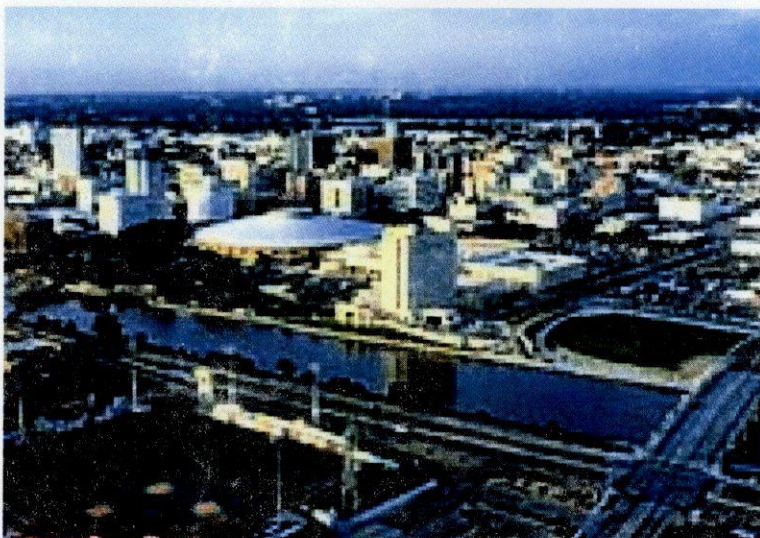


Drainage Report

Trans-Net Addition, To Wichita, Sedgwick County, Kansas



September 2008



516 S. Market
Wichita, Kansas 67202
(316) 264-0242



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Drainage Report

Appendix A:

Drainage Plan
Final Plat
USGS map with area highlighted
Aerial Photograph

Appendix B

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Appendix C

Electronic copies of Report

Drainage Report

Trans-Net ADDITION

Introduction

The subject property is located on the west side of Tyler Road, about 1/5 mile south of 29th St. The property is currently un-platted, developed and is zoned as Single family SF-5. The tract of land is about 1.81 acres total. The property is being platted into one lot under the name Trans-Net Addition. The tract of land is owned by USD 266 – Maize, and is being platted because of the addition of a building.

Current Conditions

The site is served by City of Wichita utilities. The land currently has a concrete paved parking lot on east of the area and entrance and exit driveways. The rest of the area is unpaved and covered with grass. There are single family developed areas on the west and north of the area and multi family developed area on south. The soils are a Type C, with a moderate runoff coefficient. There are no signs of wetlands and the land is not in a floodplain. The paved parking area on East side drains to the east and rest of the portion drains to the area on southwest side. There is no other drainage management except surface drainage. The area of land drains the water at an average slope of 1.3%.

The attached plat with topography shows existing features including contours, utilities, storm sewer, and proposed easements.

Proposed Improvements

The site will be developed for school use with an additional building added. The lot will drain all the water from east to southwest as shown on the attached drainage plan. The existing storm sewer will be able to pick all the water coming out of area when it is fully developed.

Best management practices for erosion control will include seeding disturbed areas and installing city approved measures. The attached calculations show the existing and developed peak runoffs, including assumed coefficients and conditions.

Site Hydrological Analysis

Existing and proposed site conditions have been modeled using the rational method. The Values for Rainfall Intensity and Runoff Coefficients were established using the *Drainage and Storm Sewer Policy for Design Criteria and Documentation, City of Wichita, Kansas*. A time of concentration of 15 minutes was used as it is the minimum inlet time. A proposed time of concentration of 15 minutes was also used.

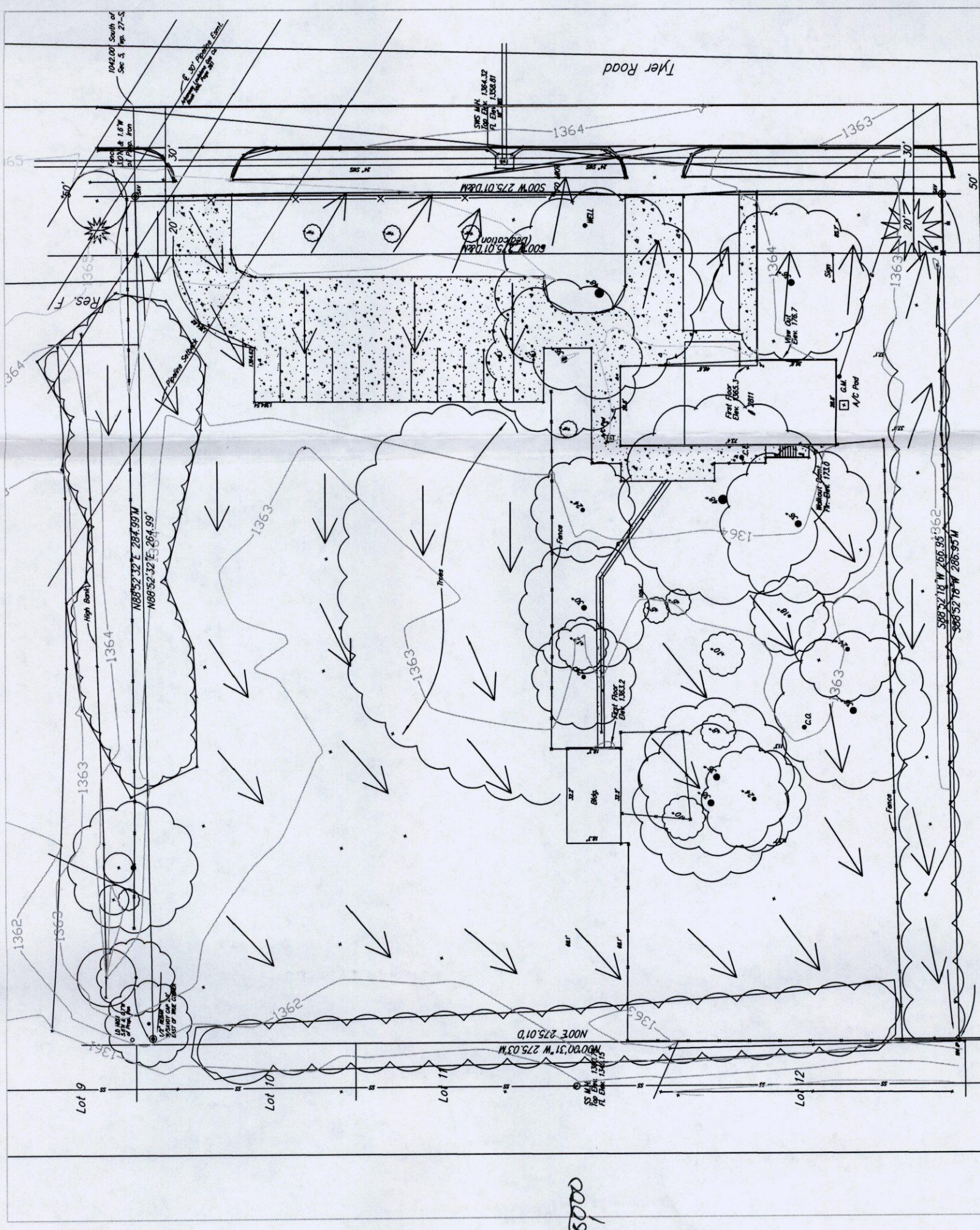
Future Development

There will be one additional structure built at this time.

Appendix A

Drainage Plan
Final Plat
USGS map with area highlighted
Aerial Photograph

(264-0242)



7800

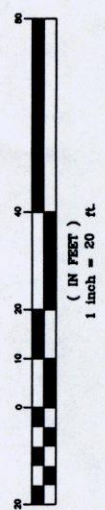
Future intent — need reserve & extend storm sewer to development

Existing Site Drainage

Block #	Acres	Tc	C5	I5	C100	I100	O5	O100
Proposed Plat	1.81	15 min	0.40	4.56	0.61	7.37	3.30cfs	8.14cfs

Proposed Site Drainage

Block #	Acres	Tc	C5	I5	C100	I100	O5	O100
Proposed Plat	1.81	15 min	0.40	4.56	0.61	7.37	3.30cfs	8.14cfs



Trans-Net Addition
 Drainage Plan
 Wechlin, Kansas

Kemiller
 engineering

PROJECT NUMBER: 211/244-0242
 DATE: 07/2008
 FILE: 46-0242
 SHEET: 05 OF 07

ONE-STEP PLAT OF Trans-Net Addition WICHITA, SEDGWICK COUNTY, KANSAS

Part of the Northeast 1/4, Section 5, Township 27 South, Range 1 West of the 6th P.M.

State of Kansas }
County of Sedgwick } SS

I, Randall L. Ehlers, a licensed land surveyor of the State of Kansas, do hereby certify that the following described tract of land is the same as that shown on the plat of the Trans-Net Addition, Wichita, Sedgwick County, Kansas, as shown on the accompanying final plat prepared and that all the measurements to the best of my knowledge and belief:

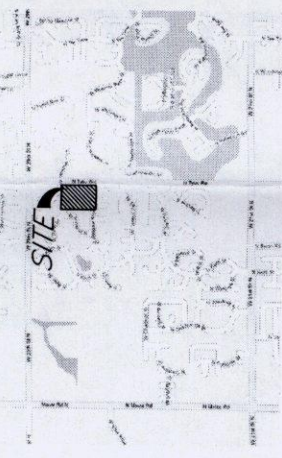
As described on the Trans-Net Addition, Wichita, Sedgwick County, Kansas, beginning 1042 ft. South of the Northwest Corner of the 30 ft. Right-of-Way on Tyler Road.

All being situated in the NE 1/4 of Section 5, Township 27-S, Range 1, West of the 6th P.M., Sedgwick County, Kansas.

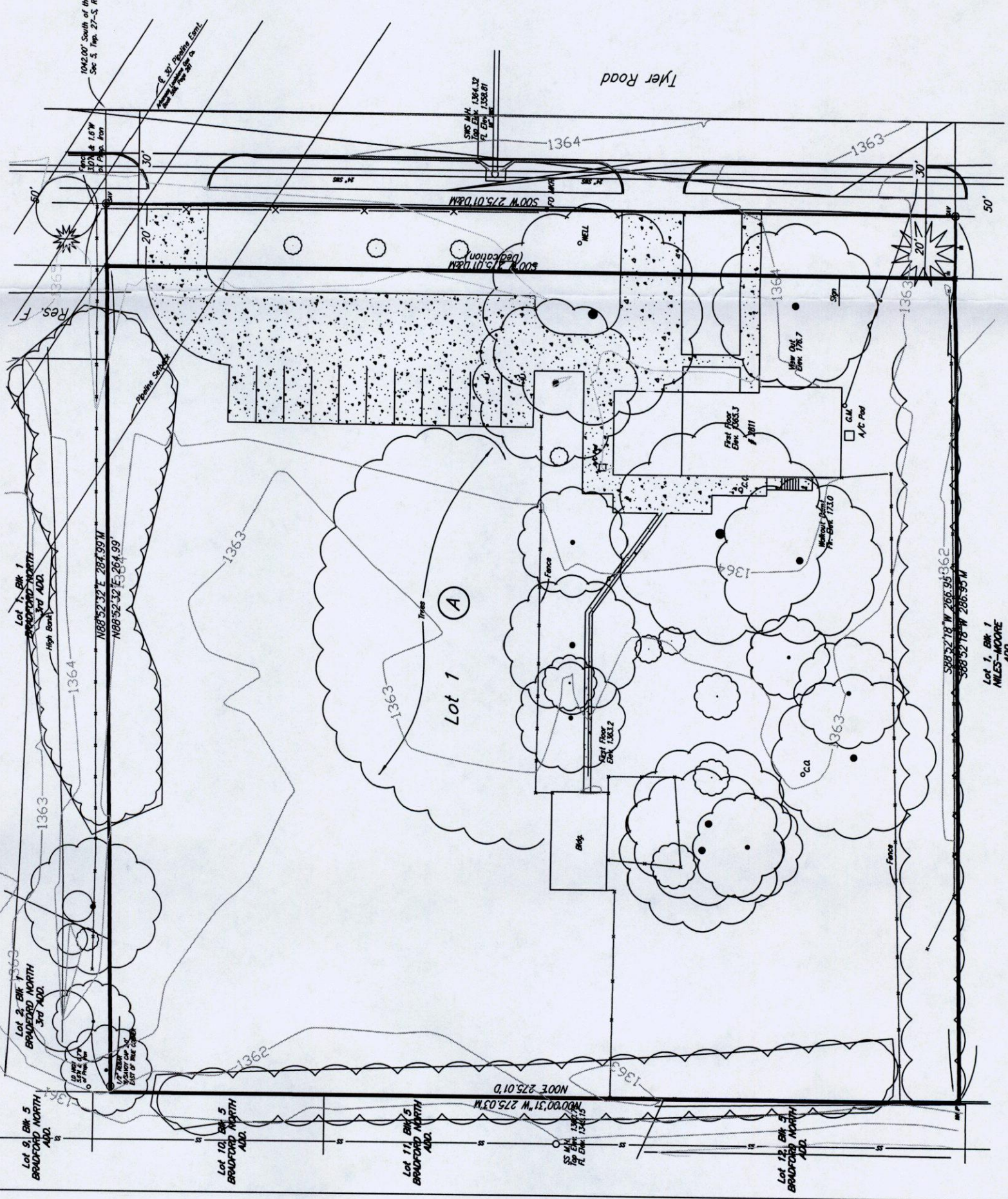
Said tract contains 1.81 acres ±.

All measurements and calculations within said lots are hereby recited by virtue of K.S.A. 22-212(b) amended.

LOCATION MAP



- LEGEND**
- 3" Iron Pin (found)
 - ⊗ 5/8" Iron Pin (not found)
 - ⊙ 3" Iron Pin (found)
 - ⊙ 5/8" Iron Pin (not found)
 - ⊙ Pointed measurements from record
 - ⊙ Double measurements from field
 - ⊙ Measured from actual field location
 - Existing Sanitary Sewer
 - Existing underground Telephone
 - Existing Gas Line
 - Existing Overhead Electric
 - Existing Water Line
 - Existing Fence
 - Existing Center Line of road
 - ⊕ 2" Pipe Midpoint
 - ⊕ 4" Water Meter
 - ⊕ 6" Water Meter
 - ⊕ 8" Water Meter
 - ⊕ 10" Water Meter
 - ⊕ 12" Water Meter
 - ⊕ 14" Water Meter
 - ⊕ 16" Water Meter
 - ⊕ 18" Water Meter
 - ⊕ 20" Water Meter
 - ⊕ 22" Water Meter
 - ⊕ 24" Water Meter
 - ⊕ 26" Water Meter
 - ⊕ 28" Water Meter
 - ⊕ 30" Water Meter
 - ⊕ 32" Water Meter
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 - ⊕ 82" Water Meter
 - ⊕ 84" Water Meter
 - ⊕ 86" Water Meter
 - ⊕ 88" Water Meter
 - ⊕ 90" Water Meter
 - ⊕ 92" Water Meter
 - ⊕ 94" Water Meter
 - ⊕ 96" Water Meter
 - ⊕ 98" Water Meter
 - ⊕ 100" Water Meter



Notary Public

My Commission Expires: _____

State of Kansas }
County of Sedgwick } ss

This instrument was acknowledged before me on this _____ day of _____, 2008, by _____

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State of Kansas }
County of Sedgwick } ss

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County of Sedgwick } ss

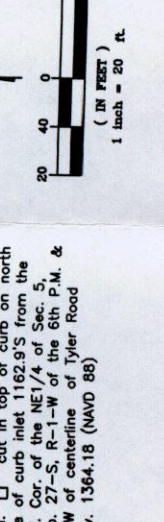
This instrument was acknowledged before me on this _____ day of _____, 2008, by _____

My Commission Expires: _____

State of Kansas }
County of Sedgwick } ss

This instrument was acknowledged before me on this _____ day of _____, 2008, by _____

My Commission Expires: _____



B.M. 1 cut in top of curb on north side of Tyler Road 102.93' from the NE corner of the 6th P.M. & 27-S, R-1-W of the 6th P.M. & 30-W of centerline of Tyler Road. Elev. 1364.13 (NAD 83)

State of Kansas }
County of Sedgwick } ss

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County of Sedgwick } ss

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF KANSAS

WICHITA WEST QUADRANGLE
KANSAS—SHERWOOD CO.
7.5-MINUTE SERIES (TOPOGRAPHIC)



Trans-Net Addition
USGS Map
Wichita, Kansas



214 S. MARKET,
WICHITA, KS 67202

PROJECT NUMBER	
FILE	USGS
DATE	07/2008
DESIGN	GP
DRAWN	GP
REVISION	
SHEET	
OF	



Trans-Net Addition
Aerial Map
Wichita, Kansas

PROJECT NUMBER		DATE	BY	REVISION	SHEET
		08/15	JM	01	1
		07/2008			
		08/15	JM	01	1
		07/2008			
		08/15	JM	01	1
		07/2008			

kemiller
Engineering

3101 W. 15th St.
Wichita, KS 67220
316.261-0512

Appendix B

Public Works, Eng. Div. Storm water checklist



**Public Works, Engineering Division
Stormwater Management Subdivision Submittal Checklist**

WICHITA

Reviewer: _____	Date: _____
Subdivision Name: <u>Trans-Net Addition</u>	Location: <u>2811 N Tyler Rd.</u>
Total Land Area Of Ownership: <u>1.81</u> Acres	
Type: <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Recreation <input type="checkbox"/> Municipal <input type="checkbox"/> Other	
Applicant: <u>USD #266</u>	Contact: _____ Phone #: <u>722-8538</u>
Engineer: <u>K E Miller Eng. PA</u>	Contact: <u>Kirk Miller</u> Phone #: <u>264-0242</u>

Please check the appropriate box:

I = Included; NA = Non-Applicable; R= Required prior to development
(If "NA" is checked, an explanation must be entered)

Tab 1. Project Narrative	Applicant			Engr	
	I	NA	Explanation / Location in Plan	I	NA
A. Site Location Map, using USGS Map	X		App A		
B. Discussion of development, existing conditions, and proposed impacts on stormwater, wetland, riparian, and flood plain	X		Report		
C. Discussion of offsite conditions	X		Report		
D. Summary of runoff calculations (pre/post development) No increase in peak discharge for all storm series	X		App A		
E. Narrative description of the type and function of the permanent best management practices that are incorporated into the site design	X		Report		
F. Copy of the plat	X		App A		
G. Prelim. four corner lot grading plan (The final grading plan shall be sealed, signed and dated prior to Engineering receiving the final paving and stormwater drain plans. One plan sheet and PDF shall be submitted to the Subdivision Engineer.)	X		App A		
H. Professional Engineer seal, signature and date on cover of report	X				
I. CD of drainage plan in PDF format (one file) and one paper copy bound with this checklist included behind the cover	X				

Tab 2. Existing Conditions Runoff Calculations	Applicant			Engr	
	I	NA	Explanation / Location in Plan	I	NA
A. Copy of applicable orthophoto showing proposed project boundaries (preferable in color)	X		App A		
B. Runoff Method (Rational, Hydrograph Method, or other approved methods by Engineering)	X		App A		
C. Existing topography (no greater than 2-foot contours, 1-foot recommend)	X		App A		
D. Total Site Area and Total Impervious Area (acres)	X		App A		
E. Benchmarks used for site control	X		App A		
F. Streams, creeks, and waterway labeled		X			
G. Predominant soils from USDA soil surveys, and/or on site soil borings	X		Report/App A		
H. Location and boundaries of natural features such as wetlands, lakes, and ponds with the normal water elevation noted		X	No Such Features		
I. Location of existing roads, buildings, parking lots and other impervious areas	X		Plan		



WICHITA

Stormwater Management Subdivision Submittal Checklist

J. Location of existing utilities (e.g., water, sewer, gas, electric) and easements	X		Plan		
K. Location of existing conveyance systems such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow	X		Plan		
L. Flow paths	X		Plan		
M. Location and dimensions of existing channels, bridges or culvert crossings		X			
N. Existing conditions hydrologic analysis for runoff rates, volumes and velocities showing methodologies used and supporting calculations (2, 5, 10, 25 & 100 year, 24-hour storm events) or Critical Duration	X		Plan		
O. Assumed pre-developed runoff curve numbers	X		Plan		
P. Existing time of concentrations used in calculations	X		Plan		
Q. Evaluate immediate downstream drainage capacity, not to exceed more than 0.25 miles downstream of site		X			
R. Existing structural elevations (e.g., invert of pipes, manholes, etc.)		X			
S. Cross-section data for open channels		X			
T. Ground water elevations, if applicable		X	Not Required		

Tab 3. Post-Development Hydrologic Analysis	Applicant			Engr	
	I	NA	Explanation / Location in Plan	I	NA
A. Proposed (post-development) conditions hydrologic and hydraulic analysis for runoff rates, volumes, HGL, and velocities showing the methodologies used and supporting calculations for all applicable design storms (2, 5, 10, 25 & 100 year, 24-hour storm events)	X		Plan		
B. Proposed time of concentrations used in calculations	X		Plan		
C. Assumed post-developed runoff curve numbers	X		Plan		
D. Proposed contours for detention facilities (to equal area used in outlet rating curves)		X			
E. Preliminary sizing calculations for stormwater controls including contributing drainage area, storage, and outlet configuration		X			
F. Stage-storage-discharge or outlet rating curves and inflow and outflow hydrographs for storage facilities		X			
G. Final analysis of potential upstream/downstream impact/effects of project, where necessary		X			
H. Dam safety analysis, where necessary		X			
I. Existing and proposed structural elevations (e.g., invert of pipes, manholes, etc.)		X			
J. Design water surface elevations and normal pool elevation for ponds.		X			
K. Typical detail for outlet structures, embankments, spillways, grade control structures, conveyance channels, etc. To include height, width, elevation, and/or diameter.		X			
L. Proposed limits of clearing and grading		X	Includes Entire Site		
M. Location of existing and proposed roads, buildings, parking lots and other impervious areas.	X		Plan		
N. Location of existing and proposed utilities (e.g., water, sewer) and easements	X		Plan		
O. Location of existing and proposed conveyance systems such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow	X		Plan		
P. Preliminary location and dimensions of proposed channel modifications, such as bridge or culvert crossings		X	No Downstream Improv		



Stormwater Management Subdivision Submittal Checklist

WICHITA

Q. Preliminary selection and location of stormwater controls		X		
R. Emergency overflow structure's flow path		X		
S. Detention facility provides one-foot of freeboard above the HWL and emergency outfall shown (top of berm elevation shown)		X		
T. The 100-year 24-hour HWL delineated on the plan for detention pond		X		
U. Lowest opening elevations table on the plat for structures located adjacent to channels or ponds		X		
V. Stormwater Management Facilities located within a Reserve		X		
W. Maintenance of stormwater management facility specified in the plat text as the responsibility of the Homeowner or Business Association		X		
X. Off-site drainage easements or agreements required		X		

Tab 4. Floodplain Submittal	Applicant		Engr	
	I	NA	I	NA
A. Provide source of flood profile		X		
B. Nearest base flood elevations		X		
C. Delineation of pre-developed regulatory floodplain/floodway limits		X		
D. Delineation of post-developed regulatory floodplain and floodway limits		X		
E. Floodplain boundary determination per elevation (project limits shown)		X		
F. Provide source of floodway data table and discharges		X		
G. Provide all hydrologic and hydraulic study information for site-specific floodplain studies, unnumbered Zone A area elevation determinations and flood plain map revisions		X		
H. Provide regulatory floodway and four natural profile models (10,50,100, and 500-yr) for existing and future watershed conditions		X		
I. Location of floodplain/floodway limits and relationship of site to upstream/downstream properties (floodplain limits to be per elevation and scaled location)		X		
J. Flood plains and floodways located within a Reserve		X		

Tab 5. Federal, State and Local Permits (to be provided prior to construction unless otherwise specified)	Applicant		Engr	
	I/R	NA	I/R	NA
A. US Army Corps of Engineers - Regulatory program permits (404 water quality certification)		X		
B. Kansas Department of Agriculture - Division of Water Resources Permits (Stream Obstruction, Channel Change, Flood Plain Fill, Levee, Water Appropriations, Dam safety permit, etc.)		X		
C. Federal Emergency Management Agency (FEMA) Letter of Map Changes (LOMA, LOMR, LOMR-f, CLOMR, etc.) CLOMR shall be included and approved for fill placed in the regulatory floodway		X		
D. Kansas Department of Transportation		X		
E. Sedgwick County Right-of-way Permit		X		

Appendix C

Electronic copies of Report