



Council Study Meeting
February 11, 2013
6:00 p.m.
City Council Chambers

Agenda

1. Discuss I&I Program
2. Discuss WPC Facility Plan
3. Other items

Information

Subject

Discuss I&I Program

Information

Dan Miers, WPC Superintendent and Forrest Aldrich, Veenstra and Kimm, will attend the meeting to discuss the I& I Program.

As some background information:

- In 1993 the Department of Natural Resource's annual inspection report recommended that we begin removing clear water from our system.
- Several meetings were conducted which included council, staff, V&K and IDNR and from that an I&I Policy was adopted. The current policy is in your packet.
- 1994 - we began the program to remove as much ground/storm water (rain and other sources) as possible from the sewer system
- Methods of removal included repairing/replacing manholes, repairing/replacing and lining mains, abandoned services and/or repairing leaking ones

The following steps are performed by the sewer department:

- The city was divided into 19 areas to conduct I&I testing
- Neighborhood meetings are held in each of the areas
- Visual inspection in the home are conducted
- Foundation testing of homes are conducted
- Staff notifies property owner if they are compliant or non-compliant
- Staff will assist property owners through repair process
- Staff will also use the push cam if requested from property owner

Removal of this water is important for several reasons:

- 2012 average daily flow was 1.4 million gallons per day (mgd)
- Storm water can increase the maximum flows through the collection system to 14 million gallons per day (mgd)
- Excess water must be treated just the same as sewage. Therefore our operation costs increase to process stormwater.
- Rain and surface water increases wear and tear on the plant thereby increasing maintenance and equipment replacement cost
- Excess water in the system creates backups in basements and collection system overflows, which can be unhealthy as well as costly and inconvenient to the homeowner

In your packet is information regarding residential I&I data to date, 2012 data, total rebates, total number of loans, total loans outstanding and upcoming projects.

Attachments

I&I Policy

I&I Memo

INFILTRATION & INFLOW

The Iowa Department of Natural Resources mandated the City of Indianola to study and repair the sanitary sewer collection system (Public and Private Sewers) to eliminate sanitary sewer overflows within a 3-year period. The mandate creates an urgency to remove Inflow and Infiltration (I&I) from the sanitary sewer system by December 31, 2013.

I&I not only causes sewage backups in basements, but also results in a substantial increase in energy needs and rapidly advances the need for repair and maintenance due to increased burden on the system. In addition, there is a reduction in sewer capacity, which shortens the life of the current treatment facility. All of which result in increased cost and financial burden on citizens and businesses of Indianola.

I&I is the invasion of storm water into the sanitary sewer system from broken, cracked or misaligned mains, leaking manholes or manholes that have water flowing over their covers. Other sources of I&I include private (resident and business) services that are cracked or broken and storm water connections from sump pits and roof drains into sanitary sewers. The latter has been illegal since the adoption of Ordinance No. 27-103 in 1979.

The mayor and council therefore adopt the following policy to abate problems associated with I&I:

1. The city shall perform a study to locate I&I using sewer department staff and an engineering firm. It shall be conducted on an area-by-area basis with anticipated city-wide completion of Phases I thru IV, as outlined in the Administrative Consent Order, on or before **Dec. 31, 2013.**
2. Public sewers and manholes with I&I shall be repaired using sewer revenue including fees and grants etc. designated by the city council.
3. Private sources of I&I are the responsibility of property owners and shall be repaired or removed in the following manner:

ACCESS TO PRIVATE SERVICE ref. Ord. 95.07 Right of Entry

Should the property owner deny access to the property for I&I testing and/or inspection, the City of Indianola will consider the property non-compliant with the City of Indianola I&I program. A letter notifying the owner of non-compliance will be sent and the property owner will be given 30 days to respond or a \$50.00 per month fee shall be applied to the utility bill until inspection or testing can confirm compliance. If the owner has failed to allow access after a 90-day period of time, the monthly fee will increase to \$70.00 until inspection or testing can confirm compliance.

CONNECTION OR LEAKING SERVICE TO SEWER

Upon written notification from the City (regular first class mail) I&I flowing into the sanitary sewer from an illegal connection (does not include sump pump), the property owner shall have a period of **90 days to abate the problem**. Those owners that perform the proper repairs or retain a contractor to make the repairs within 90 days of notification or less shall be **eligible for one of the following finance options:**

- a) **25% reimbursement (not to exceed \$875) for the disconnection costs, or**
- b) **Loan Amounts may range from \$3,000 to \$7,000 with a four (4%) to five (5%) interest rate. Loan term may vary not to exceed ten (10) years. Loan requests will be approved by the City Manager. If financial hardship can be demonstrated with regard to cost in excess of \$7,000, the council may approve a higher loan amount.**

Example:

- 1) **\$3,000, 4-5%, 5 years**
- 2) **\$4,000, 4-5%, 7 years**
- 3) **\$5,000, 4-5%, 8 years**
- 4) **\$5,500, 4-5%, 9 years**
- 5) **\$7,000, 4-5%, 10 years**

For those property owners who opt not to repair the illegal connection from the sanitary sewer after the 90-day period, a \$50.00 per month fee shall be applied to the utility bill until the disconnection has been performed, but not to exceed 1 year. By the end of the 1-year period, the owner shall have completed the disconnection.

If the owner has failed to repair the illegal connection the monthly fee will increase to \$70.00 until repairs have been made. By the end of the second 1-year period, the owner shall have completed the disconnection. If the owner has failed to repair the illegal connection the City will seek to enforce this policy using all lawful means, including but not limited to the prosecution of a municipal infraction which could result in a civil penalty, court cost, and / or a court order requiring that repairs be made within a certain time period.

Inspection by city staff both prior to and after repairs shall be necessary for a reimbursement or loan. In addition, a billing statement for services performed shall accompany the request for reimbursement. For those owners opting to do the work without the assistance of a commercial contractor, the city shall reimburse 50% of the material costs only. The reimbursement shall not exceed \$400.

CONNECTION (SUMP PUMP)

Upon written notification from the City (regular first class mail) of sump pumps illegally hooked into a sanitary sewer, the property owner shall have a period of 30 days to remove all methods/systems of connection.

For those property owners who opt not to disconnect a sump pump from the sanitary sewer after the 30-day period, a \$70.00 per month fee shall be applied to the utility bill until the disconnection has been performed.

Within two years the owner shall have made the disconnection. If the owner has failed to repair the illegal connection the City will seek to enforce this policy using all lawful means, including but not limited to the prosecution of a municipal infraction which could result in a civil penalty, court cost, and / or a court order requiring that repairs be made within a certain time period.

No financing options are available for this repair.

Inspection by city staff both prior to and after repairs shall be necessary.

UNDUE HARDSHIP

For those property owners who can show undue hardship resulting from repairs, the fee may remain at \$50.00 if approved by the city council.

The property owner shall make arrangements with the City of Indianola for undue hardships and will be handled on a case-by-case basis.

Reference of City Ordinances:

95.07 Right of Entry

97.01 Storm Water

97.05 Restricted Discharge Powers

99.05 User Charges

Residential I&I

WPC Staff completed visual inspections in NE Service Area #2 but was unable to do foundation testing due to the drought conditions this year. The IDNR agreed to lower our required testing from 300 properties per year to 150. We worked with the Street Dept. during the 2012 Street Project to repair sewer mains under streets being removed and replaced service connections under those streets to behind the curb line. We also televised each service exposed and identified those that failed the I&I Policy. We continued to work with residents & realtors to push-cam private lines at the property owner's request to address I&I issues.

Residential I&I data to date since inception.

Visual Inspections to date	<u>2981</u>
Injection Tested to date	<u>2686</u>
Total Compliant to date	<u>1776</u>
Total Non- Compliant	<u>910</u>
I&I Billing (# being billed)	<u>30</u>

2012 Residential I&I Data

Visual Inspections	<u>243</u>	
Injection Testing/ Push-camera	<u>130</u>	
Compliant	<u>20</u>	
Non- Compliant	<u>110</u>	
	Sump Pumps	<u>5</u>
	Cross or Leaking	<u>100</u>
	No access	<u>5</u>

2012

Total Rebates	<u>\$29,538.64</u>	
Number of Rebates	<u>45</u>	Average \$656.41
New I&I Loans Issued	<u>\$84,994.99</u>	Average \$4249.75
Number of New Loans	<u>20</u>	On average 3-5 year term at 4%, With payments in \$50-\$75 range

Total Loans Outstanding	<u>\$294,538.48</u>
(Principal & Interest)	<u>\$210,636.99 I&I / \$83,901.49 Shared service loans</u>

Number of Loans	<u>67 -- 55 I&I plus 12 Shared Service loans</u>
-----------------	--

Upcoming Projects

There are 2 major Shared Service Projects scheduled for this spring. The first project, the 300 Block of N Howard St., affects 5 property owners. Based on the bid accepted in the Phase 4 project, their share of the expense for the new main is \$10,145.00 each. The second project, the 400 block of N Buxton/Howard Sts., affects 7 properties at a cost of \$3,937.00 each. In addition to the expense for the new main, each property's service line has also failed I&I testing and will have to be replaced at the owners' expense.

We anticipate 3 of the 5 property owners in the first project and 3 of the 7 in the second project to require loans to finance these repairs.

Information
Subject

Discuss WPC Facility Plan

Information

Forrest Aldrich, Veenstra & Kimm, will attend the meeting to present information on the North Wastewater Treatment Facility improvements. In your packet is Alternate #1 - expand the existing site and Alternate #2 - move to north city site in an amount of \$6,000,000 and \$26,000,000 respectfully.

Alternative No. 1 - brief description includes:

- Estimated project cost - \$6,000,000
- Can handle 19,103 population
- No "wet" industries
- Rehabilitate existing equipment
- Will handle future ammonia limits
- Will not handle future disinfection and nutrient requirements
- Will need additional sludge expansion as City grows
- Will need ongoing maintenance

Alternate No.2 - brief description includes:

- Estimated project cost - \$26,000,000
- Can handle 19,103 population
- No "wet" industries
- Will handle future ammonia limits and disinfection and nutrient requirements
- No ongoing equipment replacement
- Equalization of flows will need to be evaluated

Detailed of cost estimate - Alternate #1

Description	Estimated Cost
Primary Pumping Station	\$85,000
Grit Building	\$30,000
Primary Clarifier	\$70,000
Aeration Basin	\$1,465,000
Final Clarifiers	\$205,000
Return Sludge Pump Stations	\$195,000
Sludge Treatment	\$330,000
Yard Piping	\$100,000
Sitework & Parking Lot	\$50,000
Electrical	\$1,000,000
Control Improvements	\$400,000
Structural	\$585,000
Contingencies @ 15%	\$680,000

Engineering, Legal & Administrative @15%	\$780,000
Total Project Cost	\$5,975,000

Attachments

V&K Memo

NORTH WASTEWATER TREATMENT FACILITIES
INDIANOLA, IOWA
IMPROVEMENT ALTERNATIVES

ALTERNATIVE NO. 1 – EXPAND AT EXISTING SITE

- Project Cost estimated \$6,000,000
- Can handle 19,103 pop. from comp. plans except for sludge handling
- No “wet” industries
- Rehabilitate existing equipment
- Will handle future ammonia limits
- Will not handle future disinfection and nutrient requirements

<u>Description</u>	<u>Year</u>	<u>Estimated Cost</u>
• UV Disinfection	2018 to 2021	\$550,000
• Nutrient Removal	2021 to 2025	\$400,000
• Will need additional sludge expansion as City grows		
<u>Description</u>	<u>Year</u>	<u>Estimated Cost</u>
• Digester Mixing	2020 to 2025	\$200,000
• Sludge Storage	2023 to 2028	\$1,650,000
• Will need ongoing maintenance		
<u>Description</u>	<u>Year</u>	<u>Estimated Cost</u>
• Remaining Equipment Replacement	2014 to 2025	\$500,000
• Remaining Structural Building Repairs	2014 to 2025	\$750,000

ALTERNATIVE NO. 2 – MOVE TO NORTH CITY SITE

- Project Cost estimated \$26,000,000
- Can handle 19,103 pop. from comp. plans, possibly more
- No “wet” industries
- Will handle future ammonia limits and disinfection and nutrient requirements
- No ongoing equipment replacement
- Equalization of flows will need to be evaluated

NORTH WASTEWATER TREATMENT FACILITIES
INDIANOLA, IOWA

Alternative No. 1 - Expand At Existing Site
Detailed Cost Estimate
February 2013

Description	Estimated Cost
Primary Pumping Station	
Primary Plant Pumps (1)	\$ 25,000
Pump Base Elbows (4)	35,000
Lagoon Flow Meter	10,000
HVAC Equipment	15,000
Grit Building	
Blower	30,000
Primary Clarifier	
Primary Clarifiers (Repaint)	40,000
Primary Clarifier No. 2 (New Drive)	30,000
Aeration Basin	
New Tankage	700,000
Process Piping	135,000
Blower (1)	80,000
Air Piping	70,000
Diffusers	200,000
Mixers (2)	50,000
Gates (12)	180,000
D.O./Solids Meters (5)	50,000
Final Clarifiers	
Final Clarifier No. 1 (Repaint, Skimmer, Density Baffles, Drive)	90,000
Final Clarifier No. 2 (Repaint, Skimmer, Density Baffles, Drive)	90,000
Piping	25,000
Return Sludge Pump Station	
Return Sludge Pumps (2)	30,000
Waste Sludge Pumps (2)	30,000
Return Sludge Flow Meter	10,000
Waste Sludge Flow Meter	10,000
Return Sludge Control System	100,000
HVAC Improvements	15,000

<u>Description</u>	<u>Estimated Cost</u>
Sludge Treatment	
Sludge Thickener	200,000
Sludge Piping Modifications	50,000
Sludge Pumps Motors and VFDs	30,000
Code Improvements	50,000
Yard Piping	100,000
Sitework and Parking Lot	50,000
Electrical	
Administration Building motor control center	100,000
Digester Control Building motor control center	100,000
Maintenance Building motor control center	500,000
Site Work and Lighting	150,000
Miscellaneous	150,000
Control Improvements	400,000
Structural	
North Primary Clarifier Floor	20,000
Pressure Relief Valve Replacement	15,000
Administration Building Addition	500,000
Demolition of Fixed Film Reactor	50,000
	<u>\$ 4,515,000</u>
Contingencies @ 15%	<u>\$ 680,000</u>
Construction Cost	<u>\$ 5,195,000</u>
Engineering, Legal & Administrative @ 15%	<u>\$ 780,000</u>
Total Project Cost	<u>\$ 5,975,000</u>

The estimate does not include the following future improvements:

<u>Description</u>	<u>Year</u>	<u>Estimate Cost</u>
UV Disinfection	2018 to 2021	\$550,000
Nutrient Removal	2021 to 2025	400,000
Digester Mixing	2020 to 2025	200,000
Sludge Storage	2023 to 2028	1,650,000
Remaining Equipment Replacement	2014 to 2025	500,000
Remaining Structural Building Repairs	2014 to 2025	<u>750,000</u>
Total		\$4,050,000

Information	
Subject	
Other items	
Information	