Drainage Plan
BRENTWOOD SOUTH 2ND ADDITION
Wichita, Sedgwick County, Kansas

1" = 60'

LEGEND

OHE . . . . . OVERHEAD ELECTRIC (WESTAR)
SWS . . . . . STORM WATER SEWER (CITY OF WICHITA)
SS . . . . . SANITARY SEWER (CITY OF WICHITA)
W . . . . . WATER LINE (CITY OF WICHITA)
WM . . . . . WATER METER
Xfmr. . . . . TRANSFORMER
PP . . . . . POWER POLE
. . . . . SIGN
1400 . . . . . LOCATION OF SPOT ELEVATION
. . . . . DECIDUOUS TREE (CALIPER INDICATED)
. . . . . CONIFER TREE (CALIPER INDICATED)

Da = 1.5 Acres
Tc = 15 Minutes
C_2 = 0.50
C_{100} = 0.76
I_2 = 3.83 "/hr.
I_{100} = 7.37"/hr.
Q_2 = 2.9 cfs
Q_{100} = 8.4 cfs

Da = 1.8 Acres
Tc = 15 Minutes
C_2 = 0.28
C_{100} = 0.63
I_2 = 3.83 "/hr.
I_{100} = 7.37"/hr.
Q_2 = 1.9 cfs
Q_{100} = 5.4 cfs

Da = 1.5 Acres
Tc = 15 Minutes
C_2 = 0.50
C_{100} = 0.76
I_2 = 3.83 "/hr.
I_{100} = 7.37"/hr.
Q_2 = 2.9 cfs
Q_{100} = 8.4 cfs

Da = 2.3 Acres
Tc = 15 Minutes
C_2 = 0.28
C_{100} = 0.63
I_2 = 3.83 "/hr.
I_{100} = 7.37"/hr.
Q_2 = 2.5 cfs
Q_{100} = 10.7 cfs

OFFSITE AREA
Da = 9.9 Acres
Tc = 15 Minutes
C_2 = 0.68
C_{100} = 0.80
I_2 = 3.83 "/hr.
I_{100} = 7.37"/hr.
Q_2 = 25.7 cfs
Q_{100} = 58.3 cfs

NOTE: CULVERT TO BE RE-ALIGNED THROUGH BERM TO ALIGN WITH THE DRAINAGE EASEMENT ALONG WEST LINE.

Q Pipe = 8.4 cfs

Q Pipe = 24.7 cfs

Q Pipe = 12.1 cfs

Q Pipe = 10.7 cfs

Q Pipe = 2.8 cfs

EXISTING STORM WATER SEWER SYSTEM HAS ALREADY BEEN SIZED TO HANDLE THIS PARCEL OF GROUND IN THE DEVELOPED CONDITION, INCLUDING DETENTION REQUIREMENTS (BRENTWOOD SOUTH ADDITION)

Da = 1.2 Acres
Tc = 15 Minutes
C_2 ~~0.28~~ 20.76'
C_{100} = 0.63
I_2 = 3.83 "/hr.
I_{100} = 7.37"/hr.
Q_2 ~~1.3~~ cfs
Q_{100} = 5.6 cfs

Da = 5.7 Acres
Tc = 15 Minutes
C_5 = 0.69
C_{100} = 0.80
I_5 = 4.56 "/hr.
I_{100} = 7.37"/hr.
Q_5 = 17.9 cfs
Q_{100} = 33.6 cfs

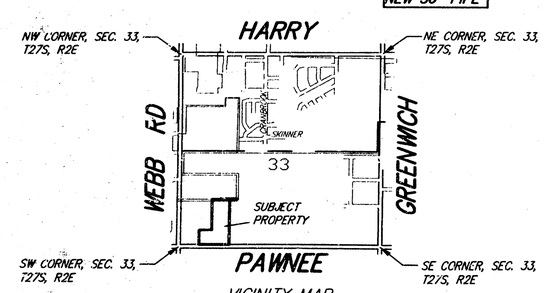
NOTE: A TEMPORARY DRAINAGE EASEMENT ACROSS LOT 1, BLOCK A SHALL BE PROVIDED WITH THE PLAT, TO EXPIRE UPON DEVELOPMENT OF LOT 1, BLOCK A.

OFFSITE AREA TO WEST
(THROUGH ROAD DITCH)
Da = 7.0 Acres
Tc = 15 Minutes
C = 0.69
C_{100} = 0.80
I_5 = 4.56 "/hr.
I_{100} = 7.37"/hr.
Q_5 = 22.0 cfs
Q_{100} = 41.2 cfs

OFFSITE AREA TO EAST
(THROUGH ROAD DITCH)
Da = 1.3 Acres
Tc = 15 Minutes
C_{28} = 0.58
C_{100} = 0.76
I_5 = 4.56 "/hr.
I_{100} ~~7.37~~ "/hr.
Q_5 = 3.0 cfs
Q_{100} = 7.3 cfs

REGRADE NORTH DITCH AT 0.60%, 5.0' BOTTOM AS INDICATED

UNDETAINED FULLY DEVELOPED 100 YEAR RUNOFF TO THE CULVERT UNDER PAWNEE = 140.4 CFS. WITH A HEADWATER DEPTH OF 4.5 FEET, THE 54" RCP CAN PASS 105 CFS (1 FOOT OF FREEBOARD BELOW ROADWAY SURFACE). THE COUNTY YARD 100 YEAR DISCHARGE WILL BE NATURALLY DETAINED BY THE BERM, FORMING A POND NORTH OF THE BERM.
DETENTION ON
LOT 1 IN THE FORM OF PARKING LOT STORAGE SHOULD BE IMPLEMENTED UPON DEVELOPMENT OF LOT 1. ALSO, THE COMMERCIAL PROPERTY TO THE WEST SHOULD IMPLEMENT PARKING LOT STORAGE UPON DEVELOPMENT OF THAT LAND.



VICINITY MAP
NOT TO SCALE

BENCH MARK: COW BENCHMARK AT THE SOUTHEAST CORNER OF THE INTERSECTION OF CRANBROOK AND SKINNER ELEV.=1334.02 (M.S.L.)

ON SITE BENCH MARK: R.R. SPIKE ON EAST FACE OF POWER POLE 1,215 FEET EAST AND 46 FEET NORTH OF THE S.W. CORNER, SEC. 33, T27S, R2E ELEV.=1388.99 (M.S.L.)

LEGAL DESCRIPTION:
That part of the SW1/4 of Sec. 33, T27S, R2E of the 6th P.M., Sedgwick County, Kansas, described as beginning at the northwest corner of Lot 25, Block 2, Brentwood South Addition, Wichita, Sedgwick County, Kansas; thence S89°58'00"W, 345.64 feet; thence S00°00'00"W, 889.75 feet; thence S89°58'00"W, 319.15 feet; thence S00°00'00"W, 432.51 feet; thence N89°34'35"E, 668.70 feet; thence N00°10'10"W, 1317.70 feet to the place of beginning, EXCEPT the South 40.00 feet for right of way.

OWNER:
Brentwood Development, Inc.
527 N. Forestview
Wichita, Kansas 67235

Attn: Steve Miller
Ph. (316) 259-2377

DATE OF TOPOGRAPHY:
AUGUST 6, 2003

DWG FILE: 2438P\Drainage Plan.dwg
PROJECT NO. 2438P
FEB 5, 2004

Ruggles & Bohm, P.A.
Engineering, Surveying, Land Planning
924 North Main
Wichita, Kansas 67203
(316) 264-8008
(316) 264-4621 fax
www.rbkansas.com
E-mail: info@rbkansas.com