VILLAGE OF LANSING

Not all aging water infrastructure is underground: Lansing’s water meter replacement success story

DAN PODGORSKI
VILLAGE ADMINISTRATOR
THE VILLAGE OF LANSING

- INCORPORATED IN 1893
- I-80/94 AT TORRENCE AVE
- SITUATED WEST OF IL/IN BORDER
- HOME TO HISTORIC FORD HANGAR
- HOME TO NEWLY CONSTRUCTED FOX POINTE
IMPORTANCE OF A STRONG WATER SYSTEM

- WATER = $$$
- 15% VILLAGE BUDGETED EXPENSES PAID FROM WATER

MAINTAINING A STRONG WATER SYSTEM IS NECESSARY
- WATER MAIN REPAIRS
- WATER MAIN REPLACEMENT
- WATER RESERVOIR MAINTENANCE
- WATER TANK MAINTENANCE
LANSING WATER SYSTEM

- RECEIVE WATER FROM HAMMOND, IN
- 1 WATER PUMP STATION
- 2 CONCRETE RESERVOIRS
  - 3MG & 2.25MG
- 4 ELEVATED WATER TANKS
  - 2 – 1MG, 0.75MG & 0.5MG
- 108 MILES OF WATER MAIN
- 9400 LANSING CUSTOMERS

- SUPPLY LYNWOOD AND SOUTH HOLLAND
AGING INFRASTRUCTURE = WATER LOST

- MAJORITY OF LANSING WATER SYSTEM OVER 50 YEARS OLD
- AVG 80-100 BREAKS/yr
- B-BOX REPAIRS
- LEAKING WATER MAINS

- IL DEPT OF NATURAL RESOURCES
  - REPORTED WATER LOSS INCREASE
    - 7.24% IN 2009
    - 16.8% IN 2014
COMBATING WATER LOSS – INFRASTRUCTURE IMPROVEMENTS

- REVIEW UNDERGROUND INFRASTRUCTURE
  - WATER MAIN REPLACEMENT
    - BUDGET $700K/yr
- VILLAGE-WIDE LEAK DETECTION SURVEYS OF WATER MAINS
- RULE #1 – DO NOT LET CONTRACTORS OPEN HYDRANTS
- RULE #2 – DO NOT LET FIRE DEPARTMENT OPEN HYDRANTS (FOR TRAINING 😊)
REPLACE INFRASTRUCTURE WE CAN SEE...ABOVE GROUND

- LANSING - 9400 WATER METERS VILLAGE-WIDE
- 20-25% METERS TESTED WERE OFF OF CALIBRATION
- METERS OVER 20 YEARS OLD
- NEED TO REPLACE THE METERS

- HOW DO WE PAY FOR IT?
ENGAGE ROBINSON ENGINEERING, LTD.

- ENGINEERS FOR LANSING OVER 60-YEARS
- ILLINOIS ENVIRONMENTAL PROTECTION AGENCY – LOW INTEREST LOAN PROGRAM
  - $4.9M PRICE TAG
  - 20-YR LOAN @ 1.66%
  - $263,000/YR
- NO BRAINER!
IL ENVIRONMENTAL PROTECTION AGENCY – LOW INTEREST LOAN PROGRAM

- INTEREST FORM TO IEPA 2015 (PRE-APPLICATION PROCESS)
- IEPA PROJECT PLAN EARLY 2016
- IEPA LOAN APPLICATION MID-2016
- IEPA LOAN APPROVAL 2017
IEPA – LOW INTEREST LOAN PROCESS

- LENGTHY BUT NOT TEDIOUS
- FINANCIAL REVIEW
  - ABILITY TO REPAY THE LOAN
  - PROJECT TO GENERATE REVENUE

THE CLEAN WATER
STATE REVOLVING FUND

Low-Cost Infrastructure Financing Since 1987

**Totals:**

$111.2 billion in funding
for water quality infrastructure projects

36,159 loan agreements
(through FY 2015)

**How it works:**

EPA funds state CWSRFs
each year, with 20% state match.

All 50 states and Puerto Rico have CWSRFs.

Apply for financing
through state CWSRFs.
WATER METER TYPE

- Village recently utilizing Sensus meters
- Lansing Public Works researched
- Sensus iPEARL chosen
  - No moving parts
  - 20-year warranty
  - No issues with already installed iPEARL meters in Lansing
  - Over 3 million iPEARL meters installed in Chicagoland area since 2010
BID AND AWARD CONTRACT

- MAINLY TYPICAL MUNICIPAL BID PROCESS
- ADVERTISE IN CHICAGO TRIBUNE (NOT LOCAL)
- AWARDED CONTRACT $4.83M IN 2017
- CALUMET CITY PLUMBING
  - IN BUSINESS SINCE 1967
  - INSTALLED OVER 40,000 WATER METERS SINCE 1995
  - ASSISTS LANSING WITH WATER MAIN REPAIRS
FIXED BASE NETWORK INSTALLATION

- BEGAN FIXED BASE NETWORK INSTALL 2017
- READING TOWERS INSTALLED ON 2 ELEVATED WATER TANKS
- NORTH AND SOUTH ENDS OF TOWN
- INSTALL METERS SCATTERED THROUGHOUT VILLAGE FOR TESTING PURPOSES
- TALKS TO TRANSMITTER ON EXTERIOR OF HOME/BUSINESS
- 6-MONTH PROCESS
PRE-METER INSTALLATION PREPARATION

- MOST CRITICAL ASPECT OF PROCESS
  - ACCESSING HOMES
- RESIDENT NOTIFICATION
  - HOW MANY?
    - 2 LETTERS
    - 2 POST CARDS
    - WATER TERMINATION LETTER
    - RED TAG (DOOR HANGER)
  - WHAT LANGUAGE?
- ME SIMPSON ASSISTED
METER INSTALLATION COMPLIANCE

- Goal = 100% Compliance
- Generated FAQ Sheet
- Posted Info on Website
- Announced at Village Board Meetings
- Last Resort...
  - Increase Water Rates for Non-Compliance
METER INSTALLATION

- 9100 METERS INSTALLED IN 2018
- 12 MONTH PROCESS
- 300 LOCATIONS NOT INSTALLED
  - VACANT HOMES
  - FIRE SUPPRESSION METERS
  - PREVIOUSLY INSTALLED METERS IN LAST 3 YEARS
- AS OF TODAY...3 TO GO!
SUCCESS!

- WHAT DOES SUCCESS MEAN TO THE VILLAGE?
  - CONTRACTOR WORKED DIRECTLY WITH HOMEOWNER
  - CONTRACTOR MADE OTHER NECESSARY REPAIRS
    - REPAIR PIPING
    - INSTALL NEW VALVES
    - REPLACING WATER SERVICE
  - ONLY ONE COMPLAINT OF 9100 INSTALLS REACHED THE MAYORS OFFICE...**ONLY ONE**!

- HARD TO PUT A PRICE TAG ON THAT!
SUCCESS!

- MEASURABLE SUCCESS
  - INSTALLATION DISCOVERED
    - NO-READ METERS
    - CODE VIOLATIONS (BY-PASSES, ILLIGAL CONNECTIONS)
  - BACKFLOW PREVENTORS INSTALLED
  - VACANT PROPERTIES WITH RUNNING WATER
    - WITH AND WITHOUT METERS
  - ACCURATE MONTHLY READING & MONTHLY BILLING
    - HELPS RESIDENTS BUDGET
    - INCREASED REVENUE/CASH FLOW FOR VILLAGE
SUCCESS!

- CONTRACTOR PROVIDED WATER SERVICE MATERIAL INVENTORY
- FUTURE LEAD SERVICE REPLACEMENT PROJECT
- 2305 LEAD SERVICES
SUCCESS!

- 9100 METERS INSTALLED WITH A 20-YEAR WARRANTY
- $4.9M PROJECT COST PAYBACK SCHEDULE IF INCREASE ACCURACY BY:
  - 10% = 18 YEARS
  - 15% = 12 YEARS
  - 20% = 9 YEARS
  - 25% = 7 YEARS
- 6 MO REVIEW – BILLING UP 10%
- REVENUE UP OVER $200K IN 6 MO
- DECREASE WATER LOSS BY 6% IN 6 MO
- PROJECTING DOUBLE DIGIT DECREASE
QUESTIONS?

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