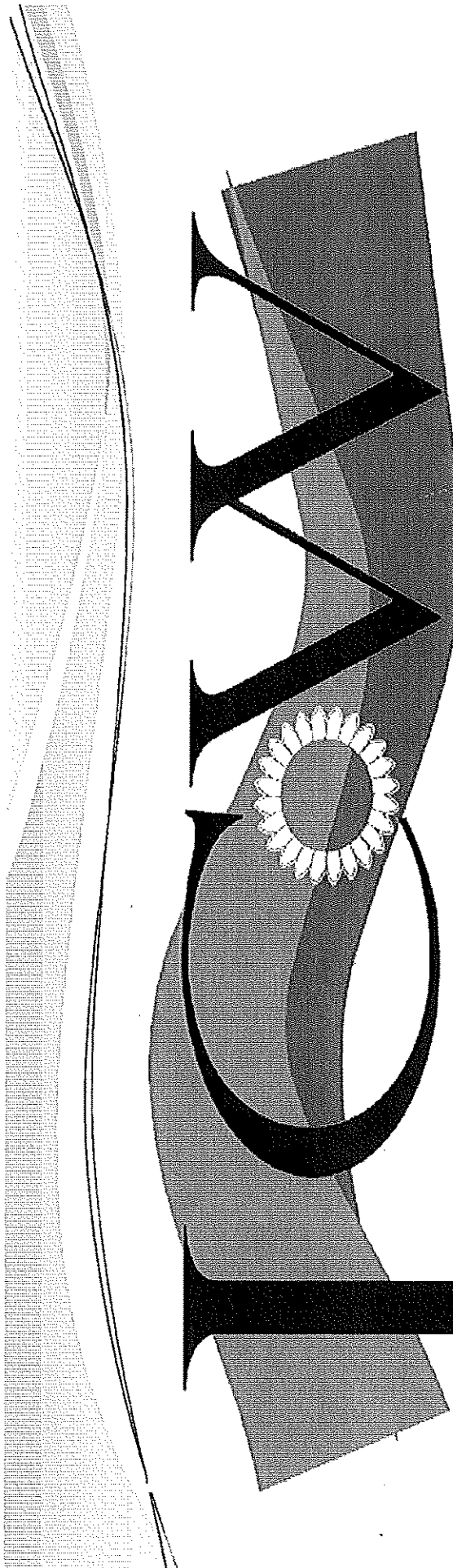
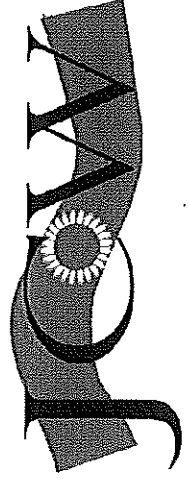




JOHNSON

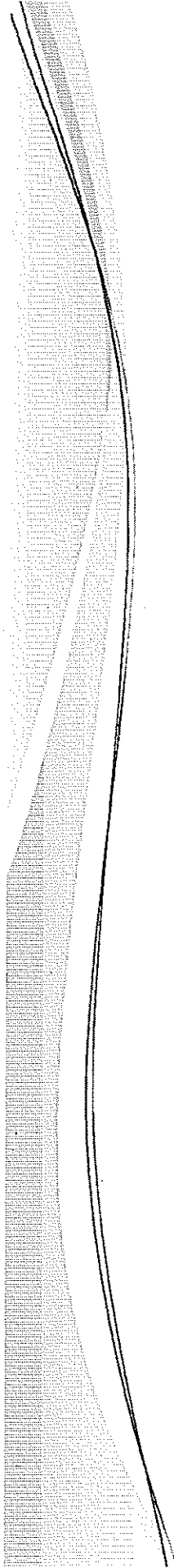
Johnson County Wastewater

Living the Pipe Dream



Public Speaking

A modern guide to effective public speaking was penned by some unknown sage: "Know your stuff. Know whom you are stuffing. Know when they are stuffed."

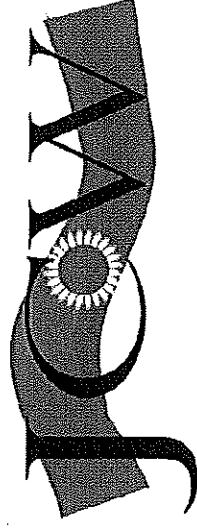


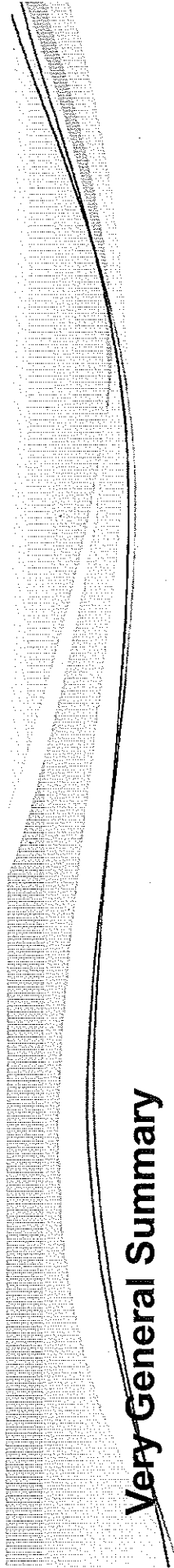
JCW's Mission

Protecting our environment

Serving our customers

Enhancing our communities





Very General Summary

- There are the parts that JCW owns and maintains.
- There is the part that you own and maintain as the property owner (remind me to tell you about HomeServ).
- The main sewer is located within the street. It is connected by manholes that are also owned and maintained by JCW. It carries the wastewater from your homes and businesses and transports it to the wastewater treatment plant.
- The JCW treatment plants, owned and maintained by JCW, clean up the wastewater and discharge it into the creeks as clean water.
- Now, the part a lot of people don't know about is that piece that connects your home - your toilets, sinks, dishwasher and washing machine - to the mainline. It is called a service line, and that is private property. You own and maintain that portion of the wastewater system (HomeServ).

By The Numbers

- Above ground, there are more than 5,600 assets at seven major treatment plants, one small lagoon facility, and 31 pump stations with a replacement value estimated at \$375 million.
- Underground assets have an estimated replacement value of more than \$2 billion. There are more than 2,200 miles of sewer line pipe, including approx. 56,000 manholes, 23 miles of active low-pressure sewers, and 42 miles of active force mains. The miles of sewer lines would span the distance between Olathe, KS and Las Vegas, NV and then go up and down the Strip 106 times.
- JCW provides sanitary sewer service to more than 500,000 people.

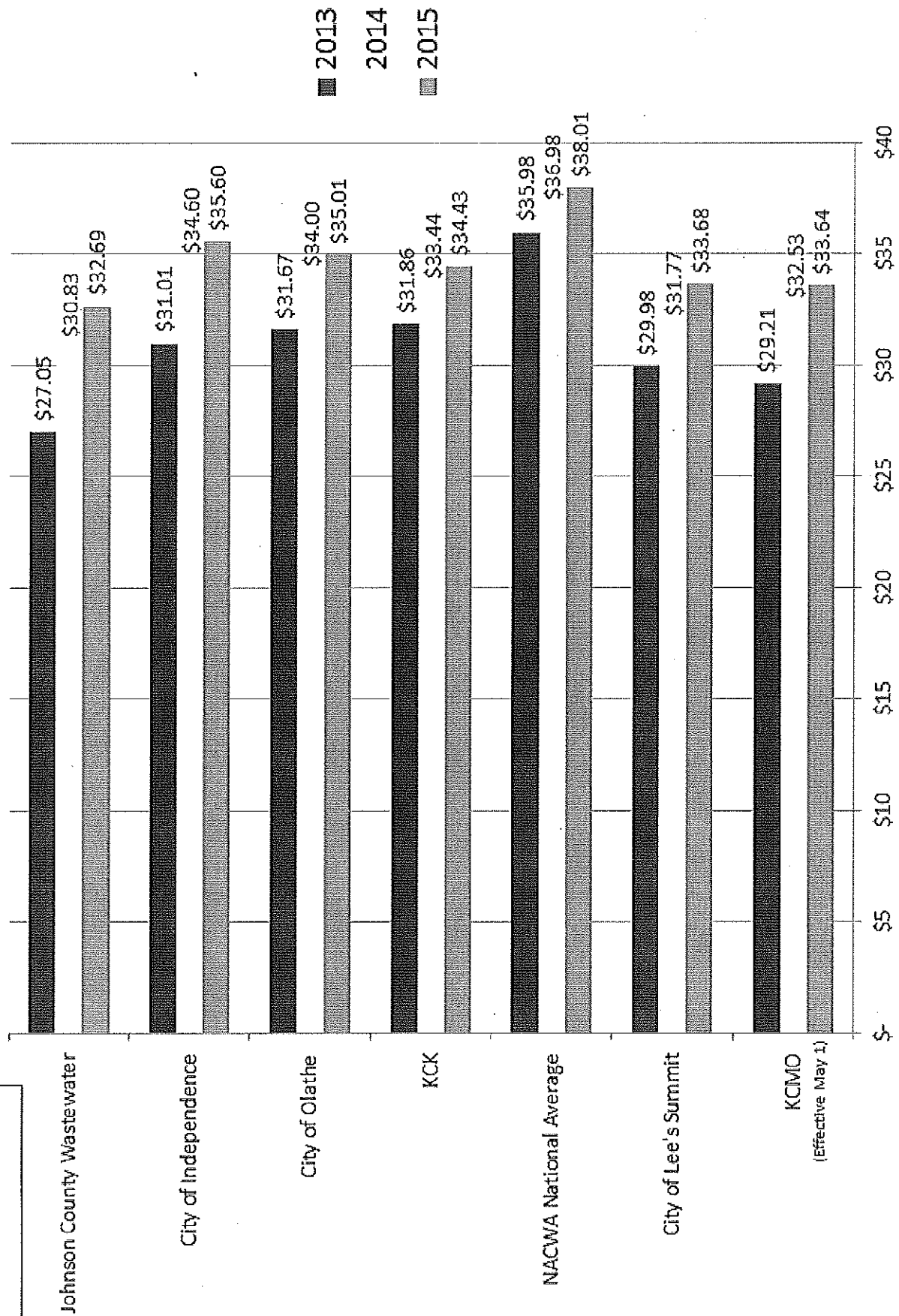
By The Numbers part 2

- In 2014, JCW's active account base of 137,500 was composed of:
 - 4.5% commercial accounts
 - 0.10% industrial accounts
 - 13.1% multi-family accounts
 - 83.3% single-family residential accounts
- JCW annually processes an average of 17.5 billion gallons of wastewater. Approx. 23.3 billion capacity
- The wastewater system covers a service area of more than 180 miles.



EASTER IS COMING!!!

Monthly Charge using
152 gallons AWWU



- Below is a simple explanation of Derivatives and a Credit Default Swap,

Chuck moved to Texas and bought a Donkey from a farmer for \$100.

The farmer agreed to deliver the Donkey the next day.

The next day he drove up and said, 'Sorry son, but I have some bad news, the donkey died.'

Chuck replied, 'Well, then just give me my money back.'

The farmer said, 'Can't do that. I went and spent it already.'

Chuck said, 'Ok, then, just bring me the dead donkey.'

The farmer asked, 'What ya gonna do with him?'

Chuck said, 'I'm going to raffle him off.'

The farmer said, 'You can't raffle off a dead donkey!'

Chuck said, 'Sure I can. Watch me. I just won't tell anybody he's dead.'

A month later, the farmer met up with Chuck and asked, 'What happened with that dead donkey?'

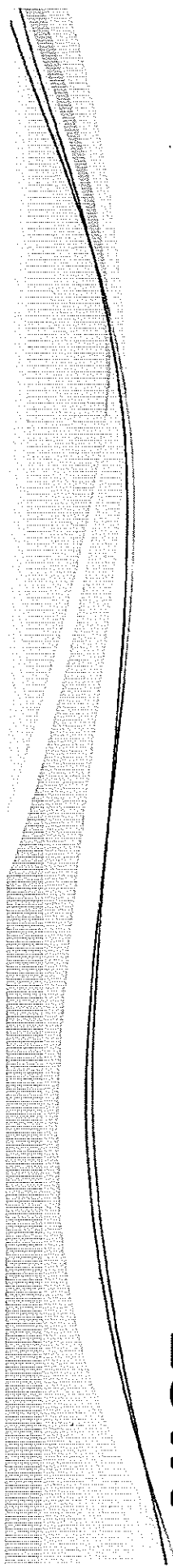
Chuck said, 'I raffled him off.'

I sold 500 tickets at two dollars a piece and made a profit of \$998.'

The farmer said, 'Didn't anyone complain?'

Chuck said, 'Just the guy who won. So I gave him his two dollars back.'

• Chuck now works on Wall Street



NICE

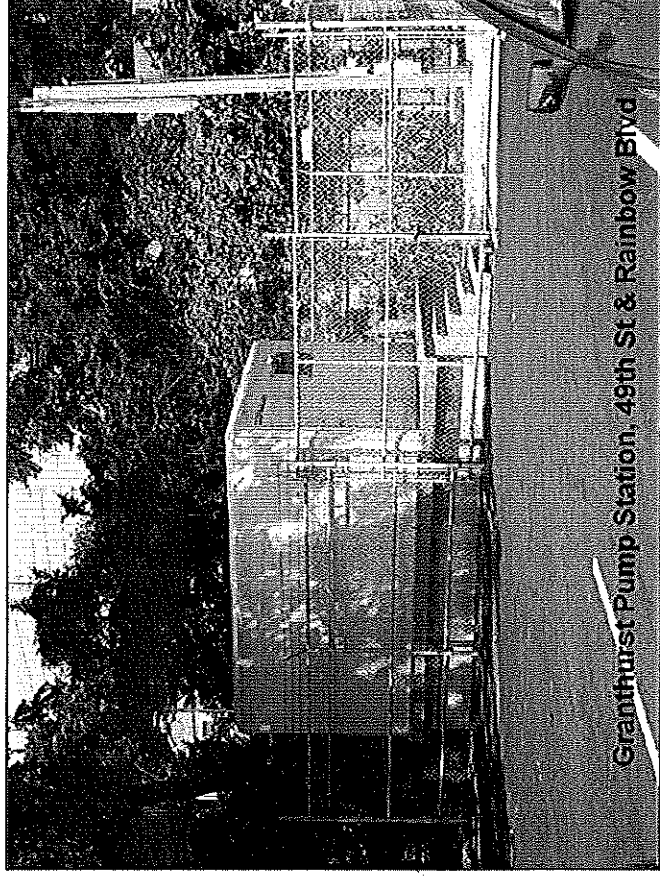
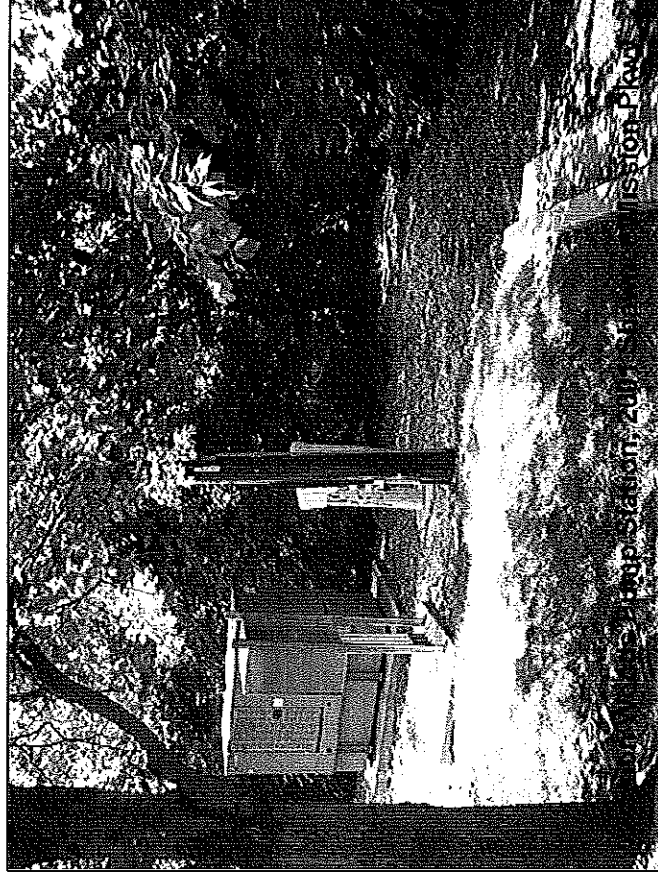
At the edge of the square, a gray-haired man sitting at a restaurant's sidewalk table, he was asked for his thoughts about a government shutdown, he mentioned his television set. "I haven't turned it on in a week," the man said. "It's been a good week."



Collection System

Collection System

Pump station overview and maintenance

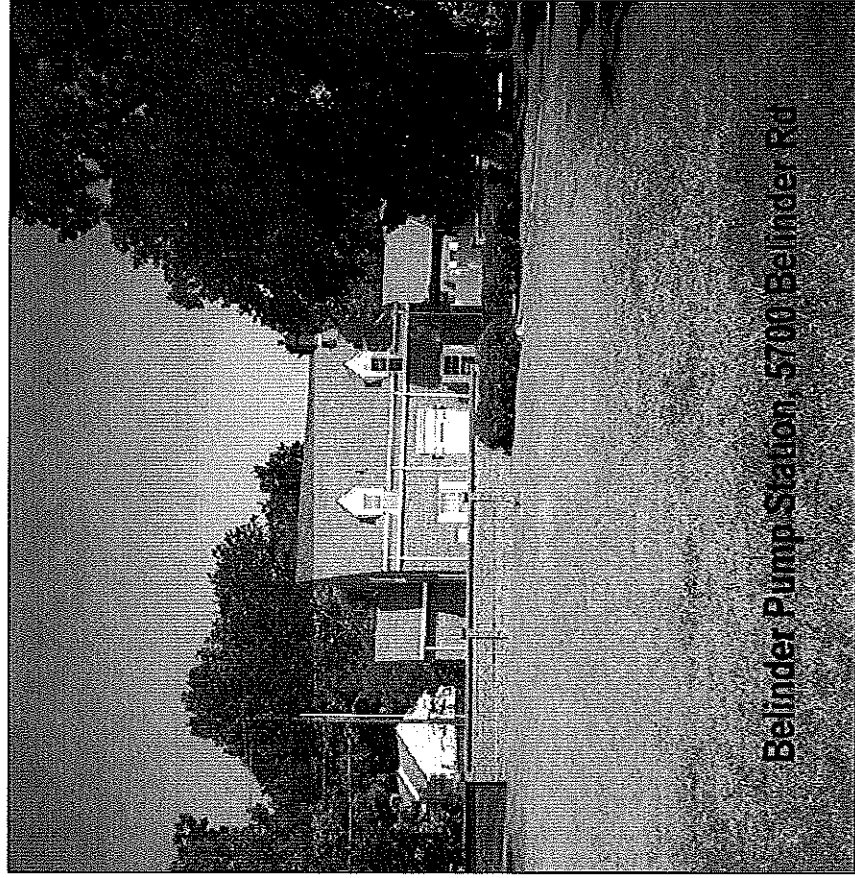


Pump stations come in a variety of types; from Hidden
Pump stations come in a variety of types, from Hidden
in the Woods, to Hidden in Plain Sight

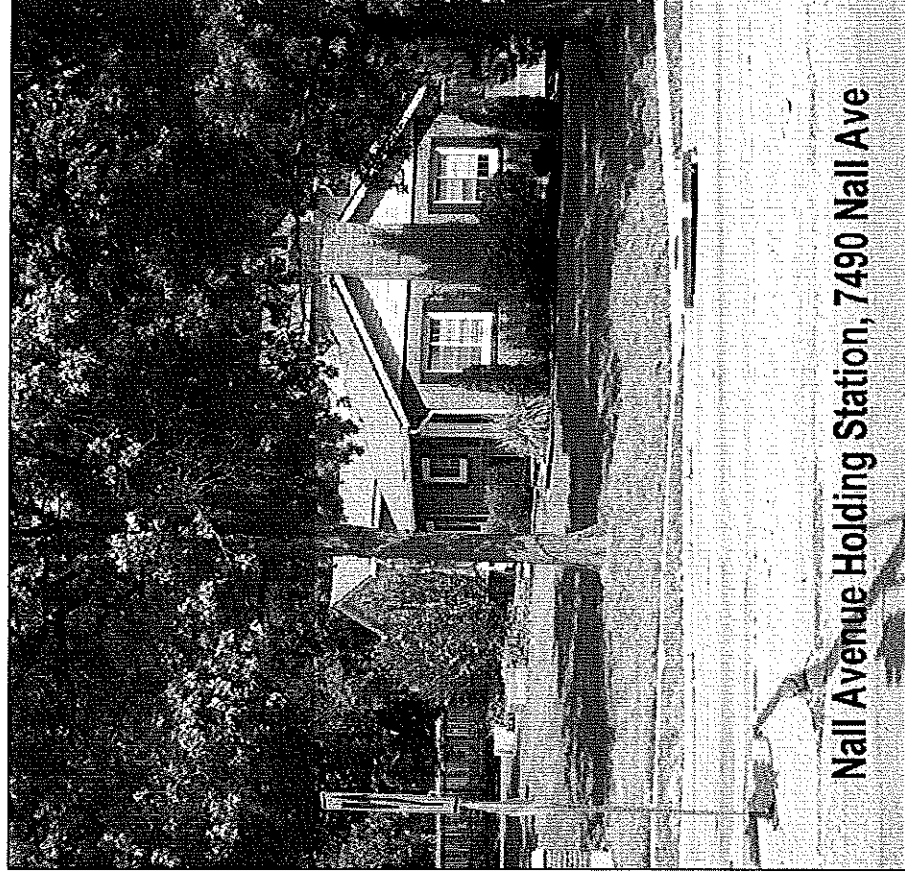


Collection System

Pump stations



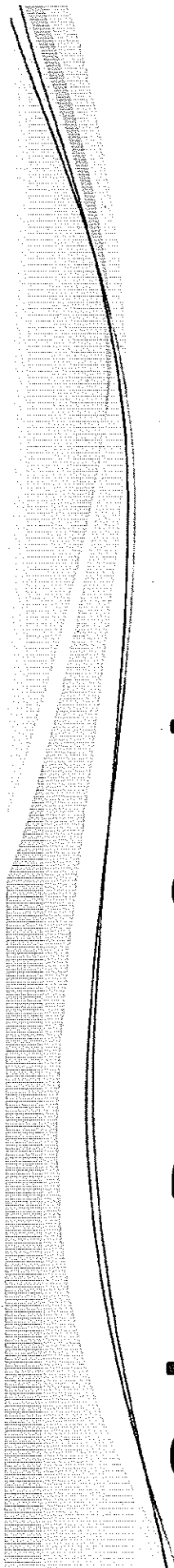
...Hidden in Plain Sight





Other Pump Stations

- Airport Lift Station #1, (DANISCO), 1A Industrial Park, New Century, KS 66031 – LBC₁
- Airport Lift Station #2, (DAKOTA), 399 New Century Parkway, New Century, KS 66031 – LBC₁
- Brush Creek Pump Station, 7401 Roe, Prairie Village, KS 66208 – MTM₁
- Bull Creek #1 Pump Station, 2113 W. 178th Terrace, Spring Hill, KS 66083 – LBC₁
- Cedar Creek #3 Pump Station, 9695 S. Cedar Creek Road, Olathe, KS 66061 – CDM₁
- Cedar Mill Pump Station, 22000 W. 43rd St., Bonner Springs, KS 66012 – CMO₁
- County Line Lift Station, 11903 W. 47th St., Shawnee, KS 66216 – SMT_C
- Dykes Branch Pump Station, 3535 Somerset Dr., Prairie Village, KS 66208 – ICM₁
- Hayes Creek Pump Station, 17491 Johnson Drive, Shawnee, KS 66216 – TL_{YC}
- Holliday Drive Pump Station, 4700 Holliday Drive, Lake Quivira, KS 66106 – TL_{YC}
- Kill Creek #1 Pump Station, 25828 W. 159th St., New Century Air Center, KS 66031 – KCO₁
- Lake Shore East Pump Station, 161 Lake Shore Dr. E, Lake Quivira, KS 66106 – TLC₁
- Lake Shore South Pump Station, 498 Lake Shore Dr. W, Lake Quivira, KS 66106 – TLC₁



Other Pump Stations

- Lake Shore West Pump Station, 258 Lake Shore Dr. W, Lake Quivira, KS 66106 – TLC₁
- Lamar/Foxridge Pump Station, 4709 Lamar Ave., Mission, KS 66202 – MTM₁
- Lone Elm Pump Station, 21460 W. 183rd St., Spring Hill, KS 66083 – LBC₁
- Marshall Drive Pump Station, 14003 Marshall Drive, Lenexa, KS 66215 – ICM₁
- Martway Holding Station, 5395 Martway, Mission, KS 66202 – MTM₁
- Mill Creek #3 Pump Station, 17355 Barkley Drive, Lenexa, KS 66215 – MCR₁
- Rock Creek Pump Station, 5801 Roe Blvd., Fairway, KS 66205 – MTM₁
- Roe Village Pump Station, 5466 Skyline Dr., Roeland Park, KS 66205 – MTM₁
- Shawnee Mission Park Pump Station, (79th and Renner Road), Shawnee, KS 66216 – LMC₁
- Tooley Creek Pump Station, 8500 Holliday Drive, Kansas City, KS 66106 – TLC₁
- Turkey Creek Pump/Holding Station, 6700 Foxridge Drive, Mission, KS 66202 – SMTC
- Virgil's Pump Station, 4800 Woodson Dr., Mission, KS 66202 – SMTC

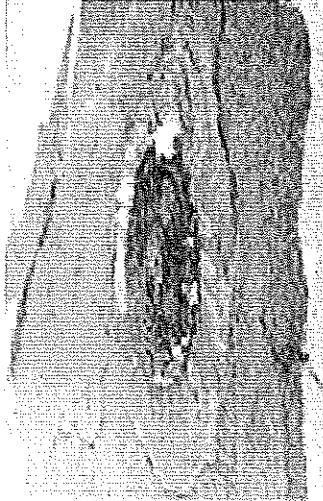
Manhole Trouble!



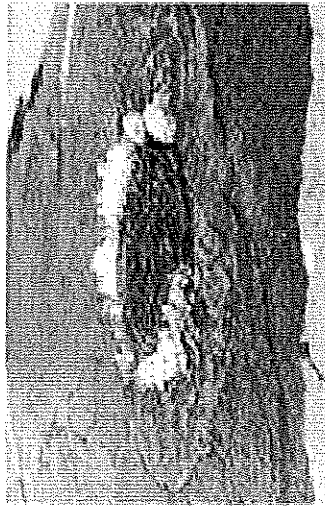
5 gpm



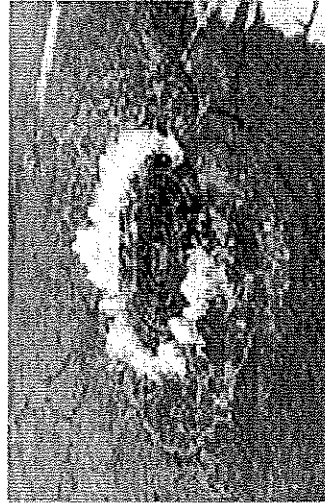
25 gpm



50 gpm



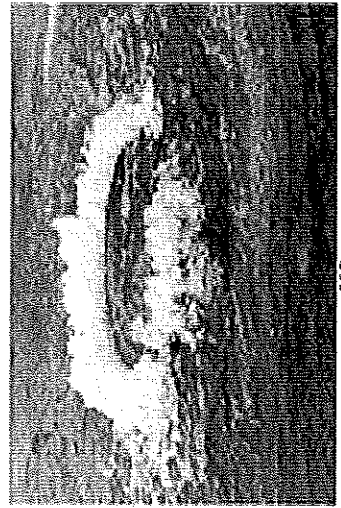
100 gpm



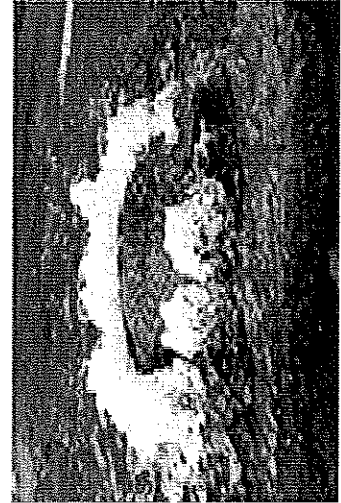
150 gpm



200 gpm



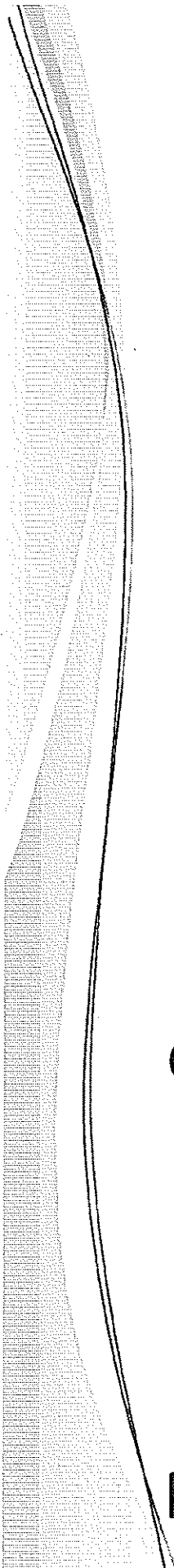
225 gpm



250 gpm



275 gpm



Treatment System

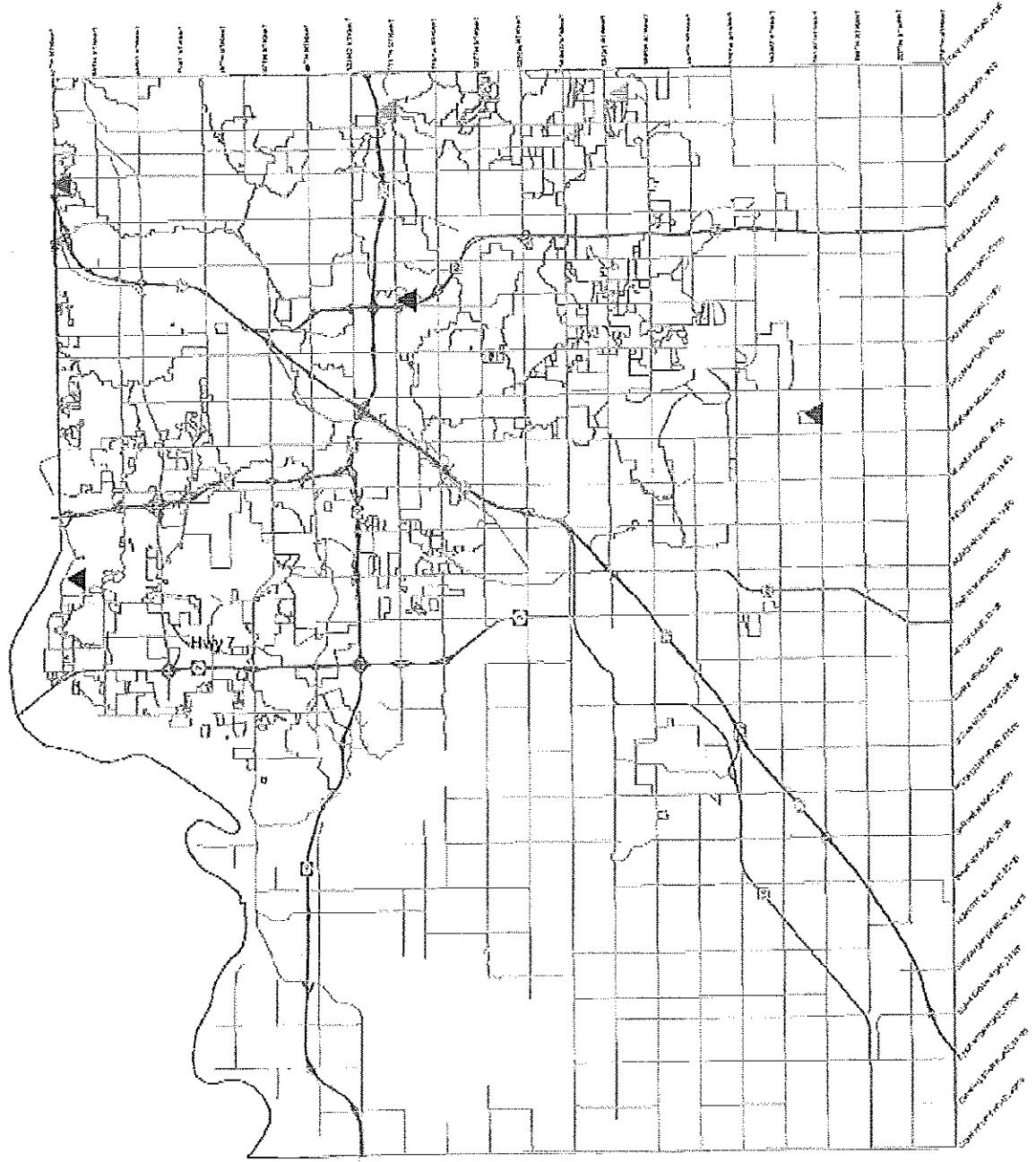
- Size
- Staffing
- Potential violations
- Meeting regulatory treatments is expensive



Influent Effluent



Johnson County Wastewater Treatment Plants



▲ Airport Plant (NCAC)
50 Leawood Drive, New Century, KS 66031

▲ Blue River Main
2523 W. 151st, Overland Park, KS 66224

▲ Blue River Lagoon (BRSSD #4)
188th & Lackman, Spring Hill, KS 66083

▲ Middle Basin Plant
10001 College Blvd., Overland Park, KS 66210

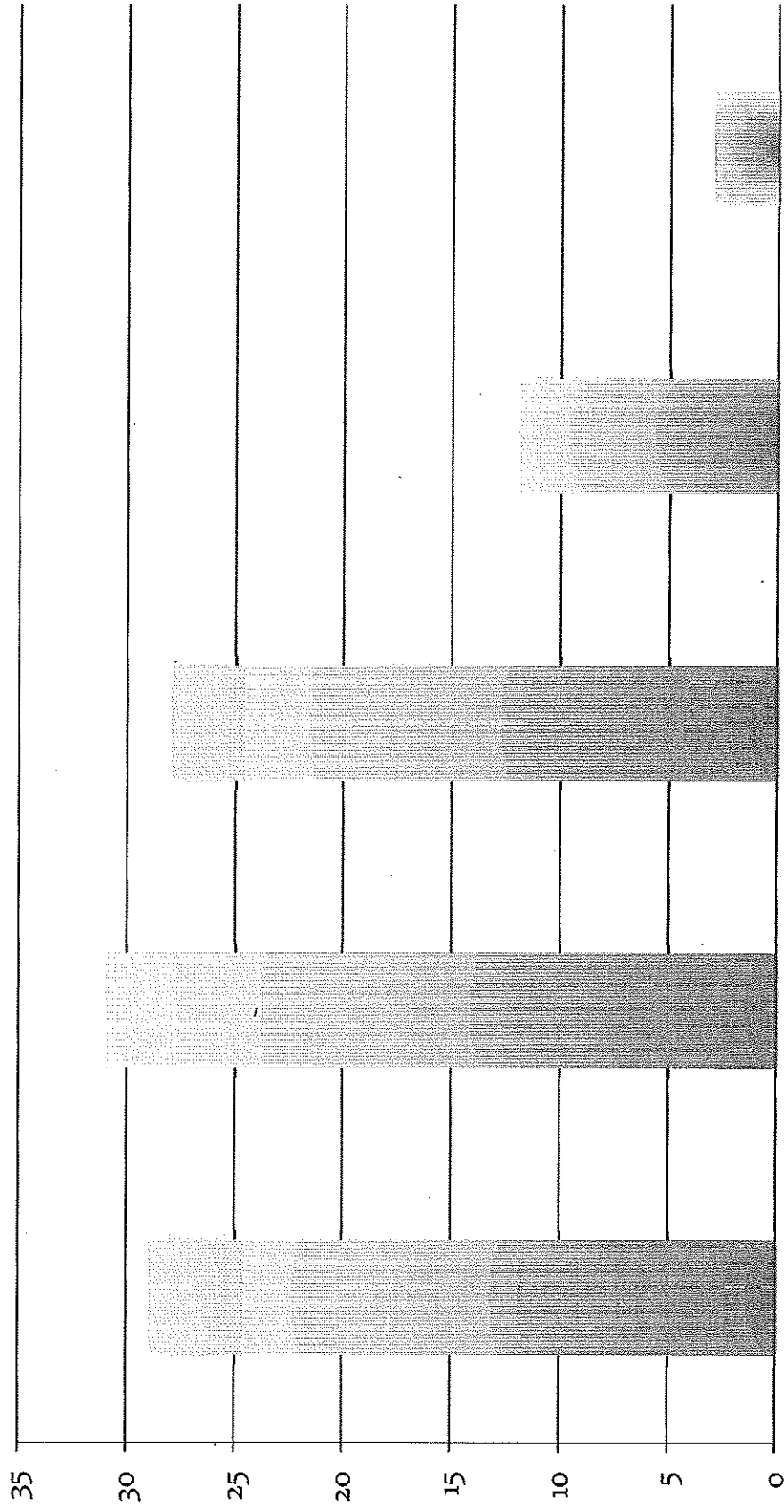
▲ Mill Creek Regional
20001 W. 47th Street, Shawnee, KS 66218

▲ Nelson Complex (Mission Main/Turkey Creek)
4800 Nall, Mission, KS 66202

▲ Tomahawk Creek
10701 Lee Blvd., Leawood, KS 66211

Treatment System

5 year history of discharge violations



Expenditures

Total 2015 O&M Budget	52,931,877
-----------------------	------------

KCMO	17,708,133	33%
------	------------	-----

Personnel Services	15,825,758	30%
--------------------	------------	-----

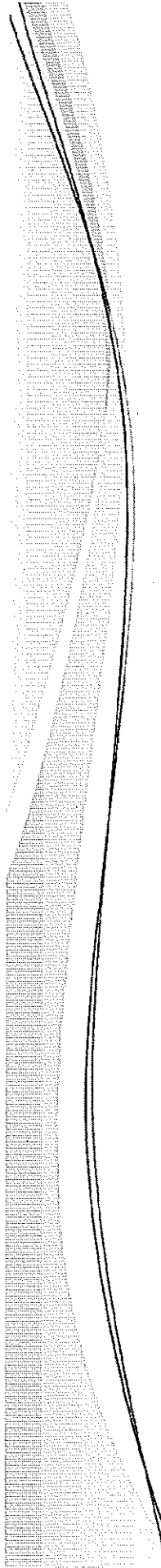
Electricity	5,191,904	10%
-------------	-----------	-----

Central Services	2,806,007	5%
------------------	-----------	----

Chemicals	1,914,358	4%
-----------	-----------	----

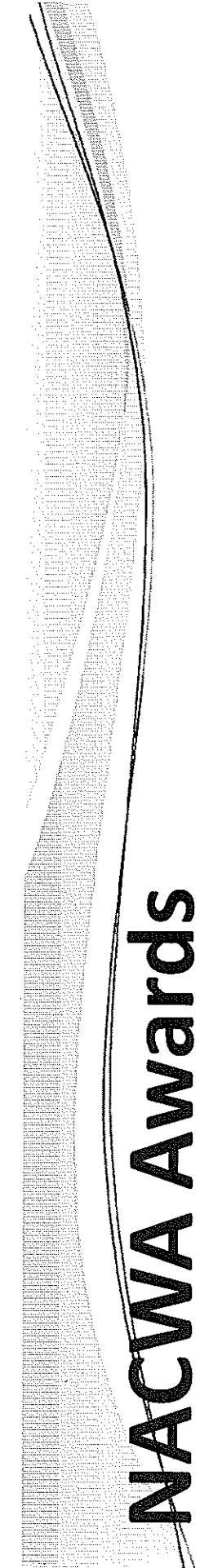
Total Major Expenses	\$43,446,160	82%
----------------------	--------------	-----

Total 2015 O&M Budget	\$52.9
-----------------------	--------



More Expenditures

2015 Major Capital	\$64.8	
Expansion - Plants	\$8.1	13%
Expansion - Sewers	\$7.2	11%
Renewal/Replacement	\$45.2	70%
Other	\$1.2	2%
Permit/Regulatory	\$3.1	5%

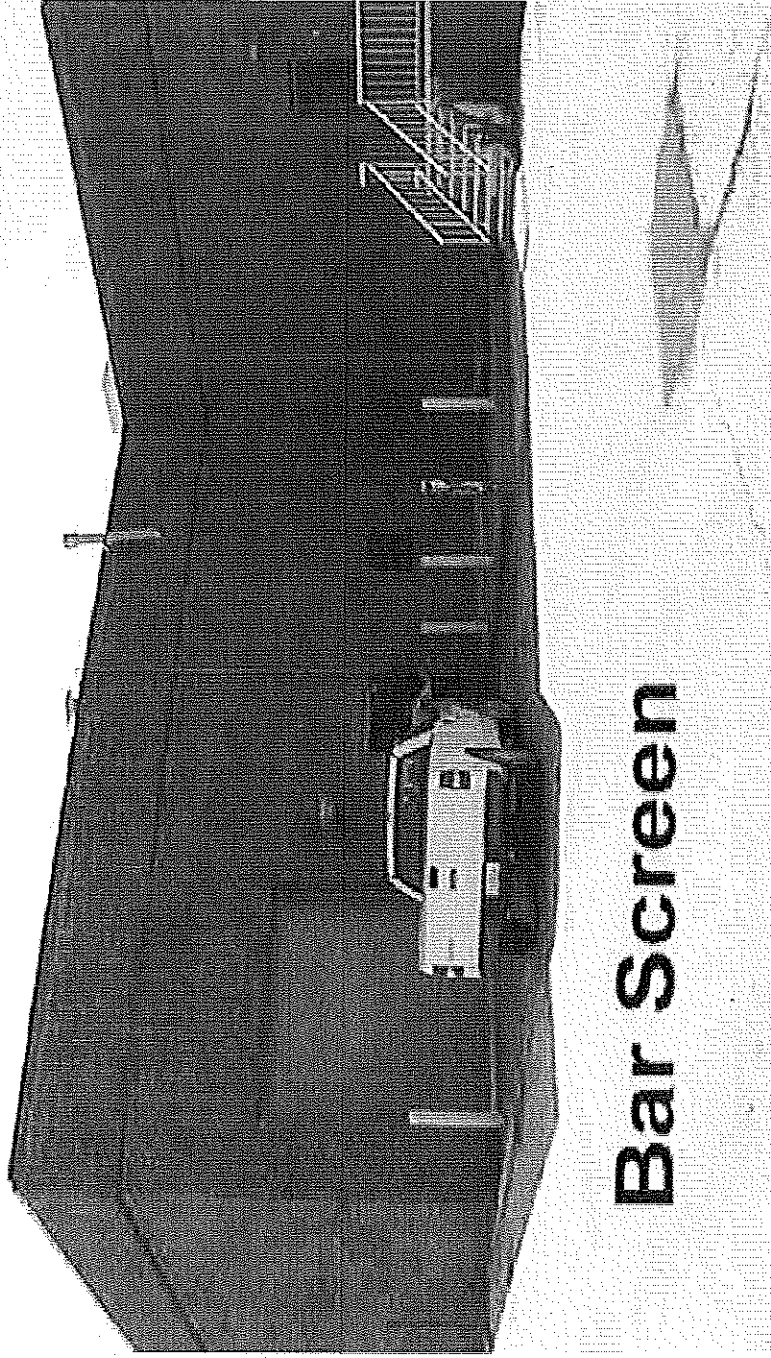


NACWA Awards

JCW received two Platinum Peak Performance Awards to honor treatment works that have completed at least five years of complete and consistent National Pollutant Discharge Elimination System (NPDES) permit compliance.

- The county's **Platinum Award** recipients are:
 - The Mill Creek Regional Plant for seven years of permit compliance, and
 - The Blue River Main Plant for eight years of permit compliance.
- Two JCW treatment facilities received the Gold Peak Performance Award which honors treatment works that have achieved 100 percent compliance with the NPDES permit for 2013.
- The **Gold Peak Performance Award** honorees are:
 - New Century AirCenter Plant
 - Tomahawk Creek Plant
- Two treatment facilities earned Silver Peak Performance Awards which recognize facilities that received no more than five NPDES permit violations in 2013.
- **Silver Peak Performance Award** honorees are:
 - Douglas L. Smith Middle Basin Plant
 - Myron K. Nelson Plant

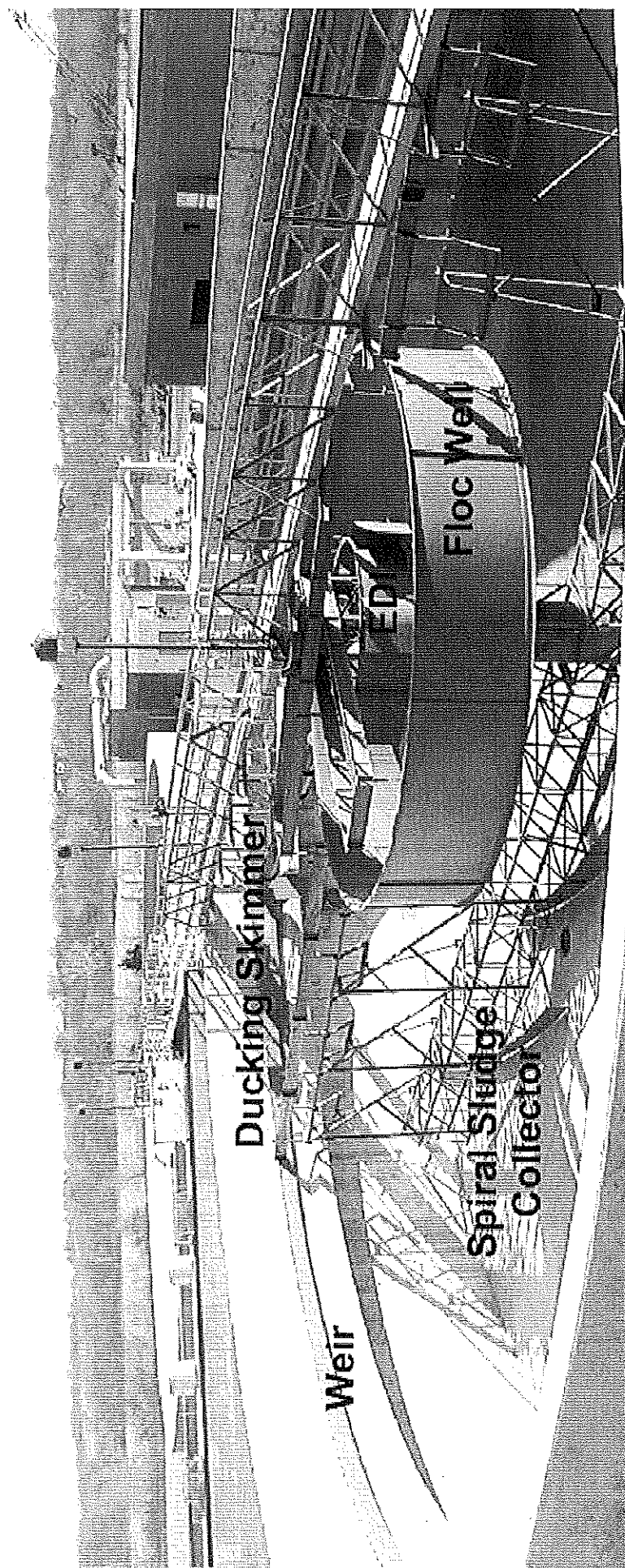
Bar Screen



Bar Screen

The video was deleted due to gross-ness



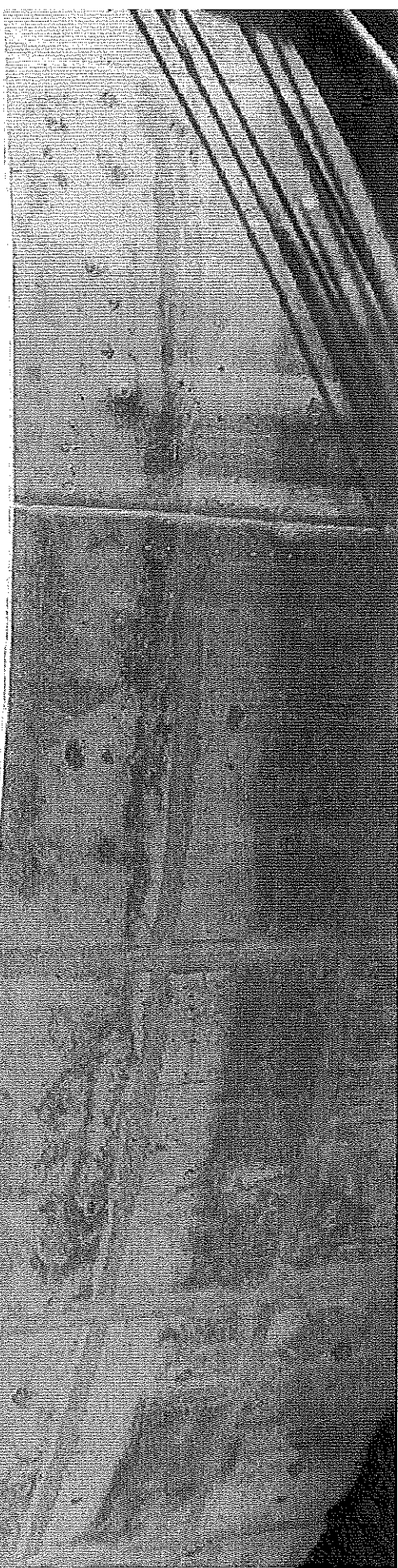


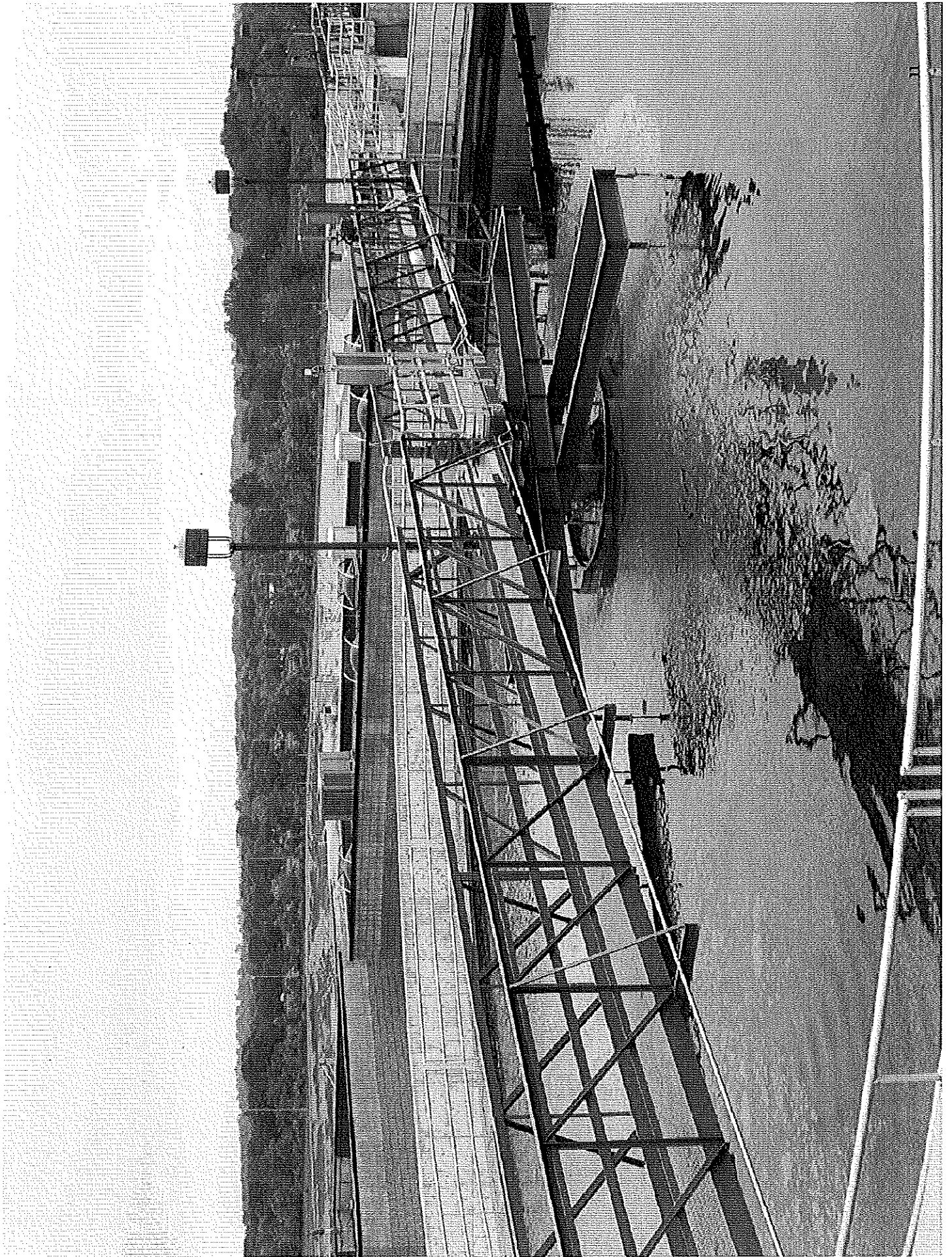
Ducking Skimmer

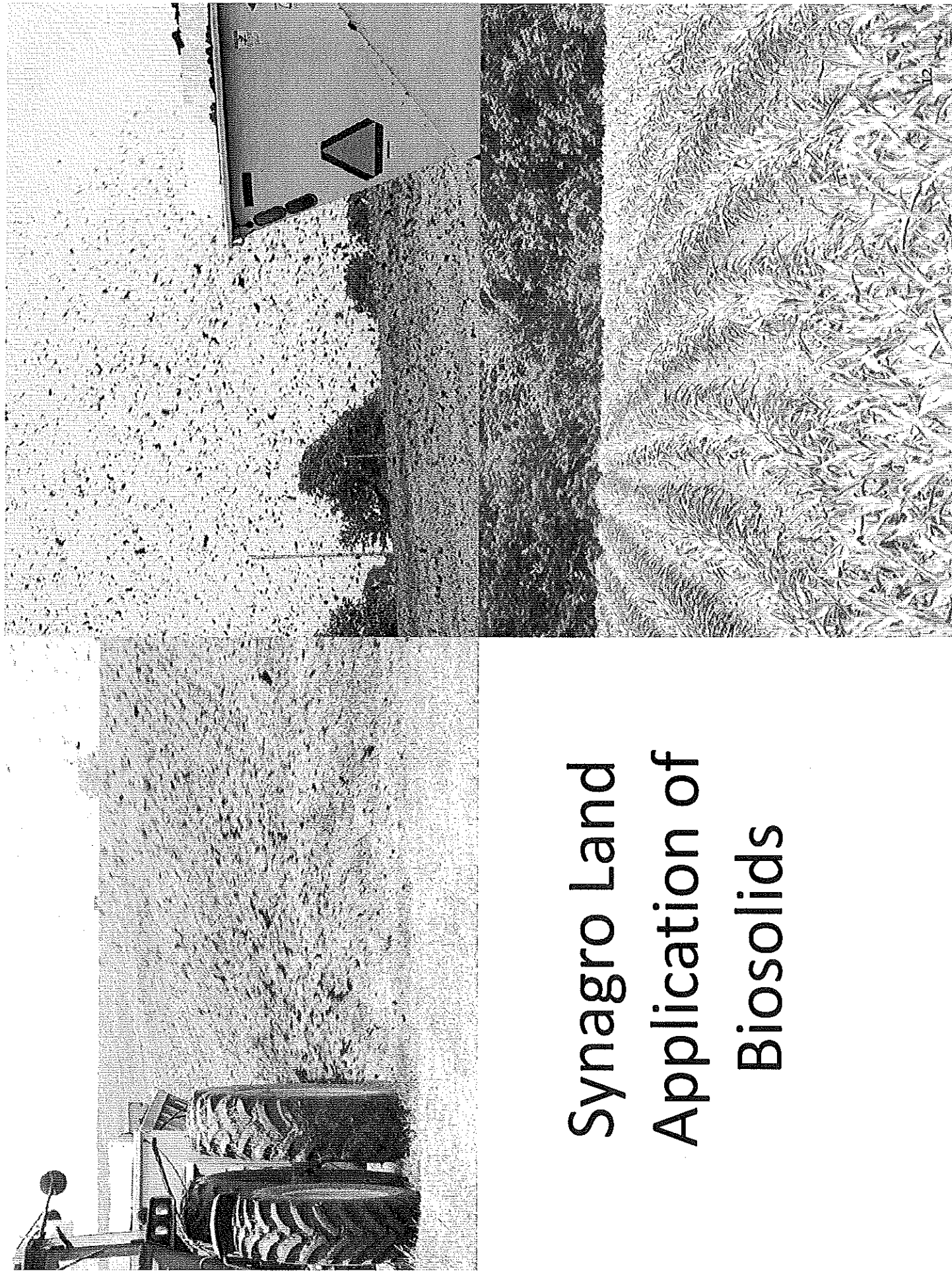
Weir

Floc Well

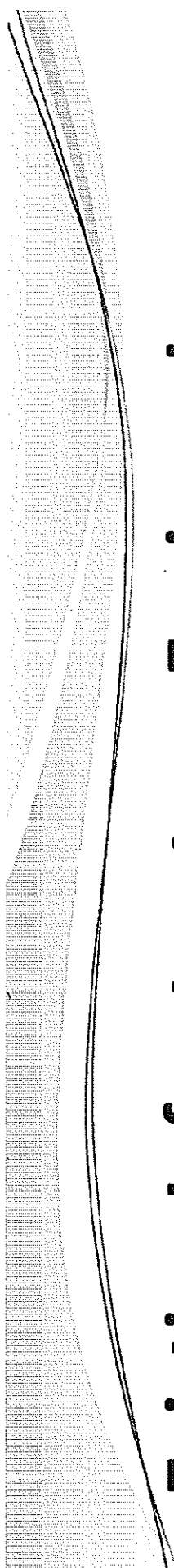
Spiral Sludge
Collector







Synagro Land Application of Biosolids

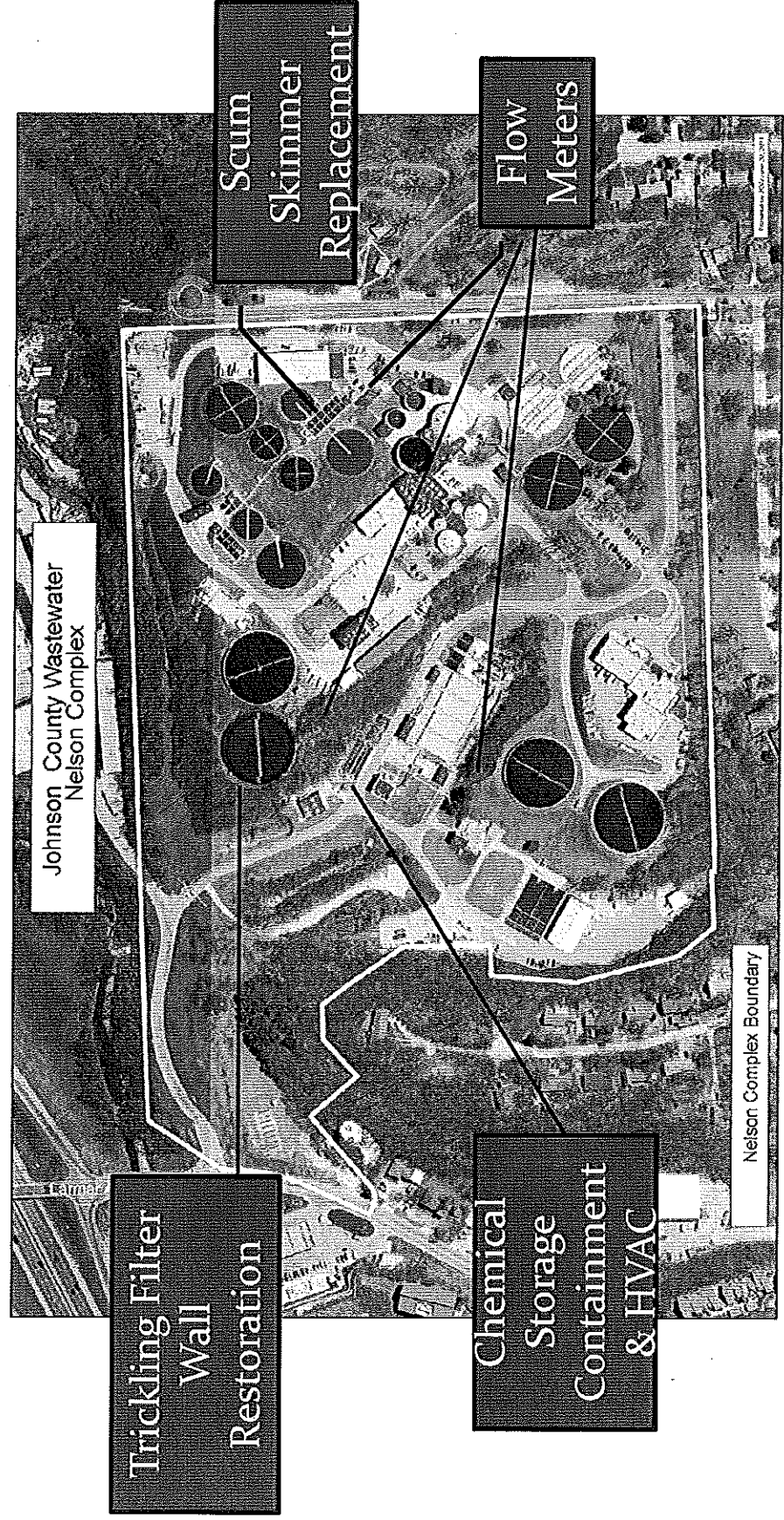


Existing Infrastructure-Engineering

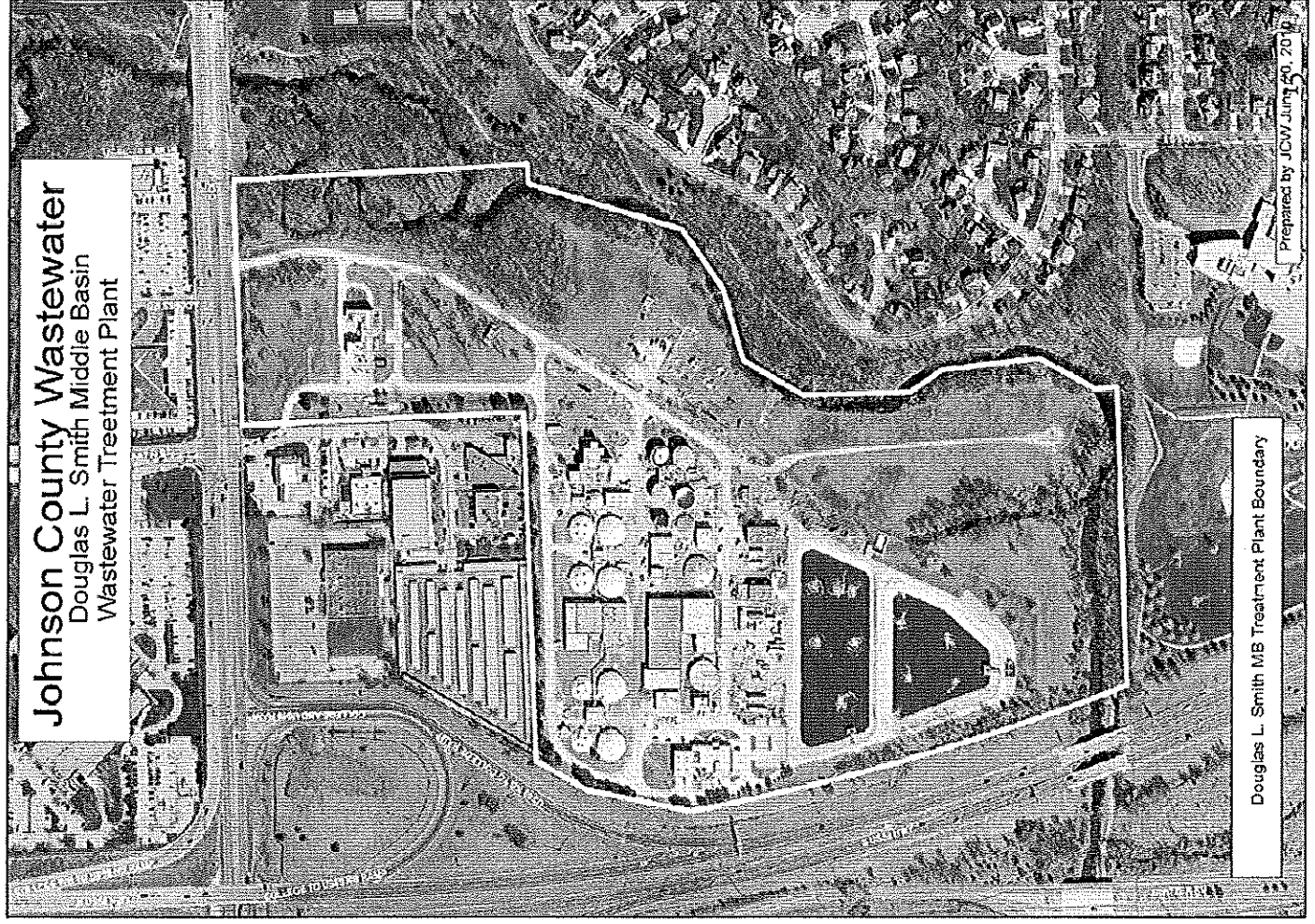
- **Staffing**
- **Workload**
- **Rehabilitation and Upgrades**
- **Regulatory Compliance**
- **BUPP and Projects**

Nelson Complex

Facility Improvements Project



Expansion and Biological Nutrient Removal (BNR)

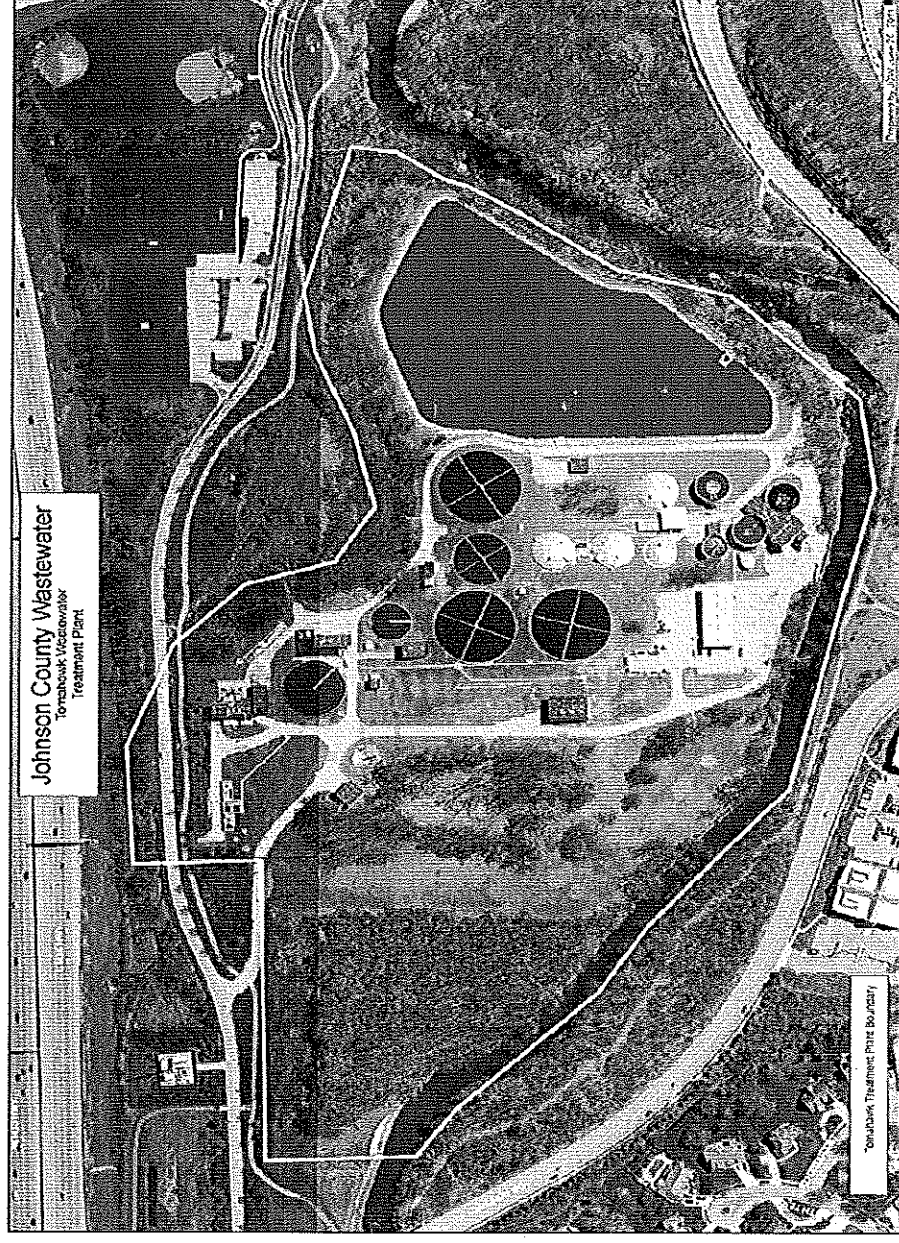


Tomahawk WWTP Study

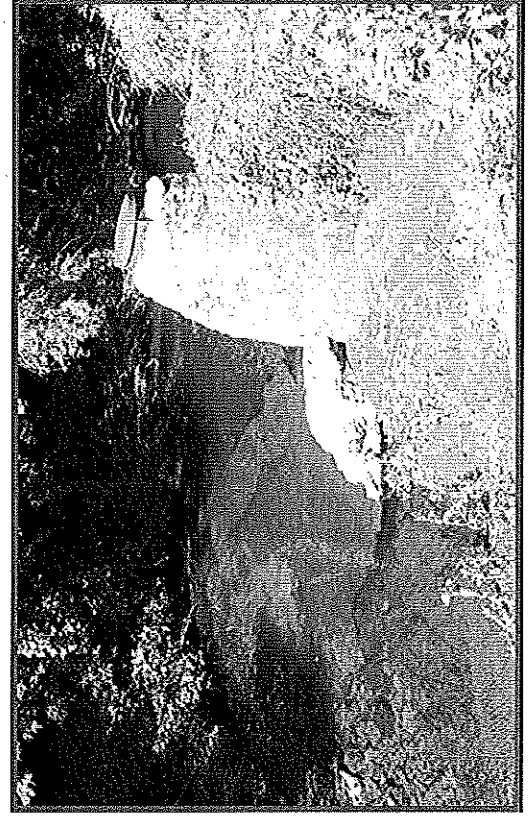
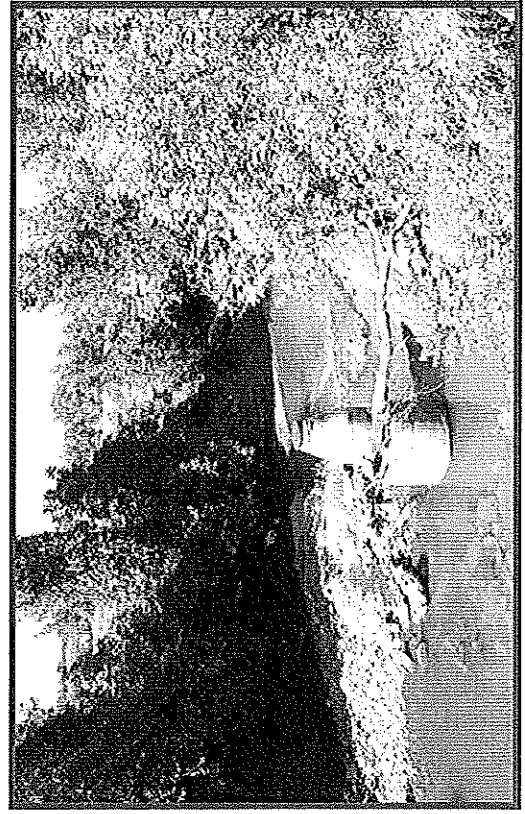
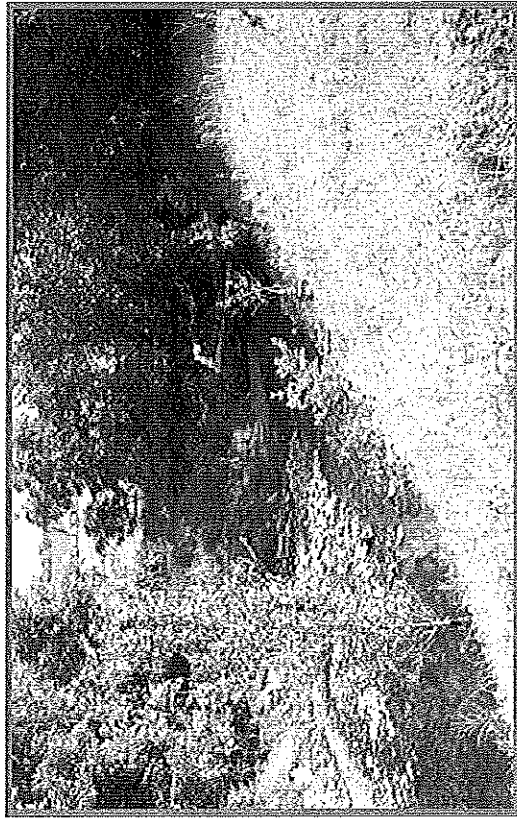
Evaluate cost
effective dry and wet
weather Treatment

Treat at Tomahawk
vs. KCMO

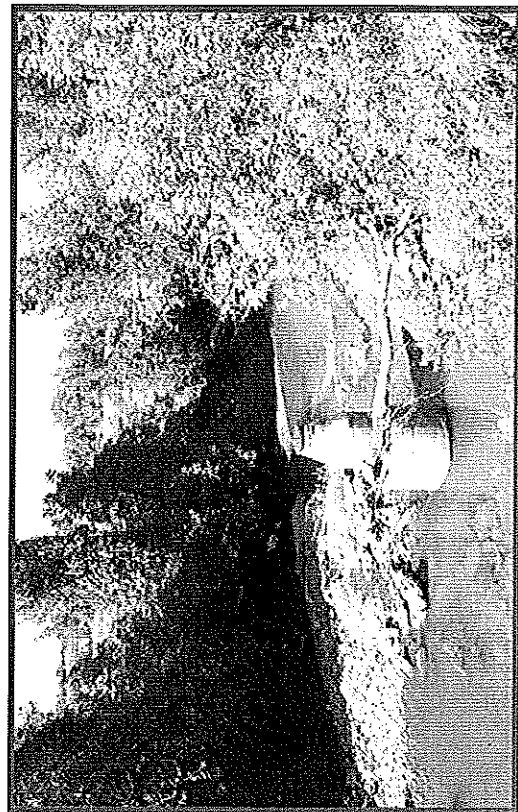
KCMO projected rate
increases – 15%

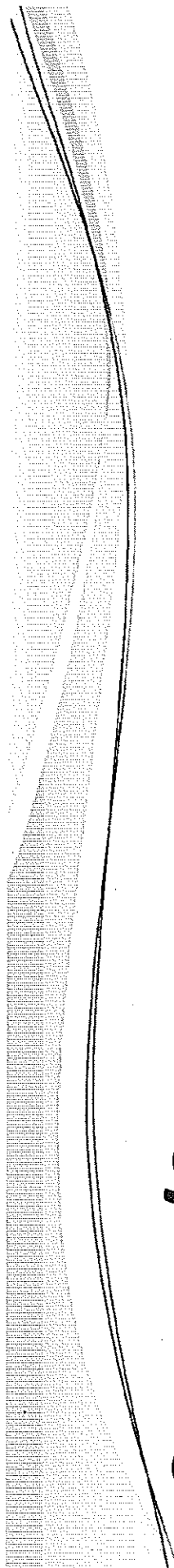


Stream Crossings



Current Events

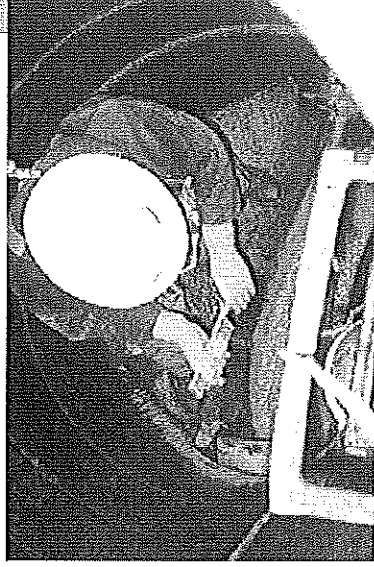
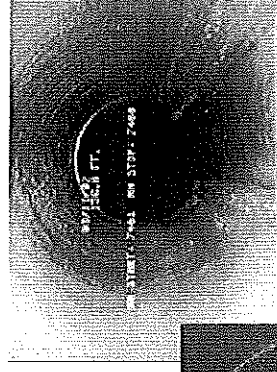
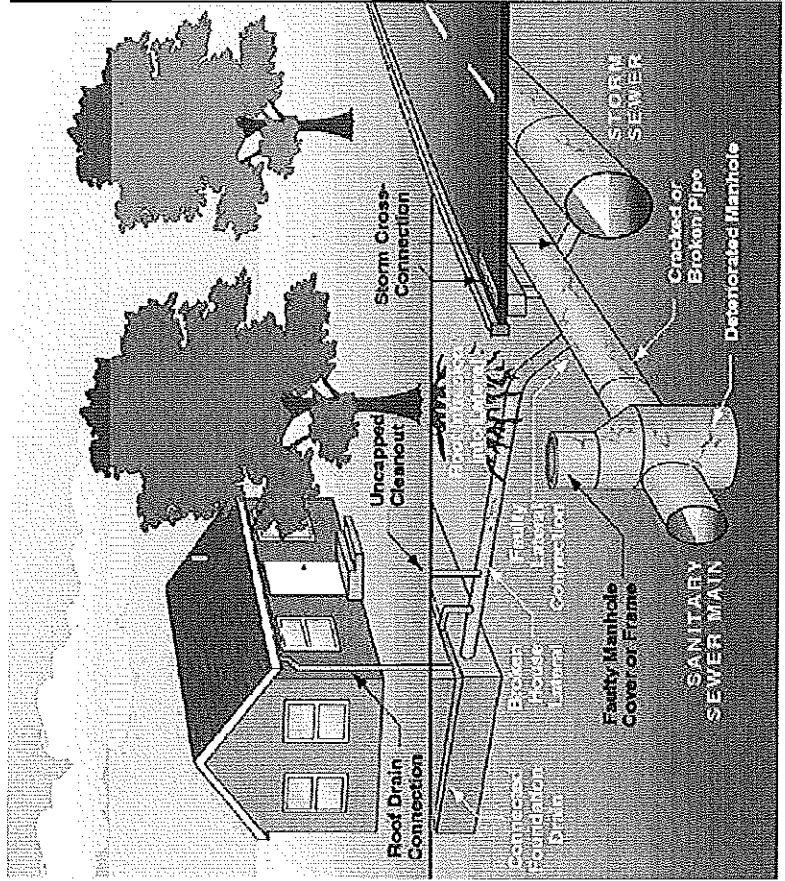




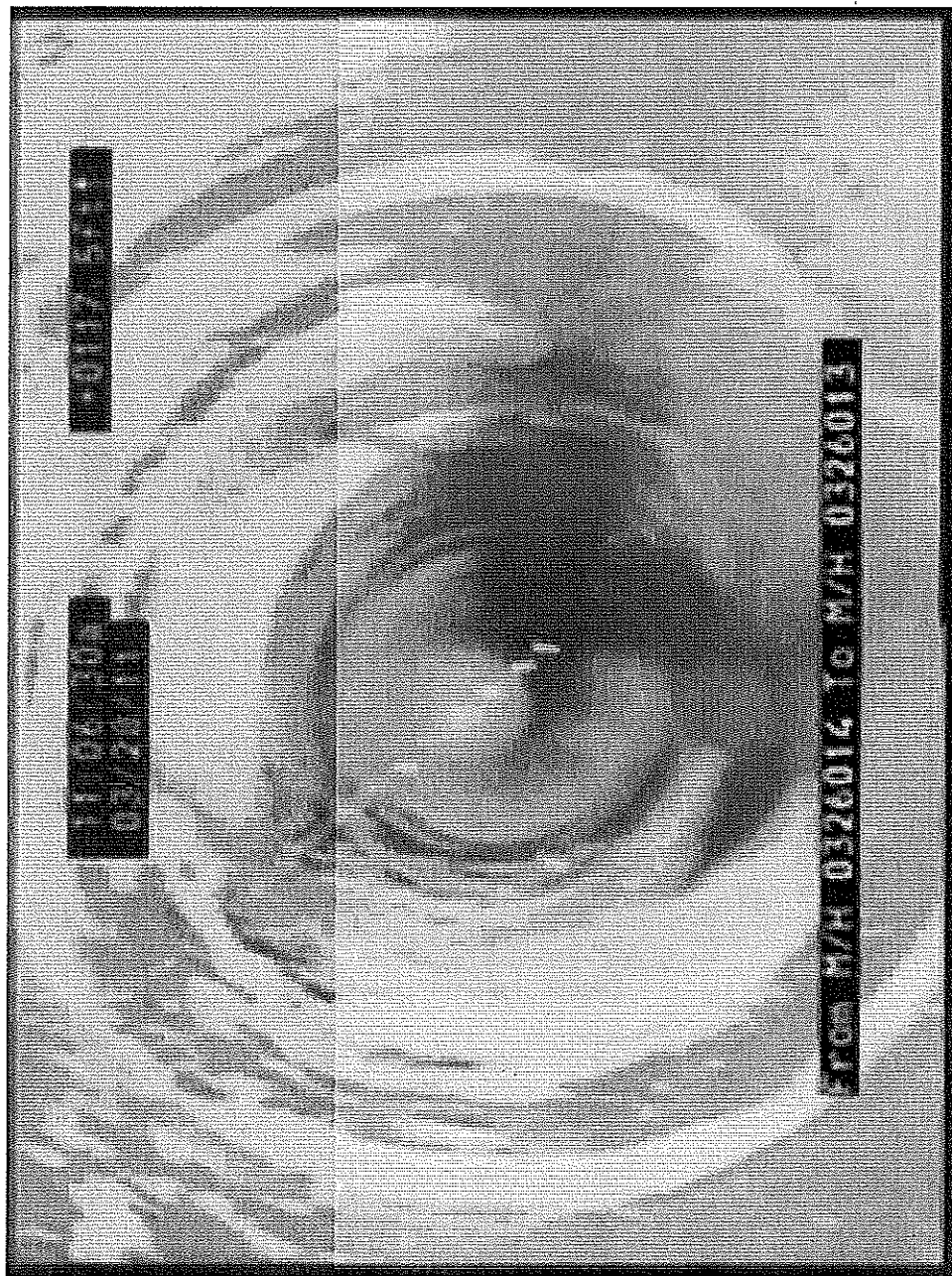
Street/Storm Program

- Purpose:
 - Preventative maintenance program
 - Identify and communicate opportunities for JCW to coordinate sanitary sewer improvements with city projects
 - KDOT

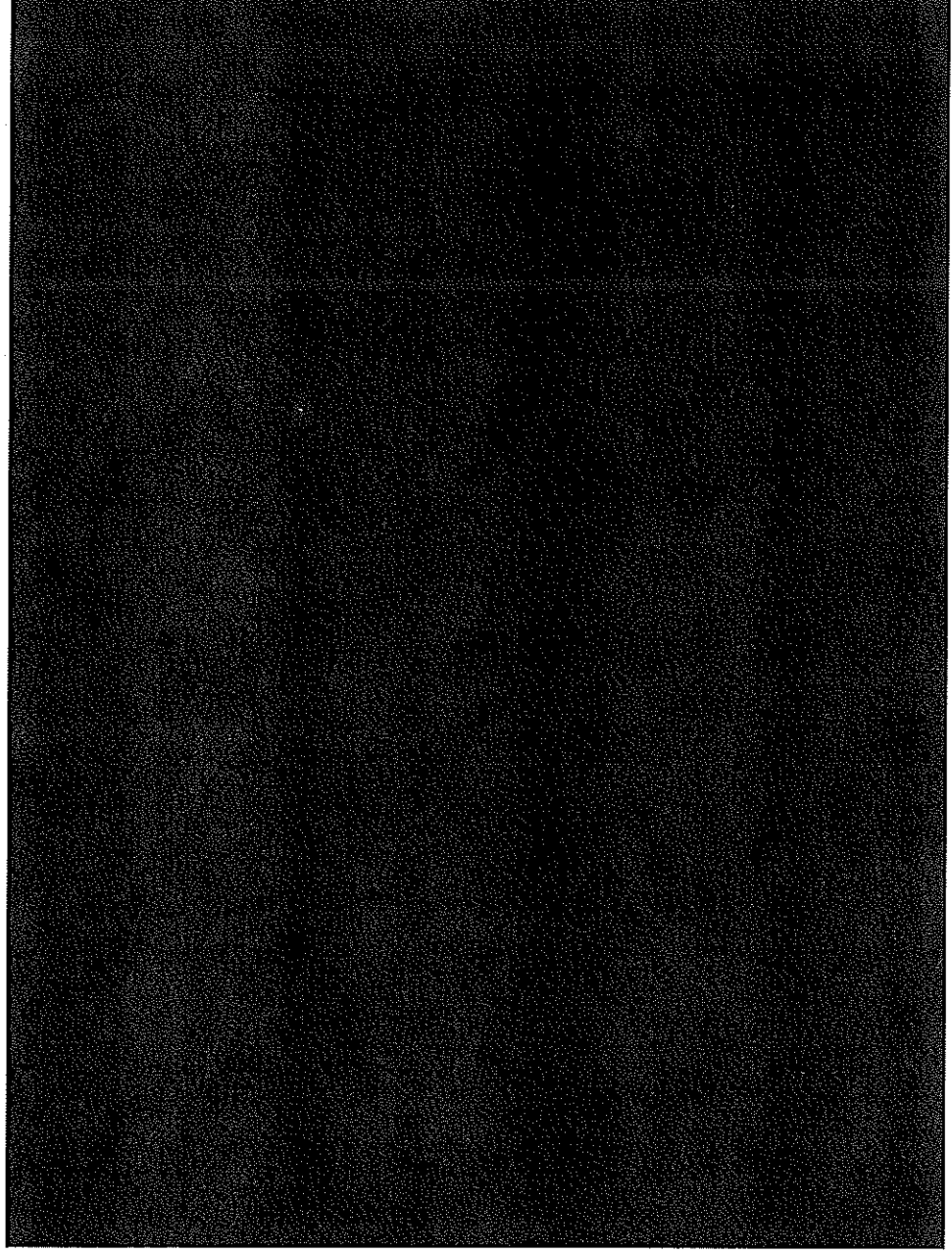
Inflow and Infiltration (I/I)



What is I/I



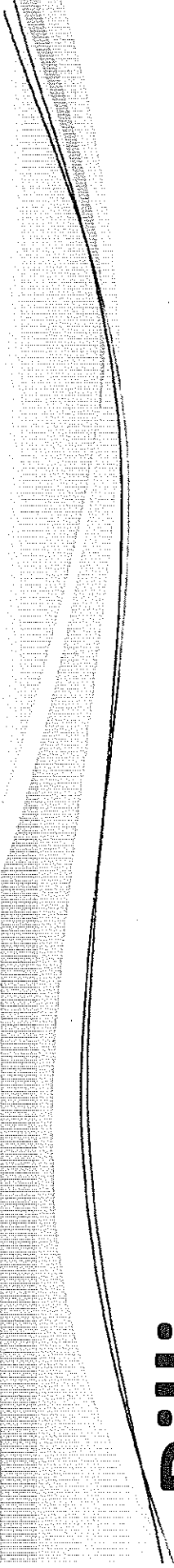
Cured In Place Pipe (CIPP)





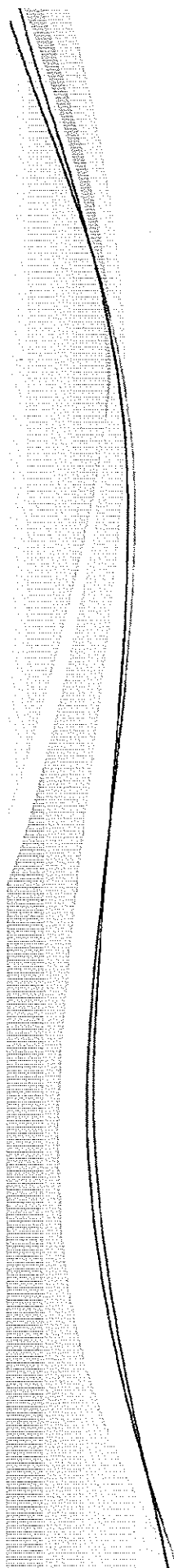
New Development

- Customer service/regulatory role with Development Community
- Private Main Extension project management
- Permitting
- Inspection Services

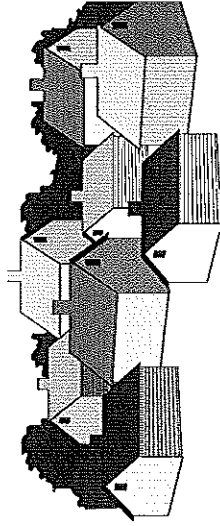


Billing

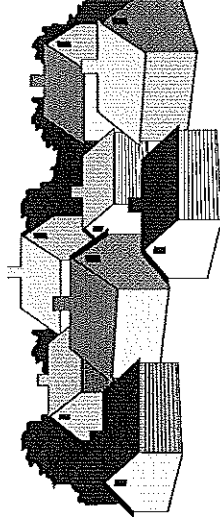
- Water use data
- Water meters
- Thank you WaterOne (you're welcome for payment)



“FROM WHOM SHOULD THE MONEY BE COLLECTED?”



Residential

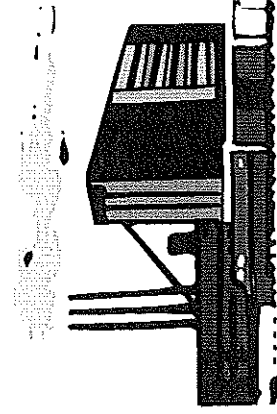


Wholesale



Commercial

**Who
caused the
cost?**



High-Strength Users

- Biological Oxygen Demand (BOD)
- Suspended Solids (SS)



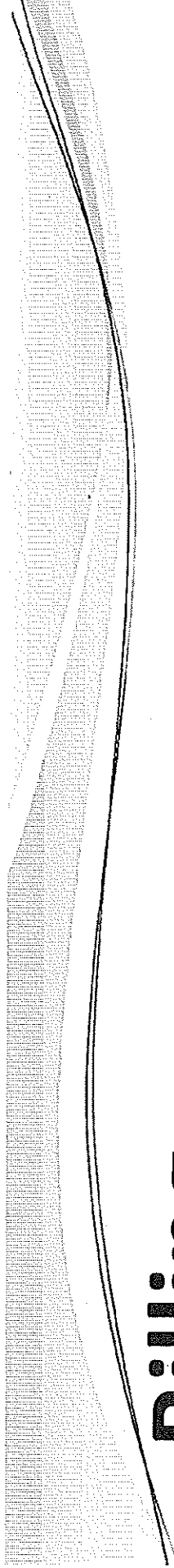
Residential Billing

- Average Winter Water Use (AWWU) for a 2 month period
- Bi-monthly billing
- AWWU times unit rate of \$5.68 per thousand gallons, plus \$12.63 Service charge each bill
- Same amount all year (6 bills)
- Can pay annual amount



Commercial/Industrial Billing

- Actual monthly water usage
- Measured wastewater flow
- Same service charge and unit charge as residential



Billing

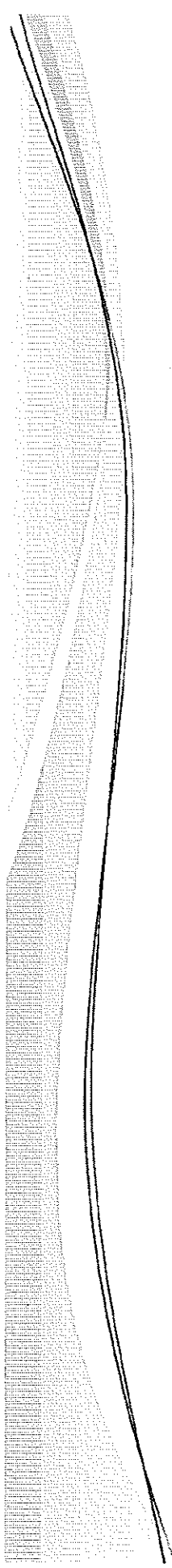
- Delinquencies

JCW's 2014 Annual Delinquency Rate is 5.07%

- Collections

JCW uses an outbound dialer, penalty letters and the County's external Collections Unit to collect delinquent user charges.
\$5.00 late fee ☺

- Utility Assistance Program



OTHER REVENUES BESIDES USER CHARGES

- **Operating**

- FOG - \$150,000/year
- Sewer Permit Fees - \$155,000/year
- Septic Hauling - \$450,000/year
- Project Admin - \$500,000/year
- Delinquent User Charge - \$400,000/year

- **Capital**

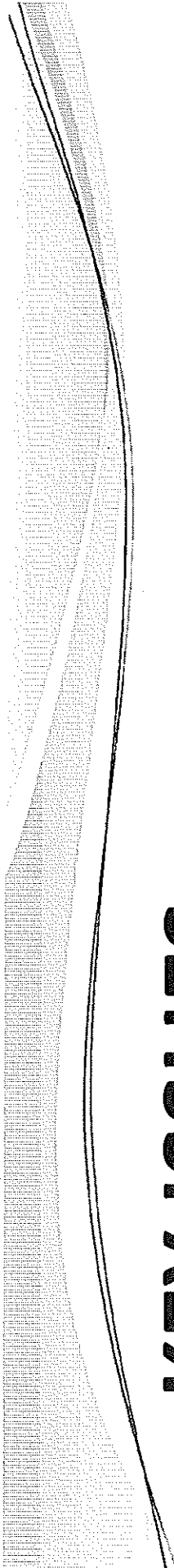
- System Development Charges
- Connection Fees

RATE STUDY APPROACH



COST OF SERVICE FOCUS

**To match
the costs of providing service to
individual customer classes
and to design
rates to equitably recover costs**



KEY ISSUES

- Maintain revenue adequacy
- Use fair and equitable cost allocations
- Use practical rate and billing formats
- Minimize customer impacts
- Maximize customer understanding and acceptance

Johnson County Wastewater

Financial Plan Briefing

April 23, 2014

(this was for the 2015 budget, we are now currently
doing this for the 2016 budget)

Agenda

- Consolidated JCW Financial Plan
- O&M Reserve Policy Development
- Connection Fees

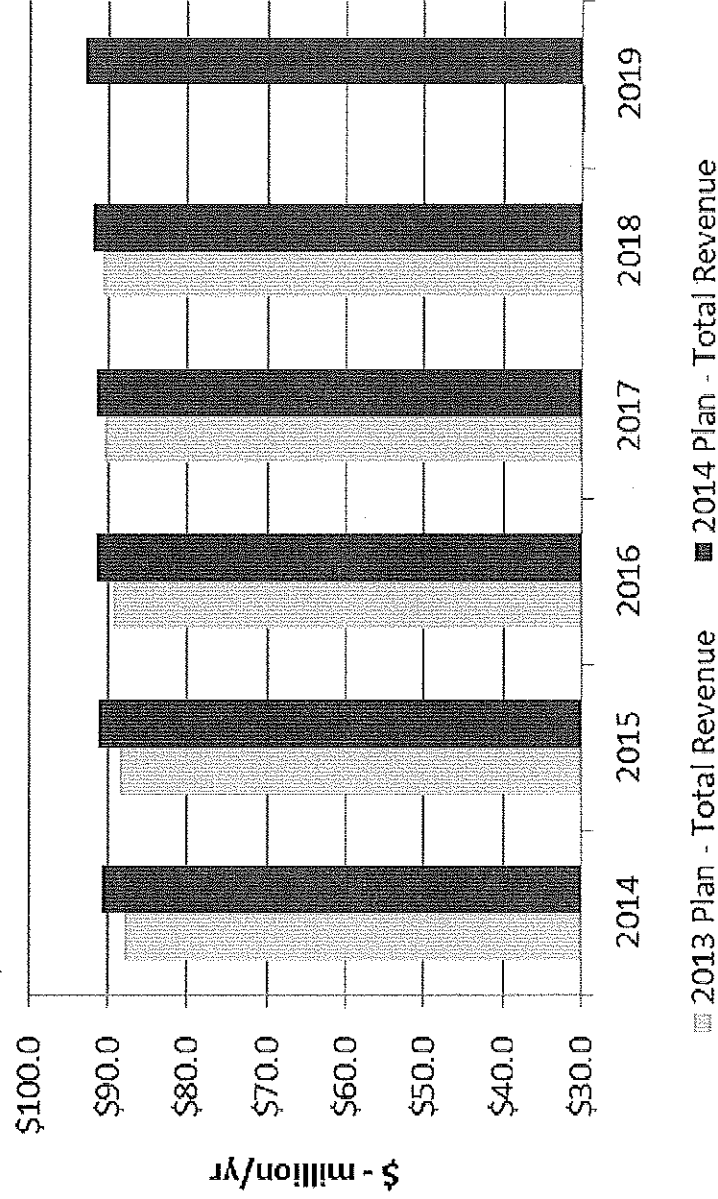


Johnson County Wastewater

CONSOLIDATED FINANCIAL PLAN

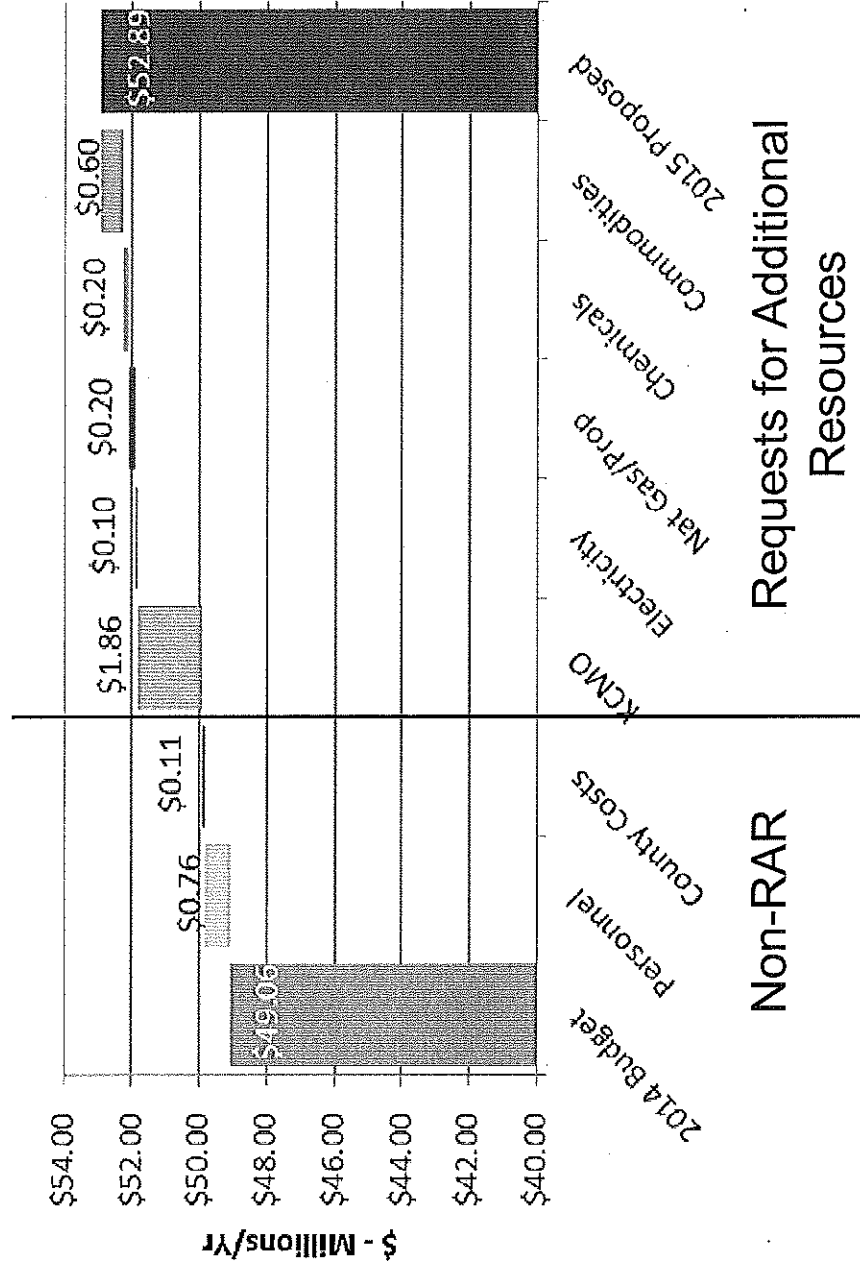
- Capital Improvement Plan
 - Tomahawk WWTP operational in 2022
 - System rehabilitation/replacement
 - Regulatory
- Debt service & coverage requirements
- KCMO treatment costs
- Operating reserve management

Forecasted Revenue



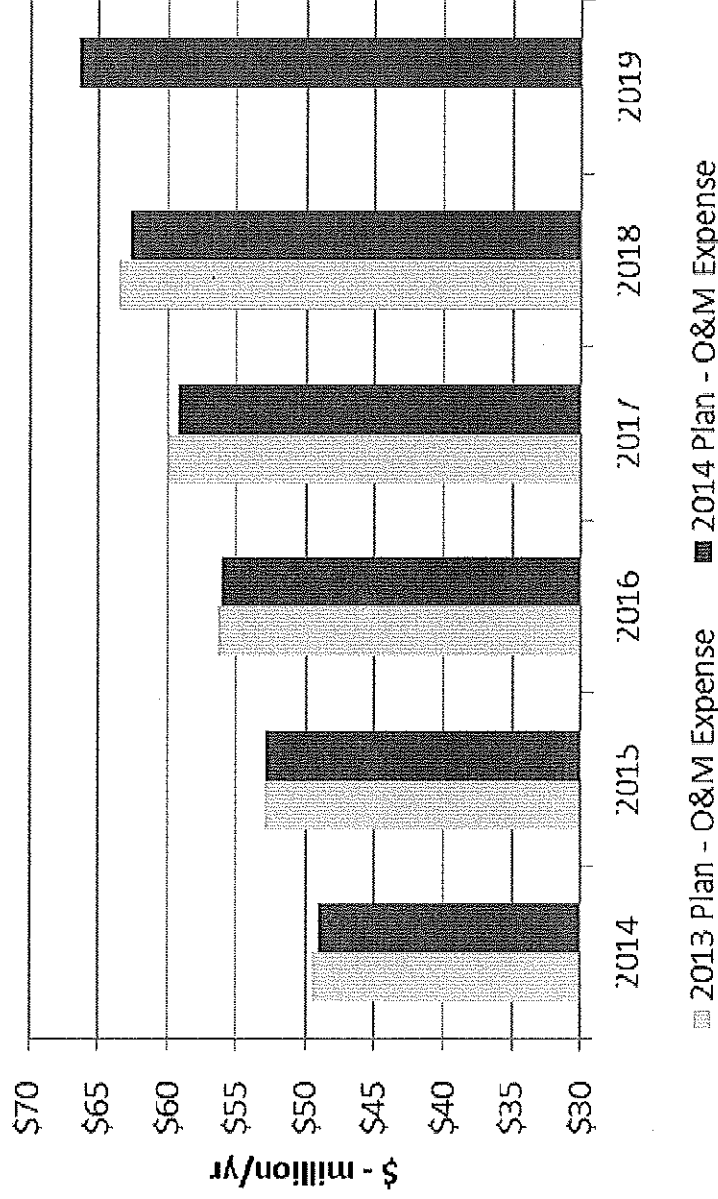
Improvements in other revenue and system availability charges provide slight favorability to last year's plan

2015 Operating Costs



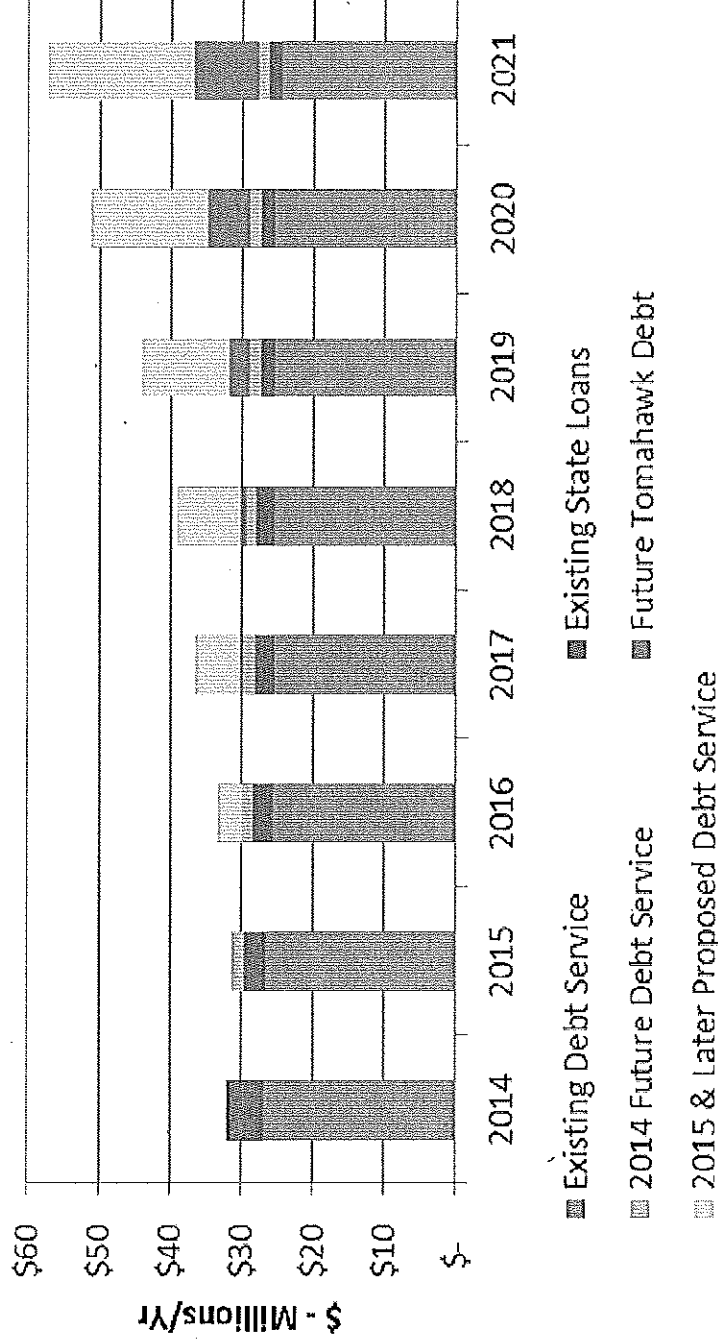
2015 operating costs are anticipated to rise 7.8%

Forecasted Operating Expenses



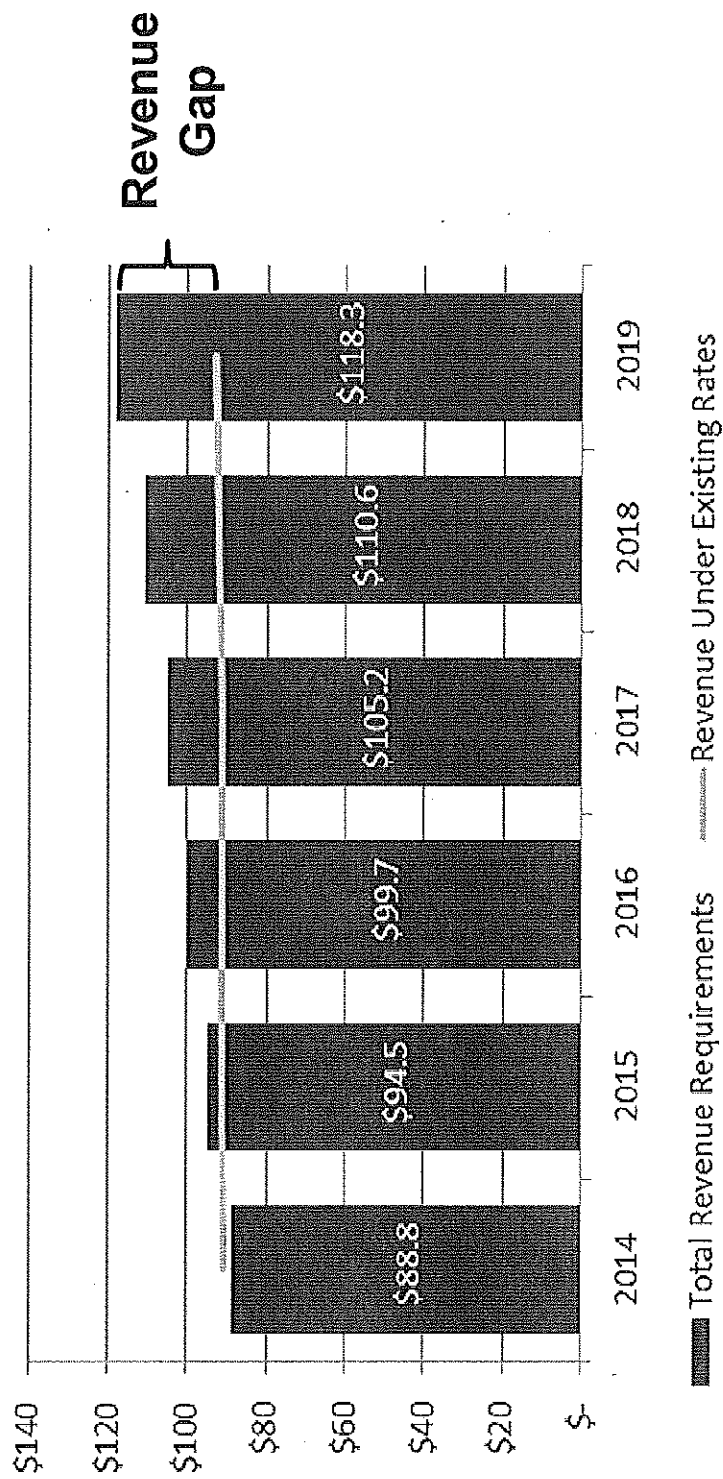
Overall inflation averages about 6.3% per year, with KCMO at 12% per year

Debt Service Forecast

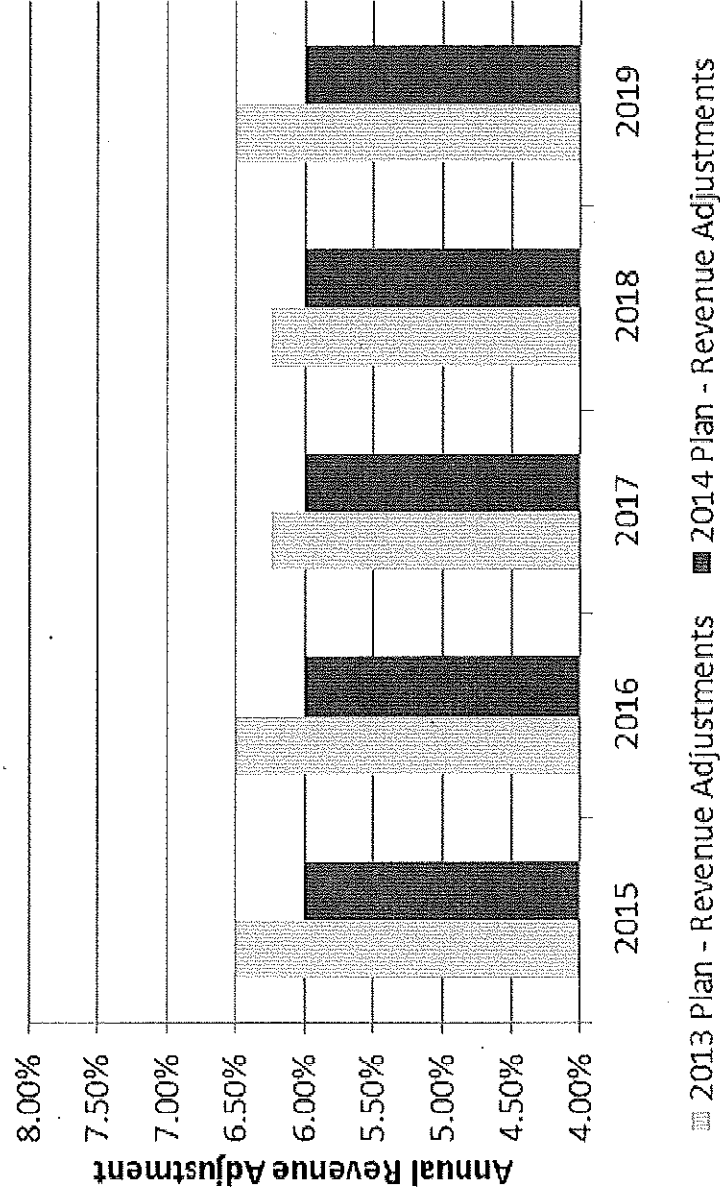


- Tomahawk debt issuance initiates two years later than forecasted in last year's plan
- Does not include debt payment on Sunset Building, Lab facilities and the Olathe CDC contract

Revenues under Existing Rates are Not Sufficient

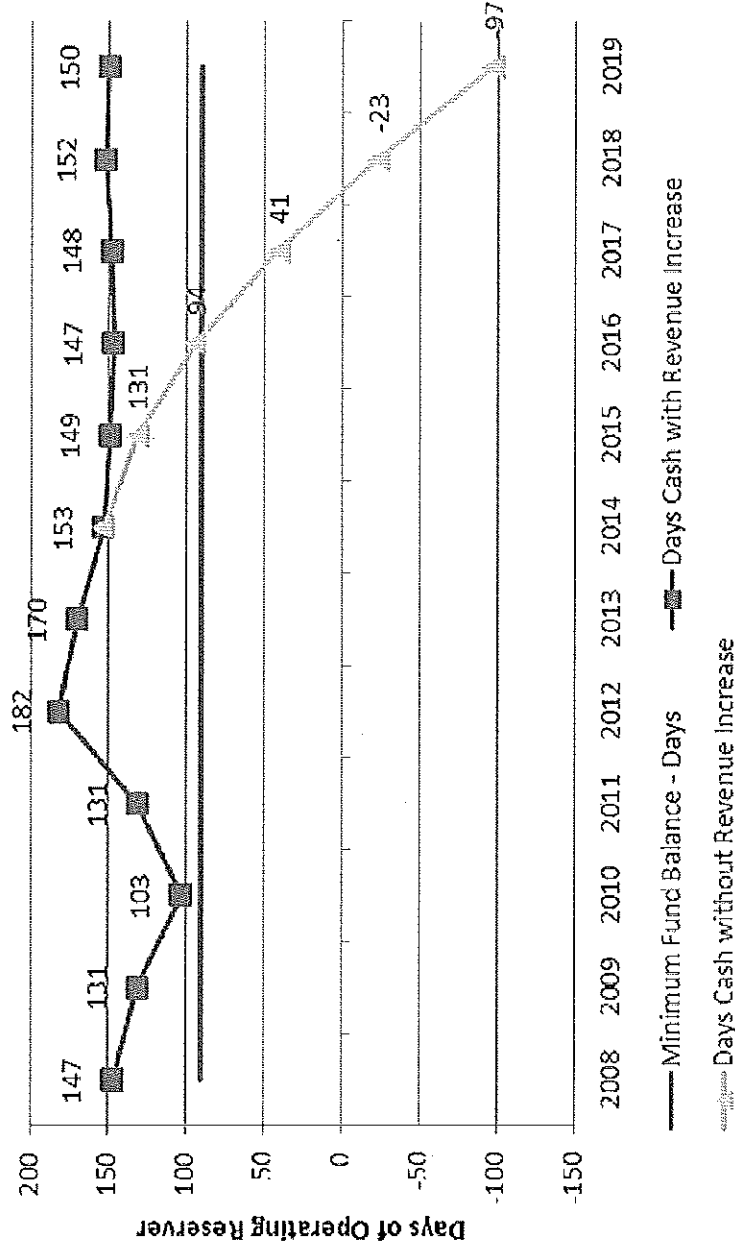


Comparison of Revenue Adjustments



System revenue increases of 6% per year meet requirements.

Operating Reserves



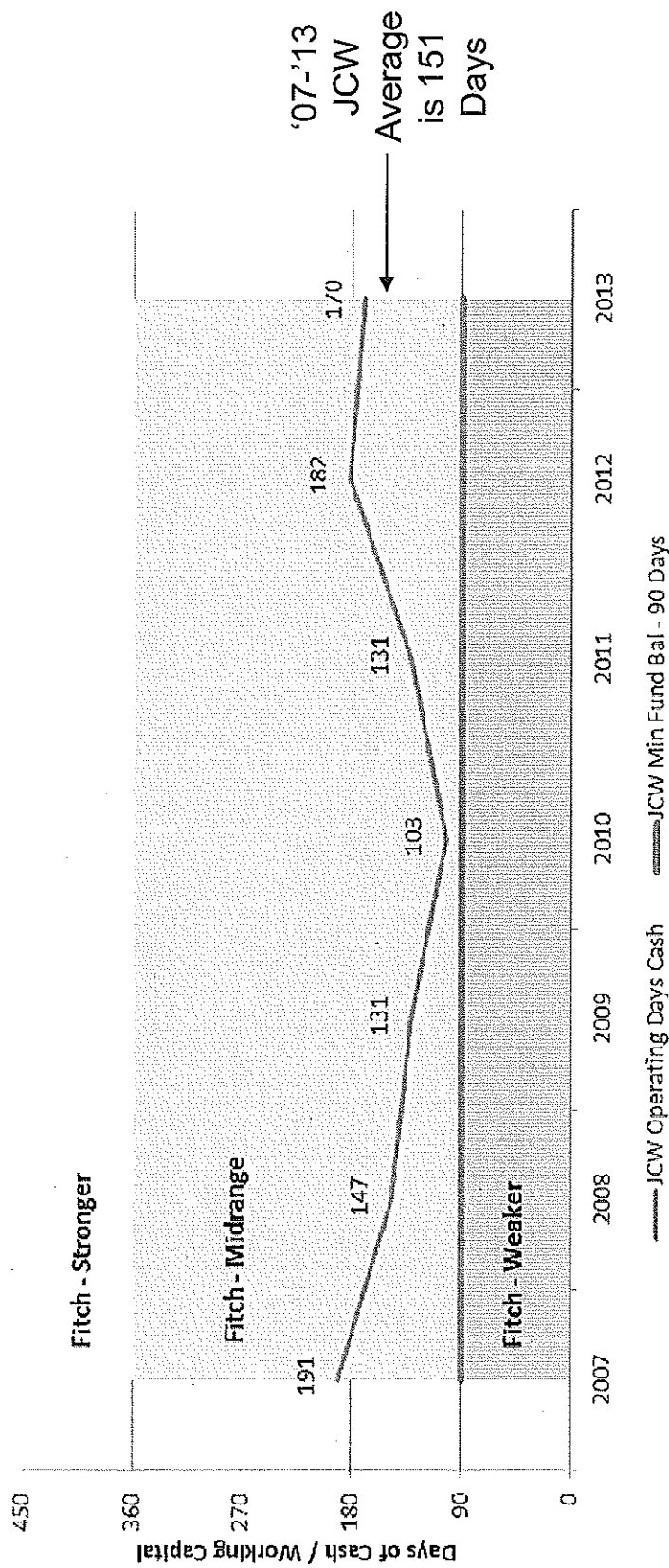
- Assumes 6% revenue increases for 2015 through 2019
- Reserves will support rate stabilization through the transition to the Tomahawk facility



Johnson County Wastewater

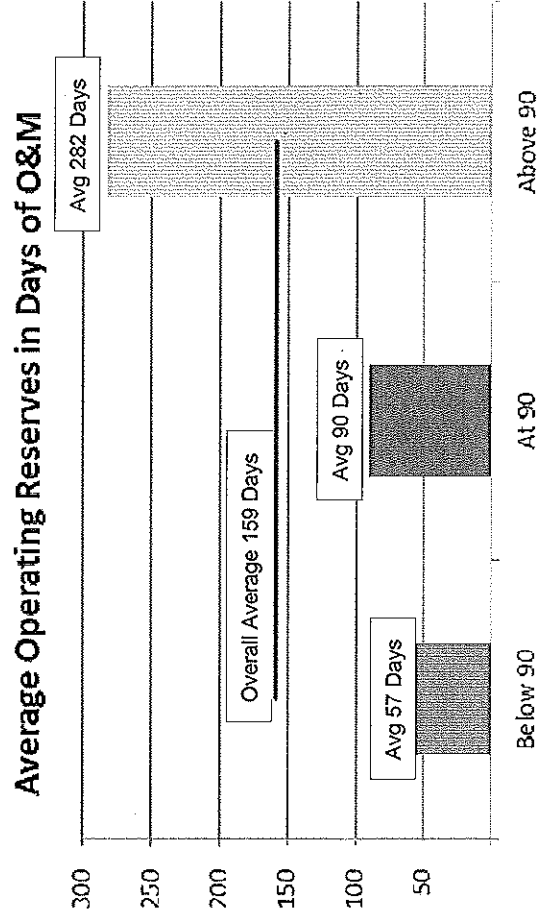
O&M RESERVE POLICY DEVELOPMENT

Perspective using Fitch Ratings Criteria



- Source: FitchRatings, "U.S. Water and Sewer Revenue Bond Rating Criteria," August 10, 2011
- Not a perfect measure for Operating Fund only, as balance sheet could include some capital reserves

- Source: NACWA, "2011 NACWA Financial Survey," July 2012
- Operating reserves only
- Average operating reserve level across all 62 utilities surveyed is about 159 days O&M.
- Nearly 23% had operating reserves greater than 200 days O&M.



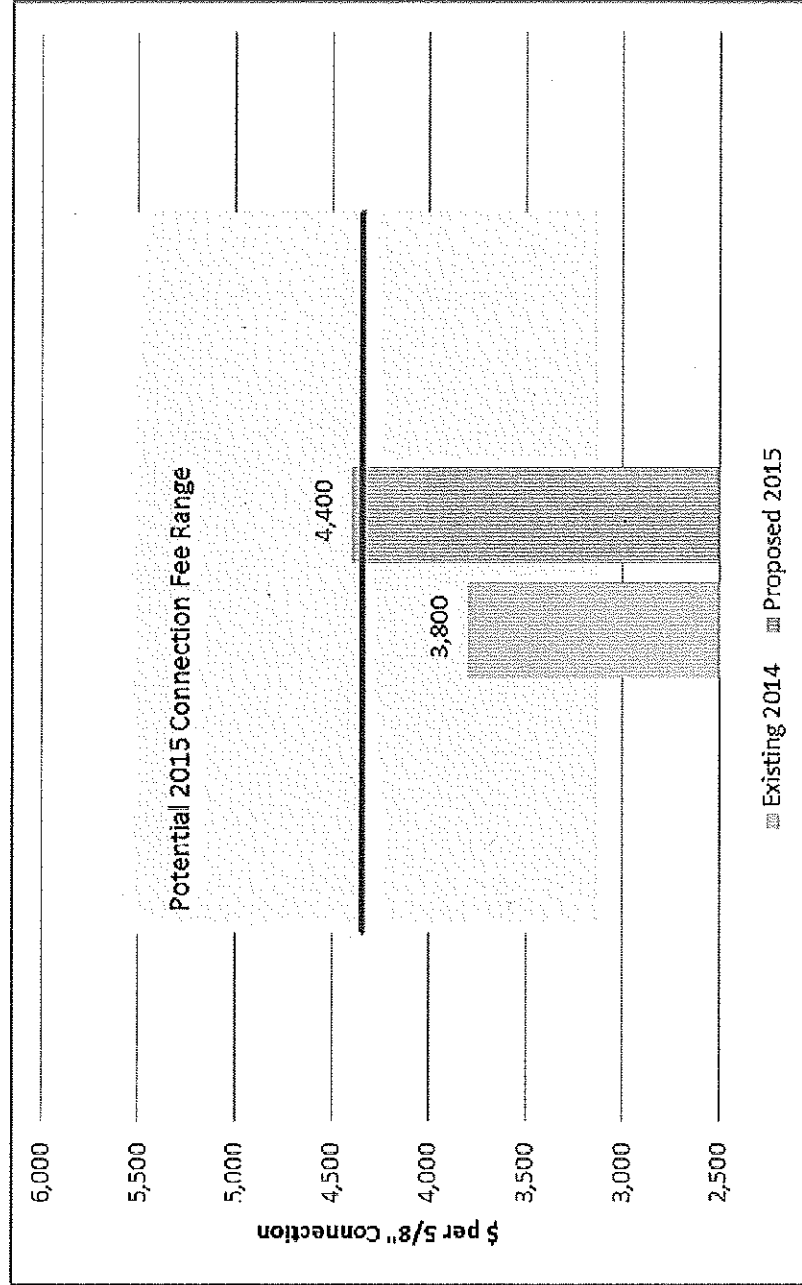
- A targeted reserve range of 90 to 180 days of O&M is proposed.
- If results vary outside this range, the following actions are proposed (consistent with Johnson County policies):
 - If less than 90 days, JCW will produce plan in collaboration with the County Manager to the BOCC in no more than 90 days to rebuild reserves
 - If greater than maximum of range, surplus is considered one-time revenues and subject to Section 120.6 Use of One-time and Unpredictable Revenues



Johnson County Wastewater

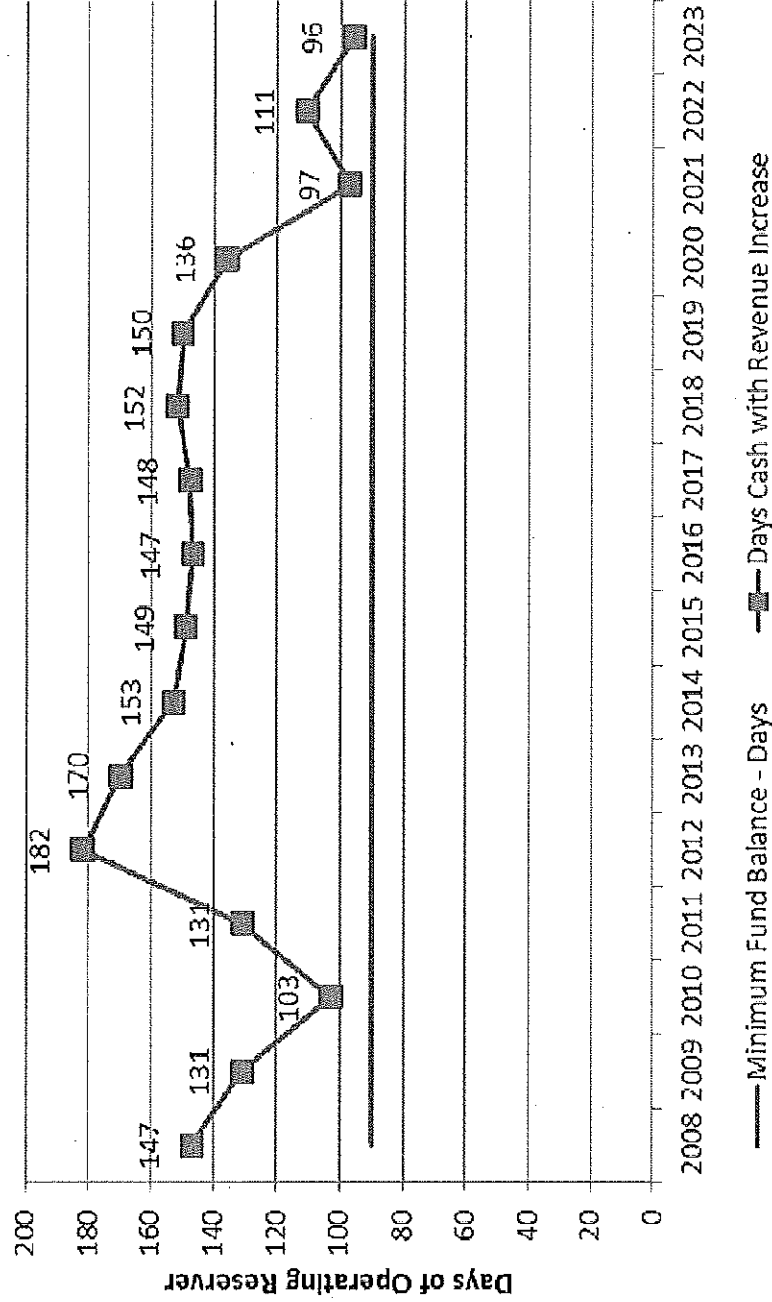
CONNECTION FEES

Connection Fees



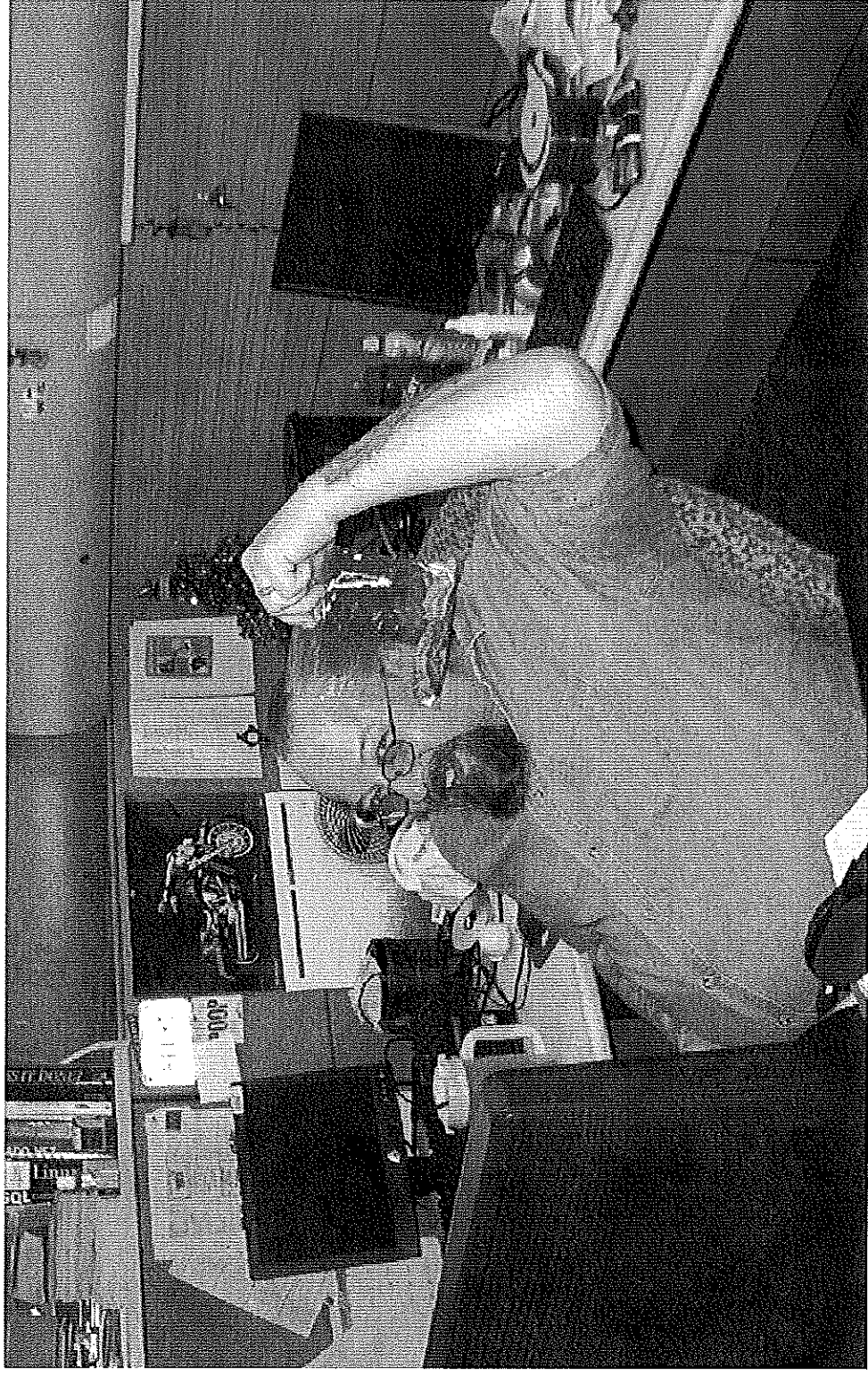
- In 2013, a two step adjustment was proposed that would increase connection fees for a 5/8" meter to \$3,800 in 2014 and \$4,400 in 2015
- Updated analysis supports implementing the second step

Operating Reserves through 2023



Reserves will support rate stabilization through the transition to the Tomahawk facility.

Culture

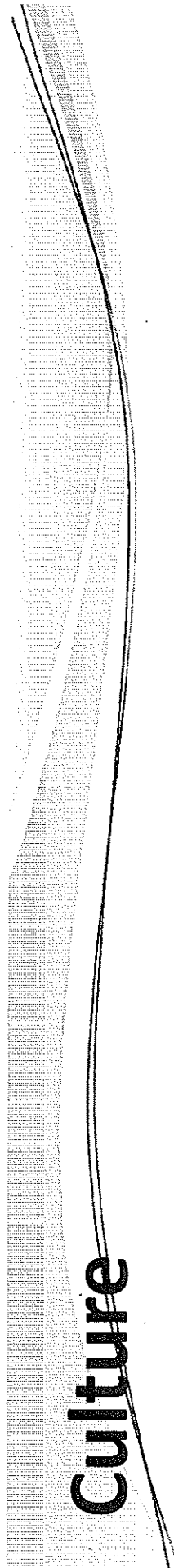




Culture

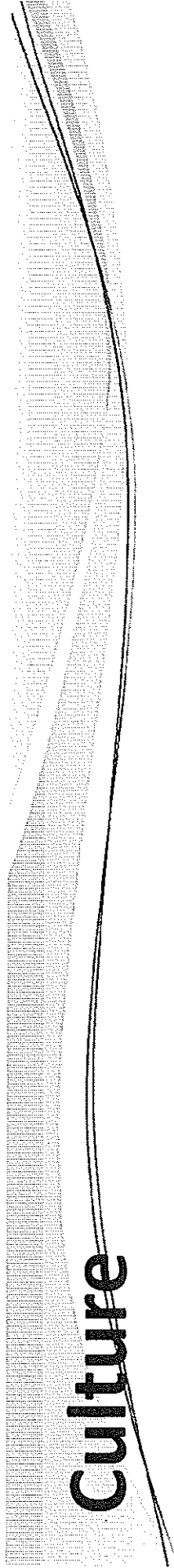
IT'S 5 p.m. at the office. Working fast, you've finished your tasks for the day and want to go home. But none of your colleagues have left yet, so you stay another hour or two, surfing the Web and reading your e-mails again, so you don't come off as a slacker.

- The managers viewed employees who were seen at the office during business hours as highly “dependable” and “reliable.” Employees who came in over the weekend or stayed late in the evening were seen as “committed” and “dedicated” to their work.
- One manager said: “So this one guy, he's in the room at every meeting. Lots of times he doesn't say anything, but he's there on time and people notice that. He definitely is seen as a hard-working and dependable guy.” Another said: “Working on the weekends makes a very good impression. It sends a signal that you're contributing to your team and that you're putting in that extra commitment to get the work done.”



Culture

- The reactions of these managers are understandable remnants of the industrial age, harking back to the standardized nature of work on an assembly line. But a measurement system based on hours makes no sense for knowledge workers. Their contribution should be measured by the value they create through applying their ideas and skills.
- There is an obvious solution here: Instead of counting the hours you work, judge your success by the results you produce.
- Focusing on results rather than hours will help you accomplish more at work and leave more time for the rest of your life. And don't be afraid to talk to your boss about these issues. To paraphrase the management guru Peter Drucker, although you don't have to like your boss, you have to manage him or her so you can have a successful career.



Culture

Jeans every day, (no public complaints!) food days, celebration days when new employees arrive, birthday celebrations (with food!), employee appreciation days, compliments, trust, look forward to coming to work (yes, being off is better, but, if you can't retire.....)

Chili cook off, BBQ picnic, allowed to peddle Girls Scout cookies

Annual Employee Recognition Luncheon, Quarterly Employee Award, Employee of the Year Award, "Superstar"

Have fun!