

March 19, 2007

Tyler P. Pjesky, I. E. Project Engineer
Professional Engineering Consultants, P. A.
303 S. Topeka
Wichita, KS 67202

Dear Mr. Pjesky,

I was asked to review your company's plan for the Benton Kansas wastewater treatment facility improvements. Based on my discussion with you I have only a few questions.

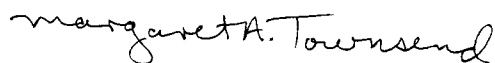
Your letter states that the current lagoons will have the solids removed. I think it is important that due consideration be given as to the method of disposal of those solids. City wastewater lagoons have a large component of nitrogen as well as bacteria in the soil and water. Proper treatment and disposal of this waste should be included in your proposed plan. The NRCS and KDHE have information concerning proper application of this type of waste. The soils in the area appear to be predominantly silty clay loams which should limit excessive leaching if land application is used. However, your group should consult with one or both of these agencies to determine if excessive leaching is a potential issue in your area. In addition, because of the potential for high concentrations of nitrogen and bacteria care should be taken as to where application of the waste might occur. Areas with very sandy soils should be avoided.

You mentioned that the lagoons will most likely be lined with compacted clay and possibly bentonite. Again, although the soil map indicates potentially low permeability soils in the area, the map does not supply the information concerning the permeability at depth. Perhaps some soil testing should be considered at the site to determine the actual permeability before determining the lining method.

I do not know if monitoring wells are required around wastewater lagoons. If they are then I would suggest that your group install one or two on the downgradient side of the lagoon. In addition, you might wish to determine the depth to ground water within the area in order to determine if sufficient depth exists between the base of the lagoons and the water table. If no leaking has been observed at the present lagoons the depths that you proposed will probably be sufficient.

The above comments are based information that the Kansas Geological Survey has on this proposed site. Other geologic conditions, not discussed here, might affect the stability or safe operation of the proposal. It is the responsibility of the applicant to produce the detailed site evaluation.

Sincerely,



Margaret A. Townsend
Hydrogeologist
Geohydrology Section

Benton Kansas Wastewater Treatment Facility Improvements Project Review Form

☐ US Department of the Interior, Fish & Wildlife Service, Kansas State Office
☐ US Army Corps of Engineers, Kansas State Regulatory Office
☐ Kansas Dept. of Wildlife and Parks, Environmental Services Section
☐ Kansas Water Office
☐ Kansas State Historical Society, State Historical Preservation Office
☐ U.S. Department of Agriculture, Natural Resources Conservation Services
☐ Kansas Department of Agriculture, Division of Water Resources
☐ State Conservation Commission
☐ Kansas Biological Survey
☐ Kansas Corporation Commission, Conservation Division
☒ Kansas Geological Survey

Agency Review Comments: (To be completed by reviewing agency and returned to applicant contact person at name and address shown below.)

Comments: _____

Recommended Action: (To be completed by the reviewing agency and returned to applicant contact person at name and address shown below.)

☐ Clearance of project should be granted
☐ Clearance of project should not be granted
☐ Clearance of project should be delayed until the issues or questions have been clarified
☒ Clearance of project should not be delayed, but the applicant (in the application) should address or clarify the questions or concerns indicated above.

Margaret A. Townsend KGS 3-27-07
Reviewer's Name Division/Agency/Commission Date

Applicant: The City of Benton, Kansas
Contact Person: Tyler Pjesky
Address: Professional Engineering Consultants, P.A., 303 S. Topeka
City, State: Wichita Zip: 67202 Phone: 316-262-2691



Professional Engineering Consultants, P.A.

March 5, 2007

Kansas Geological Survey
University of Kansas
1930 Constant Ave. - Campus West
Lawrence, KS 66047

Reference: Benton Kansas Wastewater Treatment Facility Improvements
PEC Project No. 34-07038-1558

Dr. William Harrison:

The City of Benton, Kansas, intends to upgrade their wastewater treatment facility. The improvements consist of replacement of the influent force main, upgrade of the main pump station, additional treatment lagoon cells, addition of an effluent flow meter, and solids removal from existing lagoon cells.

The legal description of the Treatment Facility Improvements location is the Northwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ of the Southeast $\frac{1}{4}$ of Section 9, Township 26 South, Range 3 East, in Butler County, Kansas.

The location of the influent force main, main pump station, and proposed location of the additional treatment lagoons are shown in the attached documents.

- 1.) Aerial photograph of the project site
- 2.) USGS quadrangle map

We would appreciate your review of the project description and location, and any comments you may have. All responses may be sent to:

Tyler V. Pjesky, I.E.
Professional Engineering Consultants, P.A.
303 S. Topeka
Wichita, KS 67202

Please feel free to contact me at (316) 262-2691 if you have any further questions.

Very truly yours,

Professional Engineering Consultants, P.A.

Tyler V. Pjesky, I.E.
Project Engineer

TVP/tac

Encl: As noted

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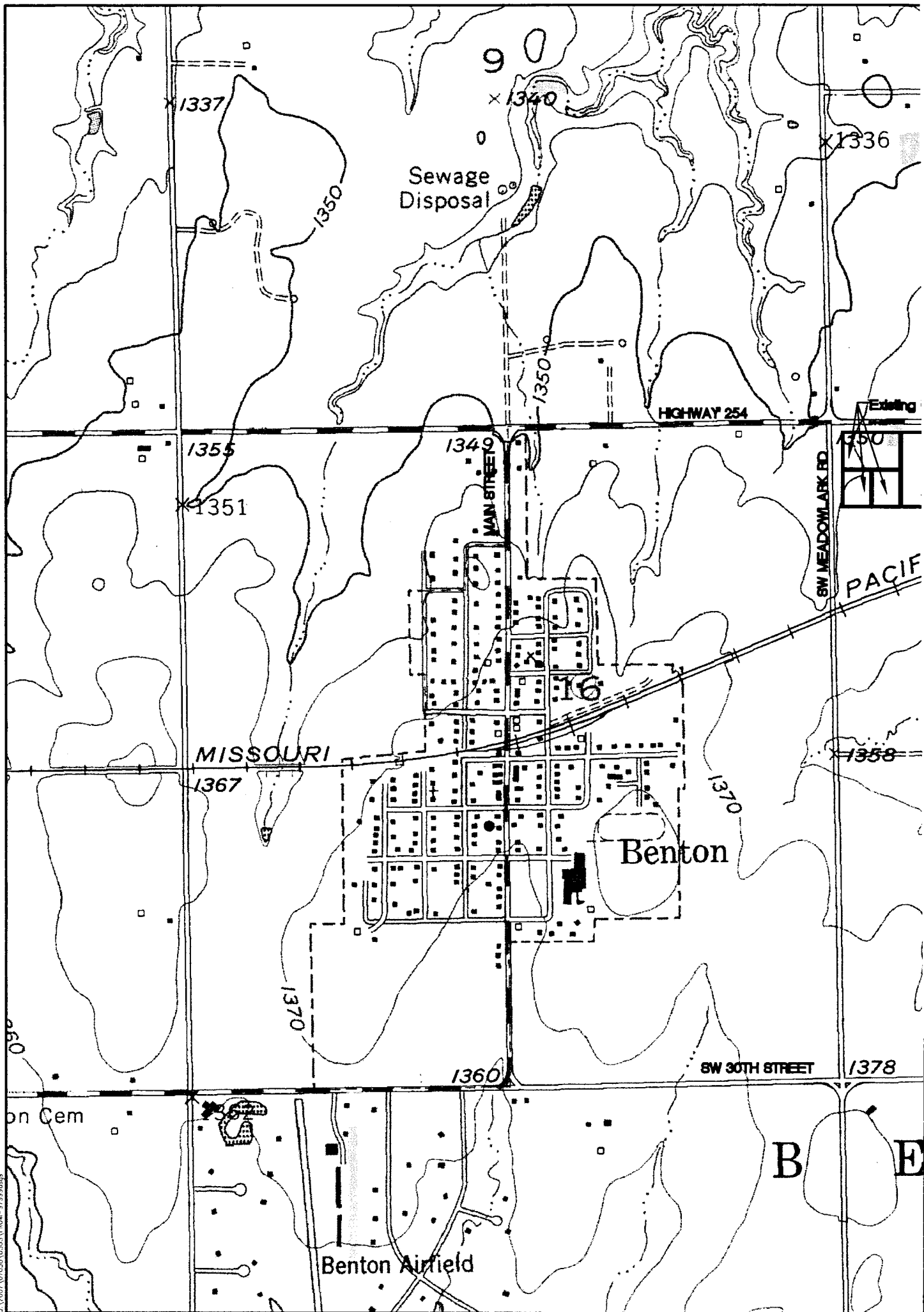
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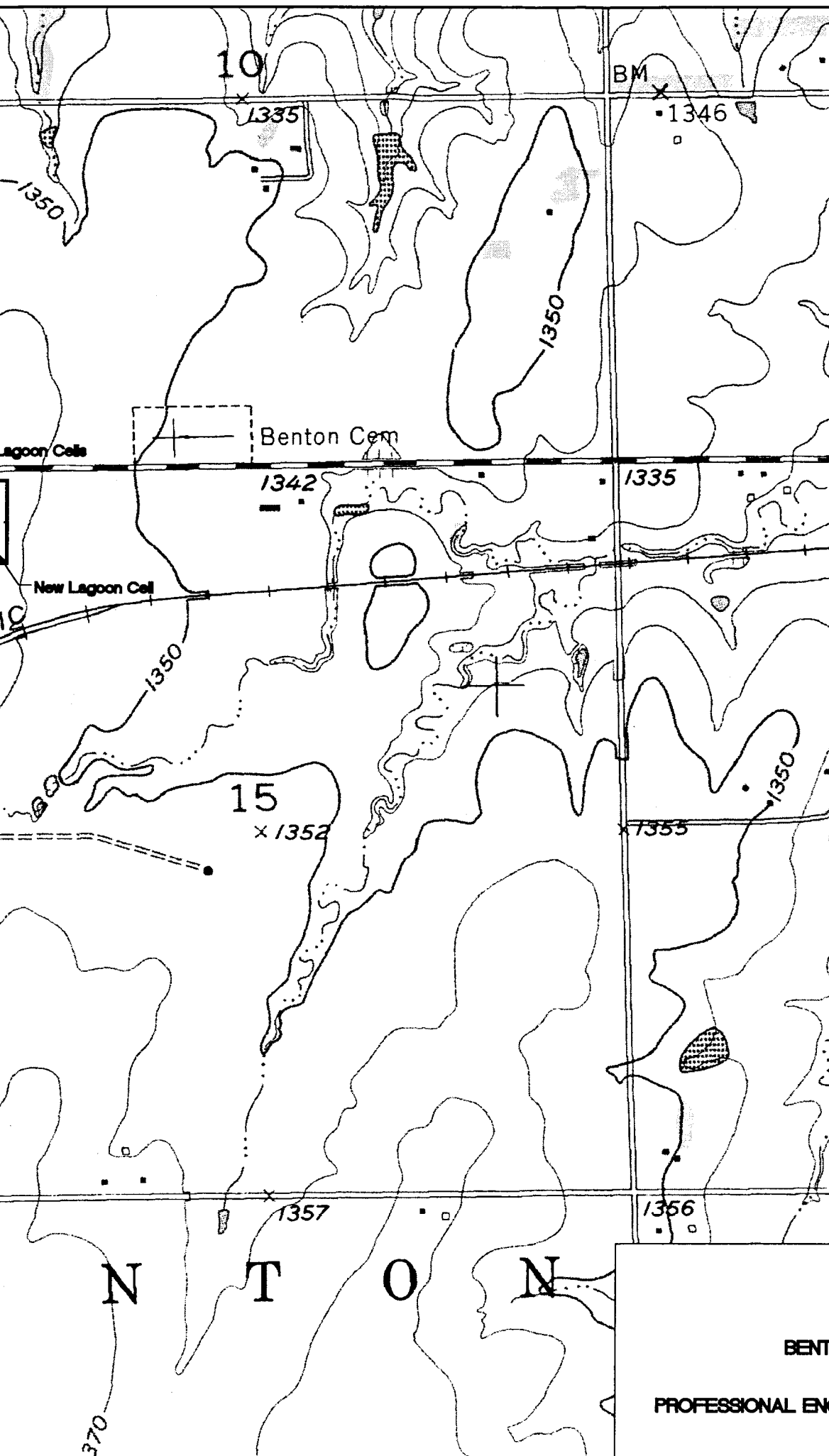
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WICHITA
TOPEKA
TULSA
LAWRENCE
PITTSBURG





SCALE: 1" = 500'

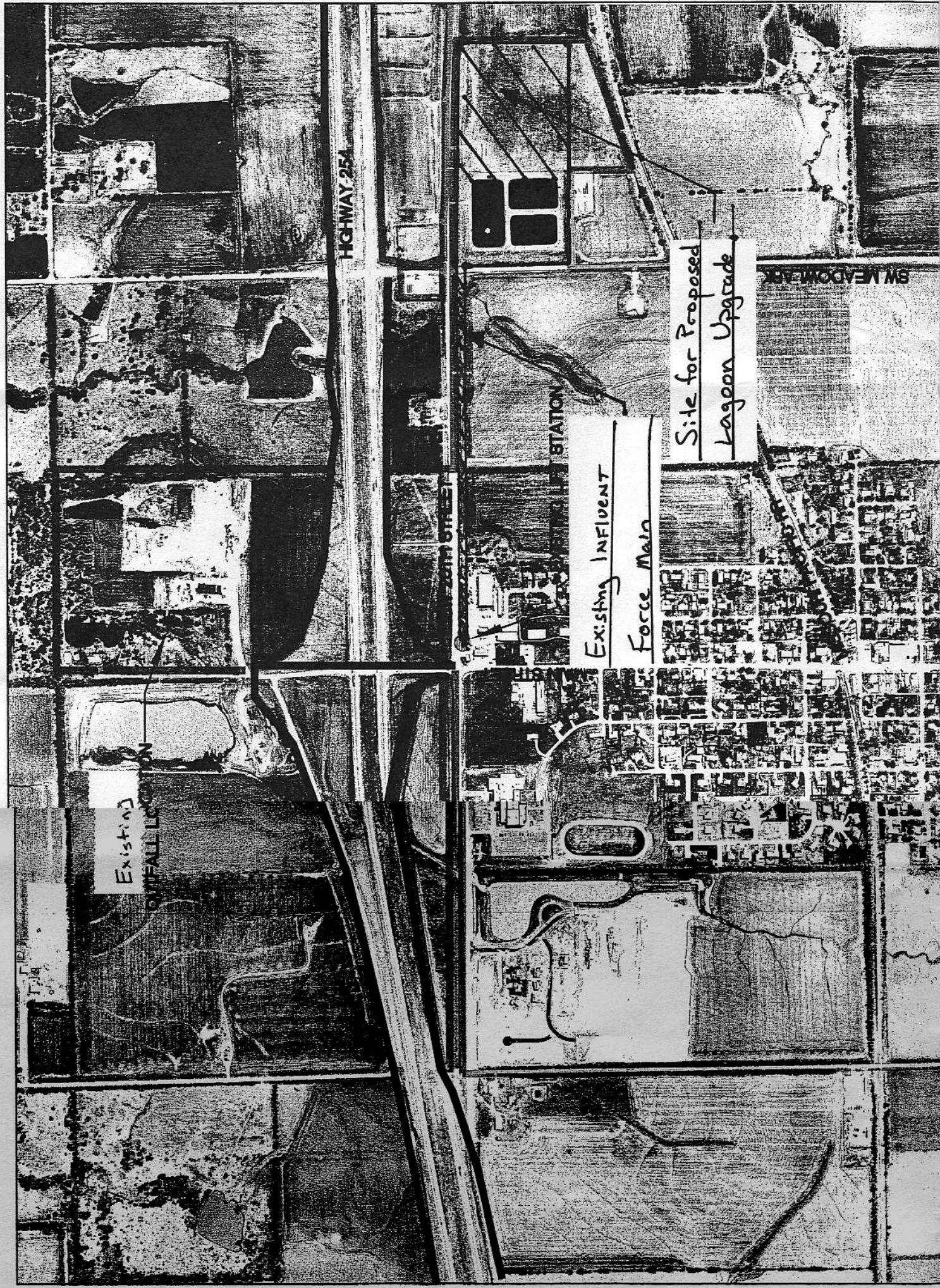
0 500 1000



USGS

BENTON LAGOONS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.



Existing
OUTFALL LOCATION

20th STREET

EXISTING LIFT STATION

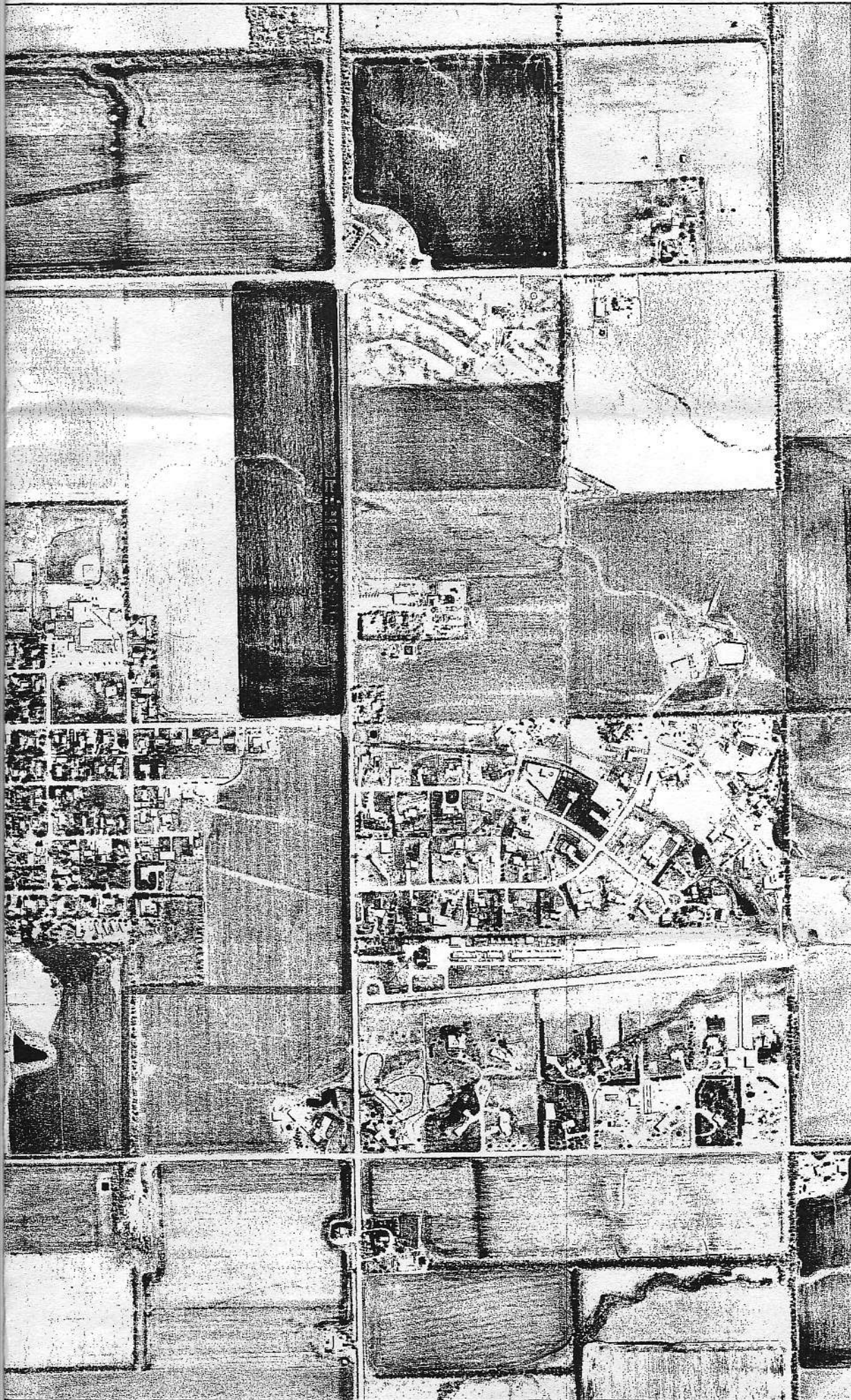
HIGHWAY 254

Existing Influent

Force Main

Site for Proposed
Lagoon Upgrade

SW MEADOW LAK



AERIAL

BENTON LAGOONS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.



SCALE: 1" = 400'

0 400 800

LEGEND

CITY PROPERTY

HIGHWAY 254 EASEMENT