IAFSM 2016

Utilizing the Hazard Mitigation Grant Program to Protect a Sewage Pump Station

Presented by
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March 10, 2016

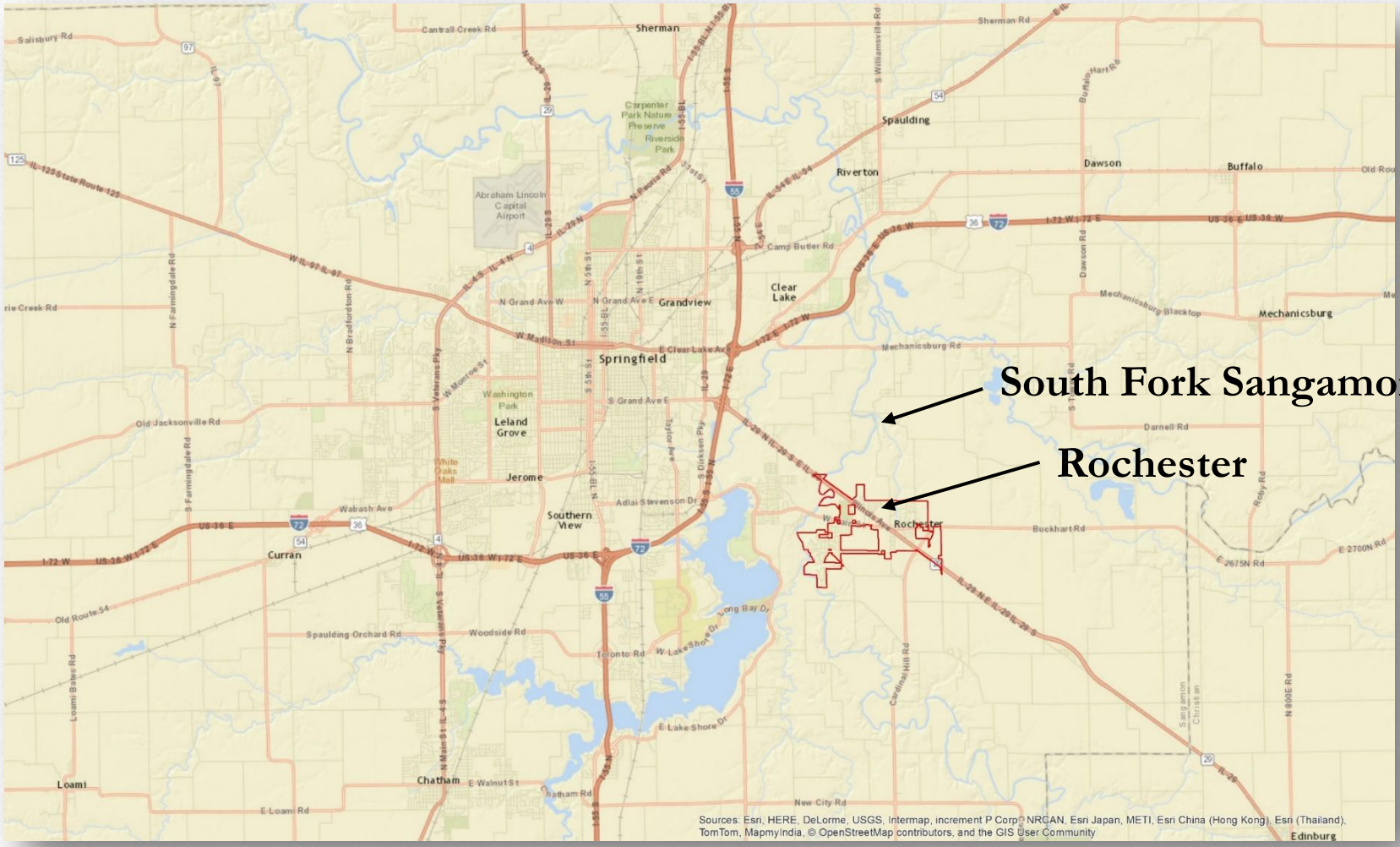
Village of Rochester, Illinois

Primary Pump Station Flood Protection Improvements

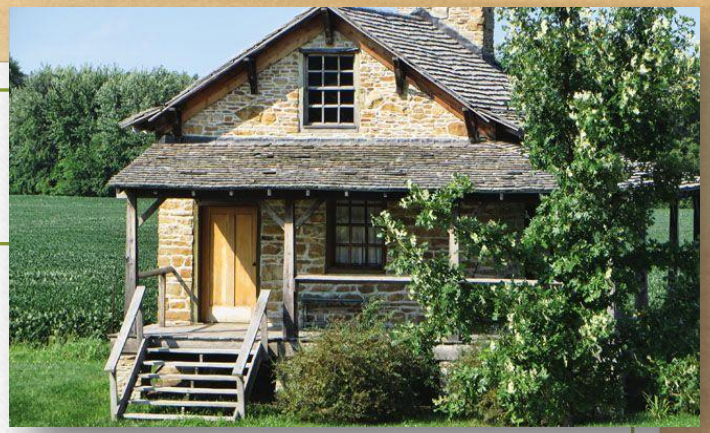
Agenda

- Project overview
- Grant application process
- Design
- Bidding
- Construction
- Project close out

Vicinity Map



Rochester - Background



- Founded in 1869 in Sangamon County
- 2010 population = 3,689
- Sewer system started in 1950s with lagoon treatment
- In 1992, Village annexed into Springfield Metro Sanitary District (SMSD)
- Lagoons converted to excess flow storage, "primary" pump station (PPS) constructed to send all sewage to SMSD for treatment
- Both PPS and excess flow lagoons in the floodplain of tributary to South Fork Sangamon River
- PPS includes wet well and valve vault structures and standby generator
- Top of structures set at 1 foot above Base Flood Elevation (BFE): 544
- Sangamon County Hazards Mitigation Plan: FEMA approved in 2008

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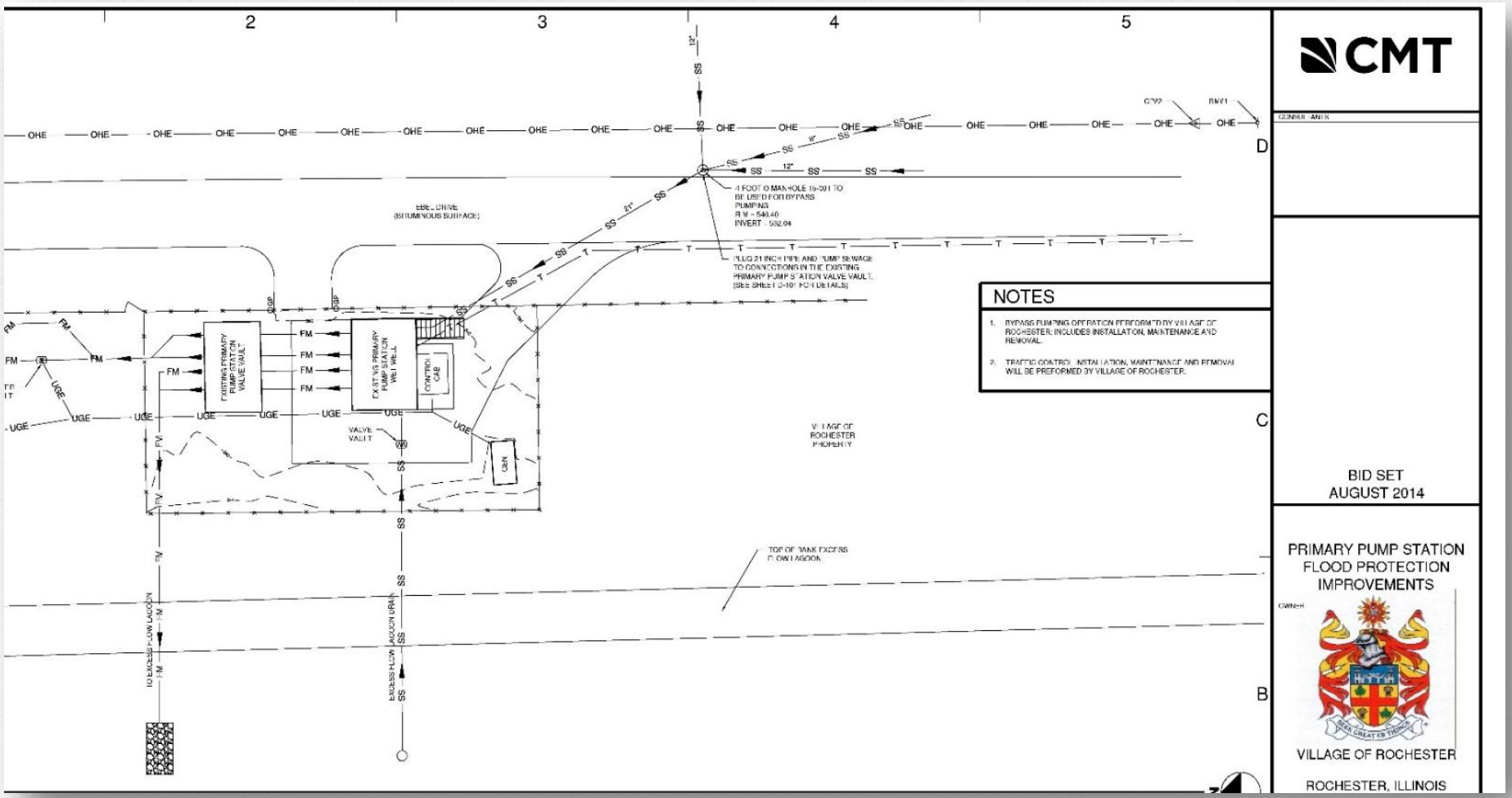
Site Map


IL Route 29
STATE RT29
South Fork
Sangamon River
Excess Flow
Lagoons
Primary Pump Station
Unnamed Tributary
Rochester
Park
EBEL

Site Plan



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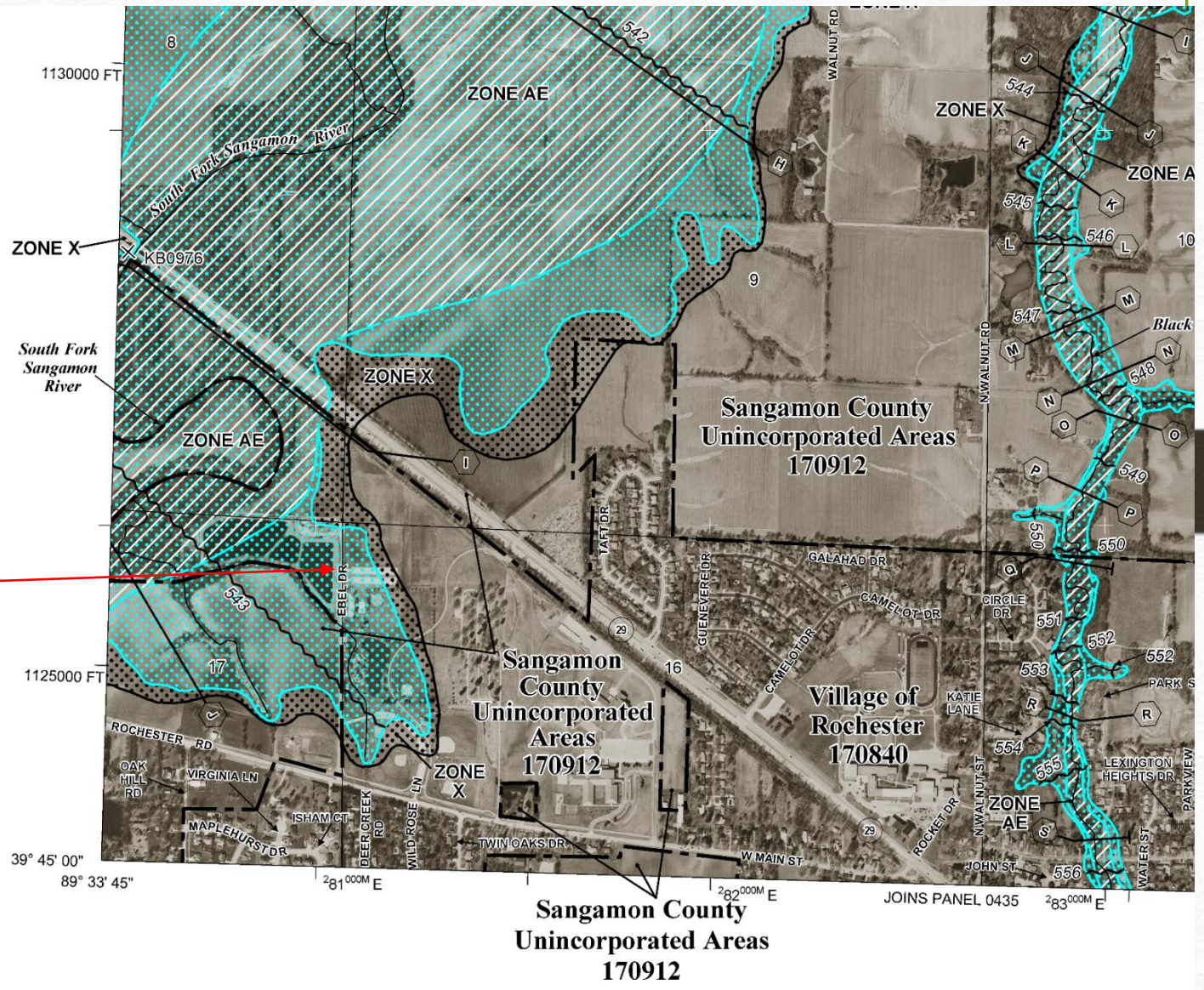
Sangamon County FIRM, Effective August 2, 2007

PPS



Primary Pump Station: Pre-Improvements

South Fork Flooding Events

- Pump station nearly inundated in 1994 and 2002 due to backup of floodwaters
- Flood elevation ~ 547.5
- Pump station had to be sandbagged, access only by boat
- Service nearly lost during both events; could have been disastrous
- After two flood events, started planning to protect and improve resiliency
- Alternatives evaluated to protect against future flooding: build a wall or raise the structures
- Funding unavailable; lower priority project
- Project remained on CIP; searching for grant funding

2002 High Water Mark

Hazard Mitigation Grant Program (HMGP)

Funding Guidelines:

- Must be participating in and good standing in NFIP
- Have a FEMA-approved all-hazards mitigation plan
- Eligible projects must:
  - be environmentally sound,
  - be cost effective,
  - solve a problem
  - prevent future disaster damages (i.e., be more resilient)
- Protect public or private property
- Approved projects receive up to 75% funding (remainder local match)
- Program administered by FEMA, implementation and oversight by IEMA

FEMA

IEMA

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Hazard Mitigation Grant (HMG)

- **Presidential disaster declared August 19, 2010, due to severe storms and flooding; funding allocated for HMG.**
- Inquiry made with IEMA in 2011; ok to submit a project description.
- Flood protection comparison submitted late 2011.
  - Report recommended protecting to elevation 548.
  - FEMA requested protecting to elevation 549.
- Application submitted in 2012 comparing alternatives to protect against flooding:
  - Highway barrier wall outside existing fence.
  - Retaining wall with security fence and flood gate.
  - Raise top of wet well, valve vault and generator pad to elevation 549.
- FEMA requested economic justification for raising structures in early 2013.
- Application approved in mid-2013.

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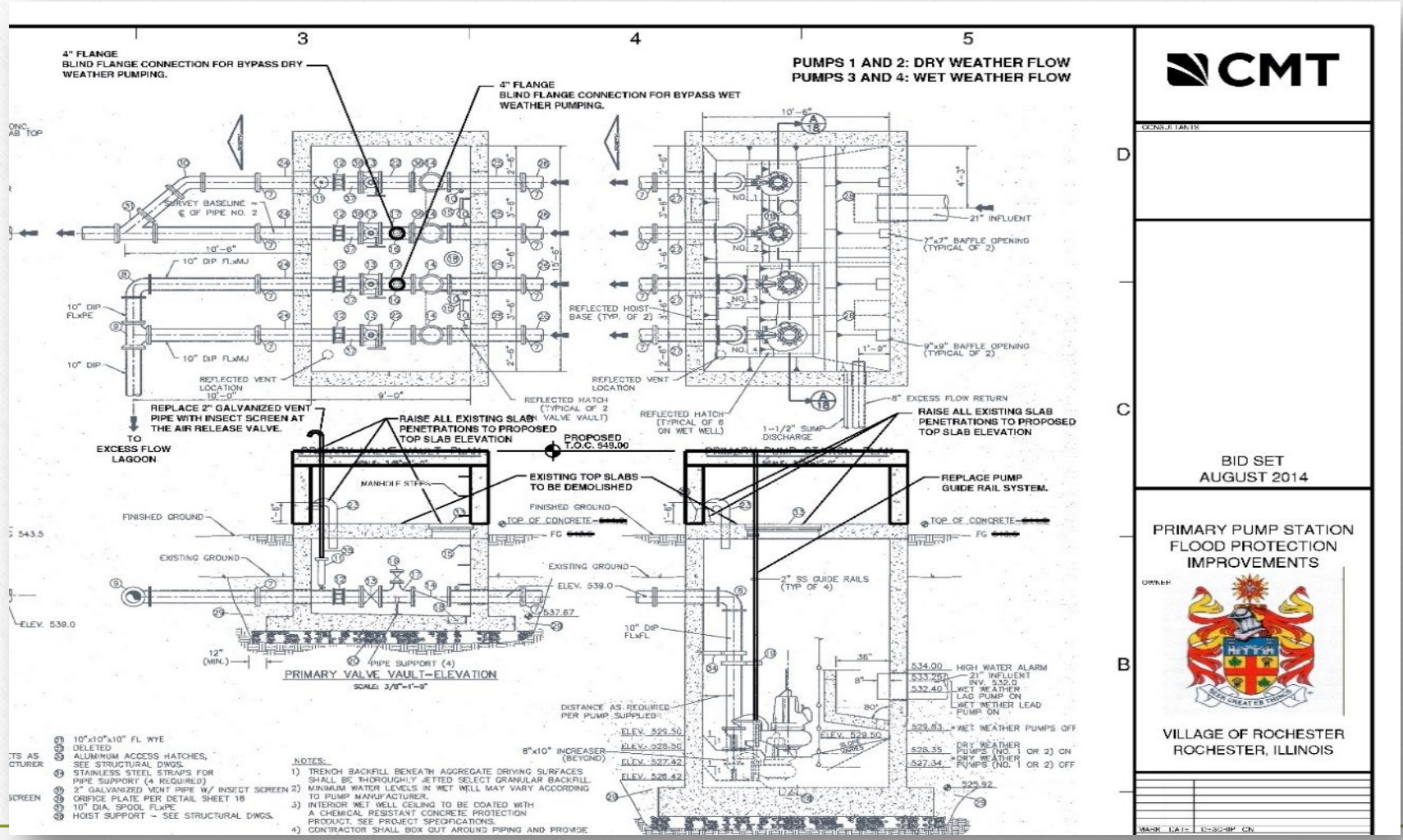
Section View



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HMG Application Process

- Typical HMG project is a flood-prone property buyout.
- Develop a detailed project description and conservative project cost estimate.
- Identify pump station features that may need to be replaced/updated as a part of improvements.
- In-depth, online questionnaire; lengthy process.

HMG Application Process – Cont'd

- Be prepared to complete a benefit-cost analysis (BCA).
- Pump station mitigation not typical; be able to defend the preliminary design.
- Project sign-offs: EcoCAT, USF&W, IHPA.
- Track application expenses; may be reimbursable.
- Advertise and schedule public meeting requesting public participation.

HMG Award

- Grant agreement with IEMA required.
- Resolution by local government.
- Federal language for all agreements, such as no kickbacks and federal wages.

- Adhere to "Buy American Act": only steel, iron and manufactured products produced in USA eligible.
- Quarterly progress reports to IEMA.
- If hiring a consultant, utilize QBS process.
- Consultant must adhere to grant agreement requirements.
- Project may be audited at conclusion.

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Design & Bidding

- No design review submittal process to IEMA.
- Obtain local, state and federal permits, if needed.
- In Rochester case, no permits required.
- Sealed bidding process for contracts > $100,000.
- Bidding and contracting requirements: 44CFR 13.36.
- Advertise project 45 days in newspaper.
- Contractors advertise 15 days prior to bid opening for DBE.
- Award to lowest responsive and responsible bidder.
- Send IEMA copies of advertisements, bids, award, agreement, etc.

Construction

- Initiate construction no differently than other projects.
- Prior to starting construction, initiate reimbursement form with IEMA.
- Must have DUNS# and SAMS# to be reimbursed.
  - DUNS# = Dun & Bradstreet number (first)
  - SAMS# = System for Awards Management number (second).
  - Start this process when contract awarded.

- Review shop drawings, material certs, equipment and material test results.
- Standard construction inspection /observation procedures.
- Be prepared to have the funds on hand to pay the contractor and be reimbursed by IEMA.

Construction Progress

Construction Progress

Construction Completed

Construction Close-Out

- Perform substantial and final completion inspections.
- Obtain lien waivers, updated insurance and bonds from contractor.
- Prepare record drawings.
- Organize construction documentation.
- If the budget is exceeded, keep copies of invoices and document extra time and effort.
- May be possible to obtain reimbursement.
- Rochester PPS:
  - Total project cost = $420,294
  - Grant amount = $228,405

PPS Survived the December 2015 Flooding!

Looking east to park from pump station:
WSEL ~546.5

Looking south from pump station

Lessons Learned

- Document high water marks as soon as possible; tie to an elevation.
- Budget several days to complete on-line application; multiple entries.
- Hazard Mitigation Plan must be current (plans effective for 5 years).
- How will you access pump station after being raised: steps, ships ladder or something else?

Lessons Learned - continued

- Include reasonable costs in the grant application for features to be replaced, with supporting information.
- While pump station is taken offline, are there other improvements to be done that may not be grant eligible?
- Be patient with IEMA and FEMA:
  - Process is lengthy.
  - Process will be delayed if there is another natural disaster.

Project Credits

Special thanks to:

- IEMA - Bureau of Preparedness and Grants Administration
- Rochester Village President and Board of Trustees
- Rochester Public Works Department
- Contractor: Schwartz Construction
- CMT Design Team

Questions?