

#### Project Overview

Complete utility analysis of the region designated as "Cell 23" in the north central part of Allen County, IN. This study included sanitary sewer collection system and potable water supply network preliminary design. The basic components of this study were: Analysis of existing conditions (service level, development status and types, etc.), predictions for future growth and types in parts of Cell 23, analysis of sanitary sewer collection components required to service future growth at various time lines throughout the proposed development cycle, and development of preliminary plans and cost estimates to complete the skeleton service system for sanitary and water service.

#### Study Area Size and Utility Study Cost

The Cell 23 (and watershed) study covered over 6,000 acres. Estimates for utility construction cost were approximately \$10M. The study and documentation engineering cost was approximately \$75,000.

#### Survey and Property Research

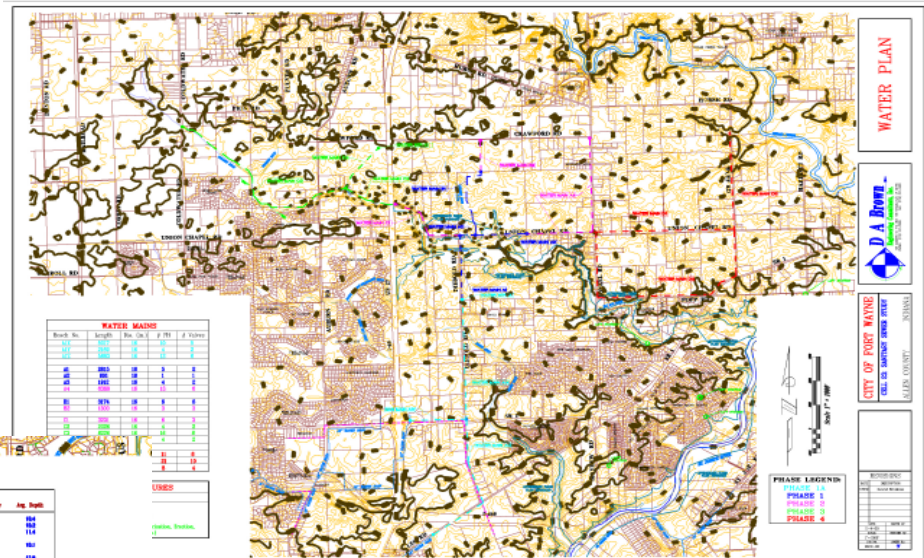
Some topographical survey work was completed for this project to verify sanitary inverts, lift station locations and inverts, and other important points. General property ownership mapping was undertaken to determine the likelihood of development for the properties within the study area.

#### Preliminary Routing Plans

Preliminary Routing Plans were completed as part of this project to illustrate appropriate pipe sizes, grades, and inverts to service the area included within the study limits. These plans were used as the basis for the cost estimates to complete the construction.

#### Cost Estimates and Phasing Options

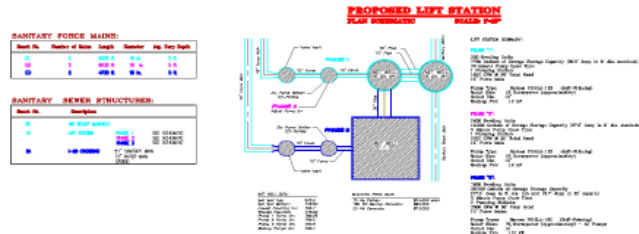
Cost estimates were generated for this project on an "event horizon" basis, which allowed for phasing costs to be evaluated and ultimately for the cost of the system to be divided among the new users in the area. Splitting the project into manageable chunks will also allow the City to build service into this area in an organized fashion.



**SANITARY SEWER DESIGN DATA**

**GRAVITY SEWER MAINS:**

Block No.	Length	Diameter	1' Crank	Spigons In	Est. Cost	Op. Exp.	Dep. Exp.	Est. Cost	Dep. Exp.	Op. Exp.
101	100	18"	0	0	1000	100	100	1000	100	100
102	100	18"	0	0	1000	100	100	1000	100	100
103	100	18"	0	0	1000	100	100	1000	100	100
104	100	18"	0	0	1000	100	100	1000	100	100
105	100	18"	0	0	1000	100	100	1000	100	100
106	100	18"	0	0	1000	100	100	1000	100	100
107	100	18"	0	0	1000	100	100	1000	100	100
108	100	18"	0	0	1000	100	100	1000	100	100
109	100	18"	0	0	1000	100	100	1000	100	100
110	100	18"	0	0	1000	100	100	1000	100	100
111	100	18"	0	0	1000	100	100	1000	100	100
112	100	18"	0	0	1000	100	100	1000	100	100
113	100	18"	0	0	1000	100	100	1000	100	100
114	100	18"	0	0	1000	100	100	1000	100	100
115	100	18"	0	0	1000	100	100	1000	100	100
116	100	18"	0	0	1000	100	100	1000	100	100
117	100	18"	0	0	1000	100	100	1000	100	100
118	100	18"	0	0	1000	100	100	1000	100	100
119	100	18"	0	0	1000	100	100	1000	100	100
120	100	18"	0	0	1000	100	100	1000	100	100



#### Existing Conditions with Water Main Grid Plan

### Client Reference

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