LAKESIDE INDUSTRIAL PARK

SANITARY SEWER ANALYSIS

January 1992

INTRODUCTION

The owners of the Lakeside Industrial Park have requested access to the Sewage Pump Station designed to serve the Reflection Ridge 6th Addition located north and west of 21st Street North and Ridge Road. To gain access, the owners must conduct an analysis of existing sanitary sewer facilities and the capability of those facilities to continue to serve the design service area and be expanded to include the Lakeside Industrial Park.

The Lakeside Industrial Park is a proposed plat which would be served by Main 15 of the Southwest Interceptor (SWI) sewer to the City of Wichita wastewater system. The area studied is served by Line 1 of Main 15 in the vicinity of 21st Street and Ridge Road. Most of the study area is property adjacent to the benefit district which may be served by future extensions to the Main 15 system.

PURPOSE

The purpose is to determine if capacity is available in the existing pump station located in Reflection Ridge 6th Addition to serve the Lakeside Industrial Park. The factors considered in the study include the design capacities of the main sewer system, identification of the service areas the City has committed to serve, and the projected wastewater flows from each area. In addition, the possibility of extending a gravity sewer line from the existing Reflection Ridge 6th Addition pump station into Lakeside Industrial Park will be reviewed.

STUDY AREA

The study area consists of approximately 1,110 acres located in Sections 3, 4, and 9 of T25S, R1W, and Section 33, T24S, R1W. (See Map) The study area is approximately 90% residential or proposed residential. The remainder is commercial. The average residential density of this area ranges from 1.8 dwelling units (DU) per acre to 2.4 DU per acre.

EXISTING FACILITIES

Line 1, Main 15, SWI (Map 1) provides sanitary sewer service to the study area. At the intersection of 21st Street North and Ridge Road, Line 1 is a 24-inch pipe with 0.1% gradient. Line 3 branches off from Line 1 at the intersection of 21st and Ridge. The Line 3 service area is approximately 400 acres, all south of 21st Street (Area No. 1), and is bounded by properties served from other sanitary sewer systems. Line 2 serves approximately 200 acres north of 21st Street and west of Ridge Road (Area No. 3). The benefit district north of 21st Street for Line 1 and Line 2, combined, encompasses approximately 540 acres, and is bounded by the Wichita city limits on the north, east, and west sides. An additional 160 acres, which lie outside the existing benefit district, but which have been designated by the City of Wichita Engineering Division for inclusion in the pump station service area (Parts of Areas 4 and 5), are included in the study area.

PROJECTED WASTEWATER LOADINGS

For purposes of this study, wastewater flow rates were calculated on the basis of either platted lots or 2.0 DU/acre assumed average residential density. Commercial lots were converted to residential equivalents by applying a factor of 3.0 DU/acre.

To develop flow rates to compare against sewer system capacity the number of DUs for the service area needed to be calculated. Table 1 "Service Area Dwelling Unit Estimate" was prepared by either taking an actual count based on plats or estimates based on the assumptions noted above. The flow rates expected for each area were then calculated based on the number of DUs as noted below.

Flow rate/DU = 3.5 P.E./DU x 100 gallons/DU x 3.0 peaking factor
= 1,050 gpd/DU

TABLE 1
SERVICE AREA DWELLING UNIT ESTIMATE

AREA NO.	ACRES ±	AREAS COUNTED	DUs
1	400	Assumed 2 DUs per Acre	800
2	80	Mere Ridge	18
		Lake Ridge Res.	114
		Lake Ridge Comm.	34
		Total	166
3	240	Refl. Ridge	
		Refl. Ridge 2nd	
		Refl. Ridge 3rd	
		Refl. Ridge 5th	
		Refl. Ridge Comm.	
		Refl. Ridge Comm. 2nd	
		Total	226
4	70	Refl. Ridge 4th	64
		Refl. Ridge 6th	6
		Refl. Ridge 7th	64
		Refl. Ridge 8th	5
		Area west of 7th Add.	40
		Total	179
5	240	Refl. Ridge 6th	89
		Refl. Ridge 7th	53
		Refl. Ridge 8th	67
		Area West of 7th	140
		Dev. North of 29th	148
		Total	497
6	80	Lakeside Ind.	126
	1110 Acres		

To determine whether adequate sewer capacity exists the projected wastewater flows into each segment of the sewer system are compared with the calculated capacity for the respective sewer segment. The flows for each sewer segment are calculated as noted above. The sewer capacities were calculated by applying record data for pipe sizes and pipe gradients to Manning's equation for open-channel flow. City records indicate that the sewer mains were installed during 1988 and that all pipe is PVC. A Manning n-factor of 0.010 was used in the calculations for PVC pipe capacity.

The comparison of capacity in each sewer segment to the projected wastewater contribution from the respective area served by each segment are summarized in Table 2.

AREA 1

The study area, served by Line 1 at 21st Street and Ridge Road, will contribute approximately 1.96 MGD (2.30 MGD with pumping) peak wastewater flow into the sanitary sewer system when fully developed. The calculated capacity of the 24-inch line is 4.69 MGD with wastewater flowing at a depth of three-fourths of the pipe diameter. Line 1 has adequate capacity at 21st and Ridge Road to serve the study area.

AREAS 2 AND 3

The projected future wastewater flow contribution from the area north of 21st Street is 1.12 MGD, (1.46 MGD with pumping) based on full development. The calculated capacity of the 21-inch line at three-quarters full is 3.28 MGD. The 21-inch diameter segment of Line 1, which ends 1,200 feet north of 21st Street, has adequate capacity for the service area.

AREA 4

The 15-inch diameter segment of Line 1 serves the northern portion of the study area, including the Reflection Ridge 6th Addition pump station service area. Approximately 80% of the wastewater flow entering this segment is delivered by the pump station. The projected service area for this segment is approximately 310 acres, which will contribute a peak wastewater flow rate of 0.71 MGD (1.05 MGD with pumping). The projected wastewater flow into the pump station is 0.52 MGD (360 gpm). The calculated capacity of the 15-inch line at three-quarters full is 1.89 MGD. The 15-inch line has ample capacity even with pumping occurring.

AREA 5

The wastewater pump station servicing Reflection Ridge 6th Addition was designed to allow modifications to increase the pumping capacity as the service area develops. The pump station has an initial design capacity of 0.36 MGD (250 gpm). The original pump station contains two 5-hp pumps and has a generator to provide power during emergencies. The pump station capacity can be increased in two stages. The first modification could increase the pump station capacity to 0.65 MGD (450 gpm) by installing larger impellers in the pumps. A second modification could increase the pumping capacity of the original equipment and internal piping up to 0.86 MGD (600 gpm) by replacing the 5-hp motors with 7.5-hp motors and installing the maximum sized impellers available for the existing pumps. The emergency generator at the pump station was designed to provide power to start and operate a 7.5-hp motor.

The expected flow arriving at the pump station is 0.52 mgd (360 gpm). There is ample capacity to service Area 5.

TABLE 2
LAKESIDE INDUSTRIAL PARK SEWER STUDY
ORIGINAL REFLECTION RIDGE 6TH ADDITION PUMP STATION SERVICE AREA
ESTIMATED AND PROJECTED WASTEWATER FLOW RATES

Area No.	Area	Number of DUs	Average Flow (MGD)	Peak Flow (MGD)	Accumulated Peak Flow (MGD)	Receiving System Capacity (MGD)	Is Capacity Available
5	Pump Station Service Area	497	0.17	0.52	0.52 0.86**	0.36* 0.86*	Yes
4	Reflection Ridge 4th Add., plus gravity lines north	179	.06	0.19	0.71 1.05**	1.89	Yes
3	Reflection Ridge Gravity	226	0.08	0.24	0.95 1.29**	3.28	Yes
2	Mere Ridge Area (includes Mere Ridge, Lake Ridge Comm. & Parcels 1 & 2 of Lake Ridge Res. CUP)	166	0.06	0.17	1.12 1.46**	3.28	Yes
1	Line 3 Service Area	800	0.28	0.84	1.96 2.30**	4.69	Yes

* Existing pump station capacity is 250 gpm (.36 MGD), expandable to 600 gpm (.86 MGD).
**Expected flow rate increase due to pumping.

PUMP STATION ANALYSIS

A. Existing Capacity to Serve the Lakeside Industrial Development

The existing pump station serving Reflection Ridge 6th Addition is designed to handle a peak flow of 360,000 gallons per day or 250 GPM. Using a peaking factor of 3.0, 100 gallons per capita per day, and assuming 3.5 people per dwelling unit, the pump station can support 343 DUs.

DUs = 0.36 MGD x 1/3.0 x 1/100 gpcd x 1/3.5 people/DU
= 343 DUs

If Reflection Ridge 6th, 7th, and 8th Additions develop to their maximum the total number of DUs will equal approximately 210 leaving 130 DUs available before the pump station would require expansion. The Lakeside Industrial Development site will have a potential development resulting in approximately 126 DUs. The Lakeside Industrial Development and Reflection Ridge 6th, 7th and 8th Additions will match the Lift Station existing capacity.

B. Future Capacity to Serve the Lakeside Industrial Development

The lift station can be expanded by replacing the pump impellers and motors which will increase the capacity to 0.86 MGD or 600 gpm. By review of Table 3 it can be seen that the Lakeside Industrial Development can be added to the pump station service area without infringing on the service area capacity.

It should be noted that there appears to be 0.21 MGD (.86 - .65) capacity left or enough capacity to support another 200 DUs.

DUs = 0.21 MGD x 1/3.0 x 1/100 gpcd x 1/3.5 people/DU
= 200 DUs

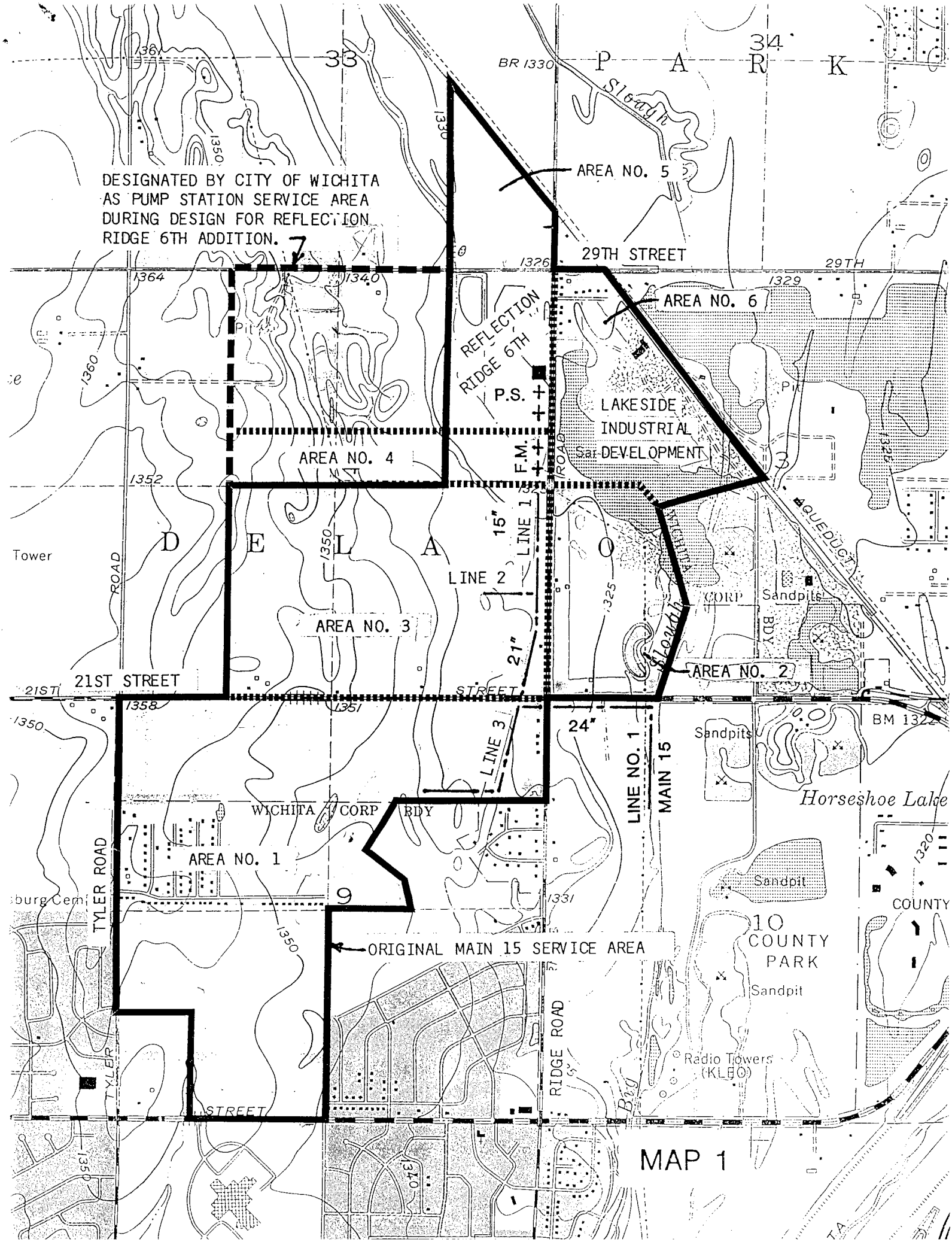
C. Estimated Cost to Expand Lift Station to 600 gpm

The cost to expand the pump station from 250 gpm to 600 gpm is estimated at between $15,000 and $20,000. This will involve only new impellers and new motors.

TABLE 3
LAKESIDE INDUSTRIAL PARK SEWER STUDY
ESTIMATED AND PROJECTED WASTEWATER FLOW RATES
INCLUDING LAKESIDE INDUSTRIAL PARK

Area No.	Area	Number of DUs	Average Flow (MGD)	Peak Flow (MGD)	Accumulated Peak Flow (MGD)	Receiving System Capacity (MGD)	Is Capacity Available
6	Lakeside Industrial Park (Line 1)	125	0.04	0.13	0.13	0.86*	
5	Pump Station Service Area	497	0.17	0.52	0.65 0.86**	0.86*	Yes
4	Reflection Ridge 4th Add., plus gravity lines north	139	0.05	0.19	0.84 1.05**	1.89	Yes
3	Reflection Ridge Gravity (Line 2)	226	0.08	0.24	1.08 1.29**	3.28	Yes
2	Mere Ridge Area (includes Mere Ridge, Lake Ridge Comm. & Parcels 1 & 2 of Lake Ridge Res. CUP)	267	0.09	0.17	1.25 1.46**	3.28	Yes
1	Barrington, etc. (Line 3)	800	0.28	0.84	2.09 2.30**	4.69	Yes

* Existing pump station capacity is 250 gpm (.36 MGD), expandable to 600 gpm (.86 MGD).
**Expected flow rate increase due to pumping.


DESIGNATED BY CITY OF WICHITA AS PUMP STATION SERVICE AREA DURING DESIGN FOR REFLECTION RIDGE 6TH ADDITION.
AREA NO. 5
AREA NO. 6
AREA NO. 4
AREA NO. 3
AREA NO. 2
AREA NO. 1
ORIGINAL MAIN 15 SERVICE AREA
29TH STREET
21ST STREET
REFLECTION RIDGE 6TH
P.S.
LAKESIDE INDUSTRIAL DEVELOPMENT
LINE 1
LINE 2
LINE 3
15"
21"
24"
LINE NO. 1
MAIN 15
TYLER ROAD
RIDGE ROAD
WICHITA CORP RDY
AQUEDUCT
Sandpits
Horseshoe Lake
COUNTY PARK
Radio Towers (KLEO)
BM 1322
MAP 1

SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION

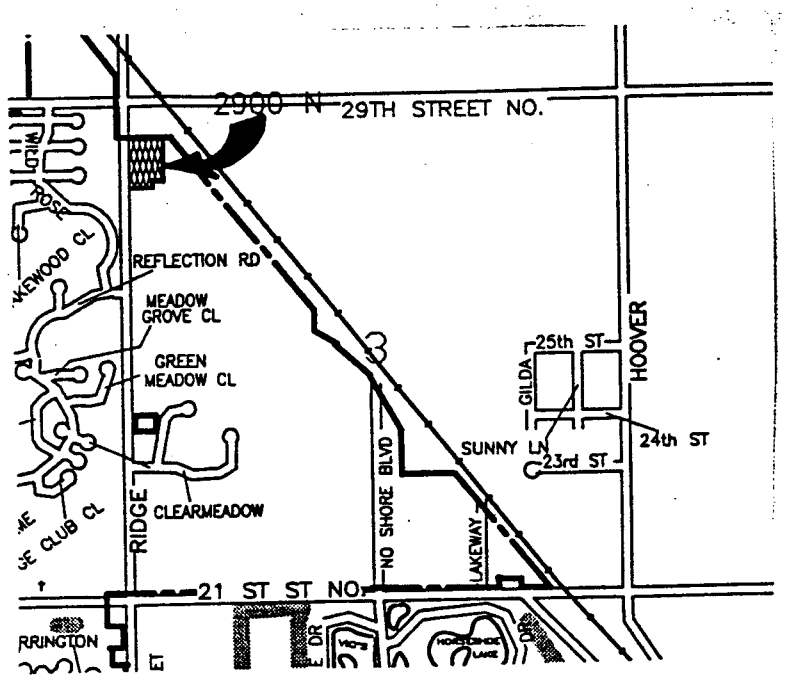
AGENDA ITEM NO. 6

May 14, 1992

STAFF REPORT
(Preliminary Plat)

CASE NUMBER:	**S/D 92-18 LAKESIDE PARK ADDITION**
OWNER/APPLICANT:	Ritchie Corporation % H.T. Ritchie, P.O. Box 4048, Wichita, Kansas 67204
SURVEYOR/ENGINEER:	P.E.C., P.A. % Gary Wiley, 303 S. Topeka, Wichita, Kansas 67202
LOCATION:	South of 29th St. No. on the east side of Ridge Road.
SITE SIZE:	6 acres
NUMBER OF LOTS	
Residential:	
Office:	
Commercial:	
Industrial:	1
Total:	1
MINIMUM LOT AREA:	4.92 acres
CURRENT ZONING:	"E" Light Industrial

VICINITY MAP:



STAFF COMMENTS:

NOTE: While this site is zoned "E" light-industrial, the intended development is office.

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

B. The applicant shall guarantee the extension of City water to serve the lot 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 interior street, Wedgewood, to the commercial/industrial street standard.

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

F. On the final plat, the uses of Reserve A and who is to own and maintain this Reserve shall be noted in the plattor's text.

G. As indicated by this plat, a number of separate ownerships exist along the north line of this site. Based upon recent aerial photos, while this area is zoned "E" light industrial, actual uses appear to be residential. Further, access to these tracts and associated buildings (homes) appears to be by means of a non-public dirt or gravel driveway running adjacent to this plat's north line.

In order to provide for future public access into this area, this plat shall dedicate street right-of-way along its north property line. Since it is unclear as to whether the area to the north will retain its residential uses or eventually come in for platting under the existing "E" zoning, this plat may dedicate less than the 35-foot of ½ street right-of-way required for industrial zoning. If the area to the north were to remain residential, a 58-foot residential street could be anticipated. This plat could therefore be expected to provide at least 29-feet of right-ofway.

H. Based on the above right-of-way dedication, the indicated utility easement shall be relocated and a building setback also platted from the ½ street dedication.

I. This site appears to be near FEMA identified floodplain. If a minimum building pad elevation is required, it shall be shown on the face of the plat and referenced in the plattor's text. It shall also note if the elevation is for the lowest opening or floor elevation and both on-site and off-site bench marks shall be indicated.

J. The final plat shall indicate the platting of the 35-foot building setback from Ridge Road through the existing building which encroaches into the setback area. Central Inspection has advised that the platting of this building setback does not preclude the property owner from maintaining or remodeling that portion of the building within the setback area. The building cannot, however, be enlarged within the setback and, if the building is removed, any new building construction must observe the platted building.

K. Requirements for a final plat (see pages 5-5 to 5-10, Part 4, Article 5 of the MAPC Subdivision Regulations).

L. 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.

M. 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.

N. 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.

O. The representative from City Engineering should be prepared to comment on the status of the applicant's drainage concept. Engineering also needs to indicate if a minimum building pad elevation is required for this site.

PROFESSIONAL
ENGINEERING
CONSULTANTS
PROFESSIONAL ASSOCIATION

June 5, 1992

Michael E. Lindebak, P.E.
City Engineer
City Hall - 7th Floor
455 N. Main
Wichita, KS 67202

Reference: Lakeside Industrial Park
Sanitary Sewer Analysis
January 1992
PEC Project. No. 34-91665-1093

Dear Mr. Lindebak:

We were retained by Jeff Krehbiel Associates on behalf of Ritchie Paving to review the sanitary sewer service available to the Lakeside Industrial Park via the Reflection Ridge 6th Addition Pump Station. A copy of our study, which was hand delivered to your office previously, is attached.

By review of Table 3 in the report, it can be seen that the maximum loading assuming a peak factor of 3 at the Reflection Ridge 6th Addition Pump Station is 0.65 MGD. The pump station maximum capacity could be extended to 0.86 MGD (600 gpm).

It is our intention to expand the pump station to a capacity of 0.82 MGD (570 gpm) which will accommodate the projected loading. By review of the attached pump curve the station's actual performance will range from 0.78 MGD (540 gpm) to 0.86 MGD (600 gpm).

Should you have any questions please advise immediately. On June 11, 1992, we will be advising the manufacturer's representative, Dick Bowers, to have HFE, the pump manufacturer, proceed with the removal and replacement of the motors and starters and to furnish a new pump performance curve to the City.

Very truly yours,

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

Michael D. Schomaker, P.E.
Director

MDS/cas

cc: Jeff Krehbiel
Tom Ritchie
Dick Bowers, Environline

8/7/92

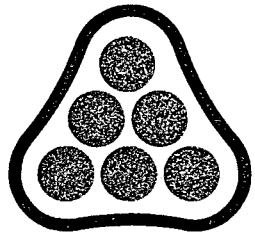
VICKY

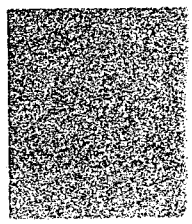
FOREST LAKES PROPOSES 264 D.U.'s.

148 D.U.'s HAVE BEEN PLANED FOR NORTH OF 29TH. (-116 D.U.'s)

ADDITIONAL CAPACITY IS 200 D.U.'s (PAGE 7)

GARY





May 14, 1992

Mr. Jeff Krehbiel
Jeff Krehbiel Associates
1300 E. Lewis
Wichita, KS 67211

Reference: Lakeside Sewer Study
PEC File No. 34-91665-1093

Dear Jeff:

On May 13, 1992, Gary Wiley and the undersigned met with Mike Lindebak and Chris Breitenstein to discuss extension of water and sewer service to the proposed property and the effect on the Reflection Ridge 6th Addition Pump Station. Mr. Lindebak proposed that Ritchie Associates purchase the motors and rotating assemblies now for Reflection Ridge Pump Station expansion which would be placed in storage at the City Yards. These motors and rotating assemblies would be sized to accommodate all of Lakeside Development area at an estimated cost of $15,000. The City of Wichita would be responsible for installation cost. Mr Lindebak stated, however, he would need to discuss this option with City personnel for approval.

Mr. Lindebak also stated that 8" water and 8" sanitary sewer extensions would be acceptable to the site. Water needs to be extended to the north property line.

Should you have any questions, please advise.

Very truly yours,

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

Michael D. Schomaker, P.E.
Project Manager

MDS:ama

cc: Mike Lindebak
Tom Ritchie

303 S. TOPEKA
WICHITA, KANSAS 67202
(316) 262-2691
FAX (316) 262-3003

SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION

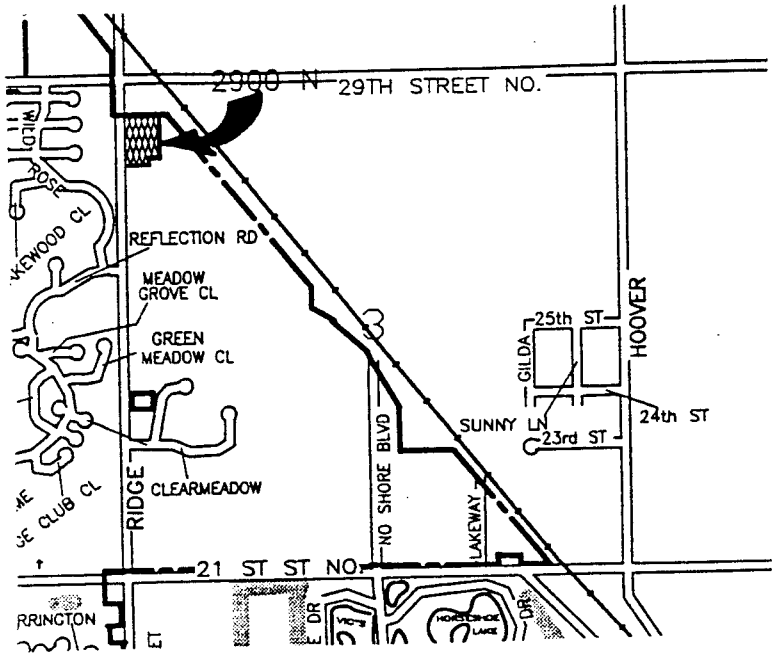
AGENDA ITEM NO. 3

June 25, 1992

STAFF REPORT
(Final Plat, Preliminary Plat Approved 5/14/92)

CASE NUMBER:	**S/D 92-18 LAKESIDE PARK ADDITION**
OWNER/APPLICANT:	Ritchie Corporation % H.T. Ritchie, P.O. Box 4048, Wichita, Kansas 67204
SURVEYOR/ENGINEER:	P.E.C., P.A. % Gary Wiley, 303 S. Topeka, Wichita, Kansas 67202
LOCATION:	South of 29th St. No. on the east side of Ridge Road.
SITE SIZE:	6 acres
NUMBER OF LOTS	
Residential:	
Office:	
Commercial:	
Industrial:	1
Total:	1
MINIMUM LOT AREA:	4.92 acres
CURRENT ZONING:	"E" Light Industrial

VICINITY MAP:



STAFF COMMENTS:

NOTE: While this site is zoned "E" light-industrial, the intended development is office.

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

B. The applicant shall guarantee the extension of City water to serve the lot 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 interior street, Wedgewood, to the commercial/industrial street standard.

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

F. As indicated by the platting binder, unpaid property taxes are due on this site. Before this plat is released for recording, proof that all applicable taxes have been paid shall be provided.

G. 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.

H. 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.

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

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

K. The representative from City Engineering should be prepared to comment on the status of the applicant's drainage plan. Engineering also needs to verify if the indicated minimum pad elevation is acceptable.

PROFESSIONAL
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CONSULTANTS
PROFESSIONAL ASSOCIATION

September 10, 1993

H. T. Ritchie, President
Ritchie Paving, Inc.
P.O. Box 4048
Wichita, KS 67204

Reference: Lakeside Park
NPDES Permit Application
PEC File No. 36-93489-369

Dear Mr. Ritchie:

Transmitted herewith are one original set and one copy of documents to be submitted in application for an NPDES permit for construction activity for the referenced project. Please sign and date Form 1 on the reverse side in the appropriate space. The original may be submitted to:

Mr. Kelly P. Finn, P.E.
Environmental Engineer
Industrial Programs Section
Bureau of Water
Kansas Department of Health & Environment
Forbes Field, Building 740
Topeka, KS 66620-0001

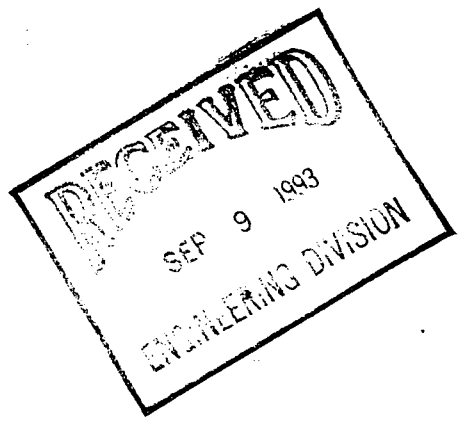
The copy is for your files.

Very truly yours,

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

Michael W. Berry

Michael W. Berry, P.E.
Manager
Land Development Division



MWB:st

Encl.

cc: C.J. Breitenstein, P.E., City Engineer's Office

303 S. TOPEKA
WICHITA, KANSAS 67202
(316) 262-2691
FAX (316) 262-3003

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2040-0086 Approval expires 7-31-88

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F NOT REQUIRED D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters** of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters** of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to **waters** of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters** of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP LAKESIDE PARK ADDITION

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*		
2 RITCHIE, H. T., PRESIDENT	316	838	9301

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 BOX 4048

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 WICHITA	KS	67204

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 NW 1/4 SEC 3 T27S R1W

B. COUNTY NAME

SEDGWICK

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 WICHITA	KS	67205	

Storm Water Application for Construction Activity
Lakeside Park Addition
NW¼, S3, T27S, R1W, Sedgwick County, Kansas

Supplemental Information

1. For location, see maps enclosed (plat and quadrangle map).

2. The total development are is 6.6 acres, and the total disturbed area is estimated as 5.3 acres.

3. No state or local erosion and sediment control regulations are in effect. Construction to be performed in accordance with standard local practice. Provisions have been made for inlet sediment protection and for hay bale or silt fence barriers if field conditions warrant.

4. No state or local erosion and sediment control regulations are in effect. Once construction is complete, disturbed areas will be seeded, fertilized and mulched, and stone riprap and a concrete headwall will be constructed at the storm sewer outlet. In addition, all lawns will be seeded or sodded upon completion of construction.

5. The runoff coefficient for office areas of this type is estimated to be 0.68 to 0.80. The total anticipated impervious area is 5.3 acres, or 80% of the site. All embankment materials will be soil excavated from adjacent sites. The soils are sandy loam to fine sandy loam.

6. The receiving water is a pond excavated into groundwater on the Big Slough.

STATE OF KANSAS

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