



Annual Stormwater Program Report April 1, 2021 – March 31, 2022 NPDES Phase II MS4 General Permit City of Ames, IA: Permit Number 85-03-0-03 Public Works Department





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Part 1. GENERAL INFORMATION A. Executive Summary and Highlights

The City of Ames was issued its first NPDES Stormwater MS-4 permit from the Iowa Department of Natural Resources in 2003. The permit serves as the stormwater management plan for the City of Ames. This report summarizes actions and activities performed that demonstrate progress towards permit compliance from April 1, 2021 to March 31, 2022, which is in the fourth permit cycle and summarizes actions and activities performed to fulfill the six minimum storm water control measures: 1) Public education and outreach, 2) Public participation, 3) Illicit Discharge Detection and Elimination, 4) Construction Site Storm Water Runoff Control, 5) Post-construction Storm Water Management and 6) Pollution Prevention and Good Housekeeping.

2021 continued to have impacts due to the Pandemic. Some in-person events for education and outreach, were restarted, while others continued to be canceled due to spikes in cases. Staff training methods generally continued online.

The following are some of the highlights of the reporting period, many of which will be further described within this report:

- Cesar Cintron, PE, Civil Engineer II, joined the city staff and became part of the Stormwater team.
- Continue celebration of Ames as the "2021 Iowa River Town of the Year", awarded by the Iowa Rivers Revival.
- Begin implementation of the 10year Story County Water Monitoring and Interpretation



Plan with partners: Prairie Rivers of Iowa, Story County, Iowa State University Leopold Center, the Cities of Gilbert, Huxley and Nevada, Izaak Walton League, Story County Soil and Water Conservation District and the Story County Community Foundation;

- Construction of Flood Mitigation Project along loway Creek is underway;
- Collaboration with the Stone Brooke Homeowners Associations to implement stormwater practices using city cost share rebates
- Education went virtual with Virtual EcoFair on community radio and EcoChats via Zoom;



B. Stormwater Program Staff

Public Works Staff		
John Joiner	Public Works	Directs Public Works programs
	Director	
Tracy Peterson	Municipal Engineer	Oversees implementation of MS4 program; program and Public Works CIP budgets; education and outreach; post construction plan review
Jake Moore	Stormwater Specialist	Construction site erosion and sediment control program; SWPPP review, quarterly inspections, tracking and enforcement; education and outreach; illicit discharge response and follow up
Liz Calhoun	Stormwater Analyst	Post construction stormwater management plan review and ordinance implementation; education and outreach, public participation activities; inspection and maintenance of post construction BMPs
Noel Steckelberg (4/21-10/21)	Stormwater Intern	Perform site erosion inspections and prepare reports, education and outreach, prepare GIS mapping
Sam Worlie	Urban	Maintain and enhance City owned bio-cells and
(4/21-12/21)	Conservation Intern	native landscape areas, education and outreach
Cesar Cintron (started 4/2021)	Civil Engineer II	Stormwater management plan review
Justin Clausen	Operations Manager	Manages staff that conduct intake and outfall inspections and maintenance; street sweeping and maintenance; tree inventory; post construction BMP maintenance; facility good housekeeping and pollution prevention
Corey Milles	Fleet Services Director	Oversees Community Center fertilizer and pesticide use
Damion Pregitzer	Traffic Engineer	Oversees Ames Municipal Airport General Permit No. 3 SWPPP implementation
Parks and Recreation	Staff	
Joshua Thompson	Parks Superintendent	Oversees park and natural area maintenance, post construction BMP maintenance; park and right-of way fertilizer and pesticide use
Resource Recovery F	Plant Staff	
Bill Schmitt	Superintendent	Oversees the solid and hazardous waste management program and trash cleanups for the City
Fire Department Staff		
Rich Higgins	Fire Chief	Oversees illicit discharge cleanup for the City

As a Premium Member of the Iowa Stormwater Education Partnership, the City has access to resources and training applicable to all the permit measures.

C. Stormwater Program Expenses

Program	Expense
Education and Outreach	
ISWEP Premiere Membership	\$8,860
Ames Homebuilder Association Membership	\$235
Ames on the Go reporting App	\$27,847
Staff, Consultant, Training, Materials and Advertising including Smart Watershed &	\$101,102
Smart Trash Programs	
Public Involvement and Participation	
Staff, consultant, equipment and material costs	\$50,958
Watershed Participation incl. Story County 10-Yr Water Quality Monitoring Program	\$53,010
Resource Recovery handling and disposal of wastes from stream/river, Stash-the-	\$118
Trash, and Project Aware cleanup events	
Illicit Discharge	
Staff, consultant, equipment, and material costs	\$7,644
UPRR Train Derailment (City of Ames costs)	\$71,312
Resource Recovery Plant operations	\$4,171,059
Food Waste Diversion program	\$5,450
Public Household Hazardous Material disposal program	\$82,581
Sanitary sewer hydraulic model update (Inflow/Infiltration (I&I) reduction)	\$15,710
Construction Site Program	
Staff, consultant, equipment, and material costs	\$71,024
Post Construction Program	
Staff, consultant, equipment and material costs	\$82,936
Smart Watershed Cost Share Programs	\$12,450
S Grand Avenue Extension (drainage, water quality improvements)	\$496,838
Baker Subdivision (SWM, drainage)	\$246,744
Ioway Creek Flood Mitigation	\$4,883,955
Homewood Slope Stabilization project	\$337,930
Campustown (Welch Ave) Tree Trenches	\$10,631
Storm Water System Analysis	\$19,487
Spring Valley Subdivision SW Facility Rehab	\$5,947
Little Bluestem SW Facility Rehab	\$332
Ioway Creek (Brookside Park) Restoration (design, public outreach)	\$45,481
Pollution Prevention and Good Housekeeping	
Staff, consultant, equipment and material costs	\$30,575
Street, median, and sidewalk sweeping (staff time, equipment, and contractor)	\$285,121
Street Sweeper tailings processed	\$9,230
Relocated Salt Storage Hoop Bldg	\$125,622
MS4 system inspections and maintenance	\$25,863
Sanitary Sewer repairs and rehabilitation (found with SSSE to remove I&I)	\$2,347,339
Landfill erosion control and testing/monitoring	\$8,814
Emergency and maintenance infrastructure repairs	\$286,960
Drainage, storm sewer, and other MS4 infrastructure improvements	\$1,507,803
Municipal Staff Training	\$2,453
Special Conditions	
Geographic Information System (GIS) (storm water portion only)	\$62,061
Total	\$15,501,482

PART 2. PERMIT MEASURES

A. Public Education and Outreach

The City's Education Program takes many forms and as non-structural Best Management Practices (BMP's), serves to educate the public on ways that the city is taking measures to reduce pollutants and protect and restore waterways and watersheds, and to encourage similar public participation. A variety of methods used for education including public events, online website information, city publications, social media pages, and brochures.

Public outreach continued to be different during 2021-2022 reporting period due to the COVID-19 pandemic. In person educational events were limited as some continued to be virtual events. Following are the tools use for education and outreach.

1. CitySide City Monthly Newsletter

Cityside is the monthly City newsletter distributed with utility bills to approximately **30,000 Ames utility customers.** In addition to contact information for stormwater issues, stream concerns and spill alerts, this publication keeps residents and businesses current with stormwater related issues. This year's articles are listed in the following table:

Month	Article Topic		
April	• Virtual Earth Day on KHOI announcement		
	• Virtual EcoChat announcement focusing		
	on trees and tree rebate		
May	o Skunk River Low Head Dam project		
	celebration announcement		
	o 10 Year Story County Water Monitoring		
	Report announcement		
June	o Iowa Creek Flood Mitigation Project		
	Moving Forward		
	 Native Tree Rebate 		
July	 Ames Named "Tree City USA" 		
August	• Canoes, Kayaks, & Paddle Board Rentals		
	at Ada Hayden Park		
September	 Ioway Creek Stabilization Plans 		
	 Pregracke Talk Rescheduled 		
October	• Rummage RAMPage helps Non-Profits;		
	recycles Materials community"		
	 Rebates Offered for Water Conservation 		
February	• City Partners to Monitor Health of Local		
	Waterways		



2. City of Ames Television

Video Summary 2021-22	Views
Ada Hayden Fishing Pier and	
Dock Ribbon Cutting	65
Spring- No Charge Yard Waste	
Day	24

Last year Media Production Services created the videos listed regarding stormwater related topics. In addition, the city website has links to ISWEP public services announcements videos on yard care, storm water, car washing, and oil changes.

3. Social Media: Facebook

The City uses Facebook to promote many City activities including stormwater education and outreach events. The following are some posts and a table for the last year on the City Government and Public Works pages:

DATE & SUBJECT	# LIKES, SHARES	
	AND COMMENTS	Sty of Ames - City Government February 23 at 6:29 AM - @
Apr 2- Prairie burn in Christofferson Park	51	Scooping poop is nobody's favorite activity. But go that extra mile and scooples a Your dog thanks you, your neighbors thank you, the City thanks you, and the environment thanks you.
Apr 10 Stash the Trash Continues	3	#pooppollutes #walkthedog #scoopthepoop
Apr 11 Earth Day Appreciation on the Air – KHOI	3	ISMILE
Apr 11, Apr 17, Apr 24, Apr 30 Low Head Dam Celebration Announcements	187	REMEMBER
Apr 29 Yard Waste Day Annoucement	11	MY POOP POLLUTES!
May 4 EcoChats Resource Recovery	1	
May 9 Tree Planting Announcement	18	
May 27 Smart Watersheds rebates	49	
June 1 EcoChats Water	3	
June 7 College Creek Cleanup	9	SMART WATERSHEDS
June 9, June 13 and June 18 No-Charge Waste Day	39	
June 13 Native Tree Rebate	26	
June 26, July 17 Rummage RAMPage Announcement	168	Ames
July 5 EcoChats-Watersheds	9	
July 28 Outdoor Water Conservation Tips	18	
Aug 25 Iowa State University WelcomeFest	9	
Aug 31 Water Conservation/drought	40	
Sep 5 and Sep 29 Chad Pregracke Announcement	78	







DATE & SUBJECT	# LIKES, SHARES AND COMMENTS	
Sep 16, Sep 18 River Town of the Year Events Announcement	29	So a serie of a compared and a series of a
Sep 28 Watershed Month Proclamation	4	Consens 3 dans D the Consens 4 dans D the Consens D the Co
Sep 30 Prairie River of Iowa Wild and Scenic Film Festival	6	
Oct 1 Stream Cleanup Annoucement	12	
Oct 6, Oct 11 Fall Tree Plantings	15	C. Sale - C. Sal
Oct 7 Ioway Creek cleanup	12	
Oct 8, Oct 22, Nov 9 Fall No-Charge Waste Days	34	
Oct 12 Volunteer for Water Quality Snapshot	9	Ames Public Works September 16, 2021 · O Join us as we celebrate River Town of the Year! Prairie Rivers of Jowa and the City of Ames will be
Oct 18 Native Landscaping Program	23	hosting various activities including a National speaker and river clean up Sept 30 - Oct 2.
Oct 22 Ada Hayden Fishing Pier Ribbon Cutting	79	Prairie Rivers of Iowa September 16, 2021 · 📀 We are so excited to be a part of this event! Be sure to visit our website for all the details. As
Oct 24, Oct 25 Nov 3, Nov 1, Nov 18, Nov 23, Nov 28, Nov 30, Dec 3, Dec 10, Dec 20, Mar 7, Mar 9, Mar 11 Climate Action Plan	184	Ames River Town of the Year Celebration Where Conservation Gets Inspired
Dec 18, Jan 18, Feb 23 Dog Waste Pickup	93	September 30 - October 2
Feb 7 Ecochats are Back	2	PRAIRIE RIVERS
Feb 13 Storm Drain Art Call to Artists	42	CITY OF
Feb 17, Feb 22 ISU Sustainapolloza	9	Ames"
Feb 23-Dog waste pickup	35	prrcd.org/events
Mar 1 , Mar 3, Mar 9 Ioway Creek Restoration/Brookside Park Project Public Outreach Meetings	49	Ames River Town of the Year Celebration 9/30/21 - 10/2/21
TOTAL	1359	



4. City of Ames Stormwater Website

The city's Public Works Department continues to update and expand the stormwater portion of the City's website: https://www.cityofames.org/government/departments-divisions-i-z/public-works/stormwater-program/stormwater-permit. The website has pages that address each of the permit requirements, an illicit discharge and spill reporting page (with video) and Smart Watershed Program portion of the City's website continues to provide highlights of the watershed projects that the City has completed in past years. The Smart Watersheds page contains forms and information for the Cost Share Programs as well as public education information on what residents can do to prevent stormwater pollution. Watershed maps are also available along with links to local watershed groups and public education information. Brochures and information prepared by lowa Storm Water Education Partnership (ISWEP) is also available on this website. The website is updated regularly through the year to stay current with changes in city programs.

NEW information added to the website in current report period:

- Storm Drain Art Program Call to Artists
- ISWEP Construction Site Compliance Videos



- Ioway Creek Flood Mitigation Project (@ S. Duff Avenue.) webpage
- 2020-21 City of Ames MS-4 Permit Annual Report
- Update to the Inspection and Maintenance Practices of Non-City Owned Stormwater Practices form
- Ioway Creek Restoration Brookside Park Project (6th Street to 13th Street) webpage

Due to changes in the analytic website management system, the City was unable to track the number of hits from city webpages. The data link has been reconnected so that this data will be reported again starting in next year's report.

5. Cellular Telephone Application

The City of Ames App called "Ames on the Go" allows residents and visitors of our community to report complaints, violations and concerns, including storm water related concerns. The App is available through iTunes and Google Play stores as well as the city website.

Ames On the Go App	Downloads since Jan 1, 2018	2020-21 Downloads	2021-22 Downloads
Total Downloads	4,295	1,494	1,510
Storm water intake reports	142	30	38
Street sweeping reports	126	28	52
Registered users		837	

6. Community Radio Appearances

Staff members make regular appearance on two community radio stations. These appearances inform and educate the public on current events, projects and activities being performed and to promote opportunities for community engagement in the Smart Watersheds Program. Between the Public Work Department and the Parks and Recreation Department it is estimated that over 50 appearances were made on KHOI and KASI radio stations.

7. Resource Recovery Plant

Proper trash management and disposal can significantly reduce improper disposal of trash in the environment and waterways. The Ames Resource Recovery Plant and Smart Trash Program is progressive at informing and encouraging citizens and businesses to reduce, reuse and recycle unwanted materials. The website <u>http://www.cityofames.org/smarttrash</u> provides information on waste handling and disposal.

Program information is run on the local cable Channel 12 regularly as well as advertising through Mediacom. Ads are run at least one ad per year for Household Hazardous Materials collection and 2-3 times per year for yard waste collection. **Fifteen (15) tours of the plant were held in the current reporting period with a total of 194 attendees.**

8. EcoFair is held virtually for a Second Year Due to Pandemic

On April 24, 2021 a day long "Virtual EcoFair" was aired live on KHOI, a local community radio station. The expertise of the station producers combined with a variety of local experts provided an enjoyable and informative day to citizens who hunkered down during the early days of the pandemic.

Four city staff were guest hosts and it is estimated that **1,000 attendees** listed to the broadcast both live and from the archives of the Station.



9. EcoChats Continue Virtual in 2021 and Go Hybrid in 2022

In Spring 2021 the EcoChats were held virtually through July 2021. EcoChats started back up in February 2022 as hybrid events.

Date	EcoChat Subject	# Attendees
Apr 2021	Trees	29
May 2021	Reduce/Reuse/ Recycle	39
Jun 2021	Water	26
Jul 2021	Watersheds	42
Feb 2022	Climate Action Plan	10
Mar 2022	Watersheds	17





Native Tree Planting Video

City of Ames Native Tree Rebate

10. October is Declared "Watershed Awareness Month"





11. Iowa State University Sustainapoolza Event

The Office of Sustainability at Iowa State University holds an annual event called Sustainapoolza. On Febraury 22, 2022 two stormwater staff joined other city department staff at the event, which had approximately 350 attendees and provided educational information about Ames Smart Watersheds Program and volunteer opportunities.

12. Distribution of Deicer Brochure to Local Snow Removal Businesses

For a second year in a row the ISWEP Salt & Deicer Management for Businesses Guide was distributed to areas businesses as winter approached. A letter with guides and other educational information was mailed to forty snow removal companies to encourage them to properly use deicers and manage snow removal.

13. Distribution of Letter to Local Carpet Cleaners

In June 2021 the City staff sent a letter to carpet cleaning businesses educating them and reminding them to properly dispose of waste water from carpet cleaning. This letter was sent to eight companies.

	A ames
	Public Works Department
	515 Clark Avenue
	Ames, Iowa 50010
	June 24 th , 2021
	ATTENTION AMES AREA carpet and floor care servicers
	Carpet cleanersKeep it clean!
)	We aren't talking about carpet though, we are talking about water quality in our community. There have been several incidences of carpet cleaning companies discharging their waste water directly into the storm drain system in lowa. In Ames this is a violation of our Illicit Discharge, Detection and Elimination ordinance that prohibits anything but rainwater from entering the storm sewer system. This violation carries a fine, as storm drains are directly connected to our fresh water sources such as creeks, streams, rivers, and lakes. Pollutants in illicit discharge and stormwater negatively affect water quality and aquatic life. Please ensure your employees are disposing of waste material properly.
	Your cooperation is greatly appreciated.
	If you have any questions, please do not hesitate to contact me at 515-239-5287 or Jacob.moore@cityofames.org
	Sincerely,
	Jake Moore
	Jake Moore, Stormwater Specialist
	City of Ames
	515-239-5287
	Jacob.moore@cityofames.org



B. PUBLIC INVOLVEMENT AND PARTICIPATION

The Public Involvement and Participation Program in Ames engages individuals and groups interested in protecting our waterways and lakes. City staff are available to guide those who want to participate in this program. Public notice for planned public involvement is typically given through print media or social media and meets all state and local public notice requirements. The following are some highlights of the public participation in the current report year.

1. Storm Water Management Team

Civic engagement is extremely important to the City of Ames organization as we serve the customers of Ames. Information about capital infrastructure projects such as roadway, water system improvements, sanitary sewer rehabilitation, drainage, stream stabilization, storm water facility rehabilitation, and flood mitigation projects are on the City's website under Construction Updates. Virtual or Open House project informational meetings are held during the design phase to gather public input prior to finalizing the construction documents. During the past year, project information meetings were held in person using the Open House format. For those who cannot attend the meeting, staff reached out to them in person or on the phone.

2. Trash Cleanup Efforts Expand to Multiple Events

Event/Group	Event/Group Date #		Weight of Trash Collected	
		Participants		
Stash the Trash	April 10	237	1,940 pounds (1 tire)	
Ioway Creek Cleanup	October 2	29	2,500 pounds (13 car tires)	
Outdoor Alliance/ Workiva Corp.	March 17	12	1,220 pounds	

In addition to the annual community cleanup event called Stash-The-Trash, other trash cleanup events were held. The following table above summarizes the organized events.



March 17 Workiva- Outdoor Alliance cleanup



3. Watershed Projects and Assessment Program

The City has developed a watershed assessment program and action plan that is used as an on-going tool for the South Skunk River and its sub-watersheds (loway Creek, Onion Creek, Clear Creek, Worle Creek, South Skunk River and Ada Hayden Lake). The program utilizes GIS mapping tools to evaluate areas and determine strategies for improvement. The City has had a comprehensive land use plan in place since 1997, which has gone through a major revision during 2021-22 reportg period. It includes a land use/watershed action plan and contains the permit required measures as well as specific watershed goals and action items.

4. Watershed Management Authorities

The City of Ames is one of the founding members of two watershed authorities: Ioway Creek (formerly Squaw Creek) Watershed Management Authority and Headwaters of the S. Skunk River Watershed. These WMAs were formed through 28E agreements. The Ioway Creek Watershed Management Authority has a watershed management plan that includes the City of Ames. An Ames City Council member is appointed to the boards. The Ioway Creek Watershed WMA Board met virtually on April 15, 2021, July 15, 2021, October 21, 2021 and January 20, 2022.

5. Story County Water Monitoring and Interpretation Plan 2021-2030

2021 was the first year of full implementation of the ten year Story County Water Monitoring and Interpretation Plan. The team of ten organizations, led by Prairie Rivers of Iowa, has sub-committees with specifics strategies and tasks. Sampling and testing are being completed by staff and volunteers. The 2021 annual report can be found at https://www.prrcd.org/story-county-water-monitoring/. Volunteer training was held on March 5, 2022 for the upcoming testing season.





6. 2021 Iowa River Town of the Year Events

Ames was awarded the 2021 Iowa River Town of the Year by the Iowa Rivers Revival and a year-long series of events celebrated the award.

On May 1 a River Celebration was held at the S. Skunk River Low Head dam in North River Valley Park as park of the project ribbon cutting. September 30 through October 2 was a 3 day collaboration with Prairie Rivers of Iowa. It began with Chad Pregracke speaking about his work to clean up the nation's rivers, continued with the Wild and Scenic Film Festival and concluded with a stream cleanup of Ioway Creek.

Other actions taken to celebrate the award include a July Eco-chat presentation and a banner sign on



www.CityOfAmes.org or visit www.PRRCD.org/Events for full details.

RIE RIVER

Ames

Main Street several time throughout the year.

7. Resource Recovery Plant Food Waste Diversion Program Gains Traction

Citizens can continue to take household food waste to the Resource Recovery Plant, thereby diverting this organic waste from the solid waste stream and turning it into compost. This program was developed a few years ago due to the wet nature of the food as solid waste I processed and has been gaining interest with the public.

Without this diversion food waste is part of the total waste stream, which is either burned in the City Power Plant or sent to a landfill, if the plant is under maintenance.

Last year a new business began collaboration with the City with a food waste pickup service to assist citizens with delivery to the plant.



During this reporting period **64,750 pounds** of food waste was collected and diverted.

8. Building Community through Conservation

Stone Brooke Conservation Subdivision in northern Ames began the process of developing and implementing a management plan for their common open space and private properties. In collaboration with City stormwater staff, Dr. Julia Badenhope, ISU Professor of Landscape Architecture, the community's landscape maintenance contractor, a local native nursery, lowa State Students, and the community's grounds committee are creating strategies and methods to enhance native landscaping for maximum stormwater benefits. It was kicked off with a community walkabout and the subsequent planting of native trees. The plan is to continue working with the community to further promote and

create a sustainable landscape and habitat.





9. SmartWatersheds Cost Share Rebate Program

The following table summarizes the SmartWatersheds rebates for the current year compared to the previous two reporting years.

Rebate Program	2019-2020	2020-2021	2021-2022
Rain Barrels	16	27	18
Composters	47	22	15
Soil Quality Restoration (1 approved but not completed)	3	12	6
Native Landscaping (1 approved but not planted)	1	6	6
Rain Gardens	2	1	0
Tree Voucher Event-Partnership with Ames Trees Forever (not held in 2020or 2021)	100	0	0
Native Tree Rebate	N/A	35 applications, 58 trees	59 applications, 84 trees
Total Rebate Applications	69	103	104

In addition to the formal rebate program, the city purchased and distributed **700** native tree seedlings to citizens at 2021 spring events.

10. Friends of Parks Groups

Citizen involvement in The Friends of Parks Groups in Ames continues. This year's report focuses on the Friends of Brookside Park (FOB). This past year the FOB assisted the City with the following activities:

- Planting a native prairie strip
- Removing invasive garlic mustard
- Preparing a <u>Video Tour of Ioway Creek in</u> <u>Brookside</u>
- Presenting at the loway Creek Brookside Park project citizen outreach March 21, 2022 meeting.

Friends of Brookside Park October 9, 2021 · 🚱

EXCITING! The first step towards the installation of our pollinator prairie is done. The sod will be removed and prairie seeds (donated by the Iowa Soybean Association) will be planted very soon. The goal is to provide nectar and larval food resources for native bees and butterflies, including the endangered Rusty Patch Bumblebee



11. Ames High Bee Club Plants Natives in 24th Street Bio-Cell

Ames High School has a history of collaborating with the City on native landscaping around the city. This reporting year the Bee Club planted approximately 100 native plants that are beneficial for pollinators in a bio-cell at 24th Street. The 24th Street Bio-cells were constructed in 2015. Some of the initial plantings did not survive and the result was that there was a lack of diversity and interest. This street is an arterial in the City with good visibility and a shared use path adjoining the bio-cells. The increased plant diversity in the bio-cell enhances its function and its appeal to the public.





C. ILLICIT DISCHARGE DETECTION AND ELIMINATION

1. Illicit Discharge Prohibition Ordinance

The Illicit Discharge Ordinance was presented to the Ames City Council and became part of the Municipal Code (Ord. 3819) on February 22, 2005.

2. Storm Water Pollution Notifications

The City continues to have multiple ways to report and inquire storm water issues:

- Telephone during office hours (515-239-5160) and after hours (515-239-5150) 24-hour number for reporting spills.
- City's newsletter, CitySide, which is sent to 30,000 households through utility bills
- City website. <u>https://www.cityofames.org/government/departments-divisions-i-z/public-works/stormwater-program/stormwater-violations-illicit-discharge</u>
- Cellular telephone app, Ames on the Go.

3. Illicit Discharge Detection and Elimination Program

The City of Ames Public Works Department – Operations Division is responsible for implementing this program. Program schedule, checklist, and mapping have been developed with the procedures that are documented in a manual. Records are kept for all program activities. Violations were reported during this period and are summarized below. IDNR is notified when necessary and discharges were eliminated.

Annual dry weather flow inspections of outfalls which discharge to non-intermittent waterways or water bodies have been conducted. The program also includes dry weather flow inspections of approximately 20% of all outfalls that discharge to Waters of the State that are intermittent waterways or water bodies with all these outfalls being inspected during the duration of the permit.

- Spill kits at the Operations Facility and Fleet Facility were inspected and restocked when necessary.
- Spill response plans are posted on bulletin boards each year at major City facilities such as Operations and Fleet, Parks and Recreation and the airport.
- During street projects a Vac-Tron is used to vacuum concrete cutting slurry before it reaches intakes and is then land applied in City yard to dry out. An absorbent gel was provided to staff to experiment with as well.

Starting this reporting year, in addition to incidents responded to by the Public Works Department, incidents that the Ames Fire Department and first responders are called to are also included within the report to fully demonstrate the city's commitment to response and cleanup of potential threats of illicit discharges to the storm sewer system and streams.

Date	Staff/Unit Responder	DNR Notified?	Location/Description			
4/6/2021	Truck 3	No	Highway Ditch			
Truck 3 dispatched to a truck in the ditch leaking fuel. On scene towing company was						
applying absorbent material to leaking fuel. We applied more absorbent to contain fuel until vehicle						
was moved back onto its wheels. Stood by while tow company removed truck from ditch and onto a						
flat bed tow v	flat bed tow vehicle.					

Date	Staff/Unit Responder	DNR Notified?	Location/Description			
6/10/2021	Truck 3	No	Highway Overpass			
T3 was dispa	T3 was dispatched for a chemical spill on the overpass. T3 arrived and found manure that had been					
spilled on the roadway.Cooper and Son's were there with a loader and scooped as much as						
possible.T3	used a handline to wash dow	n the roadway.				
6/11/2021	Station 1	No	ISU Power Plant chemical storage			
			building			
Station 1 rec	eived a PBX about a bleach	spill in the chemical	storage building for the ISU Power Plant			
Cooling Tow	er. Approximately 10 gallons	of bleach were spille	ed, but contained in the room 1			
containment	pit. There was a residual am	ount of unknown oth	er chemicals, possibly sulfuric acid, and			
various corro	sion inhibitors for the cooling	towers in the pit. The	his caused a reaction, releasing a small			
amount of cr	llorine gas, originally measur	ed at 8 ppm chest hi	gh by Power Plan and EH&S personnel			
on scene. Pe	ersonnel on scene did not nav	ve the proper PPE at	nd requested AFD assistance to add			
water to the	one in full structural firefight	ing PPE including St	CRA with monitoring equipment. They			
	in the room to brook up the f	ang FFE, including S	ion in the nit, and decon the side walls of			
the nit Our r	anitor did not nick up any ch	bann, unute the solution	tasks EH&S was on scene to advise			
and provide	additional monitoring equipm	ent At the end of fire	efighter personnel's tasks 0 5ppm of			
chlorine das	was measured inside the pit	CL E2 H2 were rele	eased from the scene EH&S and Power			
Plant Person	nel remained on scene to co	ntinue to monitor the	situation.			
6/14/2021	E2	No	Multifamily dwelling			
E2 dispatche	d for a chemical spill with od	or. Responded emer	gent. E2 arrived on scene and had			
Lincoln Swin	g Command. E2 personnel w	valked the halls and f	found a voe of 31 in the second floor			
hallway. It wa	as established the smell was	coming from a bag of	of trash outside apartment 7. Contact			
was made w	ith the resident inside apartm	ent 7 and a very stro	ong odor was noted to be corning from			
inside their apartment. E2 personnel entered and found a VOC of 106 in the kitchen. The resident had						
been using g	asoline in the kitchen sink as	s paint thinner. Trash	bags full of gasoline contaminated			
items were removed from the apartment building along with a can of gasoline. The apartment and						
hallway were ventilated. A lit candle was extinguished. Fire and gasoline safety practices were						
reviewed with the resident and she voiced understanding.						
6/15/2021	Jake Moore, Public Works	No	200 Rockwell Ave			
City of Ame	s Inspection Department rece	eived a call about a h	ose/pipe draining outside of a house			
onto the yard	and sidewalk. Concerned th	hat it could possibly b	be sewage the city investigated. The line			
was connect	ed to a temporary sump pipe	discharging ground	water from a sump pit. The sump pump			
in the home	had quit working so a tempor	ary pump was install	lea and drained outside a basement			
	window until a plumber could replace the nonworking pump. (A couple days later) A small amount of					
sewaye was	icket and placed in a dumps	previous use and the	ereior nau to be scooped up with a			
drained into	the storm sower system	iei. This was apploxi	intatery 1/2 gailon. In uischarge			
	The storm sewer system.					

6/24/2021	Truck 3, Engine 1,	Yes	Union Pacific Railroad- Train
	Hazmat 2, Public Works		Derailment

Truck 3 was dispatched for a Chemical Spill with Odor at the intersection of Edison Street and Carnegie Ave. Before they were enroute, Command 1 self-initiated and had HazMat 2, and Engine 1 added to the call based on the Dispatch notes that there were train cars off the track. Command 1 responded via E.13th and Dayton Ave, and was able to assess a multiple train car derailment once crossing the tracks on Dayton. Command 1 did not note and smoke, fire, or vapor clouds in the area and staged at the Ames Fire Department training grounds. Engine 1, HazMat 2 and Truck 3 were told to respond to the same area, as it put all units upwind of the derailment. Public Works was on scene at arrival of Command I and began the process of filling in water intakes and building a dirt darn and the banks of the Skunk river on both the north and south sides of the railroad tracks, to the west of the derailment. Command 1 verified that Union Pacific was aware of the derailment, and both tracks were affected.



Truck 3 arrived and was directed to stage to the west on the training site and begin reconnaissance near the COA salt storage building, moving westward. Engine 1 and Hazrnat 2 arrived and staged to the east of the training grounds and were directed to start reconnaissance of the derailment starting on the west and heading east. At this time, Rescue 1 and Fire Inspector Ziph responded and were assigned to recon the North side of the railway. Dispatch was told to contact Des Moines Fire HazMat, and then contact the Iowa DNR. Fire crews in full PPE including SCBA discovered more than 20 cars had derailed and there was a possibility that Denatured Alcohol(DOT 1987), Hydrogen Peroxide(DOT 2015) and non-odorized LP(DOT 1075) were involved and leaking. Crews continued to monitor the air and weather for IDLH atmospheres.

Chief Higgins arrived on scene and Story County EMA was activated as well as the COA ICC and Story County Sheriff's Office for the Drone. All Fire crews were called to the command post for a briefing as contact was made with a U.P. signal maintenance worker who contacted U.P. dispatch and U.P. HazMat. Inspector Ziph was named Incident Safety Officer, and Firefighter Ingram began sketching the scene and documenting information. EMA and Des Moines HazMat arrived and were staged. Des Moines HazMat and Ames Fire Crews located the train manifest and began determining what was involved in the derailment. The Conductor stated 27 cars were off the rail, of which, the most significant leak was coming from the LP car. It was determined that the Command center was too close to the car and was moved to a safer location, further south of the railway. The SCSO Drone footage determined there were several Corn Syrup cars that were damaged and leaking, and both tracks were damaged significantly. Truck 3 and crew were released to return to service after it was determined that they would not be involved in clean-up.

U.P. Hazmat Tech Joe Eichten was briefed on the actions of the on scene HazMat crews and air monitoring, via phone call. HazMat Response a private company from Des Moines was dispatch by U.P. and started arriving on scene, as well as heavy equipment for rail repair and car removal. Remote air monitoring continued as Ames Fire crews and Des Moines HazMat crews rehabbed. John Towle, the HazMat Tech with HazMat Response and his coworker briefed the Joint Command with their plan to stop the leak on the LP car, by attempting to tighten the valve which was suspected of

leaking. An evacuation plan for a 1/2 mile radius was discussed and ready to be released if the leak worsened. Ames Fire crews placed two 1-3/4" fog lines near the access point to the tank car, and Des Moines Hazrnat crews acted as back-up for the entry crew. Water was flowed to try to dissipate any LEL which had been at 70% before entry. The initial operation did not stop the leak, and the crew continued to monitor the area. A second entry was made, with the same operations in place, with the task to tighten the bolts on the valve cap. This operation significantly slowed the leak of LP. HazMat crew exited and were sent to Rehab. At this point in the incident, there were no more operations for Des Moines HazMat Team, and they were released from the scene. Engine 1, Rescue 1 and HazMat 2 crews were relieved by Truck 3 and returned to service.

U.P. HazMat Technicians arrived on scene and began the process of evaluating the leaking tank and again made entry similar to the previous operation, with Truck 3 crews manning hoselines for escape. Multiple attempts to stop the leaking LP were made, with none being successful. U.P. HazMat crews, and U.P. emergency crews determined that the tank would be left in place, and work would be conducted to the east of it, with continuous air monitoring. Fire operations were no longer required, and Truck 3 was released. At this time, roughly 2230, Command I, the incident IC reassigned command and to Chief Rich Higgins, Car 2.

Additional Narrative by Justin Clausen, Public Works: Heard sound like thunder at PW warehouse at 2207 Edison around 13:35 on 6/24/2021. Felt building and ground shake. Dave Cole came to Justin Clausen's office at 13:40 informing him of train derailment. Dave had just called police dispatch. Dave had received notice from Justin Kepley of a possible derailment adjacent to Public Works west material yard. Dave and Justin drove to the west yard to investigate. Upon initial review we observed multiple rail cars in the south ditch adjacent to the railroad. We looked for any engine to ascertain if there were injuries. Seeing none we observed several tanker cars on their side and appeared to be leaking. We worked our way down stream to where the ditch enters the S. Skunk River. We didn't' t see any drainage into the river at this point. Justin Kepley and Corey Vansickle joined Dave and I. Justin Clausen worked with Dave, Corey, and Justin Kepley to get a loader to block off the storm sewer culvert to try to keep any leaking material from directly entering the river. Corey and Justin Kepley got fleet unit 1236 and began to put clay over the culverts on both sides (north and south) of the railroad tracks. The culvert work began at 13:45 and was complete by 14:15.

Justin called John Joiner to give him a heads up of the situation at 13:45. Justin and Dave talked briefly with Fire Commander Nick Lucchesi on-site to bring him up on what we had observed and what we were doing in initial response. Kendel Miller and Zach Landhuis arrived approximate 13:50 and informed Justin that water towers were dropping and there was a significant water main break. Justin, Zach, and Kendel guickly reviewed the water main location along the rail tracks and determined that the break likely wasn't in this area. Justin called John Joiner to update him on the water main issue and was going to update him as soon as the source was ascertained. Justin called Bill Schmitt at 14:05 to help in opening the gate to the landfill so that emergency access to the north side of the tracks could be used. Bill was out of town but was having Mark Peebler come over to open it. Justin briefed Chief Rich Higgins on PW response at the incident site and concerns with water issues due to the unknown break from a fire protection standpoint. Justin left to go investigate the Dayton Ave bridge and assist with the water main investigation. Justin asked Dave Cole to account for all staff and ensure that we leave the area due to the hazardous materials that were present. Justin investigated the Dayton Ave bridge and found no issues and the train engine about 300 feet to the east of the bridge. Dale Weber called Justin to inform him that a contractor had hit a water service while abandoning it along Kellogg Ave just north of Lincoln way. The water main was isolated and repairs were spinning up at 14:15. Justin called Chief Higgins at 14:23 to inform him of the update on the water main break and restoration activities. Justin called John Joiner at 14:25 to update him on the water main status and repair. Justin was going to review railroad crossings to the west. Mark Gansen reviewed railroad crossing at 580th st was open. Rail crossings at Duff, Kellogg, Clark, and

Hazel had railcars across them and were blocked. Another train was observed on the other track from loway Creek back towards the west past Hyland Avenue. Scholl road crossing was open as was North Dakota. Justin briefed John Joiner while driving between 14:45 and 15:15.Justin reviewed the repairs on the water main at 15:20. It appeared repairs should be complete by roughly 19:00. Justin met with Damion Pregitzer at 15:45 at the west yard to review dynamic message board installation. Justin Kepley and Corey Vansickle set out the message boards by 15:50. Justin Clausen, Dave, Brad Becker, Damion, and Mark Gansen took type 3 barricade trailers and installed barricades on the north and south side of Duff, Kellogg, Clark, and Hazel. Closures were in place by 16:20.

Justin sent all remaining PW staff home. Justin stopped at west yard at 16:35 and checked with on scene fire staff to see if they needed anything. Justin let them know that any material needed to make a road or moved to go ahead and do so or let us know. Justin checked in with John Joiner in the ICC at 16:40 and let him know of PW status that all were off duty but to call with any concerns.

7/8/2021	Public Works	Yes		Water Main Brea	ak	
	গ্যামন্ত্ৰ	IOWA DEPARTMENT OF	IR Netural reso	ws S		
	FOR IMMEDIATE RELEASE July 8, 2021					
	DNR investigating fish kill in Ames					
	Media Contact: Bryan Bunton, DNR Environmental Specialist, (515) 201-3128, <u>Bryan.Bunton@dnr.iowa.gov</u> or Bill Gross, DNR Environmental Specialist, (515) 238-7871					
	AMES, Iowa – July 8 after a pa	DNR staff investigated a fish l asserby noticed dead fish mid	kill along loway (-morning and ca	Creek in Ames, Thursday, lled the DNR.		
	The impacted a continues south were observed bridge.	rea begins near the pedestria approximately a mile. Severa in the area; however, live fish	n bridge in Stua al different specie were observed a	rt Smith Park and es and sizes of dead fish at the Duff Avenue		
	DNR staff believ South Riverside water according drinking water it to loway Creek. both of which ca	ve a water main break that ha b Drive, which discharged app to the City of Ames, is to bla s believed to have entered int Drinking water contains chlo an stress fish, especially durir	ppened late afte roximately 700,0 me, but the inves o a nearby storm rine and has a te og times of low flo	rnoon Wednesday on 100 gallons of drinking stigation continues. The n sewer that leads directly emperature of 55 degrees, ow such as now.		
	The water main will be conducti enforcement ac	was repaired and there is no ng a dead fish count and the l tion.	on-going discha DNR will determi	irge. DNR Fisheries staff ine appropriate		
7/14/2021	Jake Moore, Public	Works No		100 Block of S.	Duff	
Dale Weber with City Utility Maintenance received an email from a resident about a food trailer located in a parking lot at 100 Block of S. Duff. The trailer had a drainage line ran outside the trailer. It was draining water for hand washing into the curb and next to an intake. The operator was informed it must be plumbed to a tank/container. At the time of the inspection the line was dry and didn't show any signs of wash water or soap. The line was then removed						
7/28/2021	Jake Moore, Public	Works N	0	Storm Sewer int	ake in Mall Parking Lot	
Rust color at was doing su occurrence b	the bottom of an inta urvey of storm sewer based on pipe joints o	ike structure in the system. City ran a pixidation.	mall park camera u	ing lot. This was o p pipe. It appeare	discovered when city d to be natural	
8/26/2021	8/26/2021 Rescue 3 No HWY 30 & University					
Rescue 3 wa clean up an the location longer neede	as dispatched to HW) oil spill that had leake and spread oil dry on ed. Rescue 3 now cor	7 30 and University ad from a vehicle o to the area of the le mplete and availab	/ for a pub n the shou eak. The c le.	lic assist. AFD Ilder of HWY 30. ill dry was swept	was requested to Rescue 3 arrived at up and AFD was no	
8/28/2021	Jake Moore, Public	Works N	0	2709 Hampton		
Home owner onto roadwa and into the City staff pro	called about neighbory y during an oil changointake and then swepointake and then swepointake aboury	or changing car oil e and into an intak t up. Discharge d t the importance o	on roadwa e structure id not dra f clean rur	ay. Approximately e. City Staff sprea in downstream the stream the	1 quart of oil spilled d quick dry on the road to detention basin.	

9/8/2021	Truck 3	No	2108 Isaac Newton Dr		
T3 was dispa	atched to 2108 Isaac Newton	Dr for a diesel fuel s	pill. T3 arrived on scene and found an		
employee of	Kum and Go cleaning up a c	liesel fuel spill.T3 cre	w applied one bag of absorbent and		
broomed it a	round on the spill. Kum and (Go was going to clea	n up the material.T3 returned to		
quarters.	·	0 0	•		
9/28/2021	Engine 2	No	ISU Power Plant		
Engine 2 dis	patched for a Fire Alarm at th	e ISU Power Plant.	We arrived on scene, building was in		
alarm, nothir	ng visible from the exterior, th	e building was being	evacuated. Engine 2 established		
command ar	d was met by a maintenance	e worker who stated	there was a big oil spill		
from the corr	pressor in the basement, no	fire, the haze in the	building was from the oil and they were		
in the proces	s of ventilating the building.	Engine 2 followed the	e maintenance person to the basement		
to find the sp	ill of approximately 100 gallo	ns of oil on the floor.	Workers were in the process of		
containing th	e spill and had PIGS in place	e to block the drain.	There was already an unknown quantity		
of oil that had	d made it down the drain. En	gine 2 requested Ca	r 1 and EH&S respond due to the		
unknown qua	antity of oil down the drain. E	ngine 2 attempted to	reset the fire alarm with no success.		
Eventually m	aintenance personnel were a	able to reset the alar	m. EH&S arrived o scene to oversee the		
cleanup. No	further assistance was need	ed from the Fire Dep	artment. Engine 2 and Car 1 were		
released fror	n the scene and returned to	service.	-		
10/13/2021	Truck 3 and Haz Mat 2	Yes	230 S. Duff		
Truck 3 and	Haz Mat2 were dispatched to	230 So. Duff Ave. f	or a Haz mat incident of a Semi Tractor		
leaking fuel.	T3 enroute requested Car 1	also be dispatched a	nd E2 had also responded. On scene		
we found a s	emi tractor-trailer that had ro	lled over a curb and	tore both fuel tanks loose from		
mountings. F	uel had stopped leaking fron	n the left side fuel tar	nk and was still leaking out of the right		
hand tank wh	nere the fuel lines attached. I	t. directed crew to b	egin building a dam at the east end of		
the parking lo	ot where the fuel was drainin	g to. It was raining so	o containment was difficult. Plug and		
patch was us	sed to stop fuel flowing from	proken fuel lines on r	ight side tank. 2 Booms were placed on		
top of water	in containment area to help r	etain some of the lea	aked fuel. Trucking company had been		
contacted by	the driver and they were con	ntacting tow company	y to move truck and trailer. Car 1		
contacted Ke	eith Morgan with Story Count	y Emergency manag	ement and informed him of the incident.		
It was estima	ated that up to 120 gallons of	fuel had leaked out	and most likely had entered the storm		
sewer intake	at east end of the parking lo	t due to rainfall at the	e time.		
Keith Morgar	n was to submit an incident re	eport on the spill to the	ne DNR. Spill containment was		
completed with 14 bags of floor dry, and 2 floating booms.					
12/1/2021	E2	No	Adult Education Center		
Adult Educat	ion Center. E2 was dispatch	ed for a chemical spi	II. EH&S was requested while enroute.		
Arrived and a	spoke with a teaching assista	int that stated that a	bottle of ammonia, 30% solution, had		
been broken	in a lab on the third floor. E2	crew made their wa	y to the hall where the lab was located		
and began a	ir monitoring. Cl self-dispatch	ned to the scene at the	his time. At the lab door nothing was		
found on the	monitor. Burton and Leverto	n donned SCBA and	entered the lab to monitor and assess		
ventilation options. The multi rae detected a peak value of 84 ppm VOC. The windows could not be					
opened. The vent hoods were running and we exited the lab. Monitoring was continued while awaiting					
EH&S staff.	Once staff arrived, they moni	tored air in the lab ar	nd determined it was a safe working		
area for clea	nup. E2 was released from th	ne scene.			
1/12/2021	Truck 3	No	534 S. Duff		
T3 was dispa	atched to 534 S Duff for a fue	el spill.T3 arrived on s	scene and found a Nissan Altima with a		
small amoun	t of oil dipping off of it. T3 cre	ew applied oil dry und	der the vehicle.T3 was unable to locate		
the operator of the vehicle. T3 returned to quarters.					
1/29/2022	Truck 3	No	Kum & Go		
T3 was dispa	atched for a report of a diese	spill at Kum & Go. 1	3 arrived to find approximately 15-20		
gal of diesel	spill from center fuel pump. A	Approximately 15-20	gal of Diesel fuel was spilled through a		
fuel pump hose with holes in it. The pump was turned on by driver and was left unattended. All fuel					
remained at	oove ground on the concre	te surface of the pa	rking lot. T3 used 3 25# bags of		
absorbent to control the spill.					

1/23/2022 Truck 3 No Casey's				
T3 was dispatched for a gasoline spill at Casey's. T3 arrived to find East row of pumps shut off and				
evidence of a small spill at one of the pumps. It was determined that the leak had been stopped and				
only need spill containment. The leak was approximately 2-3 gallons and spread 20 feet to the north.				
There was no actual product on the ground just wet pavement. T3 crew spread absorbent over the				
spill. No hazards remained.				
1/24/20221 E2 No Educational Center				
Educational Center, E 2 arrived on scene and established command. E2 crew was met outside by 2				
students that stated they were working in lab room 2115, they stated that they smelled bleach or				
chlorine, left the lab and hit the chemical spill alarm. E2 went inside to investigate and was met by Ho)			
Chi, who stated he was a safety officer from another building, he stated that he thought it was a false				
alarm. C1 arrived and assumed command. E2 eventually gained access with ISU PD and after				
investigating the lab with EH&S found that discarded cleaning material that was in the trash was the				
source of the odor. The garbage was removed. EH&S stated that they would follow up with ISU on				
some safety concerns. We met with EH&S personal to discuss the incident in C-1. C-1 terminated				
command and closed the fire departments involvement.				
2/3/2022 Truck 3 No 3020 S. Duff service station				
Service station, gas Truck 3 responded to 3020 S. Duff Ave. for a gasoline fuel spill. On scene we				
found gasoline on the ground from a vehicle that had been filling at a pump. Driver was at the vehicle				
and stated that he started filling vehicle and the went inside store. Fuel pump failed to shut off when	_			
vehicle was full. Applied 2 1/2 bags of absorbent material to spill. Employee of convenience store sai	d			
they would clean up absorbent material and dispose of material.				
2/7/2022 Truck 3 No 3020 S Duff service station				
Truck 3 responded to 3020 S. Duff Ave. for a gasoline fuel spill. On scene we found gasoline on the				
ground from a vehicle that had been filling at a pump. Driver was at the vehicle and stated that he				
started filling vehicle and the went inside store. Fuel pump failed to shut off when vehicle was full.				
Applied 2 1/2 bags of absorbent material to spill. Employee of convenience store said they would				
clean up absorbent material and dispose of material.				

4. Resource Recovery Plant

Keeping hazardous waste and trash from being illegally dumped in waterways is an ongoing challenge. The City of Ames Resource Recovery Plant provides multiple options so that illegal dumping is minimized. The Plant continues to accept household hazardous materials every Wednesday and during special collection events. During **2021**, **14.23** tons of household hazardous materials was collected at the plant.

The fifth annual Rummage RAMPage, a community sale during peak rental move-in/move-out designed to keep reusable items out of the waste stream, was once again a record-setting event. The City of Ames and ISU's Office of Sustainability held the sale July 30-Aug. 7 at the Ames Intermodal Facility.

2021 Rummage RAMPage, by the numbers:

- Nine days spanning two weekends for donations and sales
- More than 100 couches, 100 upholstered chairs and 250 dining and office chairs found a new home.
- More than 30,000 pounds of kitchen utensils, storage items, bath items, luggage and small appliances have a new owner.
- More than \$40,000 raised (an increase of more than 20% from 2019).
- 28 local nonprofit groups benefited from funds raised.



5. Promotion of Cleaning and Protecting our Waterways

The River Town of the Year celebration included promotion of keeping our waterways free from refuse by holding several trash cleanup events and a speaking event on October 2, 2021. Chad Pregracke, founder of Living Lands and Water, presented his company's history and work to clean and protect rivers.



D. CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

1. Construction Site Runoff Control Ordinance

The Construction Site Erosion and Sediment Control Ordinance was presented to the Ames City Council and passed on (Ord. 3875) February 14, 2006.

2. Construction Site Review and Inspection Program

One full-time staff person, Jake Moore, Stormwater Specialist assisted by Stormwater Intern, Noel Steckelberg, are designated for Storm Water Pollution Prevention Plan (SWPPP) review, inspection and enforcement activities for this program which includes residential, commercial and industrial developments as well as the city's construction projects.

A City Construction Site Erosion and Sediment Control (COSESCO) permit is issued with evidence of an NOI General Permit Number 2 and after the SWPPP has been reviewed and approved. Inspections are conducted quarterly or as needed for compliance. A database is used to track the status of each project. Staff regularly correspond with local builders and developers.

The City of Ames has several capital improvement projects active every year. Regular inspections are completed with fully documented reports being written after each inspection. A few of the very large projects this year have included Homewood Slope Stabilization, S Grand Avenue Extension, and Ioway Creek Flood Mitigation project. During the current reporting period, Iowa DNR Field staff conducted an inspection of the Ioway Creek Flood Mitigation project where violations were issued at 4:09 PM on December 22, 2021 about the temporary stream crossings and failure to install sediment and erosion controls. Being issued an hour before the city Christmas holidays, corrective actions were taken the following week including reconstructing the temporary stream crossings using culverts and rock and placing wattles throughout the project as suggested at waters edge. This violation report then prompted Regional EPA staff to inspect the site in February 2022, with an exit on-site meeting on February 10, 2022. A preliminary findings report was issued on March 8, 2022 and the City of Ames responded on March 18, 2022 to be on record of correction of incorrect statements throughout the report. Following the February 10, 2022 on-site meeting with EPA, erosion control BMPs were maintained, additional wattles were placed at top of bank, and some areas were temporary seed and mulched. This project reconnects loway Creek to the floodplain and lowers flood levels by two feet in the S. Duff Avenue flooded area.



Homewood Slope Stabilization along S. Skunk River



Ioway Creek Flood Mitigation Project

The following table summarizes the City's construction site runoff control program activities with a comparison to last year's activities.

SWPPP Reviews/Approvals	2019-2020	2020-2021	2021-22
Single Family Homes	59	84	60
Commercial Reviews	13	10	12
Preliminary Plats	1	4	6
Plat additions with Public Improvements	2	2	2
City Project SWPPP Reviews	10	5	2
NOIs Filed for GP #2			
Total Projects	24	14	9
City Projects	5	4	1
Iowa State University Projects	6	2	1
Story County Projects	1	0	0
School District Projects	1	0	0
Private Projects (Gas Stations, Subdivision, Apartments, Hotels, Building Additions, Commercial Businesses)	11	8	7
Weekly (City Project) & Quarterly Inspections (Priv	vate Sites)		
Total Conducted	471	563	544
City Projects	248	418	299
Private Projects (Commercial)	161	88	121
Single Family Inspections (Home Lots)	62	57	124
Enforcement Actions			
Number of Compliance Issues (Private Projects)	165	60	70

Construction Site Runoff Control Program Tracking



Controls along S. Grand Avenue Extension

Construction Site Runoff Control Program Tracking

Types of Issues and Enforcement Actions

(Notice sent by email to site contact to have BMP's installed)

- 1. Apply Temporary stabilization when site is inactive
- 2. Sediment controls required to be installed or require maintenance
- 4. Install, maintain stabilized drive
- 5. Concrete Washout, Install, clean up and repair
- 6. Restore vegetation on neighboring lots, add sediment controls to neighboring lots
- 7. Seed, mulch stockpile
- 8. Secure porta potty with stakes
- 9. Pick up trash
- 10. Store chemicals in covered areas or secure containment
- 11. Install rock check in channel
- 12. Protect intakes

13. Standpipe at basin outlet required, install control to withdraw water from the surface per GP#2

- 14. Move dirt piles away from street
- 15. Install sediment controls around stockpile
- 16. Expired Permit- renew
- 17. Clean out storm sewer/manhole
- 18. Not enough controls, add additional. Try to catch this during the SWPPP design
- 19. Water site to prevent dust from blowing

Topsoil Requirements

Number of Sites Where Decompaction Occurred and Topsoil Placed (final occupancy including single family and commercial lots)

Approximately 90

Describe Methods Used and Amount of Topsoil - Scrape/stockpile/backfill with onsite topsoil (amended soil only used on one City Project - Had settlement problems) Some sites hauled in soil on commercial lots.

8" of topsoil is typically placed on all sites. Decompaction methods used include: Chisel Plow, Box Blade Teeth, Tiller, Farm Disc, Land Leveler/Planer teeth

3. Topsoil Requirements in GP#2:

The City of Ames code references SUDAS in Chapter 5A of our Construction Site Erosion and Sediment Control Ordinance. Therefore, any site which has a COSESCO permit which includes all NPDES GP#2 sites are required to meet SUDAS standard specifications of Section 2010. SUDAS calls out 8" of topsoil in Section 2010-3.02.

C. POST-CONSTRUCTION STORM WATER MANAGEMENT

1. Post-Construction Runoff Control Policy Ordinance

A comprehensive post construction ordinance was approved by City Council on April 22, 2014 Earth Day. In 2019, Ames City Council adopted revisions to the post-construction ordinance. Find the ordinance, Chapter 5B at https://www.cityofames.org/home/showdocument?id=17750.

2. Site Plan or Grading Permit Review Procedures

Site plan review procedures are conducted and implemented by the City through the Development Review Committee process. This committee consists of representatives from Public Works, Planning and City Administration Departments. Stormwater management calculations are required and are reviewed for approval by the Engineering Division of the Public Works Department.

Post construction controls are required to meet the Iowa Storm Water Management Manual Unified Sizing Criteria based on hydrologic soil group B soils in meadow condition. An as-built plan is prepared and submitted to the City to ensure that the sites are built as designed.

The Post Construction Ordinance, City Code Section 5B, applies to new development sites that plan to disturb one acre of more or create more than 10,000 square feet of impervious area. On April 1, 2019 a second category was added for redeveloped sites, which have a minimum threshold of one acre of impervious cover, resulting in fewer Stormwater Management applications.

Type of Development	2019-2020		2020-2021		2021-2022	
	# Plans Reviewed	# Plans Approved	# Plans Reviewed	# Projects Approved	# Plans Reviewed	# Projects Approved
New Development	5	5	11	8	7	1
Redevelopment	0	0	4	4	4	4
Total	5	5	15	12	11	5

Post Construction Program Plan Review and Approval

In addition, 25 site plans and subdivisions were reviewed and determined that they were part of a regional watershed that considered the proposed conditions or the proposed development was below ordinance thresholds for stormwater management.

Best Management Practices and Water Quality Volume Benefit of Approved Plans

Type of Practice	Number of Practices
Extended Detention Basins	3
Underground detention with water quality controls	3
Bio-Cells	2
Total	8
Water Quality Benefits	
New Water Quality Volume Managed	89,053 cubic feet

3. City Funded Watershed and Construction Projects

Civic engagement is extremely important to the City of Ames organization as we serve the customers of Ames. Information about capital infrastructure projects such as roadway, water system improvements, sanitary sewer rehabilitation, drainage, stream stabilization, storm water facility rehabilitation, and flood mitigation projects are on the City's website under Construction Updates. Virtual or Open House project informational meetings are held during the design phase to gather public input prior to finalizing the construction documents. During the past year, project information meetings were held in person. Construction updates are also often made through the Ames Media Channel.

The following city funded projects that improve watersheds were under construction during the current reporting period:



• S. Grand Avenue Extension Construction of water quality swales and wetlands

 Ioway Creek Flood Mitigation: Federally funded project designed to lower the 100year flood elevation by two feet. The project is in Ames on Ioway Creek approximately 2,000 feet each direction from the S. Duff Avenue bridge. This will also make emergency response safer as higher velocity flows will remain in the channel instead of along S 5th Street as experienced in at least 1993, 1996, 2008, and 2010.



Welch Avenue Water Quality Practices: Permeable Pavers, Tree Trenches and Bioretention Cells

Installation of permeable pavers and eleven water quality tree trenches and bioretention cells for pre-treatment prior to discharge into the College Creek/Lake Laverne in the Campustown part of the City. Additional vegetation will be planted in these practices this year.

• Spring Valley Subdivision Ponding Mitigation Construction of a bioretention cell in an backyard area with poor drainage and clay soil.





The following projects commenced construction in the previous reporting period and are now in the establishment phase for native vegetation:

- South 5th Street Wetland
- Baker Subdivision Retention and Fishing
 Pond
- Little Bluestem Bio-Cells Rehabilitation
- North River Valley Park Low Head Dam
- Homewood Slope along South Skunk River



S. 5th Street Wetlands- First Year

Upcoming watershed projects that are in various stages of analysis and design are:

- Ioway Creek Restoration Brookside Park (6th Street to 13th Street)
- S. Skunk River Restoration (E. Lincoln Way to SE 16th Street)
- Clear Creek stabilization (near Utah Drive and British Columbia Avenue)
- City-wide Storm Sewer System Analysis including Modeling and BMP planning
- Waterway restoration project (Hyde Avenue/Bloomington Townhomes)
- 24th Street Improvements Bio-Cells and Swales (west of UPRR tracks)
- Several locations addressing localized flooding (Low Point Drainage Improvements)

4. Inspection Program of Runoff Control Devices

A program that meets the required schedule has been developed along with a checklist and GIS mapping. In areas where these facilities are on private property, the landowner signs an agreement with the City that details the requirements and responsibilities in maintaining these facilities. Letters were sent in the fall to property owners to remind them to conduct inspections and maintenance of their permanent stormwater practices.

The Public Works Operations Division conducts the site inspections and maintains all city owned green infrastructure practices and storm sewers. 2021 was the second year for the City Urban Conservation Intern. The intern was responsible for monthly inspection, maintenance and enhancement of the city's bio-cells and smaller native landscaping areas and resulted in an increased level of care and function of these practices.

The following table summarizes inspection and maintenance activities for the City's post construction and storm sewer infrastructure for the previous and current reporting years.

Outfalls	Previous Year	Current Year
Dry weather inspections of outfalls	197	230
Issues: Soil erosion, trees around outlets, pipe dislocati	on	
Outfall repairs	1	10
Intakes		<u> </u>
Inspections	699	537
Region inspected	"H" & "I"	"G" & "H"
Maintenance performed: Inspect, clean, repair as neede	d	
Detention and Retention Basins		
Inspections	137	75
Public Works Green Infrastructure	# practices	# practices
Inspected annually and maintained seasonally		
Rain gardens	1	1
Bio-cells: inspected and maintained monthly from April to November by Urban Conservation Intern	13	15
Welch Ave Tree Trenches	0	11
Porous paver areas	1	1
Pervious concrete alleys	2	2
Native Turf	1	1

Post Construction Municipal Inspections and Maintenance

Parks Green Infrastructure	# practices	# practices
Inspected annually and maintained seasonally		
Bio-cells: inspected and maintained monthly from April	4	4
to November by Urban Conservation Intern		
Prairie filter strip	1	1
Native Prairie areas	10	10
Woodland areas	1	1
Stream greenbelt corridors	1	1

4. Tree Program

The City has a comprehensive tree program administrated by the City Forester. After approximately 300 trees were lost on city property during the 2020 Derecho, hazardous trees continue to be identified and trimmed or removed for public safety.

The following summarizes tree work in the city for the current reporting period. This is in addition to trees planted independently by citizens and businesses.

Location	Current Year
City Properties	292 trees planted, 3000 trees trimmed
City Projects	120 trees planted
New Private Developments	90 trees planted
Existing Residences	700 native seedlings planted -city giveaway



4. Water and Pollution Control Department 2021 Watershed Progress

The following is excerpted from a report by the City Water and Pollution Control Department and summarizes the 2021 progress to remove nutrients using watershed based improvements.

Background

The Water Pollution Control (WPC) Facility is being converted to a nutrient removal treatment technology over a period of 20 years. Separate from the work that will occur inside the treatment plant, watershed-based improvements performed by the City can be 'banked" as credit toward any future, more stringent nutrient reduction requirements imposed on the WPC Facility. On February 24, 2021, staff executed a Memorandum of Understanding (MOU) with the Iowa Department of Natural Resources to allow these off-site nutrient reductions to be banked with the Iowa Nutrient Reduction Exchange (NRE). In accordance with Section 7.C of the MOU, the City shall provide annual progress reports to the DNR detailing its progress in the watershed, the BMPs and/or other nutrient reduction efforts implemented, verification of ongoing practices, and the nutrient load reductions obtained. Please see the summary below of the current watershed projects associated with the Ames Water & Pollution Control Department.

Soil & Water Outcomes Fund

In anticipation of the MOU being executed, the City partnered with AgOutcomes in 2020 to reduce nutrient runoff in the watershed north of Ames. AgOutcomes has recruited private landowners to install Best Management Practices (BMPs) on corn and soybean fields upstream from Ames located within the South Skunk Watershed. The BMPs utilized are no-till tillage and the planting of cover crops.

AgOutcomes has tracked the fields where cover crops are planted, documented the planting times, collected photographs and provided all other data required to register the nutrient savings outcomes in units of annual pounds in the NRE located on the United States Army Corps of Engineers (USACE) Regulatory Inlieu Fee and Bank Information Tracking System (RIBITS) program.



Cover Crop Progress Credit: Soil And Water Outcomes Fund

Staff has negotiated an agreement with AgOutcomes for the City to purchase the nutrient credits and the obligation of AgOutcomes to register them with the Iowa Nutrient Reduction Exchange. Below are the 2020/2021 reductions resulting from the conservation practices implemented as part of this project. AgOutcomes is currently working towards data entry associated with the NRE.

2020 Nitrogen (N) Acres: 2,086 Total N Reduction: 60,448 lbs.

2021 Nitrogen (N) Acres: 2,086 Total N Reduction: 66,540 lbs. 2020 Phosphorus (P) Acres: 2,086 Total P Reduction: 3,887 lbs.

2021 Phosphorus (P) Acres: 2,086 Total P Reduction: 3,015 lbs.

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Moore Memorial Park Land Retirement

The Water & Pollution Control Department contracted with ISG in 2021 to develop a Land Retirement Plan for City owned land west of Moore Memorial Park and adjacent to loway Creek. The approximately 40-acre property has previously been row cropped by lowa State University. Goals for the land retirement plan included improvements to water quality and stormwater management, habitat creation, and recreation opportunities. **The City will be transitioning the land to native perennial vegetation with seeding planned for Spring 2022**. ISG utilized farm management data from Iowa State



Saturated Buffer Surveying

University and the proposed perennial vegetation management practices to determine potential nutrient credits for the site. The Tool (NTT) outputs

showed an annual improvement of 5.0 pounds/acre and 0.1 pounds/acre for Nitrogen and Phosphorous losses, respectively. Future improvements to the site may include protection of the actively eroding streambank and will likely include coordination with the City's Public Works and Parks & Recreation Departments.

Story County Edge-Of-Field Project

Throughout 2021, staff has been in development of a partnership with Polk County, Story County, IDALS, and many other entities to bundle together edge-of-field (EOF) practices that can be bid as a single bid package. This project will construct 25-30 EOF practices in the Story County, consisting of both saturated buffers and bioreactors.

Several landowners in Story County have been identified and have agreed to participate with this project. Initial property owner meetings have been completed and final landowner meetings are anticipated to take place in February/March following final design. Each landowner will receive payment per

field tile treated and will be required to sign a 10-year



Project Location

maintenance agreement. Following project completion, the City intends to model each practice utilizing NTT and enter the practices into the NRE. The current project schedule includes final design completed in January/February, 2021, final landowner meetings in February/March, project bid/award in March/April, and construction Summer 2022.

This project has been a collaborative effort between many entities including Story County, Polk County, JEO Consulting Group, Heartland Co-op, Natural Resource Conservation Service, IDALS, and Iowa State University. This model of a central fiscal agent has shown to be an effective approach in Polk County and has many benefits including no financial burden to the landowner, limited to no needed maintenance, and no impact to cropland.

Dotson Wetland

In partnership with the Water Quality Initiative, Ducks Unlimited, and Story County Conservation, a 20.9 acre constructed wetland is being designed northwest of Ames. The wetland will be located at the outlet of a large county drainage district that currently discharges directly into loway Creek. The wetland will ultimately treat subsurface drainage from over 2,200 acres of farmed land.

Due to elevation restrictions, a pumping-style wetland will be required. Solar power is being



enhance sustainability.

Based on preliminary sizing calculations provided by Dr. William Crumpton at Iowa State University, the modeled nitrogen mass removal rate of the wetland will be approximately 22,000 pounds per year. The nitrogen removal calculation is determined from a maximum pumping rate of 2 cubic feet per second.

considered as an electrical source for the pump(s) to

Completion of wetland design and meetings with drainage districts are expected in 2022, followed by construction in 2023.

F. POLLUTION PREVENTION/GOOD HOUSEKEEPING

1. Operation and Maintenance Program for MS4

The Public Works Operations Division has been inspecting the MS4 components in accordance with the implementation schedule. A street sweeping program is in place that meets the requirements noted in the permit. A program, and corresponding mapping, has been developed to assure inspection and maintenance of all storm sewer facilities on a ten-year schedule. Following are specific activities that were completed this permit year compared to the previous reporting year, showing an increase in sediment swept from city streets and a slight decrease in sediment from removed from intakes.

Good Housekeeping and Pollution	Previous	Current	Amount of Sed Col	iment and Debris lected
Prevention Activity	Tear	Tear	Previous Year	Current Year
Street sweeping	8343 miles	6864 miles	2920 tons	2420 tons
Intake maintenance	699 intakes	699 intakes	26 tons	17 tons



2. Pesticide and Fertilizer Management Program

Public Works and Parks & Recreation Departments and their subcontractors have developed individual application records, site logs, summary logs for tracking pesticide and fertilizer use. These have been distributed to all City Departments that engage in this activity along with a discussion of the permit requirements.

Here are some highlights of the program:

- Departments are taking steps to minimize chemical use and are exploring Integrated Pest Management BMPs.
- Phosphorus-free fertilizers are used at most public facilities.
- Tracking sheets list chemical use, application rates, applicator and type of IDALS certification and certification number.
- Best management practices include the use of Phosphorus-free fertilizers and acceptable cultural practices for the use of fertilizers.
- Mosquito control applications are used throughout the city during mosquito breeding periods.
- The Airport and Operations facilities do not use fertilizers and spot spray weeds using pesticides.

The following arks and city facilities are the locations where fertilizer, herbicides and pesticides were applied during the current reporting year:

City Parks: Northridge Heights, Carr, Teagarden, Country Gables, Lloyd Kuertz, O'Neil, Franklin, Oakland, Hutchinson, Moore, Green Briar, Stuart Smith, Duff, Parkview, Roosevelt, Gateway, Gartner, Bandshell, Ada Hayden, Brookside, Calhoun, Christopherson, Daly, Dog Park, Emma McCarthy, Furman Pool, Homewood Golf, Inis, Moore, Patio Homes, River Valley.

Other Facilities: Operations on Edison, Municipal Cemetery, Airport, Community Center, Fire Houses, Electric Services

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The two following tables					
show	the	tracked			
quantities	of	fertilizer,			
herbicide and pesticide					
used during the current					
reporting year.					

Homewood Golf Course Products Used					
Name of Product	Amount	Name of Product	Amount		
Mesa15-0-5,bags w/ Acelepryn	1	PGR, oz	24		
Acelepryn, oz	32	Prodiamine, lbs	27.5		
Aneuw,Ib	4.5	Propoistar, oz	258		
AT44, gal	4.5	Primo, oz	52		
Dac Action, oz	1920	Quinclorac, oz	192		
Dimension,oz	16	Secure Action, oz	60		
Floratine Program	5	Sevin, oz	40		
Fore, lbs	14	Speedzone,oz	1152		
Glycofuze, gal	1	Sprectator, oz	140		
Hammerdown, gal	2.5	Teb, oz	477		
Heritage,lb	32	Thiram, oz	240		
Imidicloprid, oz	128	Triclopyr, oz	64		
Iprodione, oz	320	Vivax, oz	200		
Iron 15-0-0, oz	960	Zelto, oz	24		

	R-O-W & Fire Stations	Parks	Cemetery	Community Center
Product, unit	Amount	Amount	Amount	Amount
Bucaneer, gal	3	1.4		
Speedzone, gal	2	17.5	4	0.75
Hammerdown, gal		3		
PGR113, gal		1		
3-D, gal	55	7.1	15	
Imidicloprid, gal		2		
Triclopyr, gal		5.36		
Tordon, oz		8		
WDG65, lbs	14	27	4	
Ranger Pro by Monsanto (Glyphosate), oz	1	1		
Mosquito Spraying, gal	3.72 (78% decrease from 20-21			

Products Used on City Properties

3. Continuing Education Program for Staff:

City Stormwater and Public Works staff continue to attend seminars and conferences (this year held virtually by webinars) to continue their education and current with the latest stormwater practices and techniques.

Stormwater staff participated in following continuing education:

Event	Number of Staff Attending				
APWA PWX Conference – August-Sep, 2021	1				
ISWEP Stormwater Webinar Series	2-5				
ISWEP Native Plants ID Webinar Series	4				
ISWEP Urban Ecosystem Restoration Webinar					
September 1 & 2, 2021	1				
ISWEP I-Storm Virtual Conference-October 2021	4				
ISWEP Stormwater Detention and Retention Design					
January 13, 2022	1				
3 ISWEP Quarterly meetings	2				
ASP Enterprises: Fleximate Systems Webinar	1				
ISWEP Advanced Erosion and Sediment Control					
Webinar, March 24, 2022	1				

Stormwater Staff Continuing Education

4. Stormwater Pollution Prevention training for Staff:

The annual Pollution Prevention training for Public Works Department (Operations, Utility Maintenance) and the Parks Department, was conducted in the January 2022. **Twenty-five**

staff members attended the training, which was held using a pre-recorded video called RAINCHECK, a resource provided by ISWEP.

One representative from the Ames Muncipal Airport also attended the May 12, 2021 Stormwater Training for Airport Staff.



5. Ames Municipal Airport Annual Site Inspection

On March 10, 2022 city staff performed the annual site inspection of the Airport facilities. The following table and photos are exerpted from the report.

Ames MS-4 Annue Depar	MS-4 Pollution Prevention Good Housekeeping Program Annual Stormwater Site Inspection Form: Department: <u>Airport – Public works</u>							
Name of Facility: Ames Air	Name of Facility: Ames Airport Date: 3-10-2020 Time: 2:30 p.m.							
Inspector Name: <u>Jake Mo</u>	Inspector Name:							
Weather Conditions: 20's	. Cloudy, Rain and snow this past wee	k.						
Area/Equipment/BMP	Observations	Actions Taken						
Fuel Tanks	Protected with Bollards Tank Conditions Good Tanks Jet-A and 100 Lot LED trucks on site.	Some stains on the concrete. Talked to airport staff about not overfilling truck tanks.						
Below ground tanks inspected summer 2018	Could not check. Underground							
Buildings	Inspected COA owned buildings. Private buildings were not inspected however private fuel tanks were inspected and dumpsters checked for closed lids.							
Green spaces and Buffers	Vegetated.							
Basins and waterways.	Waterways are clear and vegetated on the banks.							
Chemicals with the exception of fuel and deicer are stored inside the building.	Covered and in proper containers inside buildings							
Deicer – On Cart 500 Sallons. In Hanger Used to be stored inside the building but not stored outside the building due to additional aircraft in the building.		Quick dry was used to clean up drippings.						
Discharge Points	Clear water draining off site. No odor or sheens.							
Down Stream	Creeks draining airport are clear							



PART 3: SPECIAL CONDITIONS

A construction site inspection program has been developed and implemented for construction projects, owned or operated by the City, that include areas of soil disturbance for which NPDES permits are required. The inspection program ensures that contractors are correctly implementing BMPs that have been approved in the pollution prevention plan and any additional necessary measures. The program requires inspections by the City at least every 7 days and ensures compliance by contractors with the storm water General Permit Number 2. Construction site inspection checklists and logs are also completed.

A complete map of the MS4, including outfalls, has been integrated with the City-wide GIS mapping. The Public Works Engineering Division continues to maintain the system map.

PART 4: MONITORING DATA

A. Water and Pollution Control Stream E. Coli Monitoring

The City of Ames continued water quality monitoring for fecal coliform bacteria during the current monitoring period. It is conducted by the laboratory staff of the city's Water and Pollution Control Department and included tributaries of S. Skunk River from April to December. The following table illustrates the result of the current reporting year. If obvious signs of pollution are discovered, or if significant degradation is observed, city staff will conduct more detailed water quality investigations. Monitoring trends observed in the last reporting period generally shows a downward trend, however drought conditions resulted in less testing due to dry waterways during much of the year.

SAMPLE DATE	SKUNK RIVER	IOWAY CREEK	CLEAR CREEK	COLLEGE CREEK	WORLE CREEK	
2019						
4/9/2019	122	158	85	2909	448	
5/16/2019	63	231	189	265	384	
6/11/2019	173	374	414	583	594	
7/16/2019	839	5172	24196	>24,196	2098	
8/6/2019	122	2909	6867	8664	3448	
9/24/2019	1764	1446	320	904	1024	
10/11/2019	558	758	268	1024	378	
2020						
4/7/2020	82	150	62	1,640		
5/19/2020	1,100	750	218	370	700	
6/16/2020	718	1,040	960	2,518	1,466	
7/14/2020	126	374	746	654		
8/18/2020	146	268		432		
9/15/2020	189	364	384	5,475		
10/21/2020	40	394			1,596	

D. Coli monitoring conducted by City of Ames Water Pollution Control (measured in CFU- Colony Forming Units)

SAMPLE DATE	SKUNK RIVER	IOWAY CREEK	CLEAR CREEK	COLLEGE CREEK	WORLE CREEK
11/18/2020	85	173		3,076	
12/16/2020		82			
		202	1		
4/21/2021	31	33		908	51
5/21/2021	121	455	110	1,396	187
6/16/2021	805	904			
7/21/2021	98	441			
8/18/2021	20				
9/15/2021	41				
10/20/2021	146				
11/17/2021	620	52	84		
12/17/2021	10	185	96	3130	

D. Coli monitoring conducted by City of Ames Water Pollution Control (measured in CFU- Colony Forming Units)



In addition to monthly testing, samples were taken and tested for E. Coli during storm events using Storm Samplers. This testing is one of the tasks developed in accordance with the 2021-2030 Year Story County Water Quality Plan. Because of the drought the data was limited and only two sites had enough data to be evaluated on the S. Skunk River. The sites are at North River Valley Park and at Riverside Drive and both were found to be below 126 colonies per 100 ml, which is below the Primary contact standard for the recreation season.

B. Watershed Coalition Snapshot Stream Monitoring

Snapshot stream testing was performed during the current reporting period. Because of the continued drought conditions only the May 2021 snapshot was able to be performed. The results are shown on the table on the following page.

Except for early spring and late fall, most of this year the South Skunk River was below normal. For much of the summer loway Creek and its tributaries have not been flowing except for a day or two immediately following rain.





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