



7 Mile Creek Action Plan Update

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Talking Points

- 7 Mile Action Plan (City Project 13-07)
 - History of Project
 - Schedule - Still Planning for 2014 Bid Letting
 - Easements - Total Acreages Complete
 - Excludes City, USD 469, and LCF
 - Survey - Initial Field Work Complete
 - Routes Selected www.lansingks.integritygis.com
 - Cost - Depends on Council Direction
 - Explanation of Costs
 - Extra Work Added
 - Action Items for Council
 - Determine Construction Options
 - Enabling Resolution for Easements
 - Approval of Easement Acquisition Services
 - Open House
 - Funding Options



How Did We Get Here?

- Potential Development in Northwest Portion of City
 - Examine Existing Sewer for Capacity
 - Alternative Flow Direction (Lift Station)
 - Ultimately Flows Through Same Pipes
 - Evaluate Any and ALL Alternatives
- Initiate Study with Local Civil Engineer (2012)
 - Survey Work
 - Theoretical Computer Modeling
- Action Plan Developed and Filed with KDHE
- Initial Cost Estimate Was to Remedy Current Conditions ONLY



What We Are Doing About It

- Action Plan Filed with KDHE - April 2013
 - Preliminary Action Plan Broken into Three Distinct Project Phases
 - Asked for Limited Controlled Development on a Case by Case Basis
- GBA Selected Through QBS as Best Engineer for Project
 - 5 Flow Meters Installed for 60 Days - Not Much Rain ☹
 - Provided a Good Baseline for Dry Weather Flows
 - Will Request to Install Meters Again in 2014
- Evaluated Methods of Construction
 - All Have Pros and Cons
 - Remove and Replace
 - Parallel Alignment
 - Trenchless Technology
- Questions Arose Regarding Capacity and Future Growth



Action Plan Schedule

KDHE Approved Schedule

- Ph I and Ph II Engineering Documents Complete by 2013 - KDHE Granted Extension to Apr 2014
- Ph III Engineering Documents Complete by end of 2016
- Construction of Ph I or II by end of 2014
- Construction of both Ph I or II by end of 2016
- Construction of Ph III by end of 2018



Proposed Schedule

- Design for All 3 Phases Will Be Complete by Apr 2014
- Staff Recommends Construction of All Improvements During 2014 and 2015
 - Poised for Future Growth
 - Voluntarily and Willingly Fix Undersized Lines
 - May Still Allow Limited Growth on a Case by Case Basis
 - Minimizes Regulatory and Legal Implications
- Easements - Excluding Property Owned by City, DOC, USD 469
 - Council Action on Jan 16, 2014 Meeting
 - Initial Survey Work Complete



Alignment and Sizing Options

- Remove and Replace
- Parallel Sewers
- Pipebursting
- Combination of Methods

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Remove and Replace Alignment

Pros

- Not As Much Additional Permanent Easement Needed
- Replaces Existing Aging Infrastructure With Unknown Conditions
- Get a Brand New Product Free of Infiltration, Roots, Inflow, Sags, etc.

Cons

- Requires Bypass Pumping
 - Can Be Minimized
- Slightly More Expensive than Parallel Alignment Options (typically 3% to 7%)



Parallel Alignment

Pros

- Minimizes Bypass Pumping
- Slightly Cheaper Cost

Cons

- Requires Additional Easements
- Doesn't Remove Older System Elements
 - Increased Inflow and Infiltration
 - Do Not Know Condition of Existing Assets
- Adds More Assets to System = Additional Maintenance and Funding Needs
- Monitoring Diversion Structures in Inaccessible Areas



Other Construction Options

- Pipebursting
 - Not Considered
 - Cost
 - Remote Locations
 - Change in Diameter Too Great
- Combination of Approaches



Costs and Construction Scenarios

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Costs and Construction Scenarios

Team Developed Several Scenarios for Consideration

- None of the Costs Presented Will Impact Mil Levy
- Fully Funded Through Utility
- Paid for by Users of the System
- Doesn't Burden Other Revenue Streams
- Costs Spread over 20 Years - Life Cycle of Assets Much Longer
- You are Making Decisions That Will Positively Affect Growth of the City for Decades to Come



Opinion of Probable Construction Costs

- Napier's Initial Estimate (\$2.82M)
 - Not a Full Opinion of Construction Cost
 - Wasn't Requested - Would Have Cost Significantly More
 - Did Not Include Costs for Road and Stream Crossings, Environmental Considerations, Field Observations, etc.
 - Only Solved Existing Problems - Did Not Provide For Future Growth
 - Did Not Evaluate Upstream or Downstream of Project Limits
 - Using Today's Market Pricing for Same Work (\$3.91M)



Scenarios for Consideration

	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
New Area Served	Ultimate	City Limits +	City Limits +	City Limits Only	City Limits with Ultimate Ph I and II
Acres Outside City Limits	2830	2200	500	0	500
Phase 1 Total	\$ 664,700	\$ 664,700	\$ 664,700	\$ 664,700	\$ 664,700
Phase 1 (Extra) Total	\$ 241,400	\$ 241,400	\$ 241,400	\$ 241,400	\$ 241,400
Phase 2 Total	\$ 1,011,400	\$ 1,011,400	\$ 842,000	\$ 664,700	\$ 1,011,400
Phase 3 Total	\$ 3,255,900	\$ 2,741,000	\$ 2,416,700	\$ 1,731,200	\$ 2,416,700
Construction Subtotal	\$ 5,173,400	\$ 4,658,500	\$ 4,164,800	\$ 3,302,000	\$ 4,334,200
Contingency (%)	\$ 1,293,350	\$ 1,164,625	\$ 1,041,200	\$ 825,500	\$ 1,083,550
Total	\$ 6,466,750	\$ 5,823,125	\$ 5,206,000	\$ 4,127,500	\$ 5,417,750



Scenario A

- Serves the Ultimate 7 Mile Watershed
- 2,830 Additional Acres
- Ph II and III Pipe Size 42"
- Utilize PVC and RCP Pipe
- Maximum Pipe Through LCF
- Provides Unlimited Growth Potential at the Greatest Cost

New Area Served	Ultimate
Acres Outside City Limits	2830
Phase 1 Total	\$ 664,700
Phase 1 (Extra) Total	\$ 241,400
Phase 2 Total	\$ 1,011,400
Phase 3 Total	\$ 3,255,900
Construction Subtotal	\$ 5,173,400
Contingency (%)	\$ 1,293,350
Total	\$ 6,466,750



Scenario B

- Serves the Majority of 7 Mile Watershed
- 2,200 Additional Acres
- Ph II & III Pipe Size 36" to 42"
- Utilize PVC and RCP Pipe
- Maximum Pipe Through LCF
- Provides Significant Growth Potential Well Beyond City Limits

New Area Served	City Limits +
Acres Outside City Limits	2200
Phase 1 Total	\$ 664,700
Phase 1 (Extra) Total	\$ 241,400
Phase 2 Total	\$ 1,011,400
Phase 3 Total	\$ 2,741,000
Construction Subtotal	\$ 4,658,500
Contingency (%)	\$ 1,164,625
Total	\$ 5,823,125



Scenario C

- Serves the Existing City Limits Plus 500 Acres Outside of City Limits
- Ph II & III Pipe Sizes 30" to 36"
- Utilize PVC Pipe
- Smaller Pipe Through LCF
 - Future Considerations
- Provides Growth Potential Beyond City Limits

New Area Served	City Limits +
Acres Outside City Limits	500
Phase 1 Total	\$ 664,700
Phase 1 (Extra) Total	\$ 241,400
Phase 2 Total	\$ 842,000
Phase 3 Total	\$ 2,416,700
Construction Subtotal	\$ 4,164,800
Contingency (%)	\$ 1,041,200
Total	\$ 5,206,000



Scenario D

- Only Serves Current City Limits
- Does Not Provide for Future Annexation or Growth
- Ph II & III Pipe Sizes 24" to 30"
- Smaller Pipe Through LCF
 - Future Considerations
- Will Require Additional Future Resources
- No Growth Potential
- Minimal Investment With Little ROI

New Area Served	City Limits Only
Acres Outside City Limits	0
Phase 1 Total	\$ 664,700
Phase 1 (Extra) Total	\$ 241,400
Phase 2 Total	\$ 664,700
Phase 3 Total	\$ 1,731,200
Construction Subtotal	\$ 3,302,000
Contingency (%)	\$ 825,500
Total	\$ 4,127,500



Scenario E

- Serves Ultimate Ph I and II Boundaries
- Additional 500 Acres of Growth
- Utilize PVC and RCP Pipe
- Maximum Pipe Through LCF
- Poised for Future Growth

New Area Served	Ultimate Ph I and II and 500 Acres
Acres Outside City Limits	500
Phase 1 Total	\$ 664,700
Phase 1 (Extra) Total	\$ 241,400
Phase 2 Total	\$ 1,011,400
Phase 3 Total	\$ 2,416,700
Construction Subtotal	\$ 4,334,200
Contingency (%)	\$ 1,083,550
Total	\$ 5,417,750



Scenarios for Consideration

	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E
New Area Served	Ultimate	City Limits +	City Limits +	City Limits Only	City Limits with Ultimate Ph I and II
Acres Outside City Limits	2830	2200	500	0	500
Phase 1 Total	\$ 664,700	\$ 664,700	\$ 664,700	\$ 664,700	\$ 664,700
Phase 1 (Extra) Total	\$ 241,400	\$ 241,400	\$ 241,400	\$ 241,400	\$ 241,400
Phase 2 Total	\$ 1,011,400	\$ 1,011,400	\$ 842,000	\$ 664,700	\$ 1,011,400
Phase 3 Total	\$ 3,255,900	\$ 2,741,000	\$ 2,416,700	\$ 1,731,200	\$ 2,416,700
Construction Subtotal	\$ 5,173,400	\$ 4,658,500	\$ 4,164,800	\$ 3,302,000	\$ 4,334,200
Contingency (%)	\$ 1,293,350	\$ 1,164,625	\$ 1,041,200	\$ 825,500	\$ 1,083,550
Total	\$ 6,466,750	\$ 5,823,125	\$ 5,206,000	\$ 4,127,500	\$ 5,417,750
20 Year Bond Issue Annual Principal & Interest Payment	\$480,000	\$442,000	\$390,000	\$315,000	\$405,000



2013-2017 Budget Projections

Year	Revenues	Expenses	Equipment Reserve	Capital Project Reserve
2013	\$2,146,733	\$1,840,589	\$102,000	\$306,144
2014	\$2,407,468	\$2,289,991	\$102,000	\$117,477
2015	\$2,581,864	\$2,280,487	\$102,000	\$301,377
2016	\$2,590,628	\$2,301,576	\$102,000	\$289,052
2017	\$2,682,142	\$2,323,001	\$102,000	\$359,141



Funding Options

- Use Capital Project Reserve for debt payment
- Assess a monthly debt service fee on utility bills

Monthly Debt Service Fee	Annual Income Generated
\$1	\$30,000
\$3	\$90,000
\$5	\$150,000



Action Items for Council

- Determine Construction Options
 - Scenarios Presented
- Financing and Repayment Options
 - Debt Service Payment on Bills?
 - Increase Rates?
- Approval of Easement Acquisition Services
- Enabling Resolution for Easements
- Spring 2014 Flow Study/Master Plan
- Open House



Recommended Scenario

Scenario B

- \$5.82M - \$442,000/yr. for 20 Years
- Provides Significant Growth Opportunities for Current City Limits and Adjacent Land Over Other Alternatives
 - 2,200 Additional Acres
- Crosses DOC Property One Time
 - No Need to Negotiate Future Easement for 7 Mile Basin
- Cost of the Increase is Minimal Over Life Cycle of Assets and the Debt



Scenario B (no debt service fee)

Year	Capital Reserve	Cumulative Balance	7 Mile Creek Bond Payment	Total
2013	\$306,144	\$306,144	\$0	\$306,144
2014	\$117,477	\$423,621	\$0	\$423,621
2015	\$301,377	\$724,998	\$0	\$724,998
2016	\$289,052	\$1,014,050	(\$442,000)	\$572,050
2017	\$359,141	\$931,191	(\$442,000)	\$489,191



Scenario B (\$3 debt service fee)

Year	Capital Reserve	Debt Service Fee	Cumulative Balance	7 Mile Creek Bond Payment	Total
2013	\$306,144	\$0	\$306,144	\$0	\$306,144
2014	\$117,477	\$0	\$423,621	\$0	\$423,621
2015	\$301,377	\$90,000	\$814,998	\$0	\$814,998
2016	\$289,052	\$90,000	\$1,194,050	(\$442,000)	\$752,050
2017	\$359,141	\$90,000	\$1,201,191	(\$442,000)	\$759,191



Alternative Recommendation

Scenario E

- \$5.42M - \$405,000/yr for 20 Years
- Provides Growth Opportunities for Current City Limits and Adjacent Land Over Other Alternatives
 - Adds 500 Acres of Land Outside City Limits
- Crosses DOC Property One Time
 - No Need to Negotiate Future Easement for 7 Mile Basin



Scenario E (no debt service fee)

Year	Capital Reserve	Cumulative Balance	7 Mile Creek Bond Payment	Total
2013	\$306,144	\$306,144	\$0	\$306,144
2014	\$117,477	\$423,621	\$0	\$423,621
2015	\$301,377	\$724,998	\$0	\$724,998
2016	\$289,052	\$1,014,050	(\$405,000)	\$609,050
2017	\$359,141	\$968,191	(\$405,000)	\$563,191



Scenario E (\$3 debt service fee)

Year	Capital Reserve	Debt Service Fee	Cumulative Balance	7 Mile Creek Bond Payment	Total
2013	\$306,144	\$0	\$306,144	\$0	\$306,144
2014	\$117,477	\$0	\$423,621	\$0	\$423,621
2015	\$301,377	\$90,000	\$814,998	\$0	\$814,998
2016	\$289,052	\$90,000	\$1,194,050	(\$405,000)	\$789,050
2017	\$359,141	\$90,000	\$1,238,191	(\$405,000)	\$833,191