



# Water Quality Trading

Marathon City's Approach to Phosphorus Compliance

## Agenda

- Community And Facility Overview
- Facilities Planning For Phosphorus
- Compliance Alternatives
- Water Quality Trading Overview
- Current Status



## Community and Facility Overview



- Population 1564
- Current Facility Constructed in 1971 And Upgraded In 1999
  - 0.35 MGD Average And 1.39MGD Designed Max Daily Flow
  - 16 Miles of Sewer
- 640 Utility Customers
  - One commercial client generates 50% of annual load

## Compliance Environment



- Included in Upper Wisconsin River TMDL
  - Allocations And Approval Targeted For Fall 2017
- Current Permit 1 mg/l for phosphorus
  - 800 lbs. Annual Phosphorus Load to Big Rib River Today
    - Per DNR <1% of total load
- WPDES Permit with 0.075 mg/l Phosphorus Limit
  - Among The First Permits To Be Issued With New Ultra-low Limits
  - First Traditional Facility To Be Permitted (Discharge to Water Body)
  - Anticipated Issuance January 2017
  - New Phosphorus Load Limit = 60 lbs. Annually

## Facilities Planning for Phosphorus



- Permit Expiring In 2016 Outline Compliance Schedule
- Engaged Strand Associates for Compliance and Facilities Plan Development
  - 4 Years Of Effort
  - Multiple Compliance Alternatives Evaluated

## Compliance Alternatives



- Phosphorus Only Facility Upgrade
- Joint Facilities Plan
- Multi-Discharger Variance
- Adaptive Management
- Other?

## Facility Upgrade



- Multiple Facility Upgrade Options Were Reviewed
  - Chemical Based, Tertiary Filtration (i.e. Blue Pro), Clarifier Modifications
- Drawbacks to All Options, Cost Being the Largest
  - \$3.5M - \$4.5 in Cost
  - Triple or Quadruple Current Rates to Cover Borrowing
- Large Investment With Virtually No In-Stream Improvement
  - 120,000 Lbs. Annually In Big Rib River, Marathon City is 0.63% of Annual Load

## Joint Facility Evaluation



- Edgar is 4.91 Miles Away Along Old Rail Grade
  - 12 Private Property Owners Own The Old Grade
- Edgar Faces More Significant Challenge
  - Older Facility Likely Requiring Replacement
  - Daily Flows and Phosphorus Load Comparable to Marathon City
- Edgar Facility Costs Estimated at \$10.5M

## Multi-Discharger Variance (MDV)



- State Legislative Solution
  - Steps Down Limits Over 20 Years
  - \$50 per Pound of Phosphorus Fee Paid To County
  - Likely Need Significant Facility Upgrade to Maintain .075 mg/l Anyway
- Has Not Been Approved by EPA

## Adaptive Management



- Non-point Reduction Focused
  - Spend Utility Money In Fields
  - Not Politically Practical
- Shifts From Effluent Level Compliance To In-Stream Compliance
  - In-stream Monitoring Is Staff Intensive and Costly
  - Little To No Control Over Non-point Dischargers
  - No Protection of Investment
- Steps Down Phosphorus Load Over 20 Years
  - May Require Facility Upgrade Or Other Solution If Levels Are Not Met

## Water Quality Trading (WQT)



- Market Where Phosphorus Credits Are Generated By One Entity And Purchased By Another
- Trades Are Secured By Contract
- Phosphorus Is Traded At A 2:1 Ratio
  - Two Pounds Of Load Reduction Generates One Credit
- Credits Must Be Generated In Upstream Watersheds
- WIDNR Approved All Trades
  - Approved Trades Are Integrated Into WPDES Permits

## Water Quality Trading



- Non-point Phosphorus Producers – i.e. Agriculture
  - In-field Practices That Reduce Phosphorus Generate Credits
- Point Source Producers
  - Credit Are Purchased To Offset Effluent Load
- Trade Agent
  - Manages The Market
  - Validates Non-point Credit Creation
  - Facilitates Financial Transactions
  - Completes Required Reporting

## Marathon City WQT



- Identified Marathon County As The WQT Trade Agent
  - County CPZ Has Existing Programs and Relationships With Non-point
  - County CPZ Knows What Practices Result In What Phosphorus Reduction
  - County Has Recently Increased Regulatory Authority Of CPZ
  - Village Sought Single Contract to Achieve Net-compliance

## Marathon City WQT



- Engaged CPZ To Identify Opportunity In Local Watersheds
  - Scotch Creek And Pine Creek Feed the Big Rib River Upstream of Marathon City
    - 35,150 Acres Of Crop Land
    - 48 Livestock Operations
  - Best Management Practices (BMP) Data Collected Ranked
    - Nutrient Management Plans
    - C – Practices
    - Waste Storage Facility
    - Feed Leachate Treatment
    - Farmstead Barnyards
  - Regulations Reviewed

## Marathon City WQT



- NR151 Requires Nutrient Management Plans For All Ag Producers
- Nutrient Management Plans Result in a ½ Pound Per Acre P Reduction
  - 8500 lbs. Annually for Scotch and Pine Creek Water Sheds
- 48% Of Ag Producers Do Not Have NR151 Required Plans
- 70% Cost Sharing Is Required If The County Forces Compliance

## Marathon City WQT



- Require Nutrient Management Plans For All Operations in Watershed
- Cost of Initial Plan And Ongoing Requirements Fully Funded
  - Marathon County Funds Initial Plans
- Contracts With County Required To Receive Full Funding
- Marathon City Contracts With County To Purchase Generated P Credits
  - Revenue From Purchase Funds County Program



## Marathon City WQT



- Initial Nutrient Management Plan Investment of \$576,000 By Marathon County for Scotch and Pine Creeks
  - 19.2% Of Initial Facility Upgrade Investment In Marathon City
  - Results in 10 Times the P Reduction Over Facility Upgrade
- \$31,767 Annually for 760 Credits of Phosphorus by Marathon City
  - \$635,350 Over 20 Years
    - Less Than The Interest Payments On The Loan To Upgrade The Facility
- 3,490 Credits Available for Sale To Other Point Sources

## Marathon City WQT - Status



- Marathon City Identified WQT As Compliance Strategy In Final Facility Plan Filing in May of 2016
- Marathon County CPZ Has Received Approval From County ERC to Develop Policy
- Marathon County CPZ, Marathon City and Marathon County Farm Bureau Have Been Working To Develop The Program
- DNR Has Been Engaged In Discussions On WQT Initiative
- Final ERC Approval Required, Then Full County Board Approval
- DNR Approval of WQT Plan Targeted for Late 2017



# Questions

