

September 30, 2005

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# Wastewater Treatment Plant Relocation and Conveyance System Project Program Summary Report



**City of Willmar**

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# Project Background

- ◆ The Users
  - 18,488 City residents and businesses/industries
  - Eagle Lake Sanitary District
- ◆ Plant is over 70 years old located in southeast Willmar
- ◆ Discharges to Hawk Creek/Minnesota River Watershed

# Project Background

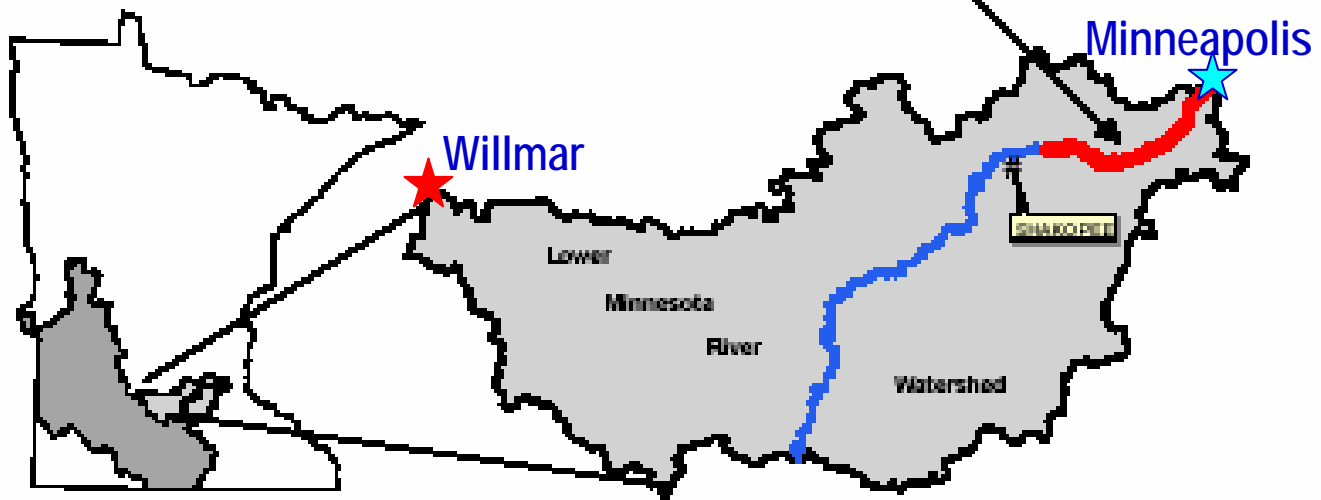
- ◆ Existing Wastewater Plant Deficiencies
  - Cannot reliably meet new permit limits
  - Outdated/Failed treatment technology
  - Capacity to meet City growth
  - Future regulatory landscape-Minnesota River water quality (phosphorous reduction)
- ◆ Existing Wastewater Sewer Deficiencies
  - Sewer backups and overflows
  - Sewer deterioration
  - Future capacity limitations
- ◆ WWTP relocation to west side of Willmar
- ◆ Sewer system upgrade and expansion

# Project Significance

## *Regulatory Landscape*

- ◆ Statewide Impact –phosphorus removal
  - Second highest point source contributor (14%) to Minnesota River
  - Too much phosphorus increases river algae growth → algae dies → reduces oxygen → decomposing vegetation causing fish kill and odors
  - Project reduces Willmar's phosphorus discharge (by 90%) to lower Minnesota River watershed and improves water quality at Shakopee
- ◆ Interstate Impact-phosphorus removal
  - Drains to Mississippi River's Lake Pepin
  - Similar impact

## Lower 22 miles, Lower Minnesota River Watershed



# Project Significance

## *West-Central Minnesota Growth*

### ◆ Regional Impact

- Commercial and medical center supporting west central Minnesota rural/agricultural communities with goods and services
  - Turkey, cattle, swine, produce
- Facility to provide infrastructure to support regional community
- May provide treatment to other communities
- Approximately one-half of people who work in Willmar live outside the City
- Protect Hawk Creek watershed

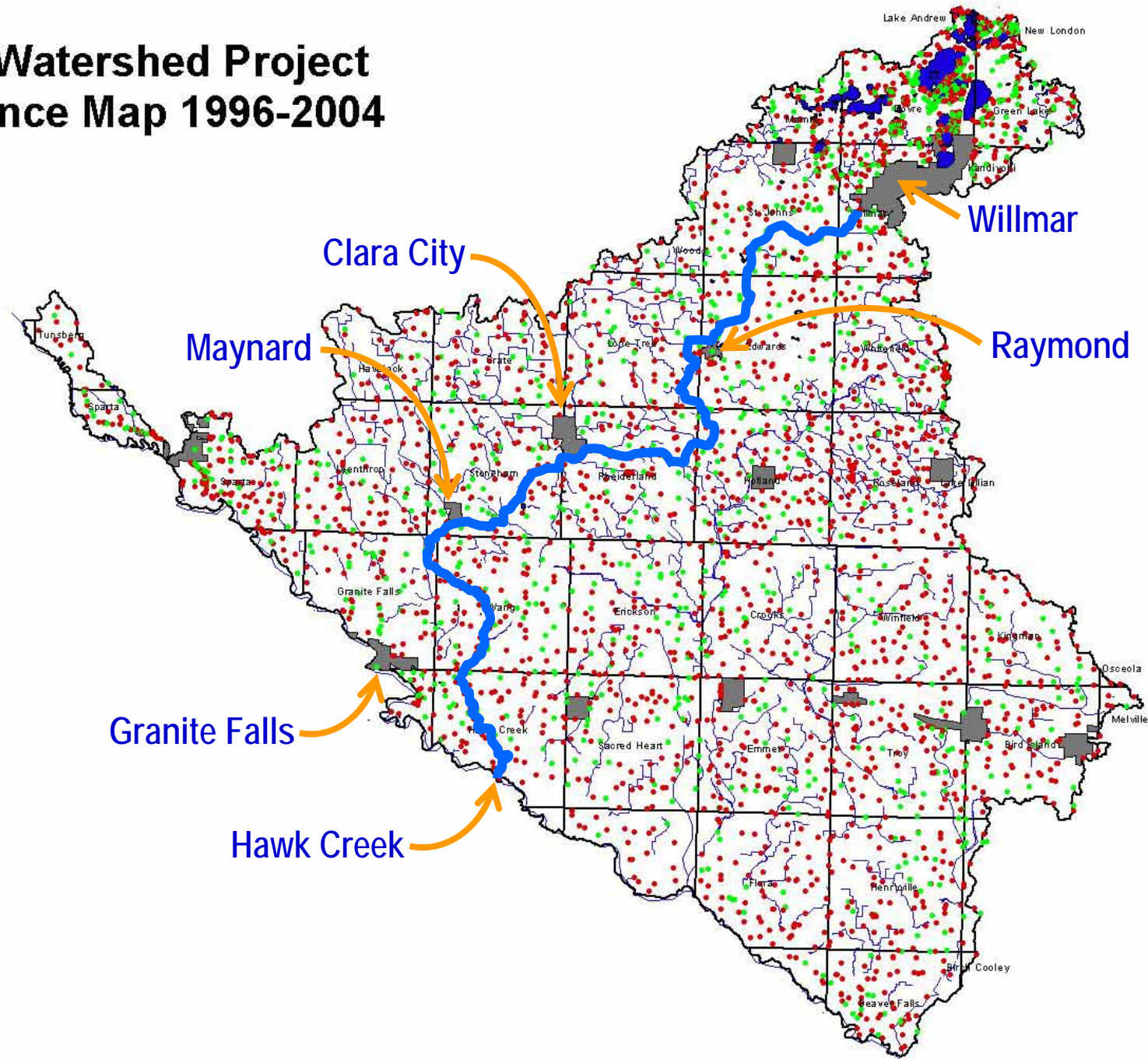
# Project Significance

## *Environmental*

### ◆ Local Impact

- Existing Plant
  - Objectionable odors
  - Failed technology
  - Plant nearing capacity
  - Restrictive location
  - Will not meet future permit limits
- Eliminate health risk from sewer overflows and backups
- Connecting to failed on-site systems
- Environmental protection: “first line of defense”
- Provide new proven treatment infrastructure for continued City growth

# Hawk Creek Watershed Project ISTS Compliance Map 1996-2004



# Project Schedule

Facilities Planning	May 2005 – July 2006
Submit Facilities Plan to MPCA	March 1, 2006
Begin Design	Late-2006
Construction	Mid-2007
Project Completion	Late 2010

This schedule is being dictated by MPCA and USEPA -  
NPDES Effluent Limit Discharger requirements

**LEGEND**

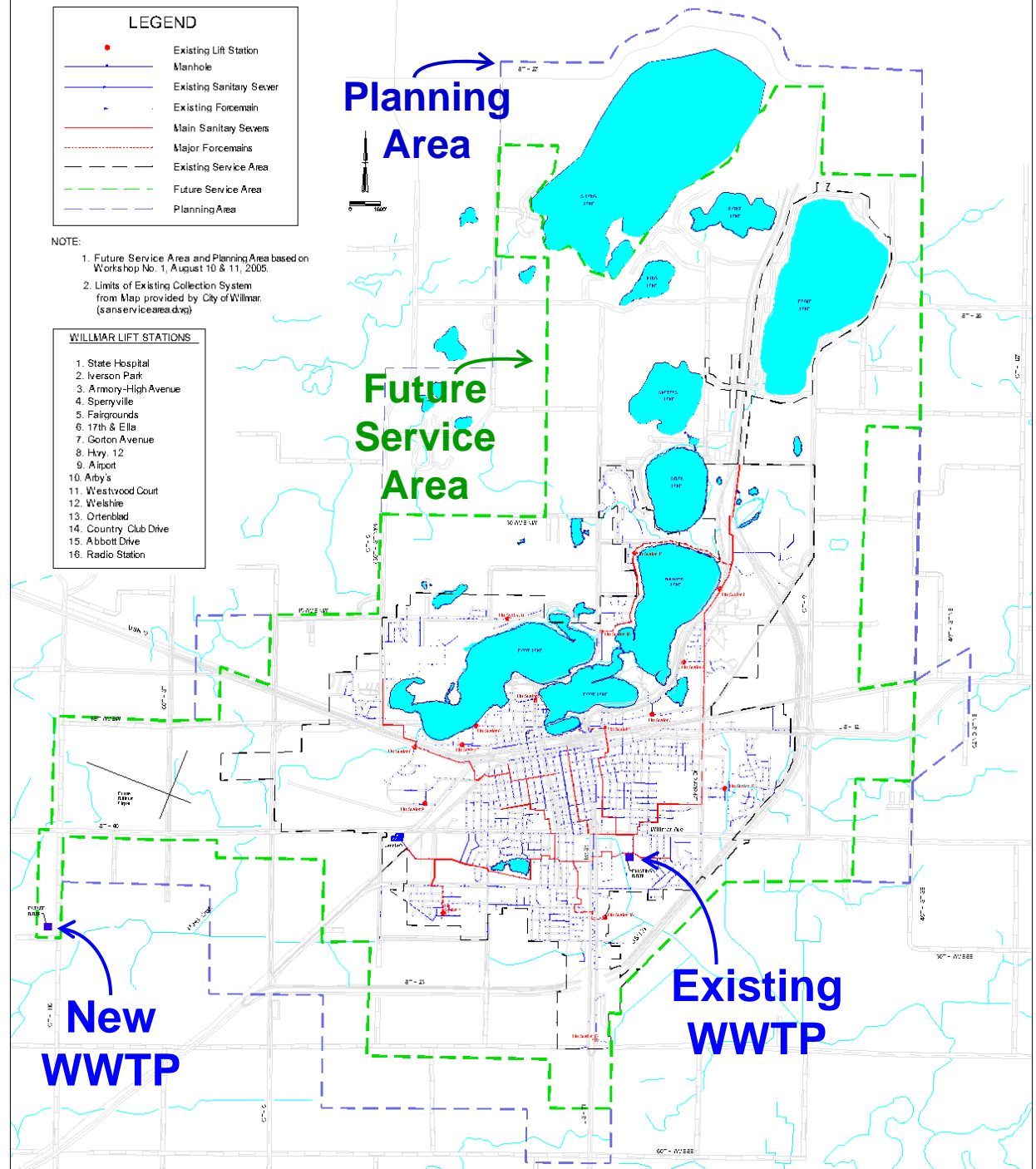
- Existing Lift Station
- Manhole
- Existing Sanitary Sewer
- Existing Foremain
- Main Sanitary Sewers
- - - Major Forcemains
- - - Existing Service Area
- - - Future Service Area
- - - Planning Area

**NOTE:**

1. Future Service Area and Planning Area based on Workshop No. 1, August 10 & 11, 2005.
2. Limits of Existing Collection System from Map provided by City of Willmar. (sanservicearea.dwg)

**WILLMAR LIFT STATIONS**

1. State Hospital
2. Iverson Park
3. Armory-High Avenue
4. Sperryville
5. Fairgrounds
6. 17th & Ella
7. Gorton Avenue
8. Hwy. 12
9. Airport
10. Arby's
11. Westwood Court
12. Welshie
13. Ortenblad
14. Country Club Drive
15. Abbott Drive
16. Radio Station



**Planning Area**

**Future Service Area**

**New WWTP**

**Existing WWTP**



New  
WWTP

Existing  
WWTP

# Project Details

- ◆ Three Phases: Planning, Design, Construction
- ◆ The Project is in Facility Planning Phase
  - Following MPCA State revolving fund format and timeline
  - Recommended alternative will include
    - New wastewater treatment plant
    - New interceptor and force mains
    - New pumping station
    - Collection system improvements

# Wastewater Treatment Plant (WWTP) Relocation



Existing Flow



Proposed Flow

CITY of WILLMAR

0 1/3 2/3 1

Scale In Miles

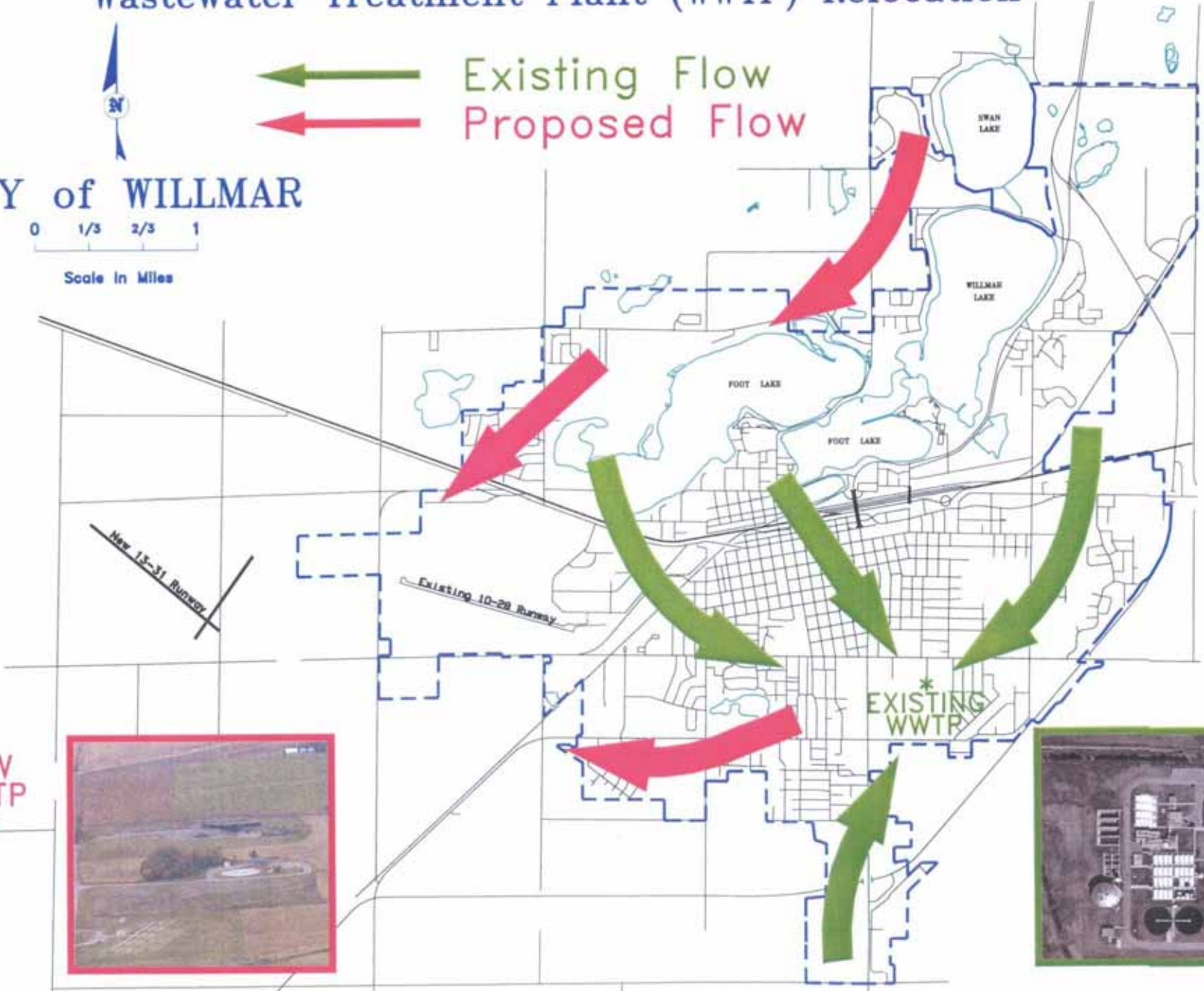
New 13-31 Runway

Existing 10-28 Runway

EXISTING  
\*  
WWTP



NEW  
WWTP  
\*



# Project Significance

## Local Impacts

### ◆ Local Affordability and Financial Issues

- Current estimate: \$40 million
  - City rates and reserves
  - Other Sources
    - Local Borrowing - Eligible Minnesota WPCRF Loan Funds
    - Federal Grants - Eligible U.S. EPA STAG Congressional Funds
    - State Grants - Eligible WIF or Budget Line Item
    - If new jobs can be tied directly to Project - Eligible DEED grants

### ◆ Industrial and Commercial Issues

- New WWTP will provide capacity for business growth
  - New jobs - If cost of services is not too high

# Willmar Demographics

<u>Parameter</u>	<u>U.S.</u>	<u>Minnesota</u>	<u>Willmar</u>
Median Household Income	\$41,994	\$47,111	\$33,455
Families Below Poverty Level	9.2%	5.1%	8.4%
Persons Below Poverty Level	12.4%	7.9%	13.1%

# Possible Funding Sources

## ◆ Local

- Existing reserves
- Annual sewer rate increase

## ◆ Federal

- Secured \$500,000 U.S. EPA STAG Congressional FY 2006 grant
- Additional Congressional appropriations

## ◆ State

- Minnesota Water Pollution Control Revolving Fund
- Capitol Budget Request
- DEED for Direct Job Impact Monies

# Overall 5-Year Funding Objective

## ◆ Ideal Funding Scenario

- $\frac{1}{2}$  Project cost – locally paid or financed
- $\frac{1}{4}$  Project cost – State grants
- $\frac{1}{4}$  Project cost – Federal grants

## ◆ Financial Realities Over 5 Years

- \$20M Local
- \$10M State
- \$10M Federal