuring that adequate construction methods will be used to minimize the effects of noise pollution in the habitable structures constructed on subject property.

J. As required by the drainage plan, an off-site drainage easement shall be provided. Also, an off-site utility easement will need to be established in order to serve this site. These easements shall be established by separate instrument and provided to City Engineering for approval. These easements shall then be submitted to Planning, for recording, with the plat.

K. The final plat tracing shall indicate the 10-foot utility easements requested by K.G.& E. between Lots 2 and 3 of Blocks 1, 4 and 5, between Lots 1 and 2, Block 2, between Lots 5 and 4, 8 and 9, Block 3 and between Lots 6 and 7, Block 4.

L. On the final plat tracing, the City's signature block shall now indicate "Pat Burnett, Deputy City Clerk" in place of John Moir.

M. The MAPC's signature block shall indicate "George Sherman, Acting Chairman."

N. Copies of the easements indicated in the title binder shall be submitted with the final plat tracing. Explanations shall also be provided indicating where these easements are located. If these easements are within this plat, they shall either be shown on the final plat tracing or proper reference made in the plattor's text as to their vacation.

O. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

P. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

Q. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations.

R. Perimeter closure computations shall be submitted with the final plat tracing. Section 5-101(c).

S. Recording of the plat within 30 days after approval by the City Council.

T. The representative from City Engineering should be prepared to comment on the status of the applicant's drainage plan.

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EASEMENT

THIS EASEMENT made this 5th day of September 19 90, by and between Bernard Novick and Betty Novick, and I.T.J. Investments, Inc. of the first part and the City of Wichita, of the second part.

WITNESSETH: That the said first party in consideration of the sum of One Dollar ($1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, does hereby grant and convey unto the said second party a perpetual right-of-way and easement for the purpose of constructing, maintaining, and repairing sewer and all other public utilities, over, along and under the following described real estate situated in Sedgwick County, Kansas, to wit:

See Exhibit "A"

This easement is granted for the purpose of correcting the legal description in the easement granted at Film 1130, Page 800.

And said second party is hereby granted the right to enter upon said premises at any time for the purpose of constructing, operating, maintaining, and repairing such sewer and all other public utilities.

IN WITNESS WHEREOF: The said first party has signed these presents the day and year first written.

Bernard Novick
Bernard Novick

Betty Novick
Betty Novick

I.T.J. Investments, Inc.
Irma N. Jacoby
Irma N. Jacoby, President

STATE OF KANSAS) SS
SEDGWICK COUNTY)

Be it remembered that on this 5th day of September 19 90, before me, a notary public in and for said County and State, came Bernard Novick and Betty Novick, and I.T.J. Investments, Inc., by Irma N. Jacoby, President, on behalf of the corporation, to me personally known to be the same person(s) who executed the foregoing instrument of writing and duly acknowledged the execution of same. In testimony whereof I have hereunto set my hand and affixed my notarial seal the day and year above written.

SEAL

Mark A. Savoy
Notary Public
Mark A. Savoy

MARK A. SAVOY NOTARY ★ PUBLIC Sedgwick Co., KS.

My Commission Expires: 16 May 1992

EXHIBIT A

That part of the W½ of the NE¼ of Sec. 5, Twp. 28-S, R-2-E of the 6th P.M., Sedgwick County, Kansas, described as follows: Commencing at the S.W. Corner of Block 1, Towne Parc 2nd Addition To Wichita, Sedgwick County, Kansas; thence N 90°00' E, along the south line of said Towne Parc 2nd Addition, 124.08 feet; thence N 60°00' E, along the southerly line of said Addition, 324.27 feet; thence S 30°00' E, 142.00 feet for a point of beginning; thence N 60°00' E, 460.06 feet; thence N 90°00' E, 114.08 feet; thence S 02°13'23" E, 20.00 feet; thence S 90°00' W, 109.50 feet; thence S 60°00' W, 434.70 feet; thence S 30°00' W, 284.00 feet; thence N 60°00' E, 358.60 feet; thence N 90°00' E, 60.21 feet; thence S 00°00' W, 20.00 feet; thence S 90°00' W, 54.85 feet; thence S 60°00' W, 373.24 feet; thence N 30°00' W, 324.00 feet to the point of beginning.

DRAINAGE EASEMENT

THIS EASEMENT made this 5th day of September, 1990, by and between Bernard Novick and Betty Novick, and I.T.J. Investments, Inc. of the first and the City of Wichita of the second part.

WITNESSETH: That the said first parties, in consideration of the sum of One Dollar ($1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, do hereby grant and convey unto the said second party a perpetual right-of-way and easement for the purpose of constructing, maintaining and repairing a drainage system, over, along and under the following described real estate situated in Sedgwick County, Kansas; to wit:

See Exhibit "A"

And said second party is hereby granted the right to enter upon said premises at any time for the purpose of constructing, operating, maintaining and repairing such drainage system.

IN WITNESS WHEREOF: The said first parties have signed these presents the day and year first written.

Bernard Novick
Bernard Novick

Betty Novick
Betty Novick

I.T.J. Investments, Inc.
Irma N. Jacoby
Irma N. Jacoby, President

City of Wichita)
Sedgwick County) SS
State of Kansas)

The foregoing instrument was acknowledged before me this 5th day of September (Date), 19 90.

by Bernard Novick, and Betty Novick, his wife and Irma N. Jacoby, President of I.T.J. Investments, Inc.

Seal or Stamp

Mark A. Savoy
(signature of notary officer), Notary Public

My appointment expires: 16 May, 19 92

Mark A. Savoy
NOTARY
PUBLIC
Sedgwick Co., Ks.

Form MAPD 1967/Aug. 1989

EXHIBIT A

That part of the W½ of the NE¼ of Sec. 5, Twp. 28-S, R-2-E of the 6th P.M., Sedgwick County, Kansas, described as commencing at the S.W. Corner of Block 1, Towne Parc 2nd Addition To Wichita, Sedgwick County, Kansas; thence N 90°00' E, along the south line of said Towne Parc 2nd Addition, 124.08 feet; thence N 60°00' E, along the southerly line of said Addition, 270.27 feet; thence S 30°00' E, 424.00 feet for a point of beginning; thence S 30° E, 32 feet; thence N 60° E, 64 feet; thence S 30° E, 32 feet; thence S 60° W, 368 feet to the P.C. of a curve to the left, having a radius of 309.74 feet and a central angle of 60°; thence southwesterly and southerly along said curve, an arc distance of 324.36 feet to the P.T. of said curve; thence S 00° W, 75.23 feet to the south line of the W½ of said NE¼; thence S 89°53'42" W, along the south line of the W½ of said NE¼, 64 feet to a point 120 feet east of the S.W. Corner of the W½ of said NE¼; thence N 00° E; 75.11 feet to the P.C. of a curve to the right being concentric with the last described curve and having a radius of 373.74 feet and a central angle of 60°; thence northerly and northeasterly along said curve an arc distance of 391.38 feet to the P.T. of said curve; thence N 60° E, 304 feet to the place of beginning.

EASEMENT

THIS EASEMENT made this 5th day of September 1990, by and between Bernard Novick and Betty Novick, and I.T.J. Investments, Inc. of the first part and the City of Wichita, of the second part.

WITNESSETH: That the said first party in consideration of the sum of One Dollar ($1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, does hereby grant and convey unto the said second party a perpetual right-of-way and easement for the purpose of constructing, maintaining, and repairing sewer and all other public utilities, over, along and under the following described real estate situated in Sedgwick County, Kansas, to wit:

See Exhibit "A"

And said second party is hereby granted the right to enter upon said premises at any time for the purpose of constructing, operating, maintaining, and repairing such sewer and all other public utilities.

IN WITNESS WHEREOF: The said first party has signed these presents the day and year first written.

Bernard Novick

Bernard Novick

Betty Novick

Betty Novick

I.T.J. Investments, Inc.

Irma N Jacoby

Irma N. Jacoby, President

STATE OF KANSAS) ss
SEDGWICK COUNTY)

Be it remembered that on this 5th day of September 1990, before me, a notary public in and for said County and State, came Bernard Novick and Betty Novick, and I.T.J. Investments, Inc., by Irma N. Jacoby, President, on behalf of the corporation, to me personally known to be the same person(s) who executed the foregoing instrument of writing and duly acknowledged the execution of same. In testimony whereof I have hereunto set my hand and affixed my notarial seal the day and year above written.

SEAL

Mark A. Savoy

Notary Public

Mark A. Savoy

MARK A. SAVOY NOTARY PUBLIC Sedgwick Co., Ks.

My Commission Expires: 16 May 1992

Does not close

EXHIBIT A

That part of the W½ of the NE¼ of Sec. 5, Twp. 28-S, R-2-E of the 6th P.M., Sedgwick County, Kansas, described as follows: Commencing at the S.W. Corner of Block 1, Towne Parc 2nd Addition To Wichita, Sedgwick County, Kansas; thence N 90°00' E, along the south line of said Towne Parc 2nd Addition, 124.08 feet; thence N 60°00' E, along the southerly line of said Addition, 334.27 feet; thence S 30°00' E, 142.00 feet for a point of beginning. thence N 60°00' E, 460.06 feet; thence N 90°00' E, 114.08 feet; thence S 02°13'23" E, 20.00 feet; thence S 90°00' W, 109.50 feet; thence S 60°00' W, 434.70 feet; thence S 30°00' E, 284.00 feet; thence N 60°00' E, 422.60 feet; thence N 90°00' E, 60.21 feet; thence S 00°00' W, 20.00 feet; thence S 90°00' W, 54.85 feet; thence S 60°00' W, 437.24 feet; thence N 30°00' W, 466.00 feet to the point of beginning.

324.27

324

383.24

348.6

EASEMENT

THIS EASEMENT made this 5th day of September 1990, by and between Bernard Novick and Betty Novick, and I.T.J. Investments, Inc. of the first part and the City of Wichita, of the second part.

WITNESSETH: That the said first party in consideration of the sum of One Dollar ($1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, does hereby grant and convey unto the said second party a perpetual right-of-way and easement for the purpose of constructing, maintaining, and repairing sewer and all other public utilities, over, along and under the following described real estate situated in Sedgwick County, Kansas, to wit:

See Exhibit "A"

And said second party is hereby granted the right to enter upon said premises at any time for the purpose of constructing, operating, maintaining, and repairing such sewer and all other public utilities.

IN WITNESS WHEREOF: The said first party has signed these presents the day and year first written.

Bernard Novick
Bernard Novick

Betty Novick
Betty Novick

I.T.J. Investments, Inc.
Irma N. Jacoby
Irma N. Jacoby, President

STATE OF KANSAS) SS
SEDGWICK COUNTY)

Be it remembered that on this 5th day of September 1990, before me, a notary public in and for said County and State, came Bernard Novick and Betty Novick, and I.T.J. Investments, Inc., by Irma N. Jacoby, President, on behalf of the corporation, to me personally known to be the same person(s) who executed the foregoing instrument of writing and duly acknowledged the execution of same. In testimony whereof I have hereunto set my hand and affixed my notarial seal the day and year above written.

SEAL

Mark A. Savoy
Notary Public
Mark A. Savoy

MARK A. SAVOY NOTARY PUBLIC Sedgwick Co., Ks.

My Commission Expires: 16 May 1992

291

EXHIBIT A

That part of the W½ of the NE¼ of Sec. 5, Twp. 28-S, R-2-E of the 6th P.M., Sedgwick County, Kansas, described as follows: Beginning at a point in the west line of said NE¼ of Sec. 5, said point being 292.00 feet south of the S.W. Corner of Block 1, Towne Parc 2nd Addition to Wichita, Sedgwick County, Kansas; thence S 00°00' E, along the west line of said NE¼ of Sec. 5, 20.00 feet; thence N 90°00' E, 213.41 feet; thence N 60°00' E, 402.41 feet; thence N 30°00' W, 20.00 feet; thence S 60°00' W, 397.05 feet; thence S 90°00' W, 208.05 feet to the point of beginning.

SEDGWICK COUNTY

METROPOLITAN AREA PLANNING
DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1688
(316) 268-4561

June 22, 1990

Baughman Company
315 Ellis
Wichita, KS 67211

Re: S/D 90-37 - Towne Parc 3rd Addition

Dear Gentlemen:

At the regular meeting of the Metropolitan Area Planning Commission on June 21, 1990, the above captioned plat was considered. The action of the Planning Commission was to recommend that the plat be approved as recommended by the Subdivision Committee subject to the conditions stated in our letter of June 18, 1990.

In addition to complying with those conditions, it is necessary that you meet the following requirements before this plat can be forwarded to the City Council for consideration:

1. Submission of the fully completed and signed tracing of the subdivision to the Metropolitan Area Planning Department.

2. Submission of a title report by an abstract or title insurance company or an attorney's opinion that fee title is vested in the plattor; if the title report or attorney's opinion has not already been submitted.

3. Certification that all due real estate taxes have been paid.

4. Submission of a check, made out to the Register of Deeds, covering the costs of any documents to be recorded as a requirement of platting.

Please call if you have any questions.

Sincerely,

Kandace A. Kimple

Kandace A. Kimple
Associate Planner

KK:sm
cc: I.T.J. Investment Inc., 418 S. Forrest View Ct., Wichita, KS 67235
Mike Lindebak, City Engineer

SEDGWICK COUNTY

METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1688
(316) 268-4561

June 18, 1990

Baughman Company
315 Ellis
Wichita, KS 67211

Re: S/D 90-37 - Towne Parc 3rd Addition

Dear Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on Thursday, June 14, 1990, the above captioned plat was considered. The action of the Committee was to recommend that this plat be approved subject to:

A. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

B. The applicant shall guarantee the extension of City water to serve the lots being platted.

C. The applicant shall guarantee any drainage improvements required by the platting of this property.

D. The applicant shall guarantee the paving of the proposed interior streets. This petition shall also provide for the construction of sidewalks along the east side of Linden and the south side of Creed. This segment is intended to tie into a system initiated with the platting of the first Towne Parc Addition which required a sidewalk along the east side of Cypress. Eventually a continuous sidewalk is to be provided out to Pawnee along Linden, Creed, and Cypress Streets.

E. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

F. In order to allow the lot sizes being platted, the applicant has filed for annexation to Wichita. This plat will not be scheduled for City Council review until annexation has occurred.

G. The applicant shall grant by separate instrument, temporary culs-de-sac for the termination of Creed and Hurst. This instrument shall indicate that the temporary dedications will expire upon the extension of each street into subsequent developments. Unless approved by City Engineering, these temporary culs-de-sac are to be provided off-site.

H. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

I. The applicant shall submit an avigational easement covering all of subject plat and a restrictive covenant assuring that adequate construction methods will be used to minimize the effects of noise pollution in the habitable structures constructed on subject property.

J. As required by the drainage plan, an off-site drainage easement shall be provided. Also, off-site utility easements will need to be established in order to serve this site. These easements are needed along the south line of this plat and north line of Lots 13 and 14, Block 3. These easements shall be established by separate instrument and provided to City Engineering for approval. These easements shall then be submitted to Planning, for recording, with the plat.

K. The final plat tracing shall indicate the 10-foot utility easements requested by K.G.& E. between Lots 2 and 3 of Blocks 1, 4 and 5, between Lots 1 and 2, Block 2, between Lots 5 and 4, 8 and 9, Block 3 and between Lots 6 and 7, Block 4.

L. On the final plat tracing, the City's signature block shall now indicate "Pat Burnett, Deputy City Clerk" in place of John Moir.

M. The MAPC's signature block shall indicate "George Sherman, Acting Chairman."

N. Copies of the easements indicated in the title binder shall be submitted with the final plat tracing. Explanations shall also be provided indicating where these easements are located. If these easements are within this plat, they shall either be shown on the final plat tracing or proper reference made in the plattor's text as to their vacation.

O. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

P. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

Q. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations.

R. Perimeter closure computations shall be submitted with the final plat tracing. Section 5-101(c).

S. Recording of the plat within 30 days after approval by the City Council.

Enclosed with the applicant's copy of this letter is a list of the five methods which have been adopted as being acceptable for guaranteeing improvements required in the approval of plats. The certificate will be required if petitions are submitted. Forms for the bond and irrevocable Letter of Credit are available from this office.

The enclosed "marked" copy of the final plat is for your information and files.

This matter will be forwarded to the Planning Commission for its consideration on Thursday, June 21, 1990 at 1:30 p.m. If you have any questions concerning this matter, please call.

Sincerely,

Don Losew

Don Losew
Senior Planner

DL:sm

cc: I.T.J. Investment Inc., 418 S. Forrest View Ct., Wichita, KS 67235
Mike Lindebak, City Engineer

WICHITA — SEDGWICK COUNTY

METROPOLITAN AREA PLANNING
DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1688
(316) 268-4561

June 1, 1990

Baughman Company
315 Ellis
Wichita, KS 67211

Re: S/D 90-37 - Towne Parc 3rd Addition

Dear Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on Thursday, May 31, 1990, the above captioned plat was considered. The action of the Committee was to approve the preliminary and authorize preparation of the final plat, subject to the following:

A. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

B. The applicant shall guarantee the extension of City water to serve the lots being platted.

C. The applicant shall guarantee any drainage improvements required by the platting of this property.

D. The applicant shall guarantee the paving of the proposed interior streets. This petition shall also provide for the construction of sidewalks along the east side of Linden and the south side of Creed. This segment is intended to tie into a system initiated with the platting of the first Towne Parc Addition which required a sidewalk along the east side of Cypress. Eventually a continuous sidewalk is to be provided out to Pawnee along Linden, Creed, and Cypress Streets.

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H. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

I. The final plat shall indicate the platting of 25-foot front yard setbacks and 15-foot side yard setbacks on corner lots.

J. The applicant shall submit an avigational easement covering all of subject plat and a restrictive covenant assuring that adequate construction methods will be used to minimize the effects of noise pollution in the habitable structures constructed on subject property.

K. Prior to, or at the time of submitting the final plat, the applicant shall submit a sanitary sewer layout plan to City Engineering for review and approval.

L. As required by the drainage plan, an off-site drainage easement shall be provided. Also, an off-site utility easement will need to be established in order to serve this site. These easements shall be established by separate instrument and provided to City Engineering for approval. These easements shall then be submitted to Planning, for recording, with the plat.

M. The final plat shall indicate the utility easements requested by K.G.& E. and Southwestern Bell which are indicated on the enclosed "marked" copy of the plat.

N. Prior to or at the time of submitting the final plat, the applicant shall submit a drainage plan to City Engineering for review and approval.

O. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

P. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

Q. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations.

R. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

The enclosed "marked" copy of the plat is for your information and files. If you should have any questions, please call.

Sincerely,

Don Losew

Don Losew
Senior Planner

DL:sm

cc: I.T.J. Investment Inc., 418 S. Forrest View Ct., Wichita, KS 67235
Mike Lindebak, City Engineer