

# **Genesee County Planning Forum**

## **THE LITTLE CITY THAT COULD**

*Burton, Michigan*

Dave Marshke, Utilities Superintendent

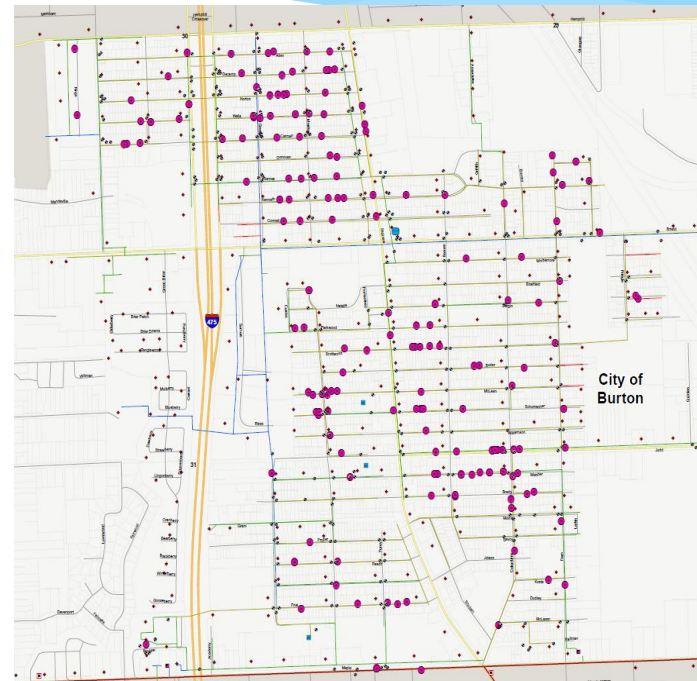
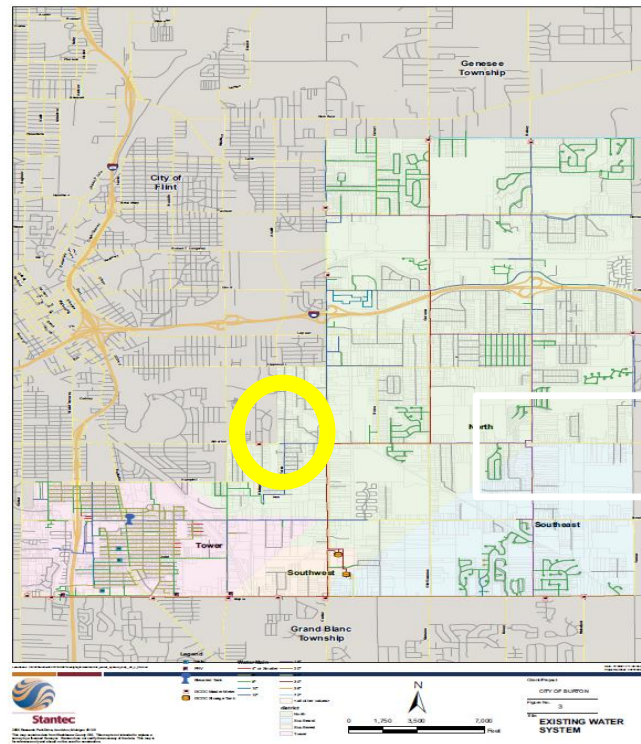
*February 24, 2017*



# Water System Infrastructure

- \* MDEQ - not be able to meet certification in the next 2-3 years.
- \* 90 + year old cast and ductile iron system
- \* Frequent water main breaks: 200+ main breaks in 10 years
- \* Service interruptions
- \* Water quality complaints on the rise: dirty, rusty, discoloration, & taste
- \* Tuberculation and corrosion compromising heavy metal protection

# Existing Water System



# WTF !?! Where's The Funding !?!

- \* Stantec Consulting – Time to implement our 2009 CIP
- \* Loans, grants, bonds, & alternative materials combined with other area projects
- \* Water and Waste Advisory Board / Alternative Materials Sub-Committee
- \* Research, debates, & presentations
- \* Outdated information and misinformation
- \* Responsibility and duty to get the biggest bang for the taxpayer buck
- \* Unanimous decision by the Water and Waste Advisory Board
- \* The changing of the specification is not without compromise



# Current Status

## \* Water System Improvements

- ☐ Phases 1, 2, and 3 complete
- ☐ Phase 4 Construction in 2017
- ☐ Phase 5 on track for completion in 2019

## \* Sanitary System Improvements

- ☐ Asset Management In progress
- ☐ I & I Investigation in Progress
- ☐ Pump stations and Sewer Rehab/upgrade Complete

# Burton Water System – A Closer Look

- \* 90yr old cast/ductile iron system
- \* Inability to deliver required pressures in some areas during high demand events (tuberculation in iron pipes)
- \* 200+ water main breaks (10yrs)
  - direct impact on O&M budget
- \* Water quality issues/complaints on the rise
- \* Unreliable system



The map displays the City of Burton, Michigan, with a grid of streets and numerous purple circular markers indicating specific locations. The map includes major roads like I-475 and I-96, and labels for various streets such as Main, Grand, and Lincoln. The text "City of Burton" is prominently displayed on the right side.



















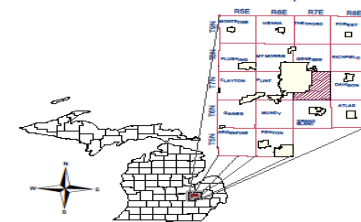
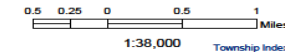
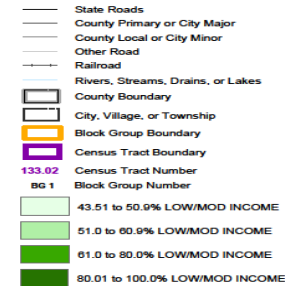
# Goals: Improve Level of Service

- \* Replacement of 95+ percent of Tower District area
- \* Improved water quality/pressures/demand
- \* System reliability
- \* Lower long term operating costs
- \* Most importantly – consumer confidence of system



# Scope and Cost

- \* Five (5) phase over \$20 million project
- \* Replacement of approximately 100,000 ft. (19 miles) of distribution system ( mostly 6" and 8" existing watermain )
- \* Replacement of two (2) outdated Pressure Reducing Stations with SCADA upgrades

City of Burton  
Genesee County, Michigan

**Data Sources:**  
 Base Map - Michigan Geographic Framework  
 Michigan State Plane, South Zone, NAD83  
 Census Data - 2010 Tracts & Block Groups from MI Geographic Framework  
 - 2006-2010 ACS Data (effective July 1, 2014)  
 U.S. Dept of Housing & Urban Development  
 Created: July 2014



**GCMPC**  
GRAND COUNTY METROPOLITAN  
PLANNING COMMISSION

# Challenges: Rates

Great Lakes Water Authority (formerly DWSD)



City of Flint



Genesee County Water and Waste



City of Burton

- Each entity adds commodity charges to the receiving agency

# THINK OUTSIDE THE BOX

- ☐ Alternative Material
- ☐ Open Procurement
- ☐ Nonconventional Funding





# Alternative Material -Specifications & Technology

- \* Specifying C-909 class PVC for all phases (DIP as Alternate)
  - Better product for Burton
  - It's the “Right Fit”
  - Saving ratepayers big \$\$
- \* Updated city specifications
- \* Required (by primacy agency) to “Isolate” PVC area via backflow devices
- \* Required (by primacy agency) to use “Bell Stops” at every joint
- \* Additional requirements to increase PVC installation costs vs. ductile iron













# Open Procurement

- Phase 1= 26,300ft (\$651,000)
- Phase 2= 20,800ft (\$446,000)
- Phase 3= 14,500ft (\$289,000)
- Phase 4= 18,400ft (\$439,000)\*
- Phase 5= 14,200ft (\$325,000)\*

*Total Savings Over \$2 million* (approx.) \*Estimates

*Thank You  
&  
Questions?*



# Infrastructure Project Funding

## FUNDING OVERVIEW FOR WATER / WASTEWATER IMPROVEMENTS

Genesee County Planning Forum  
Presenter: Dima El-Gamal, P.E., LEED AP  
February 24, 2017

Helping communities  
tap into water's  
potential

# Funding: Stantec at a Glance

- **Established in 1954**
- **Publicly traded on two stock exchanges**
  - TSX: **STN** (March 1994)
  - NYSE: **STN** (August 2005)
- **60 years of uninterrupted profitability**
- **More than 400 locations throughout North America and Internationally**
- **Approximately 22,000 employees**



# Stantec Ann Arbor Office at a Glance

- **Founded in 1923**
- **Formerly Ayres, Lewis, Norris & May**
  - Our local strength, knowledge, and relationships, coupled with our world-class expertise, have allowed us to meet our clients' needs in more creative and personalized ways.
  - Our offices in Michigan are structured so that multiple disciplines can be offered as components to one project team working directly for the client, or as singular services.

# Stantec Ann Arbor Office at a Glance



Parks & Recreation



Field Services  
(Survey/ Construction  
Inspection)

Electrical  
(SCADA)



Water/Wastewater



Asset Management



Roads &  
Transportation

Water Resources



Funding  
Loans/Grants



# Proactive or Reactive?

- Review City's needs / wish list
- Evaluate funding sources
- Present a road map



# Winning Team



- Elected officials
- DPW Staff
- Engineering Consultant
- Funding Agency

# Project Funding: Rocket Science...

Not really

- Knowledge /Collaboration/Timing is KEY
- Identify project need
- Eligibility
- Evaluate Alternatives
- Compile Grant/Loan Packages
- Milestones



# Stantec Funding – Pen to Paper

	Loan Amount /Local Match	Grant/Principal Forgiveness
DWRF 1	\$6,000,000	\$32,000
DWRF 2	\$5,000,000	\$1,013,563
DWRF 3	\$4,700,000	\$500,000
SRF	\$7,625,000	N/A
S-2	\$60,000*	\$636,000
SAW	\$400,000*	\$2,000,000



# Funding Mechanisms

- Bond Sales
- Special Assessment Districts (SAD)
- Low-Interest Loans Distributed by MDEQ
- **Grant Funding**
- USDA Loans
- CDBG





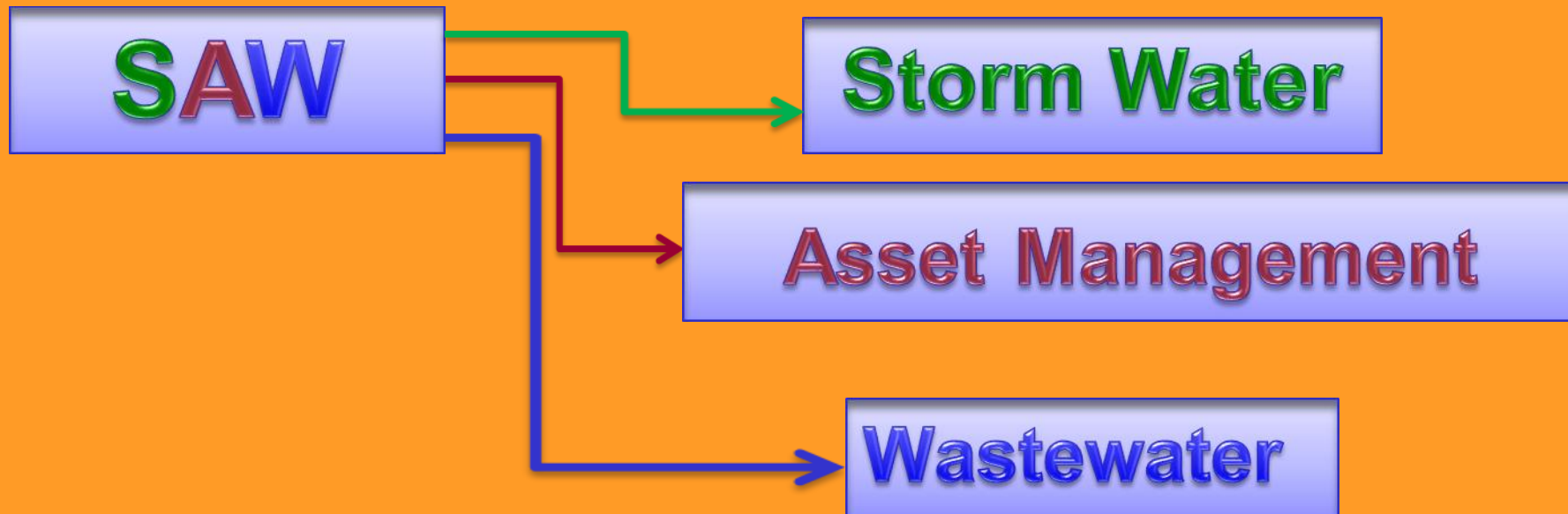
# S2 GRANT



- ❖ Signed into Law December 14, 2010.... \$40 Million
- ❖ Covers 90% of Planning and Design of Wastewater Systems
- ❖ As of the latest feedback, \$7 million are still available
- ❖ Up To \$1 Million Per Applicant
- ❖ Grants applications due October, January, April, and July
- ❖ Grants are awarded in October, January, April, and July
- ❖ Project Must Be Built Within 3 Years of Receiving the Grant



# SAW GRANT/LOAN





# SAW GRANT/LOAN OVERVIEW

- ❖ Signed into Law January 2, 2013.... \$450 Million
- ❖ Up To \$2 Million Grant Per Applicant:
  - ❖ 1<sup>st</sup> million at 10% match
  - ❖ 2<sup>nd</sup> million at 25% match
  - ❖ 100% grant to Communities with ACOs, EFM, and/or Disadvantaged Status
- ❖ SAW Covers:
  - ❖ Storm Water Management Plans
  - ❖ Asset Management for Wastewater/Storm water systems
  - ❖ Planning and Design of Wastewater Systems
- ❖ Applications available October 2017

# State Revolving Loan Funds

❖ Low-interest Loans Distributed By MDEQ

Water Systems



**Drinking Water  
Revolving Fund  
(DWRF)**

Sanitary Sewer Systems



**State Revolving Fund  
(SRF)**

# Why Revolving Loan?

Planning/Design/Construction Cost	\$2,000,000	\$5,000,000	\$10,000,000
Annual Capital ( 20 years) Loan @ 2%	\$122,000	\$306,000	\$612,000
Annual Capital ( 20 years) Bond Sale @ 5%	\$160,000	\$401,000	\$802,000
Annual Savings	\$38,000	\$95,000	\$190,000
Total Savings ( 20 years)	\$760,000	\$1,900,000	\$3,800,000





# REVOLVING FUNDS

- ❖ Funds Planning, Design and Construction of Water and Wastewater System Improvements
- ❖ Current Interest Rate is 2.5% over 20 Years
- ❖ Projects Funded Based On:
  - Priority Listing
  - Availability Of Funds

# Eligibility

## ❖ Projects That can Justify / Demonstrate Existing Need:

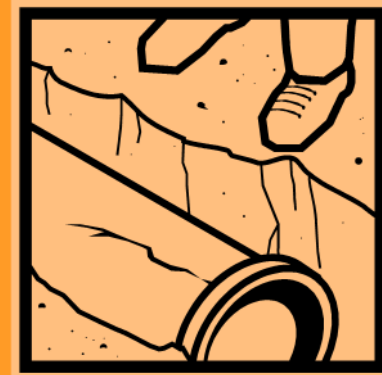
- Correction of Water Quality Violations
- Enforcement Actions ( ACOs)
- Pump Station Rehabilitation
- Wastewater Treatment Plant Upgrades
- Emergency Backup Power
- Correction of Infiltration and Inflow
- Spetage Stations

# SRF-Examples of Ineligible Projects

## Promoting Growth



## Storm Water Conveyance





# SRF PROJECT PRIORITY LIST

- ❖ Water Quality Issues
- ❖ Discharge Permit Violations
- ❖ Enforcement Points ( Administrative Consent Orders)
- ❖ Population
- ❖ Discharge Stream Dilution Factors

# DWRF-Examples of Eligible Projects

## ❖ Projects That Can Justify/Demonstrate Existing Need

- ❖ Water Source and Treatment Upgrades
- ❖ Security Upgrades
- ❖ Correction of Pressure Deficiencies:
  - Water System Looping To Improve Pressure
  - Upgrades of Water Mains (< 8-inch Diameter)
  - Booster Stations / Pressure Reducing Valves
- ❖ Replacement of Frequently Breaking Water Mains
- ❖ System Replacement / Repairs (Exceeded Its Service Life)
- ❖ Meter Replacements and Meter Reading System

# DWRF-Examples of Ineligible Projects

Projects That Are Aimed At Only

Promoting Growth



or



Improving Fire Flow

# DWRF / SRF PROJECT SUBMITTALS

## PROJECT PLAN

- ❖ Justify Existing Needs and Address 20 Year Needs
- ❖ Address Infiltration and Inflow....Sewer System Only
- ❖ Conduct Pipe / Manhole Assessments per the NASSCO (National Association of Sewer Service Companies) Certification Programs....Sewer System Only
- ❖ Hydraulic Water Model.. Water Systems Only
- ❖ Obtain Environmental Clearances
- ❖ Identify and Evaluate Potential Alternatives
- ❖ Select Alternatives and Estimate The Impact On User Charges
- ❖ Public Hearing, Finalize Project Plan, and Submit to MDNRE



# Alternatives Evaluation

- ❖ No Action Taken
  - ❖ Optimize Existing System
  - ❖ Regional Alternative
  - ❖ Principle Alternatives
- ❖ Feasibility
    - ❖ Capital Cost
    - ❖ Operation and Maintenance
    - ❖ Present Worth
  - ❖ Environmental Impacts



**SELECTED  
ALTERNATIVE**

# Project Plan Timeline



	DWRF	SRF
Start Project Planning	<b>ASAP</b>	<b>ASAP</b>
Public Review	<b>March 20th</b>	<b>May 20th</b>
Public Hearing and Project Plan Adoption	<b>April 20<sup>th</sup></b>	<b>June 0th</b>
<b>Project Plan Submittal</b>	<b>May 1<sup>st</sup></b>	<b>July 1<sup>st</sup></b>

# SRF Design/Construction Timeline

## ❖ September to October – Priority Point List

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Rate Methodology Approved	08/29/2016	11/30/2016	02/13/2017	05/12/2017
EAs Published No Later Than	08/19/2016	12/05/2016	02/21/2017	05/12/2017
Part I and Part II Application Due	09/01/2016	12/15/2016	03/01/2017	06/01/2017
FNSI Clearance Plans & Specs Approved	09/19/2016	01/04/2017	03/23/2017	06/12/2017
Bid Ad Published No Later Than	09/19/2016	01/04/2017	03/23/2017	06/12/2017
Part III of Application Due Bid Data Submittal (With Tentative Contract Award)	11/03/2016	02/16/2017	05/02/2017	07/21/2017
DEQ Order of Approval Issued*	11/18/2016	03/14/2017	06/01/2017	08/23/2017
Borrower's Pre-Closing with the MFA	12/02/2016	03/30/2017	06/13/2017	09/01/2017
MFA CLOSING Notice to Proceed Issued No Later Than	12/12/2016 02/10/2017	01/10/2017 06/09/2017	06/23/2017 08/22/2017	09/15/2017 11/14/2017

\*In addition to MFA requirements, all municipal bond sales must be reviewed and approved by the Local Audit and Finance Division of the Michigan Department of Treasury before an Order of Approval can be issued.

# Example Projects/Clients



**\$124.5M**  
Total Michigan Funding



## Funding Experience

Provided below is a listing of Michigan communities that our Ann Arbor office has assisted with securing funding.

	Low Interest Loans	Grants / Principal Forgiveness	DWRF	SRF	Asset Management
City of Marshall, MI	\$2,400,000	\$180,000		○	
Charter Township of Pittsfield	\$14,194,550	\$4,854,850 \$1,473,000	○	○	○
City of River Rouge	\$1,800,000	\$17,000	○	○	
City of Inkster	\$1,275,000	\$510,000		○	
City of Howell	\$13,595,000	\$4,024,200	○		
Charter Township of Northville	\$4,000,000	\$665,000 \$1,558,000	○	○	○
City of River Rouge	\$8,600,000				
City of Wayne	\$7,000,000	\$340,000	○	○	
Charter Township of Marquette	\$4,000,000				
City of Cadillac	\$4,630,900	\$400,000			
Hamburg Township	\$7,700,000				
Ann Arbor Public Schools		\$375,000			
City of Burton	\$30,000,000	\$1,500,000 \$635,603 \$2,444,000			○
Unadilla Township		\$45,000			
Iosco Township		\$15,000			
Western Township Utilities Authority		\$603,000			○
Huron Clinton Metropolitan Authority		\$1,027,000			○
Ann Arbor Township		\$500,000			○
Salem Township		\$26,325 \$334,000			○
Canton Township		\$2,444,000			○
Washtenaw County Road Commission		\$1,799,779			
City of Milan		\$240,000			
Total	\$98,532,114	\$26,010,557			





# Other Funding Opportunities

## Examples

- ❖ MNDR Trust Fund
- ❖ Passport Grants
- ❖ SEMCOG Grants
- ❖ MDOT Grants
- ❖ EPA Brownfield Cleanup Grants



**Thank you!**  
**Any Questions?**

