



CITY OF
Ames™



CAPITAL IMPROVEMENTS PLAN

CITY OF AMES - 2020-2025



A Powerful Past

The theme for this year's Capital Improvements Plan (CIP) is the electric utility. For a small town that had been little more than a settlement on the Iowa prairie, the lure of the modern convenience offered by electricity must have been strong. In January of 1895, a committee was appointed by the mayor of Ames to investigate the possibility of bringing electric lights to the community. On March 2, 1896, by a vote of 298 to 40, the citizens approved establishing an electric utility and \$12,000 was earmarked for this purpose. That decision, made nearly 125 years ago, means that today there are 28,000 homes and businesses in Ames that benefit from low-cost, reliable, customer-oriented electric service.

Over the years, the utility has made innovative choices and additional means of electricity generation. In 1975, the power plant began to burn a mixture of Refuse Derived Fuel and coal (replaced with natural gas in 2015). The newest and largest generator at the power plant was placed in service in 1981 at a cost of \$46.7 million. This generator, together with the City's wind resources and soon-to-be completed solar farm, will provide the utility customers reliable energy for years to come.



CAPITAL IMPROVEMENTS PLAN
CITY OF AMES - 2020-2025



July 1, 2020

To: Mayor and Ames City Council Members:

Every four years candidates vying to become the next President of the United States flock to Ames trying to convince our citizens that their plans will make the lives of each of us much better. They inundate us with specifics from numerous policy plans in their attempt to win the Iowa Caucuses. While there is no doubt that our federal and state governments provide important services, we must not forget that the level of government most responsible for assuring an excellent quality of life is local government. This distinction is because we interact with our citizens every day through the services we deliver to those who reside in, or visit, the City of Ames. In keeping with this responsibility, I am attaching the Capital Improvements Plan (CIP) for FY 2020/21 through FY 2024/25. It is my hope that the accomplishment of the numerous projects incorporated into the CIP will lead to an improved quality of life for all of our citizens!

As you know, the CIP highlights the major improvement projects that we hope to accomplish over the next five years, along with a financing strategy to assure the Plan's viability. As was the case in past years, we have attempted to respond to the feedback received from our most recent Citizen Satisfaction Survey. Therefore, as you read through the Plan, you will note projects that will reduce overland/river flooding, assure more efficient traffic flow throughout our community, upgrade our park restrooms, decrease sewer back-ups, and improve the condition of our residential streets. All of these issues were identified by our citizens in the annual survey as needing greater attention.

To assist you in reviewing this document, I have summarized below some of the more significant projects incorporated in this CIP.

PUBLIC SAFETY - \$2,122,000

The previous CIP focused on the creation of a new county-wide radio system operated out of our Police Dispatch Center to improve reliability and interoperability among our emergency responders. This five year plan directs resources towards the **Fire Apparatus Replacement** project (page 9). Our only aerial ladder truck, purchased in 2002, and a pumper truck, purchased in 2005, have outlived their useful lives. In addition, it is becoming more difficult to purchase replacement parts for these vehicles. Therefore, the CIP reflects the replacement of these two vehicles over the next three years. We also intend to refurbish our current ladder truck and retain it as a reserve unit to provide redundancy for this much needed capability.

UTILITIES - \$116,518,550

Electric Utility: \$23,315,000

Over the next five years, the CIP calls for the investment of \$3,650,000 in our electric transmission system which connects our utility to outside systems, \$3,420,000 in our electric distribution system which transports electricity to our customers throughout the city, and \$16,245,000 in improvements and replacements in our Power Plant which produces the electricity upon which our customers have come to rely.

The most significant change in the projects associated with Electric Services is related to the **Ash Pond Modifications** project (page 33). Finalization of the U.S. Environmental Protection Agency's new regulations for ash handling has increased this project from an estimated cost of \$1,500,000 in previous CIPs to \$7,500,000 in this new Plan. As a result of this cost increase, you will note a number of other projects have been delayed so as not to impact our electric rates during the next five years.

Since 1977, the City has been an innovative leader in reducing the amount of solid waste that is deposited in a landfill and recapturing a portion of our waste for burning in our power plant as an alternative fuel source to coal, and now natural gas. Over time, mechanical processes have improved and the economics related to burning our waste in our main electric boilers have changed. Therefore, a **Waste to Energy Study** (page 26) is being introduced into this CIP. While we still intend to

continue to provide a reliable waste disposal facility for all of Story County, we want to determine if there is a more efficient and cost effective means to accomplish this goal than our current process.

In keeping with the City Council's commitment to improving our sustainability efforts, the **Street Light LED Retrofit** project (page 18) will invest a final \$300,000 to switch from High Pressure Sodium and Mercury Vapor lights to LED street light fixtures. This conversion extends the life expectancy of the lights, decreases our maintenance costs, and reduces our carbon footprint.

Water Utility - \$27,518,000

With the opening of the new state of the art Water Treatment Plant, significant expenditures will not be needed in the near future for our water production/treatment systems. However, as our older wells begin to fail and consumption continues to increase in conjunction with our growing population, it is imperative that we add new wells to our water system. This responsibility is accomplished in the **Water Supply Expansion** project (page 48) where \$6,078,000 will be spent to construct three new wells, providing us with an additional water supply of 4.5 million gallons per day.

The continued operation of these wells is critical to assuring a reliable water supply to our customers. Therefore, included in this CIP is the expenditure of \$968,000 in the **Well Field Standby Power** project (page 54) to assure continued operation during an extended electric outage for some of our highest capacity wells.

The water distribution system will continue to receive attention with \$8,800,000 directed towards **Water System Improvements** (page 67). These improvements will lead to the replacement of our older 4" lines with larger pipes to improve fire-fighting capabilities and reduce rusty water issues.

We are continuously looking to improvements in technology to help us become more efficient, as exemplified by the commitment to the **Advanced Metering Infrastructure** project (page 50). In FY 2014/15 we began converting our obsolete water meters to new units that allowed for automatic readings. During the first four years of this CIP we will commit the final \$794,000 to complete the major portion of the conversation project.

The **Ada Hayden Water Quality Study** (page 57) is new to the CIP. Since Ada Hayden Lake is a valuable water source that can be used to recharge our aquifer during draught conditions, it is important that the City periodically monitors the lake water to determine if the existing land use practices adopted by the City Council have been effective in preserving the water quality in the lake.

Sewer Utility - \$52,963,000

One of the largest projects in this utility involves **Nutrient Reduction Modifications** (page 62) which is necessitated by new requirements issued by the Iowa Department of Natural Resources. It is estimated that approximately \$41,000,000 will need to be spent on mechanical modifications to our Water Pollution Control Plant over the next twenty years to meet this mandate. Over the five years of this Plan, we hope to accomplish Phase 1 of the project which includes constructing back-up capacity for the trickling filters.

In addition to the mechanical modifications that will be made to the WPC Plant, we are committed to **Watershed-Based Nutrient Reduction** (page 61) by providing \$1,000,000 over the next five years to this initiative. An example of this type of effort is a partnership that is being explored with the Iowa Soy Bean Association whereby they would take the lead to work with property owners in the watershed to construct land use practices for nutrient reduction and arrange for the sale of the land to the City.

The **Cogeneration System Maintenance** project (page 63) designates \$4,590,000 to replace outdated equipment which allows us to use the bio-gas by-product from our anaerobic digestion treatment process as a fuel source to produce electricity to operate our plant. Currently, approximately 20% of our energy needs for the plant comes from this renewable resource.

The **Sanitary Sewer System Improvements** project (page 69) calls for \$22,013,000 to be spent on structural repairs to the pipes and manholes throughout the collection system. These repairs are meant to eliminate infiltration of clean water into the sanitary sewer pipes to decrease the frequency of capacity problems and corresponding sewer backups.

A project new to the CIP involves the **East 13th Street Sanitary Sewer Extension** (page 70). This \$2,500,000 project is being recommended in order to assure that sanitary sewer service is available to an area that the City Council has designated in its Land Use Policy Plan for regional commercial growth. The project will extend the sewer main from Dayton Road east under Interstate 35.

Neither property taxes nor sewer revenue are being planned to finance this project. Rather, it will be built after a developer enters into an agreement that will allow the project to be financed with General Obligation bond funds to be repaid with incremental taxes generated by the development.

Storm Water Utility - \$11,302,000

Unfortunately, the City of Ames has experienced a number of “100 year floods” since 1993. Since that time we have secured federal funding to buy out properties in the flood-prone areas east of University Boulevard and south of Lincoln Way, as well as provide grants to flood-proof buildings in the impacted areas. The next priority of the City Council is to proceed with a Squaw Creek channel conveyance improvement project along 2,000 feet on either side of the South Duff Bridge. The \$4,280,000 included in the **River Flooding Mitigation** project (page 73) is estimated to reduce flooding by two feet along the major flood damage center in the South Duff commercial corridor.

Because of a backlog of projects approved in prior years that have yet to be completed, we are using the first year of the CIP for catchup. Therefore, you will note we reduced the number of storm water projects in FY 2020/21.

One important project that will continue in FY 2020/21 is the **Storm Water System Analysis** (page 74). The investment of \$180,000 represents the fourth installment for this project which is designed to identify deficient storm water capacity at specific locations in the system and instruct us as to needed future improvements to be included in the CIP.

Resource Recovery - \$1,420,550

The Resource Recovery Plant is almost forty-three years old. It is important that we continue to allocate funds for preventive maintenance. Towards this end, \$1,420,550 has been earmarked over the next five years in the **Resource Recovery System Improvements** project (page 81) to replace various worn out rollers, chains, conveyors, pipes, chutes, electric breakers, motors, belts, pumps, and rotors.

TRANSPORTATION - \$104,626,922

Street/Shared Use Path Improvements - \$83,372,700

One concern that has repeatedly been raised in the annual Citizen Satisfaction Survey is the desire for us to improve traffic flow over our major arterial streets. To address this concern, we are earmarking \$9,517,400 for the **Intelligent Transportation System Program** (page 110). This new technology will allow us to accomplish real-time optimization of traffic and pedestrian flow along our major roadways.

The review of the CIP will reveal that we remain committed to improving the condition of the existing street system with our intent to earmark \$52,660,000 over the next five years for arterial, collector, and residential streets. Of particular note, is the \$6,750,000 that is being directed to the **Seal Coat Street Pavement Improvements** project (page 93), which is \$3,750,000 more than the previous CIP, as well as the \$12,000,000 identified for the **Asphalt Street Pavement Improvements** (page 91). These two projects are significant because they will allow us to address the feedback we received in the Citizen Satisfaction Survey for improvement to our residential streets, which are predominantly asphalt.

Not all the projects included in this CIP are directed towards the rehabilitation of existing streets. Frequently, we are involved in the construction of new roadway sections. For example, in this CIP you will see the addition of the **Cherry Avenue Extension** (page 87) which will connect Lincoln Way south through the commercial area that is east of S. Duff, thus relieving traffic along the busy South Duff traffic corridor. The **US Highway 69 Improvements** (page 105) are designed to eliminate traffic delays at the eastbound off-ramp at US Highway 30 and South Duff Avenue with the construction of the realignment of Billy Sunday Road and South Duff. Finally, the **South Dayton Improvements** (page 106) is the third project that is scheduled in the first year of the CIP to address traffic congestion problems. This project will involve the widening of the intersection of S.E. 16th Street and Dayton Avenue and signaling the ramps at South Dayton Avenue and US Highway 30.

One new project that deserves special attention from the City Council is the **South 16th Street Roadway Widening** project (page 97). This project will result in the widening of South 16th Street from University Boulevard east to Apple Place. With the completion of the Grand Avenue Extension expected in a few years, additional traffic will be channeled south to South 16th Street, resulting in more congestion at both the South Duff Avenue and South 16th Street and University Boulevard and South 16th Street intersections. As you know, South 16th Street transitions from a four-lane to a two-lane street at the intersection with University Boulevard.

What makes this project so unusual is the fact that the two-lane section is surrounded on both sides by University property and, therefore, it is designated as an Institutional Road. As such, the legal responsibility to improve an Institutional Road rests with the University, not the City of Ames. Discussions with ISU administrators indicate that with decreases in enrollment and lack of sufficient funding from the State Legislature, other higher priority street improvements will not allow them to complete this important widening in the near future. Realizing the importance of the widening project to the overall success of the Grand Avenue Extension project and the fact that it is the City's project that is making the improvement to this Institutional Road section even more important, I am recommending for the first time that the City pay for this type of improvement. Since it is highly unlikely that in the future the City will be constructing a new arterial street intersecting with an Institutional Road segment, I don't believe we would be establishing a new precedent by funding this project.

A few years ago, the City Council demonstrated its commitment to multi-modal transportation by establishing a goal to expend an average of \$1,200,000 per year on improvements to our bike path system. Adherence to this goal is exhibited in the **Shared Use Path System Expansion** project (page 100), the **Multi-modal Roadway Improvements** (page 101), **Shared Use Path Maintenance** program (page 102), and the incorporation of bike lanes into various other street construction projects. The five year plan that is before you reflects a total of \$6,566,300, or an annual average of \$1,313,260, towards this City Council's priority.

The City Council has established as one of its other priorities to make our community more diverse and inclusive. The CIP helps this objective come alive in the **Accessibility Enhancement** program (page 108). It is expected that \$1,000,000 will be spent to upgrade our sidewalk intersection crosswalk panels, retrofit our signalized traffic control devices with audible and vibrotactile push-buttons, and renovate our public parking stalls to comply with current Americans with Disabilities (ADA) standards.

CyRide - \$18,712,647

Maintaining vehicle fleet is imperative to the continued success of our public transportation system. Therefore, over the next four years 18 new buses and 10 mini-buses are planned to be purchased in the **CyRide Vehicle Replacement & Rehabilitation** program (page 118). It is anticipated that the \$13,587,274 needed to replace these vehicles will be bolstered by 80% funding from state and federal grant programs.

The **CyRide Building Improvements & Expansion** project (page 119) calls for us to expend \$4,131,373 for HVAC, concrete replacement, water main, and fueling system improvements to rehabilitate the existing building as well as plan for additional funds to accommodate the building expansion needs for the system when they become needed.

As ridership continues to decrease with the drop in ISU enrollment and the future of federal funding remains in doubt, we hope to utilize technology to make the transit system as efficient as possible. The **CyRide Technology Improvements** program (page 120) designates \$370,000 to install Wi-Fi and network capabilities in our buses so that we can obtain passenger counts by vehicle, time of day, and location. This information will allow for quicker responses to changes in ridership patterns resulting in fewer buses and drivers needed during certain times of the day.

Airport - \$2,541,575

The projects reflected in the **Airport Improvements** program (page 124) are influenced by the Master Plan that was approved in 2007. The projects planned at this facility include the relocation of the electrical equipment housed in the old

terminal building, replacement of the runway/taxiway lighting, apron pavement rehabilitation, and drainage improvements. It should be noted that the City is currently engaged in updating the Master Plan and, therefore, the projects designated for the Airport may be modified in the next CIP.

COMMUNITY ENRICHMENT - \$8,307,750

While most of the projects highlighted in the above sections are focused on meeting the basic health and safety needs of our residents, the Community Enrichment projects tend to offer experiences that add to the overall quality of life of our citizens. These are important factors that are considered by those who choose whether or not to come to our community, and by those who make a choice of whether or not to remain in Ames.

While a great deal of attention is being given to upgrading and renovating our existing facilities, there is one new amenity that is being introduced in this CIP, the **Downtown Plaza** project (page 128). In keeping with the City Council's goal to "Strengthen Downtown", \$2,700,000 has been included in the five-year plan to construct a plaza that will serve to attract more visitors to this business district. The site for this facility, along with its features, will be decided by the City Council at a later date after public feedback is received.

The Park System/Facility Improvements program (page 129) directs \$2,270,000 to be spent resurfacing our tennis courts, renovating the Bandshell changing rooms, installing irrigation in our sports fields, adding restrooms to various locations within the park system, replacing basketball courts, building additional park shelters, and converting two tennis courts into six pickle ball courts.

Over the life of this CIP we are planning to replace playground equipment in 14 parks throughout our system with your approval of the **Playground Equipment Improvements** program (page 130). This investment will be in keeping with our goal of replacing this equipment on a 20 year cycle.

Homewood Golf Course (page 132) receives attention in the CIP with \$320,000 being expended on a new shared use path from the proposed new clubhouse to South Duff Avenue and the replacement of the pedestrian/golf cart bridge on Hole #9.

The **Ames/ISU Arena** (page 131) will benefit from a reconstruction of the parking lot, renovations to the office/concession area, replacement of the lobby flooring, and the installation of new water heaters.

The **Municipal Pool** (page 134) is scheduled to be demolished in the spring of 2022 to make room for the new Ames High School. While no decision has been made regarding if, or when, we will pursue a new indoor aquatics center, the CIP calls for the City and the Ames School District to contribute \$100,000 in anticipation of the needed short-term repairs to keep the current facility operating until it is removed.

Ada Hayden Heritage Park (page 135) reflects \$655,000 being spent on the reconstruction of the path around the south lake as well as two new features: an accessible canoe/kayak launch and a wetland overlook.

The **Furman Aquatic Center** (page 136) will receive \$385,000 of improvements over the next five years with the refurbishing of the play structure in the Splash Pool, the replacing of the light fixtures on the pool deck, the repainting of the pool basins, and the installing of a new shelter in the parking lot.

The **Cemetery Improvements** (page 140) includes \$150,000 designated to construct a new funeral pavilion to allow ceremonies to be conducted during inclement weather conditions, to install retaining walls at the 13th Street site to eliminate erosion issues, and to plant additional landscaping at the Ontario site to reduce maintenance costs.

STRENGTHENING OUR NEIGHBORHOODS - \$1,650,000

The City Council has a long-standing commitment to strengthening our neighborhoods, both residential and commercial. This commitment is being supported in the CIP with \$250,000 for the **Neighborhood Improvement Program** (page 144), \$250,000 for the **Downtown Façade Improvement Program** (page 142), \$250,000 for the **Campustown Façade Improvement Program** (page 143), and \$900,000 for the **Neighborhood Curb Replacement Program** (page 116), which is included in the **Transportation Program**.

POTENTIAL FUTURE PROJECTS

As we look out into the next five to ten years, the following four projects are currently under consideration by the staff.

- With the demolition of the Municipal Pool, a Council decision will have to be made whether or not to pursue an **Indoor Aquatics Center** for the community.

- Because of the increased densities in Campustown, which make it more dangerous for pedestrians when fire trucks exit and enter the station, the **relocation of Fire Station #2** needs to be considered by the City Council.
- Because of the inadequate space to provide a healthy environment for the animals housed in the facility, to allow the staff to accomplish their work, and to accommodate the customers who wish to adopt an animal; a decision by the City Council to renovate the existing building or construct a **new Animal Control Facility** will be required.
- Depending on which growth scenario is adopted in the Ames 2040 Plan, the City Council might have to consider the need for a **new Fire Station #4** sometime in the future as the selected growth area develops.

In the coming year, the staff hopes to analyze these projects in greater detail so that the City Council will have better information to make decisions regarding the future of these projects.

A plan of this magnitude requires an understanding of the long-term needs of our residents, the ability to develop a strategic implementation strategy, and knowledge of how to finance this array of expensive projects. Fortunately, our Department Heads and their staff members are up to this challenge each year. As you will see after reviewing this document, they have once again provided invaluable input into the recommendations contained in this CIP.

Coordinating the formulation of this complex document is also a difficult undertaking. Therefore, I want to thank Duane Pitcher, Finance Director, Nancy Masteller, Budget Manager, Amy Crabbs, Budget Analyst, Shannon Andersen, Finance Secretary, Deb Schildroth, Assistant City Manager, and Brian Phillips, Assistant City Manager, for their leadership in developing this document.

Respectfully submitted,



Steven L. Schainker
City Manager

CITY OF AMES, IOWA
FIVE-YEAR CAPITAL IMPROVEMENTS PLAN
2020-2025

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HOW TO USE THE CIP DOCUMENT

The 2020-2025 Capital Improvements Plan for the City of Ames is organized according to the City's program structure of services. This format allows decision makers to consider proposed improvements in much the same manner as the annual operating budget. First-year portions of these projects can also be identified in the annual operating program budget.

1. The **Description/Justification** section outlines the basic work to be done and the intended outcome or result of the project, outlines the reasons behind the proposal of the project, and also the advantages to the City of undertaking the project. The section may also describe the disadvantages to the City of either waiting to do the project, or of disapproving it altogether.
2. The **Comments** section outlines any additional information related to the project, including status changes from a previous year, its relationship to other projects or future developments, impacts on operating budgets and others.
3. The **Location** section will list a street location or various locations for each project. Specific locations for Public Works projects can also be found on the City of Ames website at www.cityofames.org/pwcipmap.

In addition to the above information, the bottom of each page lists the types of costs (planning, construction, etc.) which will be associated with the project for each year of the present CIP. Below that is shown the source of financing for the project in each year.

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PROJECTION OF DEBT CAPACITY

| | 2018/19 ACTUAL | 2019/20 BUDGETED | 2020/21 PROJECTED | 2021/22 PROJECTED | 2022/23 PROJECTED | 2023/24 PROJECTED | 2024/25 PROJECTED |
|---|-------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1. Total Actual Valuation | 4,632,139,435 | 4,837,411,018 | 5,022,730,334 | 5,173,412,244 | 5,328,614,611 | 5,488,473,049 | 5,653,127,240 |
| 2. State Mandated Debt Limit | 231,606,972 | 241,870,551 | 251,136,517 | 258,670,612 | 266,430,731 | 274,423,652 | 282,656,362 |
| 3. City Reserve (25% of Limit) | 57,901,743 | 60,467,638 | 62,784,129 | 64,667,653 | 66,607,683 | 68,605,913 | 70,664,091 |
| Un-Reserved Debt Capacity | 173,705,229 | 181,402,913 | 188,352,388 | 194,002,959 | 199,823,048 | 205,817,739 | 211,992,271 |
| 4. Outstanding Debt | 63,290,000 | 64,305,000 | 55,165,000 | 47,035,000 | 39,320,000 | 32,050,000 | 25,600,000 |
| 5. Proposed Issues | - | - | 13,181,900 | 11,755,400 | 12,231,200 | 10,670,700 | 10,436,600 |
| 6. Balance of Proposed Issues | - | - | - | 12,253,076 | 22,223,477 | 31,754,293 | 38,891,717 |
| Total Debt Subject to Limit | 63,290,000 | 64,305,000 | 68,346,900 | 71,043,476 | 73,774,677 | 74,474,993 | 74,928,317 |
| 7. Available Un-Reserved Debt Capacity (\$) | 110,415,229 | 117,097,913 | 120,005,488 | 122,959,483 | 126,048,371 | 131,342,746 | 137,063,954 |
| 8. Available Un-Reserved Debt Capacity (%) | 63.56% | 64.55% | 63.71% | 63.38% | 63.08% | 63.82% | 64.66% |
| 9. Total Debt Capacity (\$) | 168,316,972 | 177,565,551 | 182,789,617 | 187,627,136 | 192,656,054 | 199,948,659 | 207,728,045 |
| 10. Total Debt Capacity (%) | 72.67% | 73.41% | 72.78% | 72.54% | 72.31% | 72.86% | 73.49% |

Notes:

1. Total assessed valuation plus utility valuation growth assumption is 3.0% per year.
2. State of Iowa statutory debt limit is 5% of total actual valuation.
3. City Policy reserves 25% percent of available debt capacity.
4. Current outstanding debt subject to limit at Fiscal Year End includes all debt in which property taxes are pledged.
5. Debt issues subject to limit proposed are part of Capital Improvement Plan.
6. Debt Balance on Issues in Capital Improvement Plan.
7. Debt capacity available after deducting the reserved capacity.
8. Percentage of debt capacity available after deducting the reserved capacity.
9. Debt capacity available prior to deducting the reserved capacity.
10. Percentage of Debt capacity available prior to deducting the reserved capacity.

SUMMARY OF MAJOR BOND ISSUES

| GENERAL OBLIGATION BONDS | PROJECT TOTAL | CATEGORY TOTAL | % PROJECT G.O. FUNDED | OTHER SOURCES OF FUNDING |
|---|------------------|-------------------|--------------------------|-------------------------------------|
| 2020/21: | | | | |
| FIRE | | 1,375,000 | | |
| Fire Apparatus Replacement | 1,375,000 | | 71% | Abated G.O. Bonds/Grants |
| STREET IMPROVEMENTS | | 7,860,000 | | |
| Cherry Avenue Extension | 510,000 | | 17% | Water Utility Fund/Grants Grants |
| Arterial Street Pavement Improvements (East 13th Street) | 900,000 | | 36% | |
| Collector Street Pavement Improvements (East 20th Street) | 1,400,000 | | 100% | Road Use Tax |
| Concrete Pavement Improvements | 2,300,000 | | 98% | |
| Asphalt Street Pavement Improvements | 1,400,000 | | 100% | |
| CyRide Route Pavement Improvements (9th Street) | 600,000 | | 100% | |
| Seal Coat Pavement Improvements | 750,000 | | 100% | |
| TRAFFIC IMPROVEMENTS | | 1,071,900 | | |
| U.S. Highway 69 Improvements (South Duff/U.S. 30) | 230,000 | | 19% | Road Use Tax/Grants Grants |
| South Dayton Improvements | 700,000 | | 64% | |
| Intelligent Transportation System | 141,900 | | 8% | RUT/Grants |
| STREET REHABILITATION | | 375,000 | | |
| Bridge Rehabilitation Program (Lincoln Way/Squaw Creek) | 375,000 | | 100% | |
| 2020/21 TOTAL | | 10,681,900 | | |

SUMMARY OF MAJOR BOND ISSUES, continued

2021/22:

STREET IMPROVEMENTS

| | | | | |
|--|-----------|------------|------|----------------------------|
| | | 10,195,000 | | |
| Arterial Street Pavement Improvements (N Dakota/Onatrio) | 800,000 | | 47% | MPO/STP Funds |
| Collector Street Pavement Improvements (Hoover Avenue) | 2,400,000 | | 96% | Road Use Tax |
| Concrete Pavement Improvements | 3,500,000 | | 68% | MPO/STP Funds/Road Use Tax |
| Asphalt Street Pavement Improvements | 2,500,000 | | 100% | |
| Seal Coat Pavement Improvements | 750,000 | | 100% | |
| Downtown Pavement Improvements (Duff to Sherman Alley) | 245,000 | | 100% | |

TRAFFIC IMPROVEMENTS

| | | | | |
|-----------------------------------|---------|---------|----|---------------------|
| | | 160,400 | | |
| Intelligent Transportation System | 160,400 | | 8% | Road Use Tax/Grants |

STREET REHABILITATION

| | | | | |
|--|---------|---------|-----|-----------------------|
| | | 700,000 | | |
| Bridge Rehabilitation Program (South 4th St/Squaw Creek) | 700,000 | | 92% | Iowa State University |

PARKS AND RECREATION

| | | | | |
|----------------|---------|---------|------|--|
| | | 700,000 | | |
| Downtown Plaza | 700,000 | | 100% | |

2021/22 TOTAL

11,755,400

SUMMARY OF MAJOR BOND ISSUES, continued

| GENERAL OBLIGATION BONDS | PROJECT TOTAL | CATEGORY TOTAL | % PROJECT G.O. FUNDED | OTHER SOURCES OF FUNDING |
|--|------------------|-------------------|--------------------------|-----------------------------|
| 2022/23: | | | | |
| FIRE | | 747,000 | | |
| Fire Apparatus Replacement | 747,000 | | 100% | |
| STREET IMPROVEMENTS | | 10,775,000 | | |
| Arterial Street Pavement Improvements (Airport Road) | 750,000 | | 100% | |
| Collector Street Pavement Improvements (Woodland Street) | 1,500,000 | | 90% | Road Use Tax |
| Concrete Pavement Improvements | 3,300,000 | | 100% | |
| Asphalt Street Pavement Improvements | 2,500,000 | | 100% | |
| CyRide Route Pavement Improvements (Lincoln Way) | 1,725,000 | | 100% | |
| Seal Coat Pavement Improvements | 750,000 | | 100% | |
| Downtown Street Improvements (Duff to Douglas Alley) | 250,000 | | 100% | |
| TRAFFIC IMPROVEMENTS | | 209,200 | | |
| Intelligent Transportation System | 209,200 | | 11% | Road Use Tax/Grants |
| PARKS AND RECREATION | | 1,200,000 | | |
| Downtown Plaza | 700,000 | | | |
| Park Maintenance Facilities Consolidation | 500,000 | | 100% | |
| 2022/23 TOTAL | | 12,931,200 | | |

SUMMARY OF MAJOR BOND ISSUES, continued

| GENERAL OBLIGATION BONDS | PROJECT TOTAL | CATEGORY TOTAL | % PROJECT G.O. FUNDED | OTHER SOURCES OF FUNDING |
|--|--------------------------|---------------------------|----------------------------------|-------------------------------------|
| 2023/24: | | | | |
| STREET IMPROVEMENTS | | 10,195,000 | | |
| Arterial Street Pavement Improvements (24th Street) | 1,125,000 | | 100% | |
| Collector Street Pavement Improvements (6th Street) | 1,200,000 | | 100% | |
| Concrete Pavement Improvements | 800,000 | | 100% | |
| Asphalt Street Pavement Improvements | 2,700,000 | | 100% | |
| CyRide Rte Pavement Improvements (Dickinson/Steinbeck) | 1,200,000 | | 100% | |
| Seal Coat Pavement Improvements | 1,750,000 | | 100% | |
| Campustown Public Improvements | 1,200,000 | | 91% | Sewer Utility Fund |
| South 16th Street Roadway Widening | 220,000 | | 100% | |
| TRAFFIC IMPROVEMENTS | | 175,700 | | |
| Intelligent Transportation System | 175,700 | | 9% | Road Use Tax/Grants |
| STREET REHABILITATION | | 300,000 | | |
| Bridge Rehabilitation Program (East 13th St/Skunk River) | 300,000 | | 100% | |
| 2023/24 TOTAL | | 10,670,700 | | |

SUMMARY OF MAJOR BOND ISSUES, continued

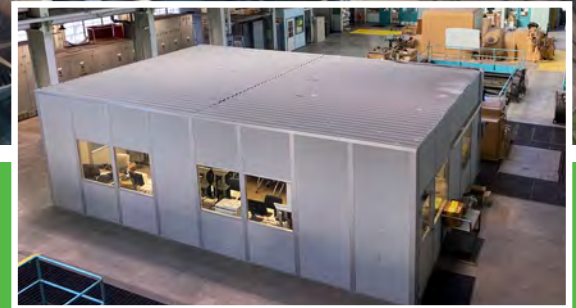
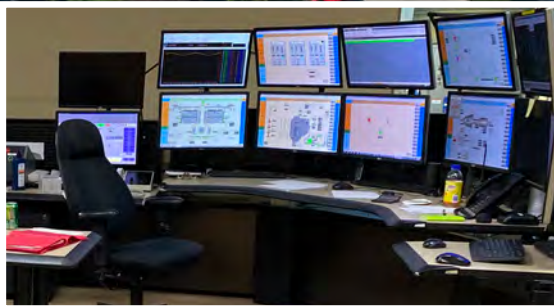
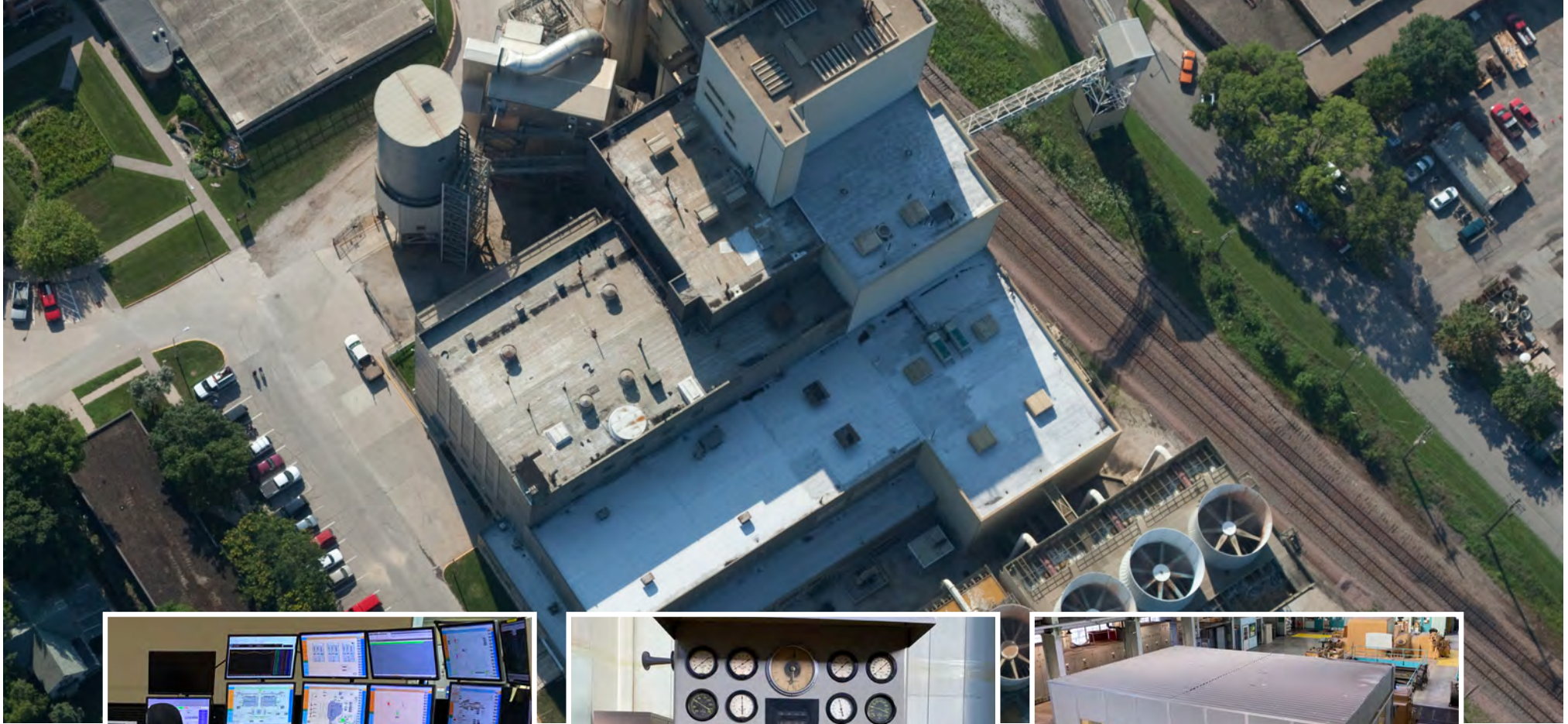
| GENERAL OBLIGATION BONDS | PROJECT TOTAL | CATEGORY TOTAL | % PROJECT G.O. FUNDED | OTHER SOURCES OF FUNDING |
|---|------------------|-------------------|--------------------------|-----------------------------|
| 2024/25: | | | | |
| STREET IMPROVEMENTS | | | | |
| Collector Street Pavement Improvements (Oakland Street) | 750,000 | 9,680,000 | 100% | |
| Concrete Pavement Improvements | 2,630,000 | | 96% | Road Use Tax |
| Asphalt Street Pavement Improvements | 2,900,000 | | 100% | |
| Seal Coat Pavement Improvements | 2,750,000 | | 100% | |
| Downtown Street Improvements (Sherman to Kellogg Alley) | 250,000 | | 100% | |
| South 16th Street Roadway Widening | 400,000 | | 14% | MPO/STP Funds |
| TRAFFIC IMPROVEMENTS | | | | |
| Intelligent Transportation System | 256,600 | 256,600 | 13% | Road Use Tax/Grants |
| PARKS AND RECREATION | | | | |
| Ada Hayden South Lake Path Replacement | 500,000 | 500,000 | 100% | |
| 2024/25 TOTAL | | 10,436,600 | | |
| TOTAL GENERAL OBLIGATION BONDS | | 56,475,800 | | |

SUMMARY OF MAJOR BOND ISSUES, continued

| ABATED GENERAL OBLIGATION BONDS | PROJECT TOTAL | CATEGORY TOTAL | % PROJECT G.O. FUNDED | OTHER SOURCES OF FUNDING |
|---|------------------|-------------------|--------------------------|-----------------------------|
| 2020/21: | | | | |
| UTILITIES | | | | |
| East 13th Street Sanitary Sewer Extension | 2,500,000 | 2,500,000 | 100% | TIF Abated G.O. Bonds |
| 2020/21 TOTAL | | 2,500,000 | | |



CITY OF
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CITY-WIDE PROGRAM SUMMARY

TOTAL CAPITAL IMPROVEMENTS PLAN EXPENDITURES AND FUNDING SOURCES

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---------------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| EXPENDITURES BY PROGRAM: | | | | | | | |
| Public Safety | 2,122,000 | 1,375,000 | - | 747,000 | - | - | 7 |
| Utilities | 116,518,550 | 31,906,100 | 16,464,850 | 20,536,100 | 25,296,500 | 22,315,000 | 11 |
| Transportation | 104,626,922 | 25,639,173 | 21,616,803 | 18,697,597 | 17,861,895 | 20,811,454 | 83 |
| Community Enrichment | 8,307,750 | 1,344,750 | 1,665,000 | 2,210,500 | 1,107,500 | 1,980,000 | 125 |
| TOTAL EXPENDITURES | 231,575,222 | 60,265,023 | 39,746,653 | 42,191,197 | 44,265,895 | 45,106,454 | |
| FUNDING SOURCES: | | | | | | | |
| Debt | 113,916,800 | 25,633,900 | 15,677,400 | 18,794,200 | 27,698,700 | 26,112,600 | |
| City | 77,112,677 | 19,652,581 | 16,070,251 | 18,062,852 | 12,441,002 | 10,885,991 | |
| Other | 40,545,745 | 14,978,542 | 7,999,002 | 5,334,145 | 4,126,193 | 8,107,863 | |
| TOTAL FUNDING SOURCES | 231,575,222 | 60,265,023 | 39,746,653 | 42,191,197 | 44,265,895 | 45,106,454 | |

CAPITAL IMPROVEMENTS PLAN EXPENDITURE SUMMARY BY PROGRAM

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---------------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------|
| EXPENDITURES BY PROGRAM: | | | | | | | |
| Public Safety: | | | | | | | |
| Fire Safety | 2,122,000 | 1,375,000 | - | 747,000 | - | - | 8 |
| Total Public Safety | 2,122,000 | 1,375,000 | - | 747,000 | - | - | |
| Utilities: | | | | | | | |
| Electric Services | 23,315,000 | 9,465,000 | 7,090,000 | 3,120,000 | 1,995,000 | 1,645,000 | 13 |
| Water Production/Treatment | 18,718,000 | 8,986,000 | 1,503,000 | 2,627,000 | 5,579,000 | 23,000 | 46 |
| Water Pollution Control | 28,200,000 | 533,000 | 231,000 | 6,842,000 | 8,973,000 | 11,621,000 | 58 |
| Water Distribution | 8,800,000 | 1,500,000 | 1,600,000 | 1,750,000 | 1,900,000 | 2,050,000 | 66 |
| Sanitary Sewer System | 24,763,000 | 6,602,000 | 4,322,000 | 4,450,000 | 4,598,000 | 4,791,000 | 68 |
| Storm Water Management | 11,302,000 | 4,460,000 | 1,342,000 | 1,450,000 | 2,050,000 | 2,000,000 | 72 |
| Resource Recovery | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 | 80 |
| Total Utilities | 116,518,550 | 31,906,100 | 16,464,850 | 20,536,100 | 25,296,500 | 22,315,000 | |

CAPITAL IMPROVEMENTS PLAN EXPENDITURE SUMMARY BY PROGRAM, continued

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|-----------------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| EXPENDITURES, continued: | | | | | | | |
| Transportation: | | | | | | | |
| Streets Improvements | 59,955,000 | 12,325,000 | 13,200,000 | 11,260,000 | 10,645,000 | 12,525,000 | 85 |
| Shared Use Path System | 4,478,800 | 845,000 | 1,003,800 | 905,000 | 1,125,000 | 600,000 | 98 |
| Traffic Improvements | 15,115,900 | 4,877,900 | 2,419,900 | 2,398,000 | 2,708,500 | 2,711,600 | 102 |
| Street Rehabilitation | 3,823,000 | 1,043,000 | 1,040,000 | 580,000 | 580,000 | 580,000 | 110 |
| Transit System | 18,712,647 | 6,150,673 | 3,315,528 | 2,717,297 | 2,534,295 | 3,994,854 | 117 |
| Airport | 2,541,575 | 397,600 | 637,575 | 837,300 | 269,100 | 400,000 | 123 |
| Total Transportation | 104,626,922 | 25,639,173 | 21,616,803 | 18,697,597 | 17,861,895 | 20,811,454 | |
| Community Enrichment: | | | | | | | |
| Parks and Recreation | 7,107,750 | 1,094,750 | 1,390,000 | 1,935,500 | 907,500 | 1,780,000 | 126 |
| Cemetery | 150,000 | - | 75,000 | 75,000 | - | - | 139 |
| Neighborhood Improvements | 750,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | 141 |
| Facilities | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 | 145 |
| Total Community Enrichment | 8,307,750 | 1,344,750 | 1,665,000 | 2,210,500 | 1,107,500 | 1,980,000 | |
| TOTAL EXPENDITURES | 231,575,222 | 60,265,023 | 39,746,653 | 42,191,197 | 44,265,895 | 45,106,454 | |

CAPITAL IMPROVEMENTS PLAN FUNDING SOURCE SUMMARY

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Debt: | | | | | | |
| G.O. Bonds | 56,475,800 | 10,681,900 | 11,755,400 | 12,931,200 | 10,670,700 | 10,436,600 |
| G.O. Bonds (TIF Abated) | 2,500,000 | 2,500,000 | - | - | - | - |
| State Revolving Fund Loans | 54,941,000 | 12,452,000 | 3,922,000 | 5,863,000 | 17,028,000 | 15,676,000 |
| Total Debt Funding | 113,916,800 | 25,633,900 | 15,677,400 | 18,794,200 | 27,698,700 | 26,112,600 |
| City: | | | | | | |
| Local Option Sales Tax | 9,140,550 | 1,905,750 | 1,651,800 | 1,885,500 | 1,982,500 | 1,715,000 |
| Road Use Tax | 8,504,200 | 2,128,300 | 1,510,600 | 1,569,400 | 1,581,800 | 1,714,100 |
| Electric Utility Fund | 22,651,000 | 9,409,400 | 6,879,400 | 3,026,400 | 1,874,400 | 1,461,400 |
| Water Utility Fund | 14,457,000 | 2,461,000 | 3,178,000 | 3,173,000 | 3,497,000 | 2,148,000 |
| Sewer Utility Fund | 9,282,000 | 908,000 | 706,000 | 6,057,000 | 800,000 | 811,000 |
| Storm Water Utility Fund | 6,180,000 | 730,000 | 1,000,000 | 1,100,000 | 1,700,000 | 1,650,000 |
| Resource Recovery Fund | 1,445,550 | 385,100 | 376,850 | 297,100 | 201,500 | 185,000 |
| Transit Capital Reserve Fund | 4,758,202 | 1,585,231 | 703,826 | 870,752 | 776,902 | 821,491 |
| Airport Construction Fund | 254,175 | 39,800 | 63,775 | 83,700 | 26,900 | 40,000 |
| Park Development Fund | 200,000 | - | - | - | - | 200,000 |
| Ice Arena Capital Reserve | 240,000 | 100,000 | - | - | - | 140,000 |
| Total City Funding | 77,112,677 | 19,652,581 | 16,070,251 | 18,062,852 | 12,441,002 | 10,885,991 |

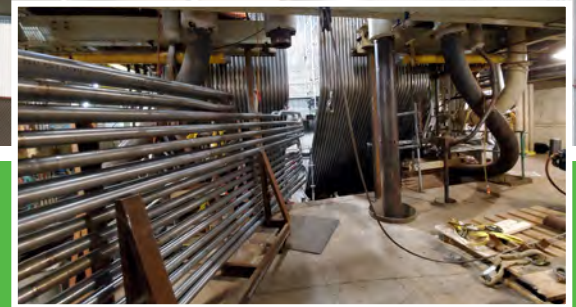
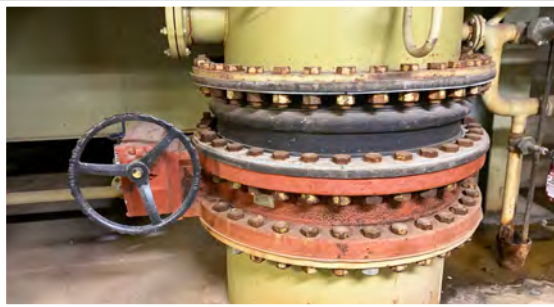
CAPITAL IMPROVEMENTS PLAN FUNDING SOURCE SUMMARY, continued

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Other: | | | | | | |
| MPO/STP Funds | 5,218,000 | 159,000 | 2,659,000 | - | - | 2,400,000 |
| Federal/State Grants | 32,256,345 | 14,406,142 | 4,435,602 | 4,486,945 | 3,763,393 | 5,164,263 |
| Federal Aviation Administration | 2,287,400 | 357,800 | 573,800 | 753,600 | 242,200 | 360,000 |
| Iowa State University | 699,000 | 30,600 | 270,600 | 93,600 | 120,600 | 183,600 |
| Ames Community School District | 50,000 | 25,000 | 25,000 | - | - | - |
| Private Donations | 35,000 | - | 35,000 | - | - | - |
| Total Other Funding | 40,545,745 | 14,978,542 | 7,999,002 | 5,334,145 | 4,126,193 | 8,107,863 |
| TOTAL FUNDING SOURCES | 231,575,222 | 60,265,023 | 39,746,653 | 42,191,197 | 44,265,895 | 45,106,454 |

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PUBLIC SAFETY

PUBLIC SAFETY

PUBLIC SAFETY

| | TOTAL | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | Page |
|------------------------------|------------------|------------------|----------|----------------|----------|----------|------|
| EXPENDITURES: | | | | | | | |
| Fire Safety | 2,122,000 | 1,375,000 | - | 747,000 | - | - | 8 |
| TOTAL EXPENDITURES | 2,122,000 | 1,375,000 | - | 747,000 | - | - | |
| FUNDING SOURCES: | | | | | | | |
| Debt: | | | | | | | |
| G.O. Bonds | 2,122,000 | 1,375,000 | - | 747,000 | - | - | |
| TOTAL FUNDING SOURCES | 2,122,000 | 1,375,000 | - | 747,000 | - | - | |

PUBLIC SAFETY - FIRE

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|-----------------------------------|------------------|------------------|----------|----------------|----------|----------|------|
| PROJECT: | | | | | | | |
| Fire Apparatus Replacement | 2,122,000 | 1,375,000 | - | 747,000 | - | - | 9 |
| TOTAL PROJECT EXPENDITURES | 2,122,000 | 1,375,000 | - | 747,000 | - | - | |
| FUNDING SOURCES | | | | | | | |
| Debt: | | | | | | | |
| G.O. Bonds | 2,122,000 | 1,375,000 | - | 747,000 | - | - | |
| TOTAL FUNDING SOURCES | 2,122,000 | 1,375,000 | - | 747,000 | - | - | |

FIRE APPARATUS REPLACEMENT

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Fire apparatus are essential for structural firefighting. The Fire Apparatus Replacement Program ensures replacement of fire apparatus at the end of their operational life. The City maintains two frontline engines (Engine 1 and Engine 2) and one ladder truck (Truck 3). The City maintains its current fleet very well, which facilitates keeping front line fire apparatus for a maximum of 15 years. Our goal is to then retain one engine and one truck as reserve apparatus for an additional 10-15 years each. However, sometimes parts availability, metal fatigue, and corrosion will take an apparatus out of service sooner than expected, making continued use impractical. Before being placed in reserve status, fire apparatus are typically refurbished.

Truck 3 was purchased new in 2002. Replacement cost (including new equipment) is \$1,250,000. Reserve Engine 3 (purchased new in 1989) will be disposed of or sold and Truck 3 will be refurbished to serve as a reserve truck. Estimated cost is \$125,000.

Engine 1 (purchased new in 2005) is not aging well and needs to be replaced. Replacement cost (including new equipment) is \$747,000.

COMMENTS

Truck 3 is the City's only aerial firefighting apparatus. When out of service, a neighboring volunteer Fire Department is typically called to place its ladder truck on stand-by. Truck 3 is 20 years old and due for replacement. Retaining Truck 3 as a reserve will limit the necessity to call other agencies for unit stand-by.

Engine 1 is experiencing heavy corrosion and metal fatigue. The manufacturer of Engine 1 went out of business in 2014, making parts nearly impossible to find. Engine 1 will not be eligible for reserve status since refurbishment costs and limited parts availability are not economically feasible.

LOCATION

Fire Station #3, 2400 S. Duff Ave. (Truck 3)
Fire Station #1, 1300 Burnett Ave. (Engine 1)

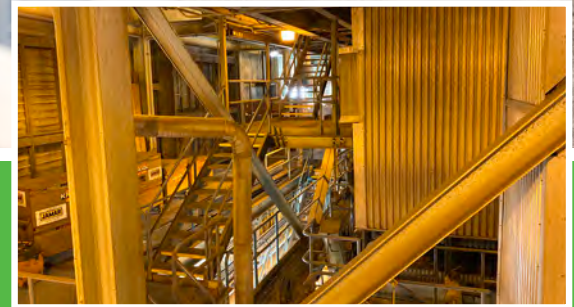
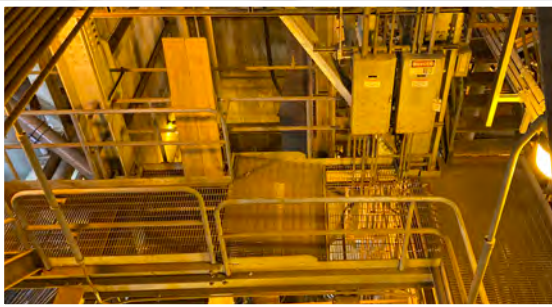
| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------------------------|------------------|------------------|---------|----------------|---------|---------|
| COST: | | | | | | |
| Replace Truck 3 | 1,250,000 | 1,250,000 | | | | |
| Refurbish Truck 3 for Reserve Status | 125,000 | 125,000 | | | | |
| Replace Engine 1 | 747,000 | | | 747,000 | | |
| TOTAL | 2,122,000 | 1,375,000 | | 747,000 | | |
| FINANCING: | | | | | | |
| G.O. Bonds | 2,122,000 | 1,375,000 | | 747,000 | | |
| TOTAL | 2,122,000 | 1,375,000 | | 747,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------|-------------|--------------|
| Public Safety - Fire | Fire | 381-2258-429 |

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UTILITIES

UTILITIES

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|----------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| EXPENDITURES: | | | | | | | |
| Electric Services | 23,315,000 | 9,465,000 | 7,090,000 | 3,120,000 | 1,995,000 | 1,645,000 | 13 |
| Water Production/Treatment | 18,718,000 | 8,986,000 | 1,503,000 | 2,627,000 | 5,579,000 | 23,000 | 46 |
| Water Pollution Control | 28,200,000 | 533,000 | 231,000 | 6,842,000 | 8,973,000 | 11,621,000 | 58 |
| Water Distribution | 8,800,000 | 1,500,000 | 1,600,000 | 1,750,000 | 1,900,000 | 2,050,000 | 66 |
| Sanitary Sewer System | 24,763,000 | 6,602,000 | 4,322,000 | 4,450,000 | 4,598,000 | 4,791,000 | 68 |
| Storm Water Management | 11,302,000 | 4,460,000 | 1,342,000 | 1,450,000 | 2,050,000 | 2,000,000 | 72 |
| Resource Recovery | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 | 80 |
| TOTAL EXPENDITURES | 116,518,550 | 31,906,100 | 16,464,850 | 20,536,100 | 25,296,500 | 22,315,000 | |
| FUNDING SOURCES: | | | | | | | |
| Debt: | | | | | | | |
| G.O. Bonds (TIF Abated) | 2,500,000 | 2,500,000 | - | - | - | - | |
| State Revolving Fund Loans | 54,941,000 | 12,452,000 | 3,922,000 | 5,863,000 | 17,028,000 | 15,676,000 | |
| Total Debt Funding | 57,441,000 | 14,952,000 | 3,922,000 | 5,863,000 | 17,028,000 | 15,676,000 | |

UTILITIES, CONTINUED

| PROJECT/FUNDING SOURCE | TOTAL | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 |
|------------------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| FUNDING SOURCES, continued: | | | | | | |
| City: | | | | | | |
| Electric Utility Fund | 22,651,000 | 9,409,400 | 6,879,400 | 3,026,400 | 1,874,400 | 1,461,400 |
| Water Utility Fund | 13,532,000 | 1,836,000 | 3,103,000 | 3,098,000 | 3,422,000 | 2,073,000 |
| Sewer Utility Fund | 8,782,000 | 833,000 | 631,000 | 5,982,000 | 600,000 | 736,000 |
| Storm Water Utility Fund | 5,930,000 | 680,000 | 950,000 | 1,050,000 | 1,650,000 | 1,600,000 |
| Resource Recovery Fund | 1,445,550 | 385,100 | 376,850 | 297,100 | 201,500 | 185,000 |
| Total City Funding | 52,340,550 | 13,143,500 | 11,940,250 | 13,453,500 | 7,747,900 | 6,055,400 |
| Other: | | | | | | |
| Iowa State University | 639,000 | 30,600 | 210,600 | 93,600 | 120,600 | 183,600 |
| Federal/State Grants | 6,098,000 | 3,780,000 | 392,000 | 1,126,000 | 400,000 | 400,000 |
| Total Other Funding | 6,737,000 | 3,810,600 | 602,600 | 1,219,600 | 520,600 | 583,600 |
| Total Funding Sources | 116,518,550 | 31,906,100 | 16,464,850 | 20,536,100 | 25,296,500 | 22,315,000 |

UTILITIES - ELECTRIC SERVICES

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---|-----------|---------|-----------|---------|---------|---------|------|
| PROJECT: | | | | | | | |
| Transmission: | | | | | | | |
| 69 kV Transmission Reconstruction | 2,150,000 | 70,000 | 520,000 | 520,000 | 520,000 | 520,000 | 15 |
| Ontario Substation 69 kV Breaker Addition | 1,500,000 | 200,000 | 1,300,000 | - | - | - | 16 |
| Distribution: | | | | | | | |
| Electric Distribution Parking Lot | 320,000 | 320,000 | - | - | - | - | 17 |
| Street Light LED Retrofits | 300,000 | 150,000 | 150,000 | - | - | - | 18 |
| Street Light and Line Relocations | 875,000 | 225,000 | 125,000 | 150,000 | 225,000 | 150,000 | 19 |
| Dayton Avenue Substation Upgrade | 1,150,000 | - | - | 200,000 | 950,000 | - | 20 |
| Mortensen Road Transformer Protection | 650,000 | - | - | - | 150,000 | 500,000 | 21 |
| Vet Med Substation Switchgear Upgrade | 125,000 | - | - | - | - | 125,000 | 22 |
| Power Plant Capital: | | | | | | | |
| Unit 7 Surface Condenser Tube Replacement | 800,000 | 800,000 | - | - | - | - | 23 |
| Waste Water Treatment | 500,000 | 200,000 | 300,000 | - | - | - | 24 |
| Power Plant Relay/Control Replacement | 425,000 | 125,000 | 125,000 | 175,000 | - | - | 25 |
| Waste to Energy Study | 200,000 | 200,000 | - | - | - | - | 26 |
| Units 5 and 6 Boiler Removal | 750,000 | - | 750,000 | - | - | - | 27 |
| Unit 7 Exciter Replacement | 450,000 | - | 450,000 | - | - | - | 28 |
| Unit 7 Main Steam Line Insulation | 210,000 | - | 210,000 | - | - | - | 29 |
| Unit 7 Electrostatic Precipitator Enclosure | 110,000 | - | 110,000 | - | - | - | 30 |
| Unit 7 Closed Loop Cooling Water System | 500,000 | - | - | 500,000 | - | - | 31 |
| CT 1 Terminal Unit/Meters/Relays | 140,000 | - | - | 140,000 | - | - | 32 |

UTILITIES - ELECTRIC SERVICES, continued

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---------------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------|
| Power Plant Maintenance: | | | | | | | |
| Ash Pond Modifications | 5,000,000 | 3,000,000 | 2,000,000 | - | - | - | 33 |
| RDF Bin Renovation | 3,500,000 | 3,500,000 | - | - | - | - | 34 |
| DCS Hardware Upgrade | 375,000 | 375,000 | - | - | - | - | 35 |
| Fuel Oil Piping Replacement | 150,000 | 150,000 | - | - | - | - | 36 |
| CT 1 Foundation Correction | 150,000 | 150,000 | - | - | - | - | 37 |
| CT 2 Controls Upgrade | 550,000 | - | 550,000 | - | - | - | 38 |
| Power Plant Building Modifications | 800,000 | - | 500,000 | 300,000 | - | - | 39 |
| Coal Yard Reclamation | 500,000 | - | - | 500,000 | - | - | 40 |
| Power Plant Fire Protection System | 250,000 | - | - | 250,000 | - | - | 41 |
| Underground Storage Tank Removal | 235,000 | - | - | 235,000 | - | - | 42 |
| Unit 7 Turbine Minor Overhaul | 150,000 | - | - | 150,000 | - | - | 43 |
| Unit 8 Turbine Minor Overhaul | 150,000 | - | - | - | 150,000 | - | 44 |
| Variable Frequency Drive Installation | 350,000 | - | - | - | - | 350,000 | 45 |
| TOTAL PROJECT EXPENDITURES | 23,315,000 | 9,465,000 | 7,090,000 | 3,120,000 | 1,995,000 | 1,645,000 | |
| FUNDING SOURCES: | | | | | | | |
| City: | | | | | | | |
| Electric Utility Fund | 22,651,000 | 9,409,400 | 6,879,400 | 3,026,400 | 1,874,400 | 1,461,400 | |
| Resource Recovery | 25,000 | 25,000 | - | - | - | - | |
| Total City Funding | 22,676,000 | 9,434,400 | 6,879,400 | 3,026,400 | 1,874,400 | 1,461,400 | |
| Other: | | | | | | | |
| Iowa State University | 639,000 | 30,600 | 210,600 | 93,600 | 120,600 | 183,600 | |
| TOTAL FUNDING SOURCES | 23,315,000 | 9,465,000 | 7,090,000 | 3,120,000 | 1,995,000 | 1,645,000 | |

69KV TRANSMISSION RECONSTRUCTION

PROJECT STATUS: Cost Increase

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This is a multi-year project that will reconstruct the deteriorated portions of 69kV transmission pole lines. This project will replace between one and two line-miles of 69kV transmission line per year. The actual length and cost per mile will vary by terrain, accessibility, and attachments. Line replacement candidates include the original MidAmerican 69kV tie line that connects the Ames Plant Switchyard to the MidAmerican 69kV source point located south of Ames on Highway 69, the Ames Plant to the Top-O-Hollow line, the Top-O-Hollow line to the Stange Road Substation Line, and the Vet Med line to the Mortensen Road Substation line. The total project will require at least five years and will reconstruct approximately 11 miles of deteriorated 69kV line. Capacity and reliability improvements will include the reconstruction of distribution lines which are underbuilt on existing transmission lines and/or adding new distribution underbuild along the same construction route line.

COMMENTS

Iowa State University's (ISU) share of the project is based on a load-ratio-share at the time of implementation. For budgetary purposes, staff is assuming the ISU load-ratio-share to be 18%.

LOCATION

Various

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 350,000 | 70,000 | 70,000 | 70,000 | 70,000 | 70,000 |
| Construction | 1,800,000 | | 450,000 | 450,000 | 450,000 | 450,000 |
| TOTAL | 2,150,000 | 70,000 | 520,000 | 520,000 | 520,000 | 520,000 |
| FINANCING: | | | | | | |
| Electric Utility Fund | 1,763,000 | 57,400 | 426,400 | 426,400 | 426,400 | 426,400 |
| Iowa State University | 387,000 | 12,600 | 93,600 | 93,600 | 93,600 | 93,600 |
| TOTAL | 2,150,000 | 70,000 | 520,000 | 520,000 | 520,000 | 520,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|-----------------------------------|--------------------|--------------------|
| Utilities - Electric Transmission | Electric Services | 530-4856-489 |

ONTARIO SUBSTATION 69KV BREAKER ADDITION

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will add 69kV line, replace the existing 13.8kV switchgear, add transformer breakers, replace all 13.8kV and 69kV relays and controls, upgrade the station service and feeders, replace fuses, upgrade the obsolete 69kV bus potential transformers, replace the lightning arresters, and upgrade the grounding and shielding to the Ontario Road Substation.

This project will improve the reliability of transmission service to the Ontario distribution substation. This will also improve service for customers served by this substation by shortening the duration of unexpected outages.

Electric utility engineering practices recommend the use of 69kV transmission breakers and the use of switchgear main breakers at distribution substations.

COMMENTS

Iowa State University's (ISU) share of the project is based on a load-ratio-share at the time of implementation. For budgetary purposes, staff is assuming the ISU load-ratio-share to be 9%. This estimate is based on an 18% load-ratio-share (estimated 50% of the project cost) of the 69kV facilities.

LOCATION

Ontario Substation, Delaware Avenue and Utah Drive

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|------------------|----------------|------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 200,000 | 200,000 | | | | |
| Construction | 1,300,000 | | 1,300,000 | | | |
| TOTAL | 1,500,000 | 200,000 | 1,300,000 | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 1,365,000 | 182,000 | 1,183,000 | | | |
| Iowa State University | 135,000 | 18,000 | 117,000 | | | |
| TOTAL | 1,500,000 | 200,000 | 1,300,000 | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|-----------------------------------|--------------------|--------------------|
| Utilities - Electric Transmission | Electric Services | 530-4821-489 |

ELECTRIC DISTRIBUTION PARKING LOT

PROJECT STATUS: Delayed

Cost Increase

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The parking area and walkways, including the loading dock drive at Electric Distribution, are beginning to show advanced deterioration. These areas are subject to a large amount of heavy truck traffic and need to be repaired before driving through them becomes a problem.

COMMENTS

Approximately 10 years ago, the drive was resurfaced and minor repairs have been made since, but these repairs are beginning to fail. The walkways are falling apart due to freezing/thawing cycles. The retaining wall at the south end of the area is beginning to rot away and should be replaced with stone or concrete.

The cost increase to this project from last year is due to additional work needed to meet current storm water requirements.

LOCATION

Electric Distribution, 2208 Edison St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 320,000 | 320,000 | | | | |
| TOTAL | 320,000 | 320,000 | | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 320,000 | 320,000 | | | | |
| TOTAL | 320,000 | 320,000 | | | | |
| PROGRAM - ACTIVITY: | | | | | | |
| Utilities - Electric Distribution | | | | | | |
| DEPARTMENT: | | | | | | |
| Electric Services | | | | | | |
| ACCOUNT NO. | | | | | | |
| 530-4845-489 | | | | | | |

STREET LIGHT LED RETROFITS

PROJECT STATUS: Cost Decrease

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will transition nearly all existing High Pressure Sodium (HPS) and Mercury Vapor (MV) street light fixtures to Light Emitting Diode (LED) fixtures. This transition will take place over a 6-year period while performing routine maintenance activities. This project is expected to replace all lights within the City of Ames electric system and approximately 7,500 roadway and security lights. In comparison to HPS and MV fixtures, LED lights have a longer life expectancy and consume significantly less energy. LED fixtures have a life expectancy of at least 20 years whereas the HPS fixtures only have a life expectancy of 5-10 years. LED fixtures will contribute to a more sustainable Ames by decreasing the City’s carbon footprint, lowering maintenance costs, and are predicted to generate a return investment within 10 years. LED lights provide instant illumination, reduce light glare distraction for nighttime drivers, and the downward directed light will reduce night sky light contamination.

COMMENTS

The purpose of this project is to allow the street light maintenance workers to retrofit LED lights during routine maintenance on HPS and MV lights in order to minimize labor costs. Since this effort will be based on routine maintenance, specific streets or areas will not be targeted. Beginning in FY 2022/23, street light replacement will move to the Operations & Maintenance budget, because a majority of the street lights will have been changed out. As of January 1, 2020, 3,835 street lights have been converted to LED.

| | | |
|----------------|-----------------|----------------|
| 2016/17 | Material—Actual | 169,429 |
| 2017/18 | Material—Actual | 234,136 |
| 2018/19 | Material—Actual | 137,416 |
| 2019/20 | Material | 150,000 |
| 2020/21 | Material | 150,000 |
| <u>2021/22</u> | <u>Material</u> | <u>150,000</u> |
| | Total | \$990,981 |

LOCATION

City of Ames & Ames Electric Service Territory

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Materials | 300,000 | 150,000 | 150,000 | | | |
| TOTAL | 300,000 | 150,000 | 150,000 | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 300,000 | 150,000 | 150,000 | | | |
| TOTAL | 300,000 | 150,000 | 150,000 | | | |

| | | |
|-----------------------------------|--------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Utilities - Electric Distribution | Electric Services | 530-4844-489 |

STREET LIGHT AND LINE RELOCATIONS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This work is being coordinated with Public Works' road improvement projects and will require the relocation of various electric facilities, including street lights, services, and distribution lines.

COMMENTS

Locations for street line and line relocations will be coordinated each year with Public Works street improvement projects.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------------------|----------------|--------------------|--------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 875,000 | 225,000 | 125,000 | 150,000 | 225,000 | 150,000 |
| TOTAL | 875,000 | 225,000 | 125,000 | 150,000 | 225,000 | 150,000 |
| FINANCING: | | | | | | |
| Electric Utility Fund | 875,000 | 225,000 | 125,000 | 150,000 | 225,000 | 150,000 |
| TOTAL | 875,000 | 225,000 | 125,000 | 150,000 | 225,000 | 150,000 |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | ACCOUNT NO. | | | |
| Utilities - Electric Distribution | | Electric Services | 530-4823-489 | | | |

DAYTON AVE SUBSTATION SWITCHGEAR UPGRADES

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will upgrade two existing 13.8kV distribution metal clad switchgear lineups at the Dayton Avenue Substation. The oldest switchgear has obsolete air blast breakers, no main breaker, and electro-mechanical relays. This switchgear needs to be replaced with all new switchgear with vacuum interrupter breakers, a main breaker, and microprocessor relays. The second switchgear has vacuum interrupter feeder breakers, which do not need to be replaced, but it has no main breaker and uses older style relays. This project will provide for the addition of a main breaker and replacement of existing distribution relays with modern microprocessor-based relays.

The addition of a main breaker will improve safety for workers and improve system reliability through the use of low maintenance breakers and relays.

These upgrades are consistent with recommended electric utility industry engineering practices.

LOCATION

Dayton Avenue Substation, Pullman Street

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 200,000 | | | 200,000 | | |
| Construction | 950,000 | | | | 950,000 | |
| TOTAL | 1,150,000 | | | 200,000 | 950,000 | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 1,150,000 | | | 200,000 | 950,000 | |
| TOTAL | 1,150,000 | | | 200,000 | 950,000 | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|-----------------------------------|--------------------|--------------------|
| Utilities - Electric Distribution | Electric Services | |

**MORTENSEN ROAD SUBSTATION 69KV
TRANSFORMER PROTECTION**

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project is for the addition of a 69kV breaker, relays, and controls to replace the fuse protection on the distribution transformer. This project also includes replacement of two obsolete oil circuit breakers with low-maintenance SF6 gas breakers.

COMMENTS

The use of breakers for transformer protection is consistent with recommended engineering practice in the electric utility industry and will minimize damage to the transformer and surrounding facilities while providing better worker safety in the event of a fault. Oil circuit breakers are obsolete and require increased maintenance. The use of SF6 gas breakers represents best current practices for utility substations for reduced maintenance and fast, reliable operation.

Iowa State University's (ISU) share of the project is based on a load-ratio-share at the time of implementation. For budgetary purposes, staff is assuming the ISU load-ratio-share to be 18%.

LOCATION

Mortensen Road Substation, 3040 Mortensen Road

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 150,000 | | | | 150,000 | |
| Construction | 500,000 | | | | | 500,000 |
| TOTAL | 650,000 | | | | 150,000 | 500,000 |
| FINANCING: | | | | | | |
| Electric Utility Fund | 533,000 | | | | 123,000 | 410,000 |
| Iowa State University | 117,000 | | | | 27,000 | 90,000 |
| TOTAL | 650,000 | | | | 150,000 | 500,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|-----------------------------------|--------------------|--------------------|
| Utilities - Electric Distribution | Electric Services | |

VET MED SUBSTATION SWITCHGEAR REPLACEMENT

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will replace the original 13.8kV metal clad distribution switchgear at the Vet Med Substation. This is a change from a previous CIP project where staff was considering the upgrade of existing equipment. The Vet Med expansion in 2011 installed two new transformers and switchgear but the metal clad switchgear was not upgraded at that time. This project will replace the metal clad switchgear to add a main breaker and update older existing relays to current standards. The original “stacked” formation switchgear will be replaced with a much safer “single-row” formation. The addition of a main breaker will improve safety for workers and improve system reliability. The use of low maintenance breakers and relays will provide protection that operates quickly and selectively.

These upgrades are consistent with electric utility industry engineering practices.

| | | |
|---------|--------------|------------------|
| 2024/25 | Engineering | 125,000 |
| 2025/26 | Construction | 850,000 |
| | Total | \$975,000 |

LOCATION

Vet Med Substation, South Riverside Drive

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|--------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 125,000 | | | | | 125,000 |
| | TOTAL | | | | | 125,000 |
| FINANCING: | | | | | | |
| Electric Utility Fund | 125,000 | | | | | 125,000 |
| | TOTAL | | | | | 125,000 |

| | | |
|---|---|--------------------|
| PROGRAM - ACTIVITY: Utilities - Electric Distribution | DEPARTMENT: Electric Services | ACCOUNT NO. |
|---|---|--------------------|

UNIT 7 SURFACE CONDENSER TUBE REPLACEMENT

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Unit 7 surface condenser tubes were replaced in 2007 with Original Equipment Manufacturer materials of admiralty brass. The main alloys in admiralty brass are copper and zinc, both of which are now regulated metals on our National Pollutant Discharge Elimination System permit that was issued by the Iowa Department of Natural Resources in July of 2017. These tubes need to be replaced with stainless steel to maintain compliance with the permit by April 2022.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 50,000 | 50,000 | | | | |
| Materials and Labor | 750,000 | 750,000 | | | | |
| TOTAL | 800,000 | 800,000 | | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 800,000 | 800,000 | | | | |
| TOTAL | 800,000 | 800,000 | | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | 530-4886-489 |

WASTE WATER TREATMENT

PROJECT STATUS: Cost Decrease

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The recent National Pollutant Discharge Elimination System (NPDES) permit requires the Power Plant to perform a greater degree of treatment to the water discharged to the storm sewer from the cooling towers. The Power Plant is currently performing an effluent monitoring study as a part of the permit as well as exploring options for treatment. The likely solution will be to redirect the discharge, currently going in the storm sewer, into the sanitary sewer.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 100,000 | 100,000 | | | | |
| Construction | 400,000 | 100,000 | 300,000 | | | |
| TOTAL | 500,000 | 200,000 | 300,000 | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 500,000 | 200,000 | 300,000 | | | |
| TOTAL | 500,000 | 200,000 | 300,000 | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | 530-4850-489 |

POWER PLANT RELAY/CONTROL REPLACEMENT

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will replace existing electro-mechanical 13.8kV feeders and 4.160kV bus differential relays in the Power Plant. The existing relays are obsolete electro-mechanical devices which are becoming difficult to maintain and repair since the replacement parts are no longer manufactured. By installing modern programmable relays and updated controls in this location, long-term reliability can be improved by eliminating the obsolete, maintenance-intensive, electro-mechanical relays. This project will likely take three years to complete.

These upgrades are consistent with recommended electric utility industry engineering practices.

COMMENTS

| | | |
|----------------|--|----------------|
| 2020/21 | Engineering, Materials and Labor (estimated) | 125,000 |
| 2021/22 | Materials and Labor (estimated) | 125,000 |
| <u>2022/23</u> | <u>Materials and Labor (estimated)</u> | <u>175,000</u> |
| | Total | \$425,000 |

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------|--------------|--------------------|--------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 425,000 | 125,000 | 125,000 | 175,000 | | |
| | TOTAL | 425,000 | 125,000 | 125,000 | 175,000 | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 425,000 | 125,000 | 125,000 | 175,000 | | |
| | TOTAL | 425,000 | 125,000 | 125,000 | 175,000 | |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | ACCOUNT NO. | | | |
| Utilities - Electric Production | | Electric Services | 530-4862-489 | | | |

WASTE TO ENERGY STUDY

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Since 1975, the City has operated a waste-to-energy system in which the Resource Recovery Plant processes Municipal Solid Waste (MSW) into Refuse-Derived Fuel (RDF) and recycled materials. Originally, the RDF was combusted with coal in the City’s Power Plant. The Power Plant now operates by combusting RDF and natural gas at approximately a 1:9 ratio.

This system has been successful in reducing the amount of MSW that is landfilled in the past 45 years. However, as with all waste disposal methods, it has limitations. A study will assist with identifying options to achieve the following objectives:

- 1) Continue to be the primary provider of MSW disposal for Story County
- 2) Improve reliability of all aspects of the waste-to-energy process
- 3) Use MSW to create usable energy and minimize the use of landfills
- 4) Maintain and operate the current electric generating units
- 5) Continue as a leader/innovator in the waste-to-energy industry, focusing on providing community-wide sustainability

COMMENTS

| | | |
|---------|-------------|----------------|
| 2019/20 | Engineering | 100,000 |
| 2020/21 | Engineering | <u>200,000</u> |
| | Total | \$300,000 |

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|--------------|----------------|----------------|---------|---------|---------|
| COST: | | | | | | |
| Engineering | 200,000 | 200,000 | | | | |
| | TOTAL | 200,000 | 200,000 | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 175,000 | 175,000 | | | | |
| Resource Recovery | 25,000 | 25,000 | | | | |
| | TOTAL | 200,000 | 200,000 | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|-------------------|--------------|
| Utilities - Electric Production | Electric Services | 530-4804-489 |
| | | 590-9017-489 |

UNITS 5 AND 6 BOILER REMOVAL

PROJECT STATUS: Advanced

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Power Plant houses two operational generating units (7 and 8). Units 5 and 6 were decommissioned in 1986. This project is to remove the Unit 5 boiler and turbine/generator, and remove the Unit 6 boiler. This equipment is outdated and unusable in its current condition. The area that will be cleared through this project can be used to provide expanded maintenance shop space.

The Unit 6 turbine/generator will not be removed as part of this project. The City is pursuing a separate CIP project to study Waste-to-Energy alternatives, one of which may be to develop a dedicated unit to dispose of refuse-derived fuel. As part of that study, the Unit 6 turbine/generator could be evaluated for rehabilitation. Until the possibility of re-purposing the Unit 6 turbine/generator is ruled out, it will remain in place.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 50,000 | | 50,000 | | | |
| Demolition and Removal | 700,000 | | 700,000 | | | |
| TOTAL | 750,000 | | 750,000 | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 750,000 | | 750,000 | | | |
| TOTAL | 750,000 | | 750,000 | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

UNIT 7 EXCITER REPLACEMENT

PROJECT STATUS: Cost Increase

Advanced

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project is to replace the Unit 7 exciter. The main purpose of an exciter in a steam turbine is to provide a magnetic field. The current exciter is water-cooled by copper tubes that run through the electronics. These tubes are fouled and plugged; efforts to clear the tubes have not been successful. To reduce the temperature, the exciter must constantly have the cabinet doors open with a large fan blowing air across the hardware. The replacement will install new updated controls and a new cooling system. This will allow for better cooling, more control, and better exciter monitoring.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 50,000 | | 50,000 | | | |
| Construction | 400,000 | | 400,000 | | | |
| TOTAL | 450,000 | | 450,000 | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 450,000 | | 450,000 | | | |
| TOTAL | 450,000 | | 450,000 | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

UNIT 7 MAIN STEAM LINE INSULATION REPLACEMENT

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The main steam line on Unit 7, from the boiler to the turbine, is insulated with asbestos insulation. The asbestos has caused issues with performing repairs around the line as well as performing high energy pipe testing. The asbestos will be entirely removed prior to the installation of new insulation and lagging.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 10,000 | | 10,000 | | | |
| Construction | 200,000 | | 200,000 | | | |
| TOTAL | 210,000 | | 210,000 | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 210,000 | | 210,000 | | | |
| TOTAL | 210,000 | | 210,000 | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

UNIT 7 ELECTROSTATIC PRECIPITATOR ENCLOSURE

PROJECT STATUS: Advanced

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The bottom of the unit 7 precipitator is currently open to the outside. During cold weather, the fly ash in the hoppers and transport lines fall below the dew point temperature and result in plugging. Operators must manually rod these plugs to get the material to move again. The bottom section needs to be enclosed and heated so that the fly ash material will maintain constant flow.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------|----------------|--------------------|--------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering/Construction | 110,000 | | 110,000 | | | |
| TOTAL | 110,000 | | 110,000 | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 110,000 | | 110,000 | | | |
| TOTAL | 110,000 | | 110,000 | | | |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | ACCOUNT NO. | | | |
| Utilities - Electric Production | | Electric Services | | | | |

UNIT 7 CLOSED LOOP COOLING WATER SYSTEM

PROJECT STATUS: Cost Decrease

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project is to install a new closed loop glycol cooling system on Unit 7. Currently all of the equipment on Unit 7 that needs to be cooled (boiler feed pumps, hydrogen coolers, air heater, force draft fan bearings, and the exciter) are cooled with open loop systems from well water, cooling tower water, or City water. These waters are difficult to treat and cause equipment to get dirty quickly. This prevents a good heat exchange and higher running temperatures. A closed loop glycol system will be more economical and allow for better cooling efficiency.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 50,000 | | | 50,000 | | |
| Construction | 450,000 | | | 450,000 | | |
| TOTAL | 500,000 | | | 500,000 | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 500,000 | | | 500,000 | | |
| TOTAL | 500,000 | | | 500,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

**COMBUSTION TURBINE 1 TERMINAL
UNIT, METERS, AND RELAYS**

PROJECT STATUS: No Change

DESCRIPTION/JUSTIFICATION

The current remote terminal unit, meters, and protective relays are original to the 1972 unit and need to be updated to more modern equipment.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------|----------------|--------------------|--------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering/Construction | 140,000 | | | 140,000 | | |
| TOTAL | 140,000 | | | 140,000 | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 140,000 | | | 140,000 | | |
| TOTAL | 140,000 | | | 140,000 | | |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | ACCOUNT NO. | | | |
| Utilities - Electric Production | | Electric Services | | | | |

ASH POND MODIFICATIONS

PROJECT STATUS: Delayed

Cost Increase

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

In response to the United States Environment Protection Agency’s (EPA) Coal Combustion Residuals (CCR) regulation and the ash handling requirements of the City of Ames Steam Electric Plant (COA-SEP), the ash site impoundment will be undergoing significant changes and modifications, especially in FY 2020/21 and FY 2021/22. The CCR regulation was officially published in the *Federal Register* in April 2015 and included a series of compliance milestones, several of which have passed and been met. Some of the compliance milestones, especially the initial ones, are primarily documentation of engineering assessments of various features and aspects of the ash site. The delay in this project is a result of changes to the EPA’s CCR regulation and the City’s development of a plan to meet the regulation.

The current ash site impoundment has been in service since Unit 8 became operational back in 1982. From 1982 to 2016, the impoundment received ash from burning coal and co-firing refuse derived fuel (RDF). In 2016, the City’s Steam Electric Plant (Units 7 & 8) was converted to burn natural gas (and co-fire RDF). Currently, the ash site impoundment contains ash from both coal and RDF. This site has filled up to the point that under certain conditions the usable volume and surface area of the impoundment are marginally adequate. The current usable volume and surface area of the ash impoundment is estimated to be 1/3 (1/2 of the original design).

By October 2022, the City plans to reclaim and restore as much of the original ash site impoundment’s configuration as possible. Staff plans on doing this by dewatering, excavating, and moving the ash material from approximately 2/3 of impoundment before filling in the remaining 1/3 of the impoundment. This 1/3 area will contain CCR and RDF ash that will be permanently closed-in-place. The 2/3 area, cleaned of all ash, will be re-lined with clay and/or a composite material so that it can hold RDF ash in the future.

LOCATION

Ash Pond, 13th Street

| | | |
|--|------------------------|--------------------|
| The cost, schedule for work, and recent history of the project are as follows: | | |
| 2017/18 | Engineering—Actual | 68,598 |
| 2018/19 | Engineering—Actual | 231,402 |
| 2019/20 | Engineering | 200,000 |
| 2019/20 | Excavation & Re-lining | 2,000,000 |
| 2020/21 | Excavation & Re-lining | 3,000,000 |
| 2021/22 | Excavation & Re-lining | 2,000,000 |
| | Total | \$7,500,000 |

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|--------------|------------------|------------------|------------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 5,000,000 | 3,000,000 | 2,000,000 | | | |
| | TOTAL | 5,000,000 | 3,000,000 | 2,000,000 | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 5,000,000 | 3,000,000 | 2,000,000 | | | |
| | TOTAL | 5,000,000 | 3,000,000 | 2,000,000 | | |

PROGRAM - ACTIVITY:

Utilities - Electric Production

DEPARTMENT:

Electric Services

ACCOUNT NO.

530-4879-489

RDF BIN RENOVATION

PROJECT STATUS: Delayed

Cost Increase

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project is to repair and/or replace the entire “skin” of the RDF bin and replace or protect a majority of the structural beams that provide support to the structure of the RDF bin. The entire RDF bin is composed of Cor-ten steel. The Cor-ten steel was used as a cheaper steel option that would be able to stand up to harsh environments. It does this by rusting on the surface, drying out, and then essentially using the rust layer to protect the remaining good steel. This has proven to be a poor choice in the RDF bin. The bin is continually subject to a very harsh, moist environment. This environment has caused the Cor-ten steel to remain wet for long periods, continually rust, and never stop. The steel that is exposed to the RDF has degraded to the point where the walls and roof are very thin and are even showing holes in numerous places ranging from a pin hole to a square foot in size. The structure beams have shown significant deterioration and need to be protected, or in some cases, replaced. These areas are currently being patched but now require almost constant attention.

COMMENTS

Staff expects the frequency of these repairs to increase throughout the current year. Since it is difficult to coordinate outages where there isn’t conflict with the Resource Recovery Plant, staff plans to perform the work in such a way that will allow for one side of the bin to be in operation while the other is being repaired and have minimum downtime of both bins.

This project was originally budgeted in the FY 2017/18 CIP at a cost of \$2,800,000. Due to the increased scope and cost of the project, it has been delayed to FY 2020/21. Concurrently, a Waste-to-Energy study will be conducted which could impact how the RDF bin will be utilized over the next ten to twenty years. As additional information is learned through the Waste-to-Energy study, adjustments may be made to the RDF Bin Renovation project which could reduce the cost if the bin is not needed long-term.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|------------------|------------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 300,000 | 300,000 | | | | |
| Construction | 3,200,000 | 3,200,000 | | | | |
| TOTAL | 3,500,000 | 3,500,000 | | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 3,500,000 | 3,500,000 | | | | |
| TOTAL | 3,500,000 | 3,500,000 | | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | 530-4809-489 |

DISTRIBUTED CONTROLS SYSTEM UPGRADE

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Distributed Controls System (DCS) is the main controls for Unit 8, Unit 7, and Common Equipment throughout the power plant. The DCS was upgraded and greatly modified during the natural gas conversion. The DCS software and some of the hardware has now reached its expected time of life (5 years) where it is suggested to be replaced and updated in order to stay current and incorporate new technology.

COMMENTS

The existing software (Ovation 3.5.1) will be replaced with Ovation 3.X Evergreen. Some hardware will also be updated including the Domain Controller/Database Server, Operator Workstations, Root Switches, Printers, and Router. This software and hardware is highly specialized for power plant equipment control and is on a standalone system.

LOCATION

Power Plant, 200 E. 5th Street

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Hardware/Software Upgrade | 375,000 | 375,000 | | | | |
| TOTAL | 375,000 | 375,000 | | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 375,000 | 375,000 | | | | |
| TOTAL | 375,000 | 375,000 | | | | |
| PROGRAM - ACTIVITY: | | | | | | |
| Utilities - Electric Production | | | | | | |
| DEPARTMENT: | | | | | | |
| Electric Services | | | | | | |
| ACCOUNT NO. | | | | | | |
| 530-4865-489 | | | | | | |

FUEL OIL PIPING REPLACEMENT

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Power Plant operates two Combustion Turbine Generating Units at a remote location along Dayton Avenue. Both units use #2 Fuel Oil as the main fuel. Fuel is transferred from a large storage tank to a forwarding building via an underground pipe. This underground pipe is over 40 years old. While considering the age of the pipe, another underground pipe of the same age and materials transferring fuel from the forwarding building to one of the Combustion Turbines experienced a leak in 2011 and was replaced.

COMMENTS

Because of the age of the pipe and the history of similar piping on the same system, this pipe should be replaced with new in order to prevent any failures in the future.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 150,000 | 150,000 | | | | |
| TOTAL | 150,000 | 150,000 | | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 150,000 | 150,000 | | | | |
| TOTAL | 150,000 | 150,000 | | | | |
| PROGRAM - ACTIVITY: | | | | | | |
| Utilities - Electric Production | | | | | | |
| DEPARTMENT: | | | | | | |
| Electric Services | | | | | | |
| ACCOUNT NO. | | | | | | |
| 530-4888-489 | | | | | | |

**COMBUSTION TURBINE 1
FOUNDATION CORRECTION**

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Power Plant operates two Combustion Turbine Generating Units at a remote location along Dayton Avenue. The site is an old landfill that was closed sometime in the 1960s. The older of the two units, Combustion Turbine 1 (CT1) has been in operation since 1972. The building housing most of the operating equipment for CT1 needs foundation work to accommodate for areas of the ground below that has settled.

COMMENTS

This work will include filling in voids left below the foundation to keep it from settling, and installing cathodic protection on the pilings currently part of the building foundation. The cathodic protection will help control any corrosion of the metal pilings.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 150,000 | 150,000 | | | | |
| TOTAL | 150,000 | 150,000 | | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 150,000 | 150,000 | | | | |
| TOTAL | 150,000 | 150,000 | | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | 530-4889-489 |

COMBUSTION TURBINE 2 CONTROLS UPGRADE

PROJECT STATUS: Cost Increase Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project is to replace the current outdated controls on Combustion Turbine 2 (CT2) with updated controls. The current control hardware and software is over 11 years old and is no longer supported by GE. This project will also integrate the Balance of Plant (BOP) control system that is currently run on a separate system. The BOP control system is a unique system that was created specifically for the Ames site when CT2 was built. It is used to operate all of the balance of plant equipment on the Combustion Turbine. It is also used to remotely run the Combustion Turbine by allowing the Operator to control it from the Power Plant control room. The BOP system does not allow the Operator to see all of the Combustion Turbine controls and is supported by a system that is not able to be run on new computers.

This project will replace the BOP system software and hardware, replace the outdated Combustion Turbine control software and hardware, and allow for remote operation from the Power Plant control room through a reliable connection with full view of all controls.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------|----------------|--------------------|--------------------|---------|---------|---------|
| COST: | | | | | | |
| Engineering/Design/Construction | 550,000 | | 550,000 | | | |
| TOTAL | 550,000 | | 550,000 | | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 550,000 | | 550,000 | | | |
| TOTAL | 550,000 | | 550,000 | | | |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | ACCOUNT NO. | | | |
| Utilities - Electric Production | | Electric Services | | | | |

POWER PLANT BUILDING MODIFICATIONS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will bring much needed improvements to the Power Plant. The Power Plant is a City building that has gone through several changes over the last 50 years. This project is a multi-year effort to make the building more energy efficient, meet current building requirements, and install security features.

| | | |
|---------|--|--------------------|
| 2017/18 | Repair/replace block windows and install card reader security system | 350,000 |
| 2018/19 | HVAC replacement for old relay room | 150,000 |
| 2021/22 | Office: design and build new ADA compliant entrance | 500,000 |
| 2022/23 | Turbine Deck Improvements: clean and paint walls, replace south windows, and epoxy the floor | 300,000 |
| | Total | \$1,300,000 |

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 50,000 | | 50,000 | | | |
| Construction | 750,000 | | 450,000 | 300,000 | | |
| TOTAL | 800,000 | | 500,000 | 300,000 | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 800,000 | | 500,000 | 300,000 | | |
| TOTAL | 800,000 | | 500,000 | 300,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

COAL YARD RECLAMATION

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

In the spring of 2016, the Power Plant was converted from coal-fired to natural gas-fired. This project is to reclaim the area used for coal storage by transforming it into a green space.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 50,000 | | | 50,000 | | |
| Construction | 450,000 | | | 450,000 | | |
| TOTAL | 500,000 | | | 500,000 | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 500,000 | | | 500,000 | | |
| TOTAL | 500,000 | | | 500,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

POWER PLANT FIRE PROTECTION SYSTEM

PROJECT STATUS: No Change

DESCRIPTION/JUSTIFICATION

The City’s insurance carrier has made several loss prevention recommendations for the Power Plant. The following projects are in response to these recommendations:

- Installing smoke alarms in different areas of the power plant. There are a number of areas in the plant that present a higher risk of fires. Having smoke alarms in these higher risk areas will alert plant personnel at the earliest detection of a fire.
- Installing a deluge fire protection system at the Gas Turbine site. Multiple pieces of equipment will need this system including both step up transformers, the jacking oil system on Gas Turbine 2, the lube oil and fuel oil system on Gas Turbine 2, and the Fuel Forwarding building used for both units. The amount of water required for such systems will require a pump house capable of pumping large amounts of water very quickly.
- Installing containment and protection under both turbine generators at the power plant. In the event of a bearing or turbine oil leak, the oil will be restricted to an area just below the turbine and generator and any fire extinguished by an automatic foam discharge system.
- Engineering for a quick hydrogen purge system on both Unit 7 and Unit 8 Generators. In the event of any fire around the Generator, it would be very important to remove the hydrogen from the generator as quickly as possible to avoid the hydrogen being a large fuel source. Currently, it takes a minimum of 4 hours to purge the generators. Engineering will assess the current system and design modifications to decrease purge time.

| | | |
|---------|---------------------------------|--------------------|
| 2011/12 | Engineering for Plant Fire Plan | 30,000 |
| 2014/15 | Gas Turbine 2 | 45,997 |
| 2015/16 | Gas Turbine 1 | 204,003 |
| 2017/18 | GT Fire Protection | 782,005 |
| 2022/23 | Turbine Generator #8 | 250,000 |
| | Total | \$1,312,005 |

COMMENTS

A serious fire in any one of the systems can force the outage of unit 7, unit 8 or the entire Power Plant. Replacement power during an extended period of time can be very expensive.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 250,000 | | | 250,000 | | |
| TOTAL | 250,000 | | | 250,000 | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 250,000 | | | 250,000 | | |
| TOTAL | 250,000 | | | 250,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

UNDERGROUND STORAGE TANK REMOVAL

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

There are two 42,000 gallon underground tanks in service that store #2 fuel oil for Units #7 and #8. These original tanks were installed during the construction of Unit #8. They have been in the ground for 30 years and are functional with no operational issues at this time. Testing completed in 2011 indicated that there are no problems. However, due to the age of these tanks (30 years is the expected safe life) it is possible that an oil leak could occur, causing an expensive cleanup. Now that the plant has been converted to natural gas, these tanks are no longer needed and should be removed from the ground.

COMMENTS

It is prudent to plan to remove these tanks rather than leave them in the ground.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | | | | | | |
| Equipment and Labor | 235,000 | | | 235,000 | | |
| TOTAL | 235,000 | | | 235,000 | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 235,000 | | | 235,000 | | |
| TOTAL | 235,000 | | | 235,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

UNIT 7 TURBINE MINOR OVERHAUL

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

It is standard in the industry to perform a Major overhaul every 7-8 years on the turbine and generator. In order to perform well within these 7-8 years, a Minor overhaul is performed every 3-4 years. The Minor overhaul consists of inspecting and cleaning the Main Stop Valve, Control Valves, and bearings. This inspection insures proper operation of these critical components.

COMMENTS

Traditionally, the City of Ames power plant has not performed a Minor inspection on either Unit 7 or Unit 8, but that is because the time between Major inspections has been about 5 years. We would like to increase this time between Major inspections to 7-8 years.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Turbine Overhaul | 100,000 | | | 100,000 | | |
| GE Tech Support | 50,000 | | | 50,000 | | |
| TOTAL | 150,000 | | | 150,000 | | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 150,000 | | | 150,000 | | |
| TOTAL | 150,000 | | | 150,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

UNIT 8 TURBINE MINOR OVERHAUL

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

It is standard in the industry to perform a Major overhaul every 7-8 years on the turbine and generator. In order to perform well within these 7-8 years, a Minor overhaul is performed every 3-4 years. The Minor overhaul consists of inspecting and cleaning the Main Stop Valve, Control Valves, and bearings. This inspection insures proper operation of these critical components.

COMMENTS

Traditionally, the City of Ames power plant has not performed a Minor inspection on either Unit 7 or Unit 8, but that is because the time between Major inspections has been about 5 years. We would like to increase this time between Major inspections to 7-8 years.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Turbine Overhaul | 100,000 | | | | 100,000 | |
| GE Tech Support | 50,000 | | | | 50,000 | |
| TOTAL | 150,000 | | | | 150,000 | |
| FINANCING: | | | | | | |
| Electric Utility Fund | 150,000 | | | | 150,000 | |
| TOTAL | 150,000 | | | | 150,000 | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|--------------------|--------------------|
| Utilities - Electric Production | Electric Services | |

VFDs FOR LARGE FANS AND PUMPS

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Power Plant operates many large fans and pumps in order to accomplish the electricity production. These fans and pumps include a Force Draft fan and Induced Draft fan, two Boiler Feed pumps, Cooling Tower circulating water pumps, and Cooling Tower fans. Each of these are driven by very large horse-power electric motors. Installing a Variable Frequency Drive (VFD) on each motor would allow for precision control and would provide much greater efficiency, therefor lowering electricity demand.

COMMENTS

This project would improve efficiency of each system, provide for better control, and help reduce wear and tear on the motors. The project would last for a couple years, starting in 2024/25.

LOCATION

Power Plant, 200 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------|----------------|--------------------|--------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 350,000 | | | | | 350,000 |
| TOTAL | 350,000 | | | | | 350,000 |
| FINANCING: | | | | | | |
| Electric Utility Fund | 350,000 | | | | | 350,000 |
| TOTAL | 350,000 | | | | | 350,000 |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | ACCOUNT NO. | | | |
| Utilities - Electric Production | | Electric Services | | | | |

UTILITIES - WATER PRODUCTION/TREATMENT

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---|-------------------|------------------|------------------|------------------|------------------|---------------|------|
| PROJECT: | | | | | | | |
| Water Supply Expansion | 6,078,000 | 6,078,000 | - | - | - | - | 48 |
| Demolition of Old Water Treatment Plant | 2,572,000 | 2,572,000 | - | - | - | - | 49 |
| Advanced Metering Infrastructure | 794,000 | 211,000 | 218,000 | 226,000 | 139,000 | - | 50 |
| Lime Lagoon Improvements | 1,307,000 | 125,000 | - | 122,000 | 1,060,000 | - | 51 |
| Water Plant Facility Improvements | 1,058,000 | - | 300,000 | 758,000 | - | - | 52 |
| Distribution System Monitoring Network | 985,000 | - | 985,000 | - | - | - | 53 |
| Well Field Standby Power | 968,000 | - | - | 968,000 | - | - | 54 |
| East Industrial Elevated Tank | 4,610,000 | - | - | 553,000 | 4,057,000 | - | 55 |
| SAM Pump Station Improvements | 300,000 | - | - | - | 300,000 | - | 56 |
| Ada Hayden Water Quality Study | 46,000 | - | - | - | 23,000 | 23,000 | 57 |
| TOTAL PROJECT EXPENDITURES | 18,718,000 | 8,986,000 | 1,503,000 | 2,627,000 | 5,579,000 | 23,000 | |
| FUNDING SOURCES: | | | | | | | |
| Debt: | | | | | | | |
| State Revolving Fund Loans | 13,260,000 | 8,650,000 | - | 553,000 | 4,057,000 | - | |

UTILITIES - WATER PRODUCTION/TREATMENT, continued

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------------------|-------------------|------------------|------------------|------------------|------------------|----------------|
| FUNDING SOURCES, continued | | | | | | |
| City: | | | | | | |
| Water Utility Fund | 4,732,000 | 336,000 | 1,503,000 | 1,348,000 | 1,522,000 | 23,000 |
| Other: | | | | | | |
| FEMA Hazard Mitigation Grant | 726,000 | - | - | 726,000 | - | - |
| TOTAL FUNDING SOURCES | 18,718,000 | 8,986,000 | 1,503,000 | 2,627,000 | 5,579,000 | 23,000 |

WATER SUPPLY EXPANSION

PROJECT STATUS: Delayed
Funding Change

Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

As old wells fail and need to be replaced and as demand for treated water increases, additional wells must be drilled. This project will provide new and replacement source water capacity. The currently developed water supply is adequate to meet normal demands until at least 2025. Under drought conditions, however, the yield of the aquifer is reduced, requiring additional wells to achieve the same source water capacity.

COMMENTS

In the summer of 2019, bids were accepted to develop a new well field on City-owned land north of East 13th Street and east of the Skunk River. Development of the well field (dubbed the "North River Valley Well Field") will consist of an interconnecting pipeline and three new wells, each with a capacity of approximately 1,000 gallons per minute (~1.5 million gallons per day). The bids exceeded the adopted budget, and the bids were rejected. The project will be redesigned and will be rebid in FY 2020/21. This CIP page now reflects a revised timeline for development of the well field, and a revised cost estimate.

| | | |
|-----------------|--------------------------------|------------------|
| 2016/17-2018/19 | Design/Engineering/Easements | 545,000 |
| 2019/20 | Redesign/Start of Construction | 759,000 |
| <u>2020/21</u> | <u>Complete Construction</u> | <u>6,078,000</u> |
| | Total | \$7,382,000 |

Further into the future, two additional wells could be constructed in the North River Valley Well Field. The City already owns approximately 70 acres south of Ames and East of Interstate 35 that can become a future well field. Additional land may be purchased on the west side of Interstate 35 in order to secure future water rights.

LOCATION

North River Valley Well Field – North of East 13th Street and east of the Skunk River

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------------------------|------------------|------------------|---------|---------|---------|---------|
| COST: | | | | | | |
| Engineering | 200,000 | 200,000 | | | | |
| Construction | 5,878,000 | 5,878,000 | | | | |
| TOTAL | 6,078,000 | 6,078,000 | | | | |
| FINANCING: | | | | | | |
| Drinking Water State Revolving Fund | 6,078,000 | 6,078,000 | | | | |
| TOTAL | 6,078,000 | 6,078,000 | | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|------------------------------|-----------------------------|--------------|
| Utilities - Water Production | Water and Pollution Control | 512-3943-489 |

DEMOLITION OF OLD WATER TREATMENT PLANT

PROJECT STATUS: Scope Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will demolish the treatment structures at the old Water Treatment Plant site, and add additional storage and a new conference room to the existing Technical Services Complex (TSC).

COMMENTS

The new Water Treatment Plant began operation during the summer of 2017. Now that the facility has been fully commissioned and is performing reliably, the treatment structures at the old plant can be torn down. This project will demolish the filter building, chemical feed building, external treatment basins, administrative offices, and ¾ million gallon ground storage reservoir. The high service pump station, two million storage reservoir, and five million gallon storage reservoir will remain. The two-story TSC that houses the department’s Water Meter and Laboratory Services Divisions will also remain, and will be modified by adding an elevator, a new conference room, and additional storage space. The modifications to the TSC were shown last year as a stand-alone CIP page. The design of the projects have been combined so that the demolition plan can be prepared with the future use of the space in mind.

The total project budget history is as follows:

| | | |
|---------|--|--------------------|
| 2018/19 | Relocate Security System to TSC Building | 21,750 |
| 2019/20 | Design/Engineering/Start of Demolition | 1,764,337 |
| 2020/21 | Complete Demolition/Construction of TSC Improvements | 2,572,000 |
| | Total | \$4,358,087 |

LOCATION

300 E. Fifth St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------------------------|------------------|------------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering/Admin | 232,000 | 232,000 | | | | |
| Construction | 2,340,000 | 2,340,000 | | | | |
| TOTAL | 2,572,000 | 2,572,000 | | | | |
| FINANCING: | | | | | | |
| Drinking Water State Revolving Fund | 2,572,000 | 2,572,000 | | | | |
| TOTAL | 2,572,000 | 2,572,000 | | | | |

| | | |
|------------------------------|-----------------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Utilities - Water Production | Water and Pollution Control | 512-3960-489 |

ADVANCED METERING INFRASTRUCTURE

PROJECT STATUS: Schedule Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This is a multi-year project to convert the water meter reading system from the existing generator/remote technology to the current industry standard of Automated Meter Reading/Advanced Metering Infrastructure (AMR/AMI). While the project includes water meter reading only, the system being implemented can be expanded to accommodate electric meters as well, should that be desired in the future.

COMMENTS

The water meter reading system installed prior to 2014 was a mechanical system that transmits the meter reading from the water meter (located inside the property) to a remote register on the outside of the property using a low-voltage cable. This technology is obsolete and is no longer available. A cross-departmental team evaluated multiple technology platforms utilizing various combinations of “walk-by” or “drive-by” reads, radio reads, cellular reads, and other methods of obtaining meter readings. The team concluded that an AMR walk-by or drive-by system would be the most cost-effective short-term solution to replace the old technology. The City has entered into a contract with Itron, Inc. to provide the radio read system, reading equipment, and software; and Badger Meter, Inc. to provide water meters for this project. This system is capable of being upgraded to a more sophisticated AMI system in the future that could provide more detailed data collection and could allow meter reading from the office without the need to send a meter reader out into the field.

The replacement program began in FY 2014/15, focusing initially on meter locations that were problematic for the Meter Readers to access. Much of the next two years focused on replacing meters in areas that are not served by the Ames Municipal Electric System, which, as a result, are locations that are more expensive to read on a per-meter basis. The final years will pick up the balance of the meter inventory.

The cost to replace 1,400 meters per year is budgeted in the Water Meter Division’s operating budget (400 meters for new construction and 1,000 for routine meter replacement). The cost for an additional 1,100 replacements is included annually as a part of this CIP project. This is the same number of meters per year as was shown in last year’s CIP. An additional half-year of replacements is now shown in FY 2023/24, to pick up the budgeted quantities from previous years that were not completed. This is not an increase in the overall cost or scope of the project; rather, it reflects a slight delay in the overall completion of the inventory conversion.

LOCATION

City-wide

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Equipment | 794,000 | 211,000 | 218,000 | 226,000 | 139,000 | |
| TOTAL | 794,000 | 211,000 | 218,000 | 226,000 | 139,000 | |
| FINANCING: | | | | | | |
| Water Utility Fund | 794,000 | 211,000 | 218,000 | 226,000 | 139,000 | |
| TOTAL | 794,000 | 211,000 | 218,000 | 226,000 | 139,000 | |

| | | |
|----------------------------|-----------------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Utilities - Water Meter | Water and Pollution Control | 510-3947-489 |

LIME LAGOON IMPROVEMENTS

PROJECT STATUS: Delayed

Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project includes the ongoing major maintenance to the lime lagoons, as well as periodic improvements to increase available working capacity. The timing for constructing additional cells is staggered over time to match growth in demand.

COMMENTS

Lime residuals from the water softening process are stored and dewatered in large storage lagoons. The material is removed annually in the fall and recycled by applying it to farm fields as an agricultural liming agent. The cost of the annual removal and application is budgeted in the operating budget.

A new scope element has been added to the project in FY 2020/21 to rebuild the trench drains in the bottoms of the three oldest cells. These drains aid in the dewatering process. Over time, they have plugged with fine lime particles and may have been damaged due to the excavation of lime from the cells using a back hoe.

The project that will partially subdivide the large north cell has been delayed one year, based on both the timing of the anticipated capacity need and the workload of staff to be able to undertake the project. An inflationary cost increase was made based on delaying the project by one year.

LOCATION

Water Plant lime lagoons, south of East 13th Street, west of the Skunk River

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|------------------|----------------|----------------|----------------|------------------|----------------|
| COST: | | | | | | |
| Engineering | 137,000 | 15,000 | | 122,000 | | |
| Construction | 1,170,000 | 110,000 | | | 1,060,000 | |
| TOTAL | 1,307,000 | 125,000 | | 122,000 | 1,060,000 | |
| FINANCING: | | | | | | |
| Water Utility Fund | 1,307,000 | 125,000 | | 122,000 | 1,060,000 | |
| TOTAL | 1,307,000 | 125,000 | | 122,000 | 1,060,000 | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|------------------------------|-----------------------------|--------------------|
| Utilities - Water Production | Water and Pollution Control | 510-3951-489 |

WATER PLANT FACILITY IMPROVEMENTS

PROJECT STATUS: Cost Change Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project involves annual equipment repairs, major maintenance activities, replacement, and upgrades at the Water Treatment Plant, Technical Services Complex (TSC), and associated remote facilities such as wells, elevated tanks, and booster pump stations. Each of the identified items are stand-alone projects.

COMMENTS

The schedule for these improvements is as follows:

| | | |
|---------|--------------------|---|
| 2021/22 | 300,000 | SCADA/Security Modifications (\$100,000); Lime Slaking Building Dehumidification (\$200,000) |
| 2022/23 | 758,000 | Add (2) High Service Pumps at East 13 th Street Pump Station (\$370,000); Yard Piping Improvements (\$107,000); Switchgear Preventative Maintenance (\$81,000); SCADA Server Replacement (\$200,000) |
| | <u>\$1,058,000</u> | <u>Total</u> |

Supervisory Control and Data Acquisition (SCADA) & security modifications were originally budgeted for FY 2019/20, but are being delayed to allow additional operational experience using these new systems before making changes. Lime Slaking Dehumidification will provide permanent, fixed dehumidification units. Prior to their installation, however, portable dehumidifiers are being evaluated to see if they might be a viable long-term solution. The new Water Treatment Plant was initially constructed with two high service pumps, with provisions to add four additional pumps over time. Two of the four additional pumps are planned to be added in FY 2022/23, along with the necessary yard piping improvements. The main electrical switchgear at the new plant is scheduled for routine preventative maintenance every five years. The SCADA server replacement is a planned replacement of the critical computer components of the plant's control system. Additional improvements may be identified in future years. The schedule may change in response to impending failures, regulatory agency requirements, etc.

LOCATION

Technical Services Complex, 300 E. Fifth St.; Water Treatment Plant, 1800 E. 13th St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 49,000 | | 28,000 | 21,000 | | |
| Construction | 809,000 | | 272,000 | 537,000 | | |
| Equipment | 200,000 | | | 200,000 | | |
| TOTAL | 1,058,000 | | 300,000 | 758,000 | | |
| FINANCING: | | | | | | |
| Water Utility Fund | 1,058,000 | | 300,000 | 758,000 | | |
| TOTAL | 1,058,000 | | 300,000 | 758,000 | | |

| | | |
|-----------------------------|-----------------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Utilities - Water Treatment | Water and Pollution Control | |

DISTRIBUTION SYSTEM MONITORING NETWORK

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will install a network of sensors in the drinking water distribution system to monitor pressure fluctuations in real time. The sensors will be connected to the Water Plant’s Supervisory Control and Data Acquisition (SCADA) network, allowing both treatment plant staff and distribution system staff access to the information.

COMMENTS

Pressure management in distribution systems is fundamental to providing safe drinking water. The loss of pressure can potentially allow ground water to contaminate the system. Pressure fluctuations can negatively impact the physical integrity of the pipes and result in water main breaks. When a water main breaks, it causes a pressure wave that is carried through the pipe network by the water. These sudden pressure changes, or transients, can be detected by pressure sensing instruments inserted into a water main. By installing and continuously monitoring a network of sensors, treatment plant operators and field crews can pinpoint the location of a water main break much more easily and quickly, improving the response time to isolate and repair a break. It also will provide real-time data to better determine if a boil water advisory is needed and to better delineate the areas that should be covered by a boil advisory.

Currently, pressure monitoring is done only at a very small number of locations that are connected to the Water Plant’s SCADA system, such as pump stations and elevated tanks. This project includes the addition of up to 25 monitoring nodes installed at key locations in the distribution system. The data would be monitored by the SCADA system, serving as an extension of the control system into the distribution system.

LOCATION

Various locations

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Design | 105,000 | | 105,000 | | | |
| Equipment/Installation | 880,000 | | 880,000 | | | |
| TOTAL | 985,000 | | 985,000 | | | |
| FINANCING: | | | | | | |
| Water Utility Fund | 985,000 | | 985,000 | | | |
| TOTAL | 985,000 | | 985,000 | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|------------------------------|-----------------------------|--------------------|
| Utilities - Water Production | Water and Pollution Control | |

WELL FIELD STANDBY POWER

PROJECT STATUS: Delayed

Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will provide standby electrical power to select wells located in the Hunziker Youth Sports Complex.

COMMENTS

Iowa's Water Supply Design Standards require that a water system have redundant electrical power available. Redundancy may be provided either through "connection to at least two independent public power sources" or by "portable or in-place internal-combustion engines." Redundant power is provided at the Water Treatment Plant and in the High Service Pump Station. Installing standby power for a portion of the wells was one of the recommendations contained in the utility's 2005 Vulnerability Assessment and Emergency Response Plan. Now that higher priority recommendations in that planning document have been addressed, standby power is now being proposed.

The wells located in the Hunziker Youth Sports Complex are among the highest capacity wells in the City's inventory. Installing standby power to at least some of these five wells would allow the water utility to continue to produce treated water, at a reduced capacity, in the event of a prolonged power outage. As future well fields are developed, standby power will become a standard design element. The new North River Valley Well Field will include the first standby power on a water source.

The most recent update to the Story County Hazard Mitigation Plan specifically included the need for standby power for existing wells. This makes the project eligible for Pre-Hazard Mitigation Grants. The funding source is shown as a FEMA Hazard Mitigation Grant with a 25% local match from the Water Utility Fund. The project is being delayed to the third year of the CIP. The project will continue to be shown in the third year until grant funding becomes available, at which time it will be accelerated.

LOCATION

Hunziker Youth Sports Complex

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 116,000 | | | 116,000 | | |
| Construction | 852,000 | | | 852,000 | | |
| TOTAL | 968,000 | | | 968,000 | | |
| FINANCING: | | | | | | |
| Water Utility Fund | 242,000 | | | 242,000 | | |
| FEMA Hazard Mitigation Grant | 726,000 | | | 726,000 | | |
| TOTAL | 968,000 | | | 968,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|------------------------------|-----------------------------|--------------------|
| Utilities - Water Production | Water and Pollution Control | |

EAST INDUSTRIAL ELEVATED TANK

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project involves the construction of a new one million gallon elevated tank (“water tower”) to serve the newly annexed industrial area along Lincoln Way east of Interstate 35.

COMMENTS

In order to meet the anticipated water demands in this new area in east Ames, a new elevated tank is required. The tank will help stabilize pressures at the far eastern edge of the city limits, as well as provide the necessary volume for firefighting purposes in what is envisioned as a moderate to heavy industrial neighborhood.

This project may be accelerated or delayed as needed to meet the pace of development in the industrial park.

LOCATION

Intersection of East Lincoln Way and 580th Avenue

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------------------------|------------------|----------------|----------------|----------------|------------------|----------------|
| COST: | | | | | | |
| Engineering | 922,000 | | | 553,000 | 369,000 | |
| Construction | 3,688,000 | | | | 3,688,000 | |
| TOTAL | 4,610,000 | | | 553,000 | 4,057,000 | |
| FINANCING: | | | | | | |
| Drinking Water State Revolving Fund | 4,610,000 | | | 553,000 | 4,057,000 | |
| TOTAL | 4,610,000 | | | 553,000 | 4,057,000 | |

PROGRAM - ACTIVITY: Utilities - Water Production
DEPARTMENT: Water and Pollution Control
ACCOUNT NO.:

SAM PUMP STATION IMPROVEMENTS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project will add a fourth pump (\$155,000) to the pump station located at State Avenue and Mortensen Road (SAM). It will also add standby power (\$145,000) to the SAM pump station.

COMMENTS

In 2003, the water distribution system was split into two separate pressure zones to accommodate growth in the west and southwest portions of the city. To provide the increased pressure to the new western pressure zone, a booster pump station was built at the intersection of State Avenue and Mortensen Road. Initially only three pumps were installed in the station, with accommodations for a fourth future pump. As growth in that area has increased, it now seems prudent to add the fourth pump.

Iowa’s Water Supply Design Standards require that a water system have redundant electrical power available. Redundancy may be provided either through “connection to at least two independent public power sources” or by “portable or in-place internal-combustion engines.” Redundant power is provided at the Water Treatment Plant and in the High Service Pump Station, but is not currently provided for the booster pump station. This project will add a standby generator to the facility.

LOCATION

Intersection of State Avenue and Mortensen Road

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 25,000 | | | | 25,000 | |
| Construction | 275,000 | | | | 275,000 | |
| TOTAL | 300,000 | | | | 300,000 | |
| FINANCING: | | | | | | |
| Water Utility Fund | 300,000 | | | | 300,000 | |
| TOTAL | 300,000 | | | | 300,000 | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|------------------------------|-----------------------------|--------------------|
| Utilities - Water Production | Water and Pollution Control | |

DESCRIPTION/JUSTIFICATION

Since the mid-1970's, the lakes at Ada Hayden Park have been used by the Ames Water Plant as a source for augmenting alluvial groundwater recharge during periods of low flows in the South Skunk River. In addition to the drinking water use, the lakes are a defining feature of Ada Hayden Heritage Park, providing a wide array of water-based recreational opportunities for the community. This project is part of an on-going effort to monitor the health of the lakes as development occurs in and around the lake's watershed. In addition to being a valuable tool for City staff, the continued monitoring of the lakes is of interest to many members of the community.

COMMENTS

A preliminary water quality evaluation was made in 2000 as part of the City's "due diligence" effort prior to purchasing the former Hallet's Quarry property. This evaluation focused primarily on potential contamination of the lakes that could have resulted from the former industrial use of the property. Follow-up investigations were performed in FY 2004/05, FY 2009/10, and again in FY 2017/18. These latter investigations were focused on the overall "health" and water quality in the lakes, looking at parameters such as dissolved oxygen, nitrogen and phosphorus, algae and microcystins, suspended solids and turbidity, and bacteria.

As the watershed has developed, the City has made efforts to encourage land use practices that will not have a negative impact on the water quality in the lakes. The long-term intent behind the monitoring effort has been to periodically recheck the lakes (on a five to seven year interval) to determine if the existing land practices have been effective in preserving the in-lake water quality.

The intent of this project is to conduct a new monitoring event every five years. The next round would take place during the summers of 2023 and 2024 at an estimated cost of \$23,000 per summer.

LOCATION

Ada Hayden Heritage Park

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|---------------|---------|---------|---------|---------------|---------------|
| COST: | | | | | | |
| Contracted Monitoring | 46,000 | | | | 23,000 | 23,000 |
| TOTAL | 46,000 | | | | 23,000 | 23,000 |
| FINANCING: | | | | | | |
| Water Utility Fund | 46,000 | | | | 23,000 | 23,000 |
| TOTAL | 46,000 | | | | 23,000 | 23,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|------------------------------|-----------------------------|-------------|
| Utilities - Water Production | Water and Pollution Control | |

UTILITIES - WATER POLLUTION CONTROL

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|------------------------------------|-------------------|----------------|----------------|------------------|------------------|-------------------|------|
| PROJECT: | | | | | | | |
| WPC Plant Facility Improvements | 1,012,000 | 150,000 | 31,000 | 695,000 | - | 136,000 | 59 |
| Digester Improvements | 183,000 | 183,000 | - | - | - | - | 60 |
| Watershed-Based Nutrient Reduction | 1,000,000 | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 | 61 |
| Nutrient Reduction Modifications | 10,700,000 | - | - | 1,260,000 | 4,640,000 | 4,800,000 | 62 |
| Cogeneration System Maintenance | 4,590,000 | - | - | 4,590,000 | - | - | 63 |
| WPC Electrical System Maintenance | 97,000 | - | - | 97,000 | - | - | 64 |
| WPC Headworks Mofifications | 10,618,000 | - | - | - | 4,133,000 | 6,485,000 | 65 |
| TOTAL PROJECT EXPENDITURES | 28,200,000 | 533,000 | 231,000 | 6,842,000 | 8,973,000 | 11,621,000 | |
| FUNDING SOURCES: | | | | | | | |
| Debt: | | | | | | | |
| State Revolving Fund Loans | 21,318,000 | - | - | 1,260,000 | 8,773,000 | 11,285,000 | |
| City: | | | | | | | |
| Sewer Utility Fund | 6,882,000 | 533,000 | 231,000 | 5,582,000 | 200,000 | 336,000 | |
| TOTAL FUNDING SOURCES | 28,200,000 | 533,000 | 231,000 | 6,842,000 | 8,973,000 | 11,621,000 | |

WPC PLANT FACILITY IMPROVEMENTS

PROJECT STATUS: Cost Change

Scope Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

It is necessary to plan for the orderly repair, replacement, and upgrade of the Water Pollution Control Facility equipment in order to continue high-quality treatment and comply with environmental regulations. This project involves annual equipment repairs, maintenance, replacement, and upgrades at the plant. This facility became fully operational in November 1989. Life expectancies for plant equipment vary from five-to-six years to more than ten years.

COMMENTS

A remote storage building will be constructed north of the treatment plant to protect miscellaneous farm and maintenance equipment. The utility mapping project will update the original site utility maps to include improvements made over the past 30 years. Having a current map will be critical heading in to the major reconstruction projects planned. Replacement of the facility’s Programmable Logic Controllers (PLCs) is recommended due to their age. Replacement of the Supervisory Control and Data Acquisition (SCADA) servers is scheduled for every five years. The cost and scope change is a result of adding the site utility mapping work in FY 2021/22.

The schedule for these improvements is as follows:

| | | |
|---------|---|--------------------|
| 2020/21 | Remote Storage Building | 150,000 |
| 2021/22 | Site Utility Mapping | 31,000 |
| 2022/23 | Replace PLCs (\$635,000) & SCADA Servers (\$60,000) | 695,000 |
| 2024/25 | Replace Fire Alarm System | 136,000 |
| | Total | \$1,012,000 |

LOCATION

WPC Plant; four miles south of Highway 30, east of I-35

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering & Administration | 90,000 | | | 75,000 | | 15,000 |
| Construction & Equipment | 922,000 | 150,000 | 31,000 | 620,000 | | 121,000 |
| TOTAL | 1,012,000 | 150,000 | 31,000 | 695,000 | | 136,000 |
| FINANCING: | | | | | | |
| Sewer Utility Fund | 1,012,000 | 150,000 | 31,000 | 695,000 | | 136,000 |
| TOTAL | 1,012,000 | 150,000 | 31,000 | 695,000 | | 136,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------------|-----------------------------|--------------------|
| Utilities - WPC Plant | Water and Pollution Control | 520-3409-489 |

DIGESTER IMPROVEMENTS**PROJECT STATUS:** No Change**DESCRIPTION/JUSTIFICATION**

This project will replace the three original waste activated sludge pumps.

COMMENTS

The WPC Facility uses anaerobic digestion as a core process for treating wastewater solids. The digestion process stabilizes waste, reduces the volume of solids, and provides a measure of pathogen destruction. The process also generates methane gas as a by-product. This gas is captured and used as a fuel source for on-site electrical generation.

Recent process evaluations (Residuals Handling Study, 2010; Long-Range Facility Plan, 2012) identified a series of maintenance needs and improvements to the digesters to maintain the facility's solids handling capacity. This project replaces the waste activated sludge pumps that are used to transfer excess solids from the Solids Contact Basins to the Primary Digesters.

LOCATION

WPC Facility; four miles south of Highway 30, east of I-35

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering & Administration | 23,000 | 23,000 | | | | |
| Construction & Equipment | 160,000 | 160,000 | | | | |
| TOTAL | 183,000 | 183,000 | | | | |
| FINANCING: | | | | | | |
| Sewer Utility Fund | 183,000 | 183,000 | | | | |
| TOTAL | 183,000 | 183,000 | | | | |

PROGRAM - ACTIVITY:

Utilities - WPC Plant

DEPARTMENT:

Water and Pollution Control

ACCOUNT NO.

520-3450-489

WATERSHED-BASED NUTRIENT REDUCTION

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Water Pollution Control 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 included in the Iowa Nutrient Reduction Exchange. Staff is currently working with the Iowa League of Cities and other large utilities to encourage the Iowa Department of Natural Resources to allow these off-site nutrient reductions to be “banked” as credit toward any future, more stringent nutrient reduction requirements imposed on the WPC Facility. This project sets aside \$200,000 per year that can be put toward urban watershed improvements that have a nutrient reduction component.

COMMENTS

Projects undertaken will not only have a nutrient reduction element, but will also be projects that provide additional, ancillary benefits such as flood risk reduction, increased recreational opportunities, improved wildlife habitat, urban storm water management, and drinking water source protection. It is possible that a project may not be undertaken every year. Funds may be allowed to accumulate to enable a larger-scale project to be undertaken. It is likely that at least some projects will involve partnerships with other City departments as well as with other governmental agencies and non-profit entities.

LOCATION

Throughout the community; specific locations will vary by year

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 150,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| Construction | 850,000 | 170,000 | 170,000 | 170,000 | 170,000 | 170,000 |
| TOTAL | 1,000,000 | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |
| FINANCING: | | | | | | |
| Sewer Utility Fund | 1,000,000 | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |
| TOTAL | 1,000,000 | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------------|-----------------------------|--------------------|
| Utilities - WPC Plant | Water and Pollution Control | 520-3422-489 |

NUTRIENT REDUCTION MODIFICATIONS

PROJECT STATUS: Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

In early 2013, the Iowa Department of Natural Resources (IDNR) released the Iowa Nutrient Reduction Strategy. This strategy will require the State’s 102 largest municipal wastewater facilities to install “technically and economically feasible process changes for nutrient removal.” A feasibility study was completed in early 2019 that identified the City’s desired approach to meet the nutrient standards. The cost estimates shown below are built around the “Conventional Activated Sludge – Biological Nutrient Removal” treatment scheme, implemented over a 20 year period. The actual treatment scheme will need to be confirmed closer to construction so that advances in technology and state-of-the-art practices can be incorporated.

COMMENTS

The Iowa Nutrient Reduction Strategy lays out a schedule for point source discharges based on the National Pollutant Discharge Elimination System (NPDES) permit renewal cycle for each facility. When the next permit is issued, the City will be required to submit a plan to the Iowa Department of Natural Resources that evaluates the cost and feasibility of installing nutrient reduction at the facility. The facility will then receive a compliance schedule requiring the construction of nutrient reduction facilities during subsequent NPDES permits.

| | | |
|------------------------|---|---------------------|
| 2017/18 | Preliminary Engineering Report | 285,000 |
| 2022/23-2024/25 | Phase 1 Engineering and Construction | 10,700,000 |
| 2027/28-2028/29 | Phase 2 Engineering and Construction | 14,260,000 |
| <u>2037/38-2038/39</u> | <u>Phase 3 Engineering and Construction</u> | <u>15,170,000</u> |
| | Total | \$40,415,000 |

The above schedule would construct back-up capacity for the trickling filters in Phase 1, with engineering beginning in FY 2022/23 and construction occurring over the following two years. The second phase would begin in approximately FY 2027/28 and would remove the trickling filters and construct additional nutrient removal capacity. The third and final phase would begin in approximately FY 2037/38, bringing on-line the full nutrient reduction capacity. The cost change is due to the addition of construction phase engineering services.

LOCATION

WPC Facility; four miles south of Highway 30, east of I-35

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|----------------------------------|-------------------|----------------|----------------|------------------|------------------|------------------|
| COST: | | | | | | |
| Engineering | 1,760,000 | | | 1,260,000 | 250,000 | 250,000 |
| Construction | 8,940,000 | | | | 4,390,000 | 4,550,000 |
| TOTAL | 10,700,000 | | | 1,260,000 | 4,640,000 | 4,800,000 |
| FINANCING: | | | | | | |
| Clean Water State Revolving Fund | 10,700,000 | | | 1,260,000 | 4,640,000 | 4,800,000 |
| TOTAL | 10,700,000 | | | 1,260,000 | 4,640,000 | 4,800,000 |

PROGRAM - ACTIVITY:

Utilities - WPC Plant

DEPARTMENT:

Water and Pollution Control

ACCOUNT NO.

COGENERATION SYSTEM MAINTENANCE

PROJECT STATUS: Funding Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project includes the replacement of Methane Generator 2 with a new engine, the addition of gas conditioning, and construction of a new high strength waste receiving station. Approximately 20% of the plant’s electricity is generated on-site.

COMMENTS

The WPC Facility uses anaerobic digestion as a core treatment process for wastewater solids. The digestion process stabilizes waste, reduces the volume of solids, and provides a measure of pathogen destruction. The process also generates methane “bio-gas” as a by-product. This gas is captured and used as a fuel source for on-site electrical generation. The facility currently has two gas-fired engines capable of operating on either the bio-gas or natural gas. Each engine drives a dedicated electric generator. A heat recovery system on the engines uses the waste heat to warm the digesters, further reducing the energy demand of the facility. A project already under way will provide a direct-fired boiler to operate as a back-up to the engine-generator units.

This project incorporates the conclusions from the October 17, 2017 workshop with City Council. Work already completed in FY 2018/19 included the addition of a new dual fuel boiler that operates alongside the existing cogeneration engines, as well as replacement of the controls and switchgear.

FY 2022/23 includes the following projects:

| | |
|------------------------------|------------------|
| Demolition of MG #2 | 205,000 |
| New Engine | 1,422,000 |
| Gas Conditioning | 1,688,000 |
| <u>New Receiving Station</u> | <u>1,275,000</u> |
| Total | \$4,590,000 |

The rate model used last year assumed the project would be funded out of the Sewer Utility Fund, but the CIP page inadvertently still showed the project as being funded with a loan from the Clean Water SRF program. The funding shown below now reflects that change.

LOCATION

WPC Facility; four miles south of Highway 30, east of I-35

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|------------------|---------|---------|------------------|---------|---------|
| COST: | | | | | | |
| Engineering | 688,000 | | | 688,000 | | |
| Construction | 3,902,000 | | | 3,902,000 | | |
| TOTAL | 4,590,000 | | | 4,590,000 | | |
| FINANCING: | | | | | | |
| Sewer Utility Fund | 4,590,000 | | | 4,590,000 | | |
| TOTAL | 4,590,000 | | | 4,590,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|-----------------------|-----------------------------|-------------|
| Utilities - WPC Plant | Water and Pollution Control | |

WPC ELECTRICAL SYSTEM MAINTENANCE

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project covers the periodic maintenance of the overall electrical system for the facility. It includes routine preventative maintenance projects intended to sustain the safety and functionality of the electrical components at a high level. It also may include periodic major repair or replacement projects not directly associated with other CIP projects.

COMMENTS

A main component of the facility's electrical system is the switchgear, which is a series of electrical cabinets that contain the disconnect switches and circuit breakers used to protect and isolate electrical equipment. Over time, the equipment can build up dust, insects, and other debris. The connections can become loose over time, and the insulation can degrade. These issues can create a reliability problem, and can also pose a serious fire hazard. To help ensure that the equipment performs as needed, a routine schedule of preventative maintenance has been used, with the main switchgear and the Total Energy Building switchgear being cleaned every five years. Both sets of switchgear are planned for routine maintenance in FY 2022/23.

LOCATION

WPC Plant; four miles south of Highway 30, east of I-35

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|---------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 97,000 | | | 97,000 | | |
| TOTAL | 97,000 | | | 97,000 | | |
| FINANCING: | | | | | | |
| Sewer Utility Fund | 97,000 | | | 97,000 | | |
| TOTAL | 97,000 | | | 97,000 | | |

| | | |
|----------------------------|-----------------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Utilities - WPC Plant | Water and Pollution Control | |

WPC HEADWORKS MODIFICATIONS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project includes a complete replacement of the entire headworks system beginning in FY 2023/24.

COMMENTS

The headworks of the Water Pollution Control (WPC) Facility is where the very first treatment steps take place, including the capture and removal of rags and large debris, as well as the removal of heavy sand and grit. These materials can plug downstream valves and equipment, and are extremely abrasive to pumps and piping. A long-range facility needs assessment completed in 2012 provided a prioritized schedule of structural and equipment replacement needs. This work was identified in that assessment.

The cost break down for individual elements of the project is as follows:

| | | <u>Engineering</u> | <u>Construction</u> | <u>Total</u> |
|-------------------|----------------------------------|--------------------|---------------------|---------------------|
| 2023/24 – 2024/25 | Replace Grit Conveyor | 346,000 | 1,689,000 | 2,035,000 |
| | Bar Screen Improvements | 599,000 | 2,926,000 | 3,525,000 |
| | Grit Wash Clarifier | 74,000 | 359,000 | 433,000 |
| | Replace GRUs with New Head Cells | 545,000 | 2,660,000 | 3,205,000 |
| | RWPS Piping and Supports | 241,000 | 1,179,000 | 1,420,000 |
| | Total | \$1,805,000 | \$8,813,000 | \$10,618,000 |

LOCATION

WPC Facility; four miles south of Highway 30, east of I-35

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|----------------------------------|-------------------|----------------|----------------|----------------|------------------|------------------|
| COST: | | | | | | |
| Engineering | 1,805,000 | | | | 1,104,000 | 701,000 |
| Construction | 8,813,000 | | | | 3,029,000 | 5,784,000 |
| TOTAL | 10,618,000 | | | | 4,133,000 | 6,485,000 |
| FINANCING: | | | | | | |
| Clean Water State Revolving Fund | 10,618,000 | | | | 4,133,000 | 6,485,000 |
| TOTAL | 10,618,000 | | | | 4,133,000 | 6,485,000 |

PROGRAM - ACTIVITY:

Utilities - WPC Plant

DEPARTMENT:

Water and Pollution Control

ACCOUNT NO.

UTILITIES - WATER DISTRIBUTION

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|-----------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
| PROJECT: | | | | | | | |
| Water System Improvements | 8,800,000 | 1,500,000 | 1,600,000 | 1,750,000 | 1,900,000 | 2,050,000 | 67 |
| TOTAL PROJECT EXPENDITURES | 8,800,000 | 1,500,000 | 1,600,000 | 1,750,000 | 1,900,000 | 2,050,000 | |
| FUNDING SOURCES: | | | | | | | |
| City: | | | | | | | |
| Water Utility Fund | 8,800,000 | 1,500,000 | 1,600,000 | 1,750,000 | 1,900,000 | 2,050,000 | |
| TOTAL FUNDING SOURCES | 8,800,000 | 1,500,000 | 1,600,000 | 1,750,000 | 1,900,000 | 2,050,000 | |

WATER SYSTEM IMPROVEMENTS

PROJECT STATUS: No Change

DESCRIPTION/JUSTIFICATION

This program provides for replacing water mains in areas that experience rusty water problems. It also provides for installing larger distribution mains in areas that have 4" supply lines, transferring water services from 4" water mains in streets where larger water mains exist, and abandoning 4" water mains. Eliminating duplicate water mains, where possible, improves water flow and helps reduce rusty water. Installing larger distribution lines in areas that have a high concentration of 4" supply lines and less than desirable fire-fighting capacity (predominantly in the older areas of the community) provides larger supply quantities in relation to the current and proposed land uses, in accordance with the Land Use Policy Plan. This program may also include the replacement of leaking valves on larger water mains along major roadways where the complexity of the project encourages replacement by a contractor.

COMMENTS

Water system improvements and water service transfers will be completed at various locations in the community. Project locations will be coordinated with upcoming roadway improvement projects to minimize construction impacts to neighborhoods.

Rusty water complaints highlight the continuing need to replace the 4" water mains in order to provide fire-fighting capacity and improved water quality in the system. The system currently has 10.4 miles of active 4" water main (estimated \$15 million to install a new main and transfer existing services to the new main). Improvements to these water mains will result in reduced maintenance costs. Replacing these mains will also result in improved fire safety and water quality. Annual funding has been increased in this program to accelerate replacement of utilities.

LOCATION

FY 2020/21 Water Main Replacement:

East 13th Street (Duff Avenue to Meadowlane Avenue), Luther Drive, Jensen Drive (24th Street to Luther Drive), McKinley Drive (Hayes Avenue to Northwestern Avenue) and various other locations to be determined

FY 2020/21 Water Service Transfer:

Various locations to be determined

The cost of these public infrastructure projects are a high priority need to continue to improve the public water system to provide water quality and fire-fighting capacity to the community.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| COST: | | | | | | |
| Engineering | 1,260,000 | 225,000 | 240,000 | 250,000 | 265,000 | 280,000 |
| Construction | 7,540,000 | 1,275,000 | 1,360,000 | 1,500,000 | 1,635,000 | 1,770,000 |
| TOTAL | 8,800,000 | 1,500,000 | 1,600,000 | 1,750,000 | 1,900,000 | 2,050,000 |
| FINANCING: | | | | | | |
| Water Utility Fund | 8,800,000 | 1,500,000 | 1,600,000 | 1,750,000 | 1,900,000 | 2,050,000 |
| TOTAL | 8,800,000 | 1,500,000 | 1,600,000 | 1,750,000 | 1,900,000 | 2,050,000 |

| | | |
|--------------------------------|--------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Utilities - Water Distribution | Public Works | 510-8461-489 |

UTILITIES - SANITARY SEWER SYSTEM

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---|-------------------|------------------|------------------|------------------|------------------|------------------|------|
| PROJECT: | | | | | | | |
| Sanitary Sewer System Improvements | 22,013,000 | 4,052,000 | 4,272,000 | 4,400,000 | 4,548,000 | 4,741,000 | 69 |
| East 13th Street Sanitary Sewer Extension | 2,500,000 | 2,500,000 | - | - | - | - | 70 |
| Clear Water Diversion | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 71 |
| TOTAL PROJECT EXPENDITURES | 24,763,000 | 6,602,000 | 4,322,000 | 4,450,000 | 4,598,000 | 4,791,000 | |
| FUNDING SOURCES: | | | | | | | |
| Debt: | | | | | | | |
| G.O. Bonds (TIF Abated) | 2,500,000 | 2,500,000 | - | - | - | - | |
| State Revolving Fund Loans | 20,363,000 | 3,802,000 | 3,922,000 | 4,050,000 | 4,198,000 | 4,391,000 | |
| Total Debt Funding | 22,863,000 | 6,302,000 | 3,922,000 | 4,050,000 | 4,198,000 | 4,391,000 | |
| City: | | | | | | | |
| Sewer Utility Fund | 1,900,000 | 300,000 | 400,000 | 400,000 | 400,000 | 400,000 | |
| TOTAL FUNDING SOURCES | 24,763,000 | 6,602,000 | 4,322,000 | 4,450,000 | 4,598,000 | 4,791,000 | |

SANITARY SEWER SYSTEM IMPROVEMENTS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This is the annual program for rehabilitation/reconstruction of deficient sanitary sewers and deteriorated manholes at various locations throughout the city. Most of the problem areas are in sewers that can be bundled into a construction package for cost efficiency, or in problem areas deeper than City crews are equipped to handle. This program, therefore, provides for those repairs by outside firms. The goal of this program is to identify and remove major sources of inflow/infiltration as a means of lowering the peak wet weather flow at the treatment plant.

COMMENTS

System improvement locations have been identified through the Sanitary Sewer System Evaluation (SSSE) field investigation completed over the last several years. Through manhole inspections, smoke testing, and televising, severe structural defects (ratings of 4 or 5) have been identified as priorities within this program. It is highly recommended by national standards to fix structural defects with ratings of “5” within 12 months. According to national standards, structural defects with ratings of “4” are necessary to be fixed within five years. It is estimated that there are \$25.7 million in improvements to be made in the system. It is estimated that improvements may take 10 years to complete, which commenced in FY 2015/16. This program does not reflect any capacity issues that may be identified. Suggested work activities include rehabilitating or replacing manholes, repairing or lining pipe, and similar work. City maintenance crews are continuing to also complete projects identified by the SSSE, as equipment and staffing allows.

The results of the 2019 Residential Satisfaction Survey showed a significant increase in reports of sewer system back-ups, stating that forty-five percent of those surveyed, or 239 individuals, indicated that they had a sewer system back-up in their home. Of those who had a drain back-up problem, only 5% reported the problem to the City, of which 80% were somewhat/very satisfied with the response and assistance they got from the city. This program continues to make improvements to the sanitary sewer system to remove inflow/infiltration, thereby reducing the peak wet weather flows to enter the system and cause back-ups similar to what is reported in the survey. These rehabilitation improvements will improve the capacity of the sanitary sewer system.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|----------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|
| COST: | | | | | | |
| Engineering | 3,420,000 | 684,000 | 684,000 | 684,000 | 684,000 | 684,000 |
| Construction | 18,593,000 | 3,368,000 | 3,588,000 | 3,716,000 | 3,864,000 | 4,057,000 |
| TOTAL | 22,013,000 | 4,052,000 | 4,272,000 | 4,400,000 | 4,548,000 | 4,741,000 |
| FINANCING: | | | | | | |
| State Revolving Fund (SRF) | 20,363,000 | 3,802,000 | 3,922,000 | 4,050,000 | 4,198,000 | 4,391,000 |
| Sewer Utility Fund | 1,650,000 | 250,000 | 350,000 | 350,000 | 350,000 | 350,000 |
| TOTAL | 22,013,000 | 4,052,000 | 4,272,000 | 4,400,000 | 4,548,000 | 4,741,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------------|--------------------|------------------------------|
| Utilities - Sanitary Sewer | Public Works | 520-8542-489 522-8542-489 |

EAST 13TH STREET SANITARY SEWER EXTENSION

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Currently, the Regional Commercial zoned properties just east of Interstate Highway 35 along 13th Street are served only by a City of Ames water main. In order to facilitate the development of this area as envisioned in the City's Land Use Policy Plan, a sanitary sewer main will be extended from the intersection of South Dayton and East 13th Street east under I-35.

COMMENTS

The City staff is currently engaged in negotiations with a developer to construct the first commercial buildings in this Regional Commercial area. The plan to finance this sanitary sewer extension project is to utilize a Tax Increment Financing strategy applied to the first large commercial building constructed on the property. In this way neither property taxes nor sewer utility rates will be impacted by this project.

LOCATION

Along East 13th Street (South Dayton Avenue to east of I-35)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|----------------------------|------------------|--------------------|----------------|--------------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 250,000 | 250,000 | | | | |
| Construction | 2,250,000 | 2,250,000 | | | | |
| TOTAL | 2,500,000 | 2,500,000 | | | | |
| FINANCING: | | | | | | |
| G.O. Bonds (TIF Abated) | 2,500,000 | 2,500,000 | | | | |
| TOTAL | 2,500,000 | 2,500,000 | | | | |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | | ACCOUNT NO. | | |
| Utilities - Sanitary Sewer | | Public Works | | 381-8520-489 | | |

CLEAR WATER DIVERSION

PROJECT STATUS: No Change

DESCRIPTION/JUSTIFICATION

This is the annual program providing for diversion of footing drain discharge from sanitary sewers to storm sewers.

Clear water from footing drains causes overloading and backups in the sanitary sewer as well as increases in the volume of clean water that is treated at the sewage treatment facility. The Clear Water Diversion program historically involved diverting footing drain discharge from sanitary sewers to storm sewers. This diversion results in lower volumes of clean water needing treatment at the sewage treatment facility, thereby decreasing operating and maintenance costs of that facility. In addition, customers should experience fewer, less severe sewer backups.

COMMENTS

The Inflow and Infiltration Study, undertaken in 1995, showed that in order for clear water diversion to be cost effective, an individual sump pump must discharge in excess of 1,000 gallons per day. To encourage participation in the footing drain grant program, City Council authorized grants to participating property owners. In all, 2,334 footing drain grants were paid to property owners under this program through July 1, 2011, when the grant program was suspended.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| FINANCING: | | | | | | |
| Sewer Utility Fund | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |

PROGRAM - ACTIVITY: Utilities - Sanitary Sewer
DEPARTMENT: Public Works
ACCOUNT NO.: 520-8585-489

UTILITIES - STORM WATER

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|-------------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------|
| PROJECT: | | | | | | | |
| River Flooding Mitigation | 4,280,000 | 4,280,000 | - | - | - | - | 73 |
| Storm Water System Analysis | 180,000 | 180,000 | - | - | - | - | 74 |
| Storm Water Erosion Control Program | 3,392,000 | - | 642,000 | 750,000 | 1,250,000 | 750,000 | 75 |
| Low Point Drainage Improvements | 1,100,000 | - | 200,000 | 200,000 | 200,000 | 500,000 | 76 |
| Storm Water Improvement Program | 1,800,000 | - | 250,000 | 400,000 | 500,000 | 650,000 | 77 |
| Storm Water Facility Rehabilitation | 150,000 | - | 150,000 | - | - | - | 78 |
| Storm Water Quality Improvements | 400,000 | - | 100,000 | 100,000 | 100,000 | 100,000 | 79 |
| TOTAL PROJECT EXPENDITURES | 11,302,000 | 4,460,000 | 1,342,000 | 1,450,000 | 2,050,000 | 2,000,000 | |
| FUNDING SOURCES: | | | | | | | |
| City: | | | | | | | |
| Storm Water Utility Fund | 5,930,000 | 680,000 | 950,000 | 1,050,000 | 1,650,000 | 1,600,000 | |
| Other: | | | | | | | |
| Grant Funds | 5,372,000 | 3,780,000 | 392,000 | 400,000 | 400,000 | 400,000 | |
| TOTAL FUNDING SOURCES | 11,302,000 | 4,460,000 | 1,342,000 | 1,450,000 | 2,050,000 | 2,000,000 | |

FLOOD MITIGATION – RIVER FLOODING

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Following the floods of 2010, the City Council established a goal of mitigating the impact of future flooding in Ames. A comprehensive Flood Mitigation Study was completed in late 2013 that considered many possible mitigation alternatives across a wide range of factors, including the degree of reduction of flood water elevation, estimated annual damage reduction, construction costs, ongoing operations and maintenance costs, environmental impacts, and likelihood of obtaining federal grant funding.

COMMENTS

On December 10, 2013, the City Council approved a series of flood mitigation measures. These included discrete elements targeted at undertaking a ‘stream restoration’ of Squaw Creek, working with IDOT to improve the conveyance capacity of the US Highway 30 bridge, working through the Squaw Creek Watershed Management Authority to pursue flood mitigation alternatives in the upper reaches of the watershed, and conducting a workshop to review and discuss the range of possible floodplain regulatory approaches.

On November 29, 2016, as part of the Special Meeting of the City Council, direction was provided for staff to work toward Hydraulic Alternative No. 6 (2010 Event), which was for “full build” (channel shaping). This project would increase channel conveyance of Squaw Creek at the South Duff Avenue bridge by removing excess deposition of sediment, establish a multi-stage channel, reduce steepness and instability of highly eroding streambanks, provide thaw management, and establish a vegetated stream buffer. This project would improve the creek/bridge alignment, creek capacity, and hydraulic flows utilizing natural channel design (multi-stage channel to reconnect the creek with the floodplain), and would provide streambank toe protection and native vegetation stabilization for more resilience in large storm events.

A central component of the project is conveyance improvements within the channel approximately 2,000 feet of either side of the South Duff Avenue Bridge. This is estimated to reduce the water surface elevation of a 1% annual chance flood (i.e. – a “100-year” flood) by approximately 2 feet on South Duff Avenue, a major damage center. A consultant was retained in FY 2015/16 to begin the detailed design work. Outside grant funding through FEMA is being pursued through a nationally-competitive grant application submitted in January 2019. If successful, funding will become available in January 2020. Consideration of upstream measures within the greater Squaw Creek watershed should continue in order to further reduce flood impacts to the community.

| | |
|-------------------------------|--------------------|
| Total Project Funding: | |
| 2015/16 | 644,000 |
| 2016/17 | 504,000 |
| <u>2020/21</u> | <u>4,280,000</u> |
| Total | \$5,428,000 |

LOCATION

South Duff Avenue and Squaw Creek

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------------|------------------|------------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 4,280,000 | 4,280,000 | | | | |
| TOTAL | 4,280,000 | 4,280,000 | | | | |
| FINANCING: | | | | | | |
| Storm Water Utility Fund | 500,000 | 500,000 | | | | |
| FEMA Hazard Mitigation Grant | 3,780,000 | 3,780,000 | | | | |
| TOTAL | 4,280,000 | 4,280,000 | | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------------|--------------------|--------------------|
| Utilities - Storm Water | Public Works | 560-8612-489 |
| | | 561-8612-489 |

STORM WATER SYSTEM ANALYSIS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

In recent years, localized flash flooding has occurred at various locations around the city of Ames during high rainfall events. The City does not currently have an accurate mapping of the storm sewer system within the Geographic Information System (GIS) as it does with other utility systems. As the Sanitary Sewer System Evaluation highlighted, removing clean water from the sanitary sewer system can cause additional pressure to the storm sewer system. Localized flooding could potentially increase. Therefore, this project includes establishment of an accurate GIS storm sewer system and hydraulic modeling of the network.

COMMENTS

This analysis will aid in identifying deficient storm water capacity and future improvements. The length of this program will be updated based on progress being made for the whole system being analyzed.

Total Project Funding:

| | |
|----------------|----------------|
| 2017/18 | 180,000 |
| 2018/19 | 180,000 |
| 2019/20 | 180,000 |
| <u>2020/21</u> | <u>180,000</u> |
| Total | \$720,000 |

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 180,000 | 180,000 | | | | |
| TOTAL | 180,000 | 180,000 | | | | |
| FINANCING: | | | | | | |
| Storm Water Utility Fund | 180,000 | 180,000 | | | | |
| TOTAL | 180,000 | 180,000 | | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------------|--------------------|--------------------|
| Utilities - Storm Water | Public Works | 560-8605-489 |

STORM WATER EROSION CONTROL PROGRAM**PROJECT STATUS:** Delayed

Cost Change

City of Ames, Iowa
Capital Improvements Plan**DESCRIPTION/JUSTIFICATION**

This annual program provides for stabilization of areas that have become eroded in streams, channels, swales, gullies, or drainage ways that are part of the storm water system. This program provides a more permanent control of the erosion and will reduce recurring maintenance costs in these areas.

COMMENTS

Following the floods of 2010, an Urban Stream Assessment was updated, which rated the stream banks of each tributary of Ada Hayden, College Creek, Clear Creek, Onion Creek, Worle Creek, Squaw Creek, and the South Skunk River. This assessment identified areas where stabilization is a priority. As monitoring activities associated with the National Pollutant Discharge Elimination System (NPDES) permit requirements continue, further locations for future improvements will be identified.

The State Revolving Fund (SRF) Sponsored Project funding for this program is a grant connected with SRF funding for the Sanitary Sewer Rehabilitation Program.

The Site and Cost Changes are to coordinate stream stabilization of Clear Creek locations in the same year in order to optimize Storm Water Utility Funding plus to prioritize projects throughout the community where erosion is negatively impacting properties and/or threatening public infrastructure. The Clear Creek stabilization project north of Oakland Street has been delayed (after coordinating with Parks and Recreation staff) in order to address more urgent needs in the community.

There will not be a FY 2020/21 project to provide an opportunity to complete previously approved projects.

LOCATION

| | |
|---------|---|
| 2021/22 | Waterway north of Bloomington Townhomes (Eisenhower Lane) |
| 2022/23 | Clear Creek bank stabilization (near 4921 Utah Drive) and Clear Creek bank stabilization (west of British Columbia Avenue) |
| 2023/24 | Inis Grove Park (Duff Avenue restroom facilities), unnamed tributary east of 4415 Lincoln Way, and College Creek (Hemingway Drive area) |
| 2024/25 | Clear Creek bank stabilization (west of North Dakota Avenue) |

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--|------------------|---------|----------------|----------------|------------------|----------------|
| COST: | | | | | | |
| Engineering | 670,000 | | 120,000 | 150,000 | 250,000 | 150,000 |
| Construction | 2,722,000 | | 522,000 | 600,000 | 1,000,000 | 600,000 |
| TOTAL | 3,392,000 | | 642,000 | 750,000 | 1,250,000 | 750,000 |
| FINANCING: | | | | | | |
| Storm Water Utility Fund | 1,800,000 | | 250,000 | 350,000 | 850,000 | 350,000 |
| State Revolving Fund (SRF) Grant Program | 1,592,000 | | 392,000 | 400,000 | 400,000 | 400,000 |
| TOTAL | 3,392,000 | | 642,000 | 750,000 | 1,250,000 | 750,000 |

PROGRAM - ACTIVITY:

Utilities - Storm Water

DEPARTMENT:

Public Works

ACCOUNT NO.

LOW POINT DRAINAGE IMPROVEMENTS

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This is the annual program for drainage improvements to decrease flooding at low points. Low point drainage improvements are not only focused on residential street locations, but specifically on those locations most in need of the improvements as affected by standing water, flooding, and insufficient pipe capacity. The program identifies core locations for improvements each year. In addition, improvements are made at miscellaneous locations identified throughout the year. During heavy rain, some areas become flooded, and damage to private property occasionally occurs. This program provides for installation of drainage improvements to decrease this flooding at low points. In 1994, the following criteria were established for evaluating and prioritizing drainage situations: 1) Potential damage from storm runoff; 2) Emergency vehicle access limitations created by runoff; 3) Number of people affected; 4) Number of structures affected; 5) Street classification; 6) Land use; and 7) Benefits of a project to adjacent areas. Based on these criteria, target areas for improvements are established. These improvements may include construction of detention areas, new pipe systems, and replacement systems to increase the ability to control the runoff so it can be carried by downstream systems.

COMMENTS

Addressing these drainage issues will reduce flooding problems on both public and private property. The amount of time spent setting out barricades in areas that flood during heavy rains will also be reduced. The other locations already identified for improvements as part of this program, in addition to new complaints received over the past year, have been prioritized as shown below.

There will not be a FY 2020/21 project to provide an opportunity to complete previously approved projects.

LOCATION

- 2021/22 McKinley Drive (1400/1500 block), Barr Drive, Jensen Avenue (2100/2200 block), Stonebrook Road/Harrison Road area, and Fletcher Boulevard (3700 block)
- 2022/23 Ferndale Avenue/Hunziker Drive area and Northridge Lane
- 2023/24 Garnet Drive/Meadow Place and Christofferson Park
- 2024/25 South of Ken Maril Road (extend earthen berm behind 300/400 block), East Lincoln Way (near 2005/2017 E. Lincoln Way), Hoover Avenue/Adams Street intersection, Garnet Drive/Meadow Place intersection, and South Dayton Avenue/Isaac Newton Drive intersection

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 220,000 | | 40,000 | 40,000 | 40,000 | 100,000 |
| Construction | 880,000 | | 160,000 | 160,000 | 160,000 | 400,000 |
| TOTAL | 1,100,000 | | 200,000 | 200,000 | 200,000 | 500,000 |
| FINANCING: | | | | | | |
| Storm Water Utility Fund | 1,100,000 | | 200,000 | 200,000 | 200,000 | 500,000 |
| TOTAL | 1,100,000 | | 200,000 | 200,000 | 200,000 | 500,000 |

PROGRAM - ACTIVITY:

Utilities - Storm Water

DEPARTMENT:

Public Works

ACCOUNT NO.

STORM WATER IMPROVEMENT PROGRAM

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This annual program is to repair or replace deteriorated storm sewer pipes and intakes. Areas of concentration for storm sewer repairs will be those locations programmed for street improvements and those areas where structural deficiencies are identified.

Many intakes are brick or concrete and have experienced repeated “freeze/thaw” conditions during winters and springs. This repeated freeze/thaw action causes bricks and mortar to deteriorate, resulting in collapsed intakes. This program provides for a proactive response by contractually repairing/replacing intakes on a scheduled basis. In addition to the contractual work provided in this program, City crews provide immediate repair of those intakes that pose an immediate concern for life, health, or safety.

COMMENTS

Maintenance crews, through citizen inquiries and/or storm sewer inspections, have identified storm sewer structural deficiencies within the system. These include areas where the pipe has cracked or is missing sections or pieces of pipe. This program will provide funding to correct these deficiencies.

Completion of the Storm Water System Analysis may identify the need for additional improvements as part of the program.

The results of the Residential Satisfaction Survey showed a significant increase in reports by respondents that storm water had flooded onto their properties from the street. In 2019, storm flooding was reported by 300 respondents, or 57.6% of respondents. Of the 300 respondents who experienced flooding, only 6%, or 18 people, reported the problem to the City. These system improvements will improve capacity and flows for a majority of the rain fall events in Ames.

There will not be a FY 2020/21 project to provide an opportunity to complete previously approved projects.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 260,000 | | 35,000 | 50,000 | 75,000 | 100,000 |
| Construction | 1,540,000 | | 215,000 | 350,000 | 425,000 | 550,000 |
| TOTAL | 1,800,000 | | 250,000 | 400,000 | 500,000 | 650,000 |
| FINANCING: | | | | | | |
| Storm Water Utility Fund | 1,800,000 | | 250,000 | 400,000 | 500,000 | 650,000 |
| TOTAL | 1,800,000 | | 250,000 | 400,000 | 500,000 | 650,000 |

| | | |
|----------------------------|--------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Utilities - Storm Water | Public Works | |

STORM WATER FACILITY REHABILITATION PROGRAM PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

In accordance with the *Municipal Code*, new developments within the community are required to provide storm water management quantity control. This means maintaining storm water runoff discharge at pre-developed conditions through use of extended detention and/or retention. Through establishment of developers' agreements, the City of Ames has accepted responsibility for the long-term maintenance of many of these facilities in residential areas. As these facilities age, sediment accumulates, volunteer vegetation becomes more prevalent, erosion occurs, and structures need to be improved. This annual program addresses those concerns.

COMMENTS

As part of the new post-construction storm water management ordinance adopted in April 2014, commercial and industrial land owners are responsible to maintain their own storm water facilities. This ordinance also outlines that the homeowner's association/owner for residential development will maintain all water quality features. However, the City is responsible for long-term maintenance of the regional detention facilities providing water quantity control.

There will not be a FY 2020/21 project to provide an opportunity to complete previously approved projects.

LOCATION

Northridge Heights Subdivision (near GW Carver Avenue)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 30,000 | | 30,000 | | | |
| Construction | 120,000 | | 120,000 | | | |
| TOTAL | 150,000 | | 150,000 | | | |
| FINANCING: | | | | | | |
| Storm Water Utility Fund | 150,000 | | 150,000 | | | |
| TOTAL | 150,000 | | 150,000 | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------------|--------------------|--------------------|
| Utilities - Storm Water | Public Works | |

STORM WATER QUALITY IMPROVEMENTS

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Improvement/treatment of water quality for new development and re-development in the Ames community has been incorporated into the newly adopted Post Construction Stormwater Management Ordinance. This addresses removal of sediment and nutrients before they enter waterways such as Squaw Creek and South Skunk River. This program includes treatment of the water quality volume from public impervious areas (e.g. streets and parking lots).

COMMENTS

This program includes installation of bioretention cells, vegetated swales, native landscape, and rain gardens, soil quality restoration, and other approved best management practices at various locations in the community. These best management practices may be combined with a street improvement project, where the neighborhood/adjacent land owners agree to help with day-to-day maintenance.

There will not be a FY 2020/21 project to provide an opportunity to complete previously approved projects.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|----------------------------|----------------|--------------------|--------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 60,000 | | 15,000 | 15,000 | 15,000 | 15,000 |
| Construction | 340,000 | | 85,000 | 85,000 | 85,000 | 85,000 |
| TOTAL | 400,000 | | 100,000 | 100,000 | 100,000 | 100,000 |
| FINANCING: | | | | | | |
| Storm Water Utility Fund | 400,000 | | 100,000 | 100,000 | 100,000 | 100,000 |
| TOTAL | 400,000 | | 100,000 | 100,000 | 100,000 | 100,000 |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | ACCOUNT NO. | | | |
| Utilities - Storm Water | | Public Works | | | | |

UTILITIES - RESOURCE RECOVERY

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---------------------------------------|------------------|----------------|----------------|----------------|----------------|----------------|------|
| PROJECT: | | | | | | | |
| Resource Recovery System Improvements | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 | 81 |
| TOTAL PROJECT EXPENDITURES | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 | |
| FUNDING SOURCES: | | | | | | | |
| City: | | | | | | | |
| Resource Recovery Fund | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 | |
| TOTAL FUNDING SOURCES | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 | |

RESOURCE RECOVERY SYSTEM IMPROVEMENTS

PROJECT STATUS: Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This program is to purchase new and replacement components and equipment at the Resource Recovery Plant. Also included is funding for materials for two annual preventive maintenance projects (replacement of the rotary disc screen rollers (RDS) and chains, and rebuilding C-1 conveyor). Resource Recovery personnel perform the work to complete the preventive maintenance projects.

COMMENTS

- 2020/21 Preventive Maintenance materials for the replacement of the RDS rollers and chains (\$46,250); conveyor upgrades (\$19,550); #1 mill armored teeth and combs (\$39,300); air knife cyclone (\$150,000); replace C-7 belt (\$32,000); remodel education area (\$10,000); energy efficiency upgrades (\$18,000); new counter comb door for Komptech (\$45,000)
- 2021/22 Preventive Maintenance materials for the replacement of the RDS rollers and chains (\$75,000); conveyor upgrades (\$19,550); #1 mill armored teeth and combs (\$39,300); replace east alley concrete (\$40,000); DPH Circuit Breaker to Starter Conversion (\$78,000); fire system air compressor (\$15,000); #1 mill planetary (\$80,000); customer convenience center/household hazardous materials (\$30,000)
- 2022/23 Preventive Maintenance materials for the replacement of the RDS rollers and chains (\$46,250); conveyor upgrades (\$19,550); #1 mill armored teeth and combs (\$39,300); #1 mill planetary motor/drum motor (\$30,000); electrical breaker upgrade (\$20,000); replacement conveyor belts (\$7,000); #1 mill rotor replacement (\$55,000); #1 mill planetary (\$80,000)
- 2023/24 Preventive maintenance materials for the replacement of the RDS rollers and chains (\$48,250); conveyor upgrades (\$21,500); #1 mill armored teeth and combs (\$40,250); replace C-2 belt (\$28,000); replace in-plant air knives (\$10,000); replacement conveyor belts (\$3,500); #1 mill hydraulic pump (\$50,000)
- 2024/25 Preventive maintenance materials for the replacement of the RDS rollers and chains (\$48,250); conveyor upgrades (\$21,500); #1 mill armored teeth and combs (\$40,250); dust pipe replacement (\$60,000); conveyor chutes (\$15,000)

LOCATION

Arnold O. Chantland Resource Recovery Plant, 110 Center Ave.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| System Improvements | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 |
| TOTAL | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 |
| FINANCING: | | | | | | |
| Resource Recovery Fund | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 |
| TOTAL | 1,420,550 | 360,100 | 376,850 | 297,100 | 201,500 | 185,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|-------------------------------|--------------------|--------------------|
| Utilities - Resource Recovery | Public Works | 590-9003-489 |

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TRANSPORTATION

TRANSPORTATION

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------|
| EXPENDITURES: | | | | | | | |
| Street Improvements | 59,955,000 | 12,325,000 | 13,200,000 | 11,260,000 | 10,645,000 | 12,525,000 | 85 |
| Shared Use Path System | 4,478,800 | 845,000 | 1,003,800 | 905,000 | 1,125,000 | 600,000 | 98 |
| Traffic Improvements | 15,115,900 | 4,877,900 | 2,419,900 | 2,398,000 | 2,708,500 | 2,711,600 | 103 |
| Street Rehabilitation | 3,823,000 | 1,043,000 | 1,040,000 | 580,000 | 580,000 | 580,000 | 111 |
| Transit System | 18,712,647 | 6,150,673 | 3,315,528 | 2,717,297 | 2,534,295 | 3,994,854 | 117 |
| Airport | 2,541,575 | 397,600 | 637,575 | 837,300 | 269,100 | 400,000 | 123 |
| TOTAL EXPENDITURES | 104,626,922 | 25,639,173 | 21,616,803 | 18,697,597 | 17,861,895 | 20,811,454 | |
| FUNDING SOURCES: | | | | | | | |
| Debt: | | | | | | | |
| G.O. Bonds | 51,953,800 | 9,306,900 | 11,055,400 | 10,984,200 | 10,670,700 | 9,936,600 | |

TRANSPORTATION, continued

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| FUNDING SOURCES, continued | | | | | | |
| City: | | | | | | |
| Road Use Tax | 8,504,200 | 2,128,300 | 1,510,600 | 1,569,400 | 1,581,800 | 1,714,100 |
| Local Option Sales Tax | 3,757,800 | 686,000 | 746,800 | 875,000 | 875,000 | 575,000 |
| Water Utility Fund | 925,000 | 625,000 | 75,000 | 75,000 | 75,000 | 75,000 |
| Sewer Utility Fund | 500,000 | 75,000 | 75,000 | 75,000 | 200,000 | 75,000 |
| Storm Water Utility Fund | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| Transit Fund | 4,758,202 | 1,585,231 | 703,826 | 870,752 | 776,902 | 821,491 |
| Parking Reserve Fund | - | - | - | - | - | - |
| Airport Construction Fund | 254,175 | 39,800 | 63,775 | 83,700 | 26,900 | 40,000 |
| Total City Funding | 18,949,377 | 5,189,331 | 3,225,001 | 3,598,852 | 3,585,602 | 3,350,591 |
| Other: | | | | | | |
| MPO/STP Funds | 5,218,000 | 159,000 | 2,659,000 | - | - | 2,400,000 |
| Federal/State Grants | 26,158,345 | 10,626,142 | 4,043,602 | 3,360,945 | 3,363,393 | 4,764,263 |
| Iowa State University | 60,000 | - | 60,000 | - | - | - |
| Federal Aviation Administration | 2,287,400 | 357,800 | 573,800 | 753,600 | 242,200 | 360,000 |
| Total Other Funding | 33,723,745 | 11,142,942 | 7,336,402 | 4,114,545 | 3,605,593 | 7,524,263 |
| TOTAL FUNDING SOURCES | 104,626,922 | 25,639,173 | 21,616,803 | 18,697,597 | 17,861,895 | 20,811,454 |

TRANSPORTATION - STREET IMPROVEMENTS

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| PROJECT: | | | | | | | |
| Cherry Avenue Extension | 2,950,000 | 2,950,000 | - | - | - | - | 87 |
| Arterial Street Pavement Improvements | 6,075,000 | 2,500,000 | 1,700,000 | 750,000 | 1,125,000 | - | 88 |
| Collector Street Pavement Improvements | 7,510,000 | 1,400,000 | 2,500,000 | 1,660,000 | 1,200,000 | 750,000 | 89 |
| Concrete Pavement Improvements | 14,430,000 | 2,400,000 | 5,180,000 | 3,300,000 | 800,000 | 2,750,000 | 90 |
| Asphalt Street Pavement Improvements | 12,000,000 | 1,400,000 | 2,500,000 | 2,500,000 | 2,700,000 | 2,900,000 | 91 |
| CyRide Route Pavement Improvements | 3,525,000 | 600,000 | - | 1,725,000 | 1,200,000 | - | 92 |
| Seal Coat Pavement Improvements | 6,750,000 | 750,000 | 750,000 | 750,000 | 1,750,000 | 2,750,000 | 93 |
| Right-of-Way Restoration | 1,625,000 | 325,000 | 325,000 | 325,000 | 325,000 | 325,000 | 94 |
| Downtown Street Pavement Improvements | 745,000 | - | 245,000 | 250,000 | - | 250,000 | 95 |
| Campustown Public Improvements | 1,325,000 | - | - | - | 1,325,000 | - | 96 |
| South 16th Street Roadway Widening | 3,020,000 | - | - | - | 220,000 | 2,800,000 | 97 |
| TOTAL PROJECT EXPENDITURES | 59,955,000 | 12,325,000 | 13,200,000 | 11,260,000 | 10,645,000 | 12,525,000 | |

TRANSPORTATION - STREET IMPROVEMENTS, continued

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| FUNDING SOURCES: | | | | | | |
| Debt: | | | | | | |
| G.O. Bonds | 48,705,000 | 7,860,000 | 10,195,000 | 10,775,000 | 10,195,000 | 9,680,000 |
| City: | | | | | | |
| Road Use Tax | 1,185,000 | 225,000 | 305,000 | 285,000 | 125,000 | 245,000 |
| Water Utility Fund | 925,000 | 625,000 | 75,000 | 75,000 | 75,000 | 75,000 |
| Sewer Utility Fund | 500,000 | 75,000 | 75,000 | 75,000 | 200,000 | 75,000 |
| Storm Water Utility Fund | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| Total City Funding | 2,860,000 | 975,000 | 505,000 | 485,000 | 450,000 | 445,000 |
| Other: | | | | | | |
| MPO/STP Funds | 4,900,000 | - | 2,500,000 | - | - | 2,400,000 |
| Federal/State Grants | 3,490,000 | 3,490,000 | - | - | - | - |
| Total Other Funding | 8,390,000 | 3,490,000 | 2,500,000 | - | - | 2,400,000 |
| TOTAL FUNDING SOURCES | 59,955,000 | 12,325,000 | 13,200,000 | 11,260,000 | 10,645,000 | 12,525,000 |

CHERRY AVENUE EXTENSION

PROJECT STATUS: No Change

DESCRIPTION/JUSTIFICATION

The Long Range Transportation Plan identifies the extension of Cherry Avenue south of East Lincoln Way as an important transportation connection for the community. By extending Cherry Avenue south and connecting both SE Third Street and SE Fifth Street, traffic congestion will be further relieved from the South Duff Avenue corridor. This project will open additional opportunities for transit connections to the South Duff Avenue commercial district. This project will also include replacing the existing 4-inch water main along Cherry Avenue with a new larger water system to loop this part of the community to improve reliability and fire protection.

COMMENTS

A Transportation Funding Study in FY 2012/13 identified federal and state grants that may be available for funding this project. The addition of this street extension will result in increased snow removal and ice control costs.

Total Project Funding:

- 2019/20 Cherry Avenue (SE Fifth Street to East Lincoln Way) and SE Third Street and SE Fifth Street (Cherry Avenue west to end) (land acquisition, planning, environmental analysis, and engineering) (\$300,000)
- 2020/21 Cherry Avenue (SE Fifth Street to East Lincoln Way) and SE Third Street and SE Fifth Street (Cherry Avenue west to end) (engineering and construction)

Bicycle facilities as part of this project (off-street 10-foot wide shared use path) are estimated to cost \$250,000.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|----------------------|------------------|------------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 200,000 | 200,000 | | | | |
| Construction | 2,750,000 | 2,750,000 | | | | |
| TOTAL | 2,950,000 | 2,950,000 | | | | |
| FINANCING: | | | | | | |
| G.O. Bonds | 510,000 | 510,000 | | | | |
| Water Utility Funds | 550,000 | 550,000 | | | | |
| Federal/State Grants | 1,890,000 | 1,890,000 | | | | |
| TOTAL | 2,950,000 | 2,950,000 | | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|--------------------|
| Transportation - Street Improvements | Public Works | 380-8180-439 |
| | | 320-8180-439 |
| | | 510-8480-489 |

ARTERIAL STREET PAVEMENT IMPROVEMENTS

PROJECT STATUS: No Change

DESCRIPTION/JUSTIFICATION

This annual program utilizes current repair and reconstruction techniques to improve arterial streets with asphalt or concrete. These pavement improvements are needed to restore structural integrity, serviceability, and rideability. Targeted streets are reaching a point of accelerated deterioration. By improving these streets prior to excessive problems, the service life will be extended.

COMMENTS

Improving these streets will reduce maintenance costs. This reduction will allow for additional and earlier maintenance of other streets.

LOCATION

- 2020/21 East 13th Street (Duff Avenue to Meadowlane Avenue)
- 2021/22 North Dakota Avenue (UPRR to Ontario Street) and Ontario Street (North Dakota Avenue to Woodstock Avenue)
- 2022/23 Airport Road (University Boulevard to South Riverside Drive)
- 2023/24 24th Street (Grand Avenue east and west approximately 300 feet each)

On-street bike facilities as part of this program will include East 13th Street/Duff Avenue to Meadowlane Avenue (FY 2020/21, \$250,000).

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|----------------------|------------------|------------------|------------------|----------------|------------------|----------------|
| COST: | | | | | | |
| Engineering | 1,000,000 | 425,000 | 200,000 | 150,000 | 225,000 | |
| Construction | 5,075,000 | 2,075,000 | 1,500,000 | 600,000 | 900,000 | |
| TOTAL | 6,075,000 | 2,500,000 | 1,700,000 | 750,000 | 1,125,000 | |
| FINANCING: | | | | | | |
| G.O. Bonds | 3,575,000 | 900,000 | 800,000 | 750,000 | 1,125,000 | |
| MPO/STP Funds | 900,000 | | 900,000 | | | |
| Federal/State Grants | 1,600,000 | 1,600,000 | | | | |
| TOTAL | 6,075,000 | 2,500,000 | 1,700,000 | 750,000 | 1,125,000 | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|--------------------|
| Transportation - Street Improvements | Public Works | 320-8141-439 |
| | | 381-8141-439 |

COLLECTOR STREET PAVEMENT IMPROVEMENTS

PROJECT STATUS: No Change

DESCRIPTION/JUSTIFICATION

This is the annual program for reconstruction or rehabilitation of collector streets. Locations are chosen in accordance with the most current street condition inventory.

COMMENTS

The Hoover Avenue project in FY 2021/22 will include Long Range Transportation Plan projects ON 4 (on-street bike treatment with estimated cost of \$80,000) and OFF 23 (on-street bike treatment with estimated cost of \$20,000).

The Woodland Street project in FY 2022/23 will include the City's portion of Long-Range Transportation Plan project ON 21 (on-street bike treatment with estimated cost of \$160,000)

Sixth Street project in FY 2023/24 will include on-street bike facilities with an estimated cost of \$75,000.

Collector street pavement improvements should result in lower street maintenance costs.

LOCATION

- 2020/21 East 20th Street (Duff Avenue to Meadowlane Avenue)
- 2021/22 Hoover Avenue (24th Street to Top-O-Hollow Road)
- 2022/23 Woodland Street (Hickory Drive to Forest Glen)
- 2023/24 Sixth Street (Brookridge Avenue to Northwestern Avenue)
- 2024/25 Oakland Street (Hawthorne Avenue to Franklin Avenue)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|------------------|------------------|------------------|------------------|------------------|----------------|
| COST: | | | | | | |
| Engineering | 1,210,000 | 160,000 | 425,000 | 300,000 | 200,000 | 125,000 |
| Construction | 6,300,000 | 1,240,000 | 2,075,000 | 1,360,000 | 1,000,000 | 625,000 |
| TOTAL | 7,510,000 | 1,400,000 | 2,500,000 | 1,660,000 | 1,200,000 | 750,000 |
| FINANCING: | | | | | | |
| G.O. Bonds | 7,250,000 | 1,400,000 | 2,400,000 | 1,500,000 | 1,200,000 | 750,000 |
| Road Use Tax | 260,000 | | 100,000 | 160,000 | | |
| TOTAL | 7,510,000 | 1,400,000 | 2,500,000 | 1,660,000 | 1,200,000 | 750,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|--------------------|
| Transportation - Street Improvements | Public Works | 381-8139-439 |

CONCRETE PAVEMENT IMPROVEMENTS

PROJECT STATUS: Cost Change

Revenue Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This annual program is to rehabilitate or reconstruct concrete street sections that have deteriorated in order to prevent premature breakdown of the pavement. This work will provide enhanced rideability to residents and visitors.

COMMENTS

Repair of these streets will reduce maintenance and repairs needed for them. The S. Kellogg Avenue project in FY 2021/22 will include the Long Range Transportation Plan project ON 29 (on-street bike treatment with estimated cost of \$80,000). The Clark Avenue project in FY 2024/25 will include a portion of the Long Range Transportation Plan project SH 10 (on-street bike treatment (sharrows) with estimated cost of \$120,000).

The Cost and Revenue Changes are due to updated construction cost estimates for the FY 2020/21, 2022/23 and 2023/24 locations identified as community priorities.

LOCATION

- 2020/21 Full reconstruction: Eighth Street (Northwestern Avenue to Duff Avenue); Concrete patching: South 17th Street (South Kellogg Avenue to end); South Kellogg Avenue (South 17th Street to South 16th Street); Ford Street (South Dayton Avenue to Bell Avenue); and Bell Avenue (East Lincoln Way to Ford Street)
- 2021/22 North Second Street (Maple Avenue to Elm Avenue) (\$650,000 G.O. Bonds); South Kellogg Avenue (South Second Street to South Third Street) (\$250,000 G.O. Bonds and \$80,000 Road Use Tax); and 24th Street (Stange Road to UPRR) and Stange Road (Blankenburg Drive to 24th Street) (\$2,600,000 G.O. Bonds and \$1,600,000 MPO/STP Funds)
- 2022/23 Ridgewood Avenue/Brookridge Avenue/Lee Street/Ninth Street area and North Loop Drive
- 2023/24 Prairie View West
- 2024/25 Campus Avenue (Lincoln Way to West Street), Sunset Drive (Ash Avenue to Beach Avenue), and Clark Avenue (Ninth Street to 13th Street)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|-------------------|------------------|------------------|------------------|----------------|------------------|
| COST: | | | | | | |
| Engineering | 2,810,000 | 480,000 | 1,000,000 | 660,000 | 120,000 | 550,000 |
| Construction | 11,620,000 | 1,920,000 | 4,180,000 | 2,640,000 | 680,000 | 2,200,000 |
| TOTAL | 14,430,000 | 2,400,000 | 5,180,000 | 3,300,000 | 800,000 | 2,750,000 |
| FINANCING: | | | | | | |
| G.O. Bonds | 12,530,000 | 2,300,000 | 3,500,000 | 3,300,000 | 800,000 | 2,630,000 |
| Road Use Tax | 300,000 | 100,000 | 80,000 | | | 120,000 |
| MPO/STP Funds | 1,600,000 | | 1,600,000 | | | |
| TOTAL | 14,430,000 | 2,400,000 | 5,180,000 | 3,300,000 | 800,000 | 2,750,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|------------------------------|
| Transportation - Street Improvements | Public Works | 060-8166-439 381-8166-439 |

ASPHALT STREET PAVEMENT IMPROVEMENTS

PROJECT STATUS: Cost Change

Site Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This is the annual program for reconstruction and resurfacing (rehabilitation) of asphalt streets, typically located within residential neighborhoods. Streets within residential subdivisions have been installed using full-depth asphalt pavement since mid-1970. Full-depth replacement of these streets has become necessary due to structural pavement failure. Rehabilitation of existing asphalt streets is possible where the base asphalt layer is solid, but the surface course has failed. This program was created in accordance with City Council’s goal of strengthening our neighborhoods.

COMMENTS

Reconstructing these streets will reduce maintenance costs.

The cost change is a result of the site changes in FY 2022/23 and FY 2023/24 and updated cost estimates for the asphalt pavement improvement projects. Last year the Ridgewood Avenue (Sixth Street to Ninth Street) was mistakenly included in both the Asphalt Pavement Improvements and Concrete Pavement Improvements Programs, which has now been corrected. Another site change is moving Oakland Street (Franklin Avenue to Hawthorne Avenue) to Collector Street Pavement Improvements Program in FY 2024/25 to balance funding and priorities throughout the street network.

LOCATION

- 2020/21 McKinley Drive (Hayes to Northwestern Avenue); Jensen Drive (24th Street to Luther Drive); and Luther Drive (Kellogg Avenue to 28th Street)
- 2021/22 Opal Drive (Jewel Drive to Crystal Street); Opal Circle; Harcourt Drive (Garnet Drive to Jewel Drive); Turquoise Circle; and Top-O-Hollow Road (Bloomington Road to Dawes Drive)
- 2022/23 Oakwood Road (State Avenue to University Boulevard), and 28th Street (Hoover Avenue to Ferndale Avenue)
- 2023/24 Phoenix Circle, Curtiss Avenue (13th Street to 16th Street), Marston Avenue (13th Street to 16th Street), Prairie View East, North Riverside Drive, and East Seventh Street (Crawford Avenue east to end)
- 2024/25 Toronto Street (North Dakota Avenue to Garfield), Oklahoma Drive, and Illinois Avenue

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|-------------------|------------------|------------------|------------------|------------------|------------------|
| COST: | | | | | | |
| Engineering | 2,035,000 | 200,000 | 375,000 | 500,000 | 525,000 | 435,000 |
| Construction | 9,965,000 | 1,200,000 | 2,125,000 | 2,000,000 | 2,175,000 | 2,465,000 |
| TOTAL | 12,000,000 | 1,400,000 | 2,500,000 | 2,500,000 | 2,700,000 | 2,900,000 |
| FINANCING: | | | | | | |
| G.O. Bonds | 12,000,000 | 1,400,000 | 2,500,000 | 2,500,000 | 2,700,000 | 2,900,000 |
| TOTAL | 12,000,000 | 1,400,000 | 2,500,000 | 2,500,000 | 2,700,000 | 2,900,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|--------------------|
| Transportation - Street Improvements | Public Works | 381-8114-439 |

CYRIDE ROUTE PAVEMENT IMPROVEMENTS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This is the annual program for pavement improvements to streets that are or were bus routes.

These streets were not designed or built for continuous bus loading. With these streets now designated as bus routes, accelerated deterioration of the street surface has occurred. Pavement improvements will restore street sections that will carry higher traffic volumes.

COMMENTS

Improving these streets will reduce maintenance needs for them. This reduction will allow for additional and earlier maintenance of other streets, which will prolong their useful life.

Bike facilities will be included in the FY 2022/23 project on Lincoln Way from (Marshall Avenue to Franklin Avenue). The bike facilities will consist of off-street improvements with an estimated cost of \$172,500.

LOCATION

- 2020/21 Ninth Street (Grand Avenue to Clark Avenue)
- 2022/23 Lincoln Way (Marshall Avenue to Franklin Avenue)
- 2023/24 Dickinson Avenue (Mortensen Road to Steinbeck Street) and Steinbeck Street (Dickinson Avenue to South Dakota Avenue)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|------------------|----------------|----------------|------------------|------------------|----------------|
| COST: | | | | | | |
| Engineering | 460,000 | 85,000 | | 225,000 | 150,000 | |
| Construction | 3,065,000 | 515,000 | | 1,500,000 | 1,050,000 | |
| TOTAL | 3,525,000 | 600,000 | | 1,725,000 | 1,200,000 | |
| FINANCING: | | | | | | |
| G.O. Bonds | 3,525,000 | 600,000 | | 1,725,000 | 1,200,000 | |
| TOTAL | 3,525,000 | 600,000 | | 1,725,000 | 1,200,000 | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|--------------------|
| Transportation - Street Improvements | Public Works | 381-8121-439 |

SEAL COAT STREET PAVEMENT IMPROVEMENTS

PROJECT STATUS: Cost Change

DESCRIPTION/JUSTIFICATION

This is the annual program for removal of built-up seal coat from streets with asphalt surface. This program restores surface texture, corrects structural deficiencies, removes built-up seal coat, and prevents deterioration of various streets. This resurfacing process results in better riding surfaces, increased safety with improved surface texture, and increased life expectancy of streets. Built-up seal coat on streets causes excess crown which results in vehicles dragging at driveway entrances. Complete removal of this built-up seal coat allows for repair to curb and gutter and placement of four inches of asphalt surface.

COMMENTS

The areas to be resurfaced are chosen each spring based on the current street condition inventory and funding availability. Funding for this program may vary from year to year in order to maintain a consistent overall bond issue each year over five years. Cost estimates include funding for concrete curb and gutter repairs that need to be made prior to street asphalt being placed and also include pedestrian improvements to meet the most recent state and federal accessibility requirements.

Street maintenance operation costs for patching will be reduced for the streets involved in this program.

86% of Residential Satisfaction Survey respondents indicated that reconstructing existing streets is somewhat or very important. A majority of local streets with poorer than average pavement conditions were constructed in seal coat and are now in need of reconstruction. The fourth and fifth year of this program has been increased to fund a focus of seal coat reconstruction projects in response to these survey results.

The cost change is due to updated cost estimates and prioritization of reconstruction of local seal coat streets.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|------------------|----------------|----------------|----------------|------------------|------------------|
| COST: | | | | | | |
| Engineering | 997,500 | 112,500 | 112,500 | 112,500 | 260,000 | 400,000 |
| Construction | 5,752,500 | 637,500 | 637,500 | 637,500 | 1,490,000 | 2,350,000 |
| TOTAL | 6,750,000 | 750,000 | 750,000 | 750,000 | 1,750,000 | 2,750,000 |
| FINANCING: | | | | | | |
| G.O. Bonds | 6,750,000 | 750,000 | 750,000 | 750,000 | 1,750,000 | 2,750,000 |
| TOTAL | 6,750,000 | 750,000 | 750,000 | 750,000 | 1,750,000 | 2,750,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|--------------------|
| Transportation - Street Improvements | Public Works | 381-8101-439 |

RIGHT-OF-WAY RESTORATION

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

In recent years, staff has continued to observe and analyze restoration of the Right-of-Way areas associated with CIP projects. Some areas have been restored with sod, while other areas have been restored using seed or dormant seed. Restoration appears to depend on the weather at the time of installation. In areas where vegetation is not anticipated to be successful, other forms of restoration have been used (such as pervious pavement or standard concrete). This program will enable better restoration through a separate contract with a contractor specializing in vegetation establishment (instead of having this as a subcontract in each CIP contract as has been past practice).

COMMENTS

Conditions for each restoration area will be considered independently to select the appropriate and sustainable alternative. Restoration examples include sod, native turf, and pervious and standard colored/stained concrete.

LOCATION

Various locations (coordinated with Public Works streets and utility projects)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 200,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 |
| Construction | 1,425,000 | 285,000 | 285,000 | 285,000 | 285,000 | 285,000 |
| TOTAL | 1,625,000 | 325,000 | 325,000 | 325,000 | 325,000 | 325,000 |
| FINANCING: | | | | | | |
| Road Use Tax | 625,000 | 125,000 | 125,000 | 125,000 | 125,000 | 125,000 |
| Water Utility Fund | 375,000 | 75,000 | 75,000 | 75,000 | 75,000 | 75,000 |
| Sewer Utility Fund | 375,000 | 75,000 | 75,000 | 75,000 | 75,000 | 75,000 |
| Storm Water Utility Fund | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 1,625,000 | 325,000 | 325,000 | 325,000 | 325,000 | 325,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|--------------------|
| Transportation - Street Improvements | Public Works | Various |

DOWNTOWN STREET PAVEMENT IMPROVEMENTS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This annual program is for the rehabilitation/reconstruction of streets and alleys within the downtown area (Lincoln Way to Seventh Street and Grand Avenue to Duff Avenue). These projects involve pavement reconstruction, rehabilitation of storm and sanitary sewers, and streetscapes. This program will meet the recommendations of the Downtown Improvements Study for the side streets in the downtown area.

COMMENTS

Improvements to the streets in the downtown area will enhance the Downtown Business District.

LOCATION

- 2021/22 East/west alley north of Lincoln Way (Duff Avenue to Sherman Avenue)
- 2022/23 North/south alley (between Duff Avenue and Douglas Avenue, by Adams Funeral Home)
- 2024/25 East/west alley north of Lincoln Way (Sherman Avenue to Kellogg Avenue)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 105,000 | | 35,000 | 35,000 | | 35,000 |
| Construction | 640,000 | | 210,000 | 215,000 | | 215,000 |
| TOTAL | 745,000 | | 245,000 | 250,000 | | 250,000 |
| FINANCING: | | | | | | |
| G.O. Bonds | 745,000 | | 245,000 | 250,000 | | 250,000 |
| TOTAL | 745,000 | | 245,000 | 250,000 | | 250,000 |

PROGRAM - ACTIVITY:

Transportation - Street Improvements

DEPARTMENT:

Public Works

ACCOUNT NO.

CAMPUSTOWN PUBLIC IMPROVEMENTS

PROJECT STATUS: Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project includes public infrastructure improvements that complement the project being constructed in 2020 in Campustown. The 200-block of Welch Avenue project included in this program will involve sanitary sewer, storm sewer, and roadway pavement improvements. Multi-modal improvements in the form of bike lanes in each direction are included in the 2020 construction project and would be continued into the 200-block improvements.

COMMENTS

The sanitary sewers along a portion of Welch Avenue (Chamberlain Street to Hunt Street) date back to the early 1900s. Storm Sewer capacity and water quality also will be analyzed as part of this project. Considering the age, multi-modal improvements as well as the increased demand from redevelopment, the infrastructure will be reconstructed. These improvements will be coupled with new pavement improvements on Welch Avenue.

Bicycle facilities as part of this project (“ON 16”—Welch Avenue on-street treatment from Mortensen Road to Union Drive) are estimated to cost \$120,000, were part of the FY 2019/20 project, and will be incorporated into the 2023/24 projects.

LOCATION

Sanitary sewers: Welch Avenue (Chamberlain Street to Hunt Street) and Chamberlain Place

Bicycle facilities: Welch Avenue (Mortensen Road to Union Drive)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|------------------|----------------|----------------|----------------|------------------|----------------|
| COST: | | | | | | |
| Engineering | 260,000 | | | | 260,000 | |
| Construction | 1,065,000 | | | | 1,065,000 | |
| TOTAL | 1,325,000 | | | | 1,325,000 | |
| FINANCING: | | | | | | |
| G.O. Bonds | 1,200,000 | | | | 1,200,000 | |
| Sewer Utility Fund | 125,000 | | | | 125,000 | |
| TOTAL | 1,325,000 | | | | 1,325,000 | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|--------------------|
| Transportation - Street Improvements | Public Works | |

SOUTH 16TH STREET ROADWAY WIDENING

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project includes widening South 16th Street to four lanes from University Boulevard to Apple Place with auxiliary lanes and traffic control improvements at Christensen Drive & South Riverside Drive (both into Vet Med), culvert extension at Worrell Creek, and improved multi-use path along the corridor.

COMMENTS

The proposed project would include:

- Reconstruction of the existing roadway and multi-use trail segment from University Boulevard to the Vet Med Trail
- Evaluate raising South 16th Street above the 100-year flood elevation
- Widen the segment of South 16th Street to four lanes consistent with South 16th Street east to South Duff Avenue
- Add traffic control signals at South Riverside Drive

Identified benefits of the project include:

- Complete the minor arterial linkage from University Boulevard to South Duff Avenue with consistent cross section, adequate capacity and improved safety
- Improve route resiliency during flood events
- Remove bottlenecks at Christensen Drive and South Riverside Drive improving safety for turning traffic and corridor progression
- Improve efficiency of Cy-Ride bus routes with improved corridor progression and possible bus turnouts at high ridership locations
- Improve pedestrian capacity & safety by separating multiuse trail from roadway edge.

The reconstruction segment lies within Iowa State University boundaries and active coordination with major stakeholders including the College of Veterinary Medicine and the Department of Athletics has been underway through internal University processes.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|------------------|----------------|----------------|----------------|----------------|------------------|
| COST: | | | | | | |
| Engineering | 520,000 | | | | 220,000 | 300,000 |
| Construction | 2,500,000 | | | | | 2,500,000 |
| TOTAL | 3,020,000 | | | | 220,000 | 2,800,000 |
| FINANCING: | | | | | | |
| G.O. Bonds | 620,000 | | | | 220,000 | 400,000 |
| MPO/STP Funds | 2,400,000 | | | | | 2,400,000 |
| TOTAL | 3,020,000 | | | | 220,000 | 2,800,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--------------------------------------|--------------------|--------------------|
| Transportation - Street Improvements | Public Works | |

TRANSPORTATION - SHARED USE PATHS

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|-----------------------------------|------------------|----------------|------------------|----------------|------------------|----------------|-------------|
| PROJECT: | | | | | | | |
| Shared Use Path System Expansion | 2,950,800 | 620,000 | 680,800 | 650,000 | 650,000 | 350,000 | 100 |
| Multi-Modal Roadway Improvements | 903,000 | 100,000 | 198,000 | 130,000 | 350,000 | 125,000 | 101 |
| Shared Use Path Maintenance | 625,000 | 125,000 | 125,000 | 125,000 | 125,000 | 125,000 | 102 |
| TOTAL PROJECT EXPENDITURES | 4,478,800 | 845,000 | 1,003,800 | 905,000 | 1,125,000 | 600,000 | |
| FUNDING SOURCES: | | | | | | | |
| City: | | | | | | | |
| Local Option Sales Tax | 3,257,800 | 586,000 | 646,800 | 775,000 | 775,000 | 475,000 | |
| Road Use Tax | 903,000 | 100,000 | 198,000 | 130,000 | 350,000 | 125,000 | |
| Total City Funding | 4,160,800 | 686,000 | 844,800 | 905,000 | 1,125,000 | 600,000 | |
| Other: | | | | | | | |
| MPO/STP Funds | 318,000 | 159,000 | 159,000 | - | - | - | |
| TOTAL FUNDING SOURCES | 4,478,800 | 845,000 | 1,003,800 | 905,000 | 1,125,000 | 600,000 | |

TRANSPORTATION - SHARED USE PATH SUMMARY

| PROJECT BY ACTIVITY | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|--|------------------|------------------|------------------|------------------|------------------|----------------|------|
| STREET IMPROVEMENTS: | | | | | | | |
| Cherry Avenue Extension | 250,000 | 250,000 | - | - | - | - | 87 |
| Arterial Street Pavement Improvements | 250,000 | 250,000 | - | - | - | - | 88 |
| Collector Street Improvements | 335,000 | - | 100,000 | 160,000 | 75,000 | - | 89 |
| Concrete Pavement Improvements | 200,000 | - | 80,000 | | | 120,000 | 90 |
| CyRide Route Pavement Improvements | 172,500 | | | 172,500 | | | 92 |
| Campustown Public Improvements | 120,000 | - | - | - | 120,000 | - | 96 |
| Total Street Engineering Projects | 1,327,500 | 500,000 | 180,000 | 332,500 | 195,000 | 120,000 | |
| SHARED USE PATH SYSTEM: | | | | | | | |
| Shared Use Path System Expansion | 2,950,800 | 620,000 | 680,800 | 650,000 | 650,000 | 350,000 | 100 |
| Multi-Modal Roadway Improvements | 903,000 | 100,000 | 198,000 | 130,000 | 350,000 | 125,000 | 101 |
| Shared Use Path Maintenance | 625,000 | 125,000 | 125,000 | 125,000 | 125,000 | 125,000 | 102 |
| Total Shared Use Path Projects | 4,478,800 | 845,000 | 1,003,800 | 905,000 | 1,125,000 | 600,000 | |
| STREET REHABILITATION: | | | | | | | |
| Bridge Rehabilitation Program | 760,000 | - | 760,000 | - | - | - | 112 |
| TOTAL SHARED USE PATH PROJECTS | 6,566,300 | 1,345,000 | 1,943,800 | 1,237,500 | 1,320,000 | 720,000 | |
| AVERAGE EXPENDITURE/FISCAL YEAR | 1,313,260 | | | | | | |

SHARED USE PATH SYSTEM EXPANSION

PROJECT STATUS: Site Change

Location Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This program provides for construction of shared use paths on street rights-of-way, adjacent to streets, and through greenbelts. The Long Range Transportation Plan (LRTP) identifies those paths that separate bicycle traffic from higher-speed automobile traffic.

COMMENTS

The projects included in this program are subject to acquiring voluntary easements from property owners. Construction of the FY 2018/19, FY 2019/20, and FY 2021/22 segments are contingent upon acquisition of land. Shared use path maintenance costs will increase due to new shared use path construction.

LOCATION

- 2020/21 Vet Med Trail (South 16th Street to South Grand Avenue) trail paving
- 2021/22 Squaw Creek (South Skunk River to South Duff Avenue)
- 2022/23 Grand Avenue Path (Lincoln Way to Sixth Street)
- 2023/24 East Lincoln Way Path (South Duff Avenue to South Dayton Avenue)
- 2024/25 Skunk River (South Duff Trail Connection along Billy Sunday Road)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 558,000 | 200,000 | 118,000 | 75,000 | 75,000 | 90,000 |
| Land Acquisition | 88,800 | | 88,800 | | | |
| Construction | 2,304,000 | 420,000 | 474,000 | 575,000 | 575,000 | 260,000 |
| TOTAL | 2,950,800 | 620,000 | 680,800 | 650,000 | 650,000 | 350,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 2,632,800 | 461,000 | 521,800 | 650,000 | 650,000 | 350,000 |
| MPO/STP Funds | 318,000 | 159,000 | 159,000 | | | |
| TOTAL | 2,950,800 | 620,000 | 680,800 | 650,000 | 650,000 | 350,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|-----------------------------------|--------------------|------------------------------|
| Transportation - Shared Use Paths | Public Works | 030-8876-439 320-8876-439 |

MULTI-MODAL ROADWAY IMPROVEMENTS

PROJECT STATUS: No Change

DESCRIPTION/JUSTIFICATION

Multi-modal transportation refers to the various modes used by Ames residents to travel the transport system. The modes specifically addressed in this program include bicycling and automobiles. This program is aimed at improving the roadway to create a safer interaction between these modes using alternatives such as improved crossing visibility at intersections, bike detection, and on-street facilities (e.g. bike lanes, sharrows). Bike lanes consist of a portion of the roadway designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists. Sharrows, also known as shared lane markings, are markings used in lanes shared by bicycles and motor vehicles when a travel lane is too narrow to provide a standard width bike lane. Bike detection improvements include retrofitting signalized intersections to radar detection to facilitate the movement of bicycles. These improvements retrofit the existing street to provide a useful and appropriate route of travel for these popular modes used by Ames residents. The proposed locations and treatments that are identified in the Long-Range Transportation Plan (LRTP) will be noted by project numbers (e.g. ON15) from the LRTP.

LOCATIONS

- 2020/21 Enhanced Intersection Crossing: (CR 15, South 16th Street Mid-Block Trail Crossing near Vet Med)
- 2021/22 On-Street: South Walnut Avenue (ON15: South Third Street to Lincoln Way) (\$138,000) and Wilder Avenue (ON20: Mortensen Road to Lincoln Way) (\$60,000)
- 2022/23 Enhanced Intersection Crossing: Intersection of Grand Avenue and Sixth Street (CR5: improve crossing visibility)
- 2023/24 Enhanced Intersection Crossing: (CR 24, 16th Street and Grand Avenue)
- 2024/25 Enhanced Intersection Crossing: Various locations requiring bicycle and pedestrian detection at arterial street crossings

The locations for this program have been coordinated with the Shared Use Path System Expansion program.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 130,000 | 30,000 | 20,000 | 30,000 | 50,000 | |
| Construction | 773,000 | 70,000 | 178,000 | 100,000 | 300,000 | 125,000 |
| TOTAL | 903,000 | 100,000 | 198,000 | 130,000 | 350,000 | 125,000 |
| FINANCING: | | | | | | |
| Road Use Tax | 903,000 | 100,000 | 198,000 | 130,000 | 350,000 | 125,000 |
| TOTAL | 903,000 | 100,000 | 198,000 | 130,000 | 350,000 | 125,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|-----------------------------------|--------------------|--------------------|
| Transportation - Shared Use Paths | Public Works | 060-8821-439 |

SHARED USE PATH MAINTENANCE

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The shared use path recreational and transportation system has continued to expand throughout the community. The shared use paths have typically been constructed with five inches of asphalt or concrete pavement. Structural failure, drainage problems, and vegetation infringement are several causes for the need to improve the pavement. This annual program provides for those improvements.

COMMENTS

The pavement management system for shared use paths is used to guide maintenance activities to segments of the shared use path system that are in need of repair. This inventory aids in prioritizing those segments throughout the community.

Spot repairs that are identified will be prioritized by severity of the repair that is needed and then addressed in the operations budget.

Improvement to the shared use path pavement will enhance the safety and usability of the transportation/recreational system and improve the aesthetics of the right-of-way.

Newer rehabilitation techniques such as mastic joint repair and micro-surface treatments are being utilized as a part of this program.

LOCATIONS

Various locations throughout Ames will be identified using pavement management data and user feedback.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 90,000 | 18,000 | 18,000 | 18,000 | 18,000 | 18,000 |
| Construction | 535,000 | 107,000 | 107,000 | 107,000 | 107,000 | 107,000 |
| TOTAL | 625,000 | 125,000 | 125,000 | 125,000 | 125,000 | 125,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 625,000 | 125,000 | 125,000 | 125,000 | 125,000 | 125,000 |
| TOTAL | 625,000 | 125,000 | 125,000 | 125,000 | 125,000 | 125,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|-----------------------------------|--------------------|--------------------|
| Transportation - Shared Use Paths | Public Works | 030-8811-439 |

TRANSPORTATION - TRAFFIC IMPROVEMENTS

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---|-------------------|------------------|------------------|------------------|------------------|------------------|------|
| PROJECT: | | | | | | | |
| U.S. Highway 69 Improvements | 1,230,000 | 1,230,000 | - | - | - | - | 105 |
| South Dayton Improvements | 1,100,000 | 1,100,000 | - | - | - | - | 106 |
| Traffic Signal Program | 1,898,500 | 389,500 | 380,000 | 255,000 | 426,000 | 448,000 | 107 |
| Accessibility Enhancements Program | 1,000,000 | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 | 108 |
| Regional Transportation Count Program | 370,000 | 120,000 | 50,000 | 50,000 | 75,000 | 75,000 | 109 |
| Intelligent Transportation System Program | 9,517,400 | 1,838,400 | 1,789,900 | 1,893,000 | 2,007,500 | 1,988,600 | 110 |
| TOTAL PROJECT EXPENDITURES | 15,115,900 | 4,877,900 | 2,419,900 | 2,398,000 | 2,708,500 | 2,711,600 | |
| FUNDING SOURCES: | | | | | | | |
| Debt: | | | | | | | |
| G.O. Bonds | 1,873,800 | 1,071,900 | 160,400 | 209,200 | 175,700 | 256,600 | |
| City: | | | | | | | |
| Road Use Tax | 4,028,200 | 1,135,300 | 727,600 | 574,400 | 826,800 | 764,100 | |
| Local Option Sales Tax | 500,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | |
| Total City Funding | 4,528,200 | 1,235,300 | 827,600 | 674,400 | 926,800 | 864,100 | |

TRANSPORTATION - TRAFFIC IMPROVEMENTS, continued

| PROJECT/FUNDING SOURCE | TOTAL | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
|------------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|
| FUNDING SOURCES, continued: | | | | | | |
| Other: | | | | | | |
| Federal/State Grants | 8,713,900 | 2,570,700 | 1,431,900 | 1,514,400 | 1,606,000 | 1,590,900 |
| TOTAL FUNDING SOURCES | 15,115,900 | 4,877,900 | 2,419,900 | 2,398,000 | 2,708,500 | 2,711,600 |

US HIGHWAY 69 IMPROVEMENTS

PROJECT STATUS: Cost Change

Revenue Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Intersection and corridor improvement projects along US Highway 69 are included in this program to alleviate congestion and reduce accidents.

COMMENTS

As part of a traffic impact study for the Brick Towne development along South Duff Avenue, east of the Ames Airport property, unacceptable delays were identified at the eastbound off-ramp of US Highway 30 and South Duff Avenue. Queuing on the ramp may be a significant safety issue on both South Duff Avenue and US Highway 30. Therefore, construction is programmed for FY 2020/21 to realign Billy Sunday Road with the US 30 ramp and install a traffic signal.

LOCATION

South Duff Avenue and US Highway 30 eastbound off-ramp

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------|------------------|------------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 100,000 | 100,000 | | | | |
| Construction | 1,130,000 | 1,130,000 | | | | |
| TOTAL | 1,230,000 | 1,230,000 | | | | |
| FINANCING: | | | | | | |
| G.O. Bonds | 230,000 | 230,000 | | | | |
| Road Use Tax | 300,000 | 300,000 | | | | |
| U-STEP Grant Funds | 700,000 | 700,000 | | | | |
| TOTAL | 1,230,000 | 1,230,000 | | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------------|--------------------|--|
| Transportation - Traffic Improvements | Public Works | 060-7570-439 320-7570-439 381-7570-439 |

SOUTH DAYTON IMPROVEMENTS

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The South Dayton Gateway area of Ames has seen an increase in congestion over the last several years. Economic growth in the South Bell Avenue industrial district, as well as along SE 16th Street, has contributed to this congestion. The completion of the northbound to westbound fly-over bridge at the Interstate 35 and US Highway 30 interchange has made mitigating the congestion on South Dayton Avenue a priority. In order to address this congestion, capacity improvements are needed at the SE 16th Street and South Dayton Avenue intersection as well as signalizing the ramp terminals at the South Dayton Avenue and US Highway 30 interchange.

LOCATION

SE 16th Street and Dayton Avenue (turn lanes & signal improvements); South Dayton Avenue and US Highway 30 eastbound/westbound off-ramps (traffic signals)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------------|------------------|--------------------|----------------|--------------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 132,000 | 132,000 | | | | |
| Construction | 968,000 | 968,000 | | | | |
| TOTAL | 1,100,000 | 1,100,000 | | | | |
| FINANCING: | | | | | | |
| G.O. Bonds | 700,000 | 700,000 | | | | |
| U-Step Grant Funds | 400,000 | 400,000 | | | | |
| TOTAL | 1,100,000 | 1,100,000 | | | | |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | | ACCOUNT NO. | | |
| Transportation - Traffic Improvements | | Public Works | | 320-7581-439 | | |
| | | | | 381-7581-439 | | |

TRAFFIC SIGNAL PROGRAM

PROJECT STATUS: Site Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Traffic Signal Program is the annual program that provides for replacing older traffic signals and for constructing new traffic signals in the City. This program will result in improved visibility, reliability, and appearance of signals. Although recent advances in technology have elongated the normal, useful life for traffic signal installations well past the previously expected 25 years, some of the older-generation traffic signals still in use exceed their functional age. Components at those installations (including conduits, wiring, signal heads, and poles) need to be completely replaced. This program also provides funding for those maintenance needs. Also, this program provides for the necessary upgrading of the traffic signal system as technology continues to change. In recent years, traffic signal replacements have included radar detection systems instead of in-pavement loop detection systems that had previously been used (and that were frequently the point of vehicle detection failure). Another advantage of the radar detection system is that it detects bicycles in addition to vehicles.

COMMENTS

A continued trend in increasing material costs (specifically for copper wiring and steel for the poles and mast arms) and additional federal design requirements (such as additional ADA facilities) have resulted in an increased cost of a standard traffic signal. The cost for signalized intersection replacements has been increasing by approximately 3% per year based upon historical bid pricing. Staff tracks this trend and will adjust projected funding for this program each annual CIP cycle. When a full replacement is not necessary, staff will identify equipment within existing signal locations that can be replaced to achieve similar operational improvements to a major reconstruction.

The University Boulevard & South Fourth Street signal replacement was prioritized to coordinate with the FY 2021/22 construction of a pedestrian bridge over Squaw Creek and a path connection to this Intersection.

LOCATIONS

- 2020/21 South Duff Avenue & South Fifth Street signal replacement
- 2021/22 University Boulevard & South Fourth Street Signal Replacement
- 2022/23 Various equipment upgrades (modernization) at existing signal locations
- 2023/24 South Duff Avenue/Chestnut Street signal replacement
- 2024/25 South Duff Avenue/South Third Street

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 186,000 | 42,000 | 45,000 | 5,000 | 46,000 | 48,000 |
| Construction | 1,712,500 | 347,500 | 335,000 | 250,000 | 380,000 | 400,000 |
| TOTAL | 1,898,500 | 389,500 | 380,000 | 255,000 | 426,000 | 448,000 |
| FINANCING: | | | | | | |
| Road Use Tax | 1,898,500 | 389,500 | 380,000 | 255,000 | 426,000 | 448,000 |
| TOTAL | 1,898,500 | 389,500 | 380,000 | 255,000 | 426,000 | 448,000 |

| | | |
|---------------------------------------|--------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Transportation - Traffic Improvements | Public Works | 060-7563-439 |

ACCESSIBILITY ENHANCEMENT PROGRAM

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This annual program combines sidewalk and ADA ramp improvements with additional accessibility upgrades at traffic signals and other publicly owned parking facilities. This program will provide for removing and replacing sidewalk intersection crosswalk panels and handicap ramps at locations that fail to meet the Americans with Disabilities Act (ADA) requirement to have truncated dome warning panels installed. It also includes retrofitting existing signalized traffic control devices with audible and vibrotactile push-buttons, and upgrading parking stalls to current accessible standards in any on-street location or parking lot owned by the City of Ames. This program may be combined with and used in conjunction with roadway, traffic signal replacement, or shared use path improvement projects for pedestrian ramp reconstruction.

This program provides safer pedestrian facilities and limits the City's liability for injury to residents using public sidewalks that are in a deteriorated condition. The program also improves ADA accessibility at municipal facilities.

COMMENTS

The City Manager's Office facilitated a survey of stakeholders to help prioritize the retrofitting of existing traffic signals that currently do not have audible and vibrotactile operation. These locations will be prioritized along with other ADA improvement needs that are identified throughout the year.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 150,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| Construction | 850,000 | 170,000 | 170,000 | 170,000 | 170,000 | 170,000 |
| TOTAL | 1,000,000 | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |
| FINANCING: | | | | | | |
| Road Use Tax | 500,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 |
| Local Option Sales Tax | 500,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 |
| TOTAL | 1,000,000 | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------------|--------------------|------------------------------|
| Transportation - Traffic Improvements | Public Works | 030-7510-439 060-7510-439 |

DESCRIPTION/JUSTIFICATION

This program is the result of an ongoing need for transportation-related data in the Ames regional area. This program will be for the collection and management of travel demand data from all transportation modes: walking, biking, and various forms of motorized travel. Data from this program will be used to track critical transportation system performance measures which are used to analyze and forecast transportation system needs and priorities. Each year consists of an annual base for data collections services.

COMMENTS

The data collectors continuously record traffic volumes, speeds, and classification on arterial and collector streets throughout the network. This data supports Long Range Transportation Planning and Modeling efforts, as well as Pavement Management, Safety Analysis, and other system performance measures as needed.

FY 2020/21 includes a project to purchase origin/destination and travel time sensors for the Ames street network (\$70,000). Data from these sensors will be used for optimization and performance metrics of the City’s arterial streets.

Each year, traffic signal improvements rank as one of the highest priority areas from the Ames Citizen Satisfaction survey.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 370,000 | 120,000 | 50,000 | 50,000 | 75,000 | 75,000 |
| TOTAL | 370,000 | 120,000 | 50,000 | 50,000 | 75,000 | 75,000 |
| FINANCING: | | | | | | |
| Road Use Tax | 370,000 | 120,000 | 50,000 | 50,000 | 75,000 | 75,000 |
| TOTAL | 370,000 | 120,000 | 50,000 | 50,000 | 75,000 | 75,000 |

| | | |
|---------------------------------------|--------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Transportation - Traffic Improvements | Public Works | 060-7515-439 |

INTELLIGENT TRANSPORTATION SYSTEM PROGRAM

PROJECT STATUS: Funding Change

Revenue Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The 2040 Ames Area Long Range Transportation Plan (LRTP), which became effective on October 12, 2015, identifies a wide range of transportation improvements including those projects that utilize technology referred to as Intelligent Transportation Systems (ITS). In the 2040 LRTP, the highest priority corridors for installing traffic adaptive signal systems are along the South Duff Avenue and Lincoln Way arterial corridors.

COMMENTS

In FY 2016/17, staff began the development of a traffic network master plan that created a detailed inventory and evaluation of the communication network used along the City’s signalized corridors. The master plan will identify the upgrades necessary to support the modern technologies used to manage transportation. Implementation of the respective phases has been proposed following recommended areas shown in the Traffic Network Master Plan.

Traffic Adaptive Systems are a form of Intelligent Transportation System infrastructure that conducts real-time optimization of traffic and pedestrian flow at signalized intersections. Traffic adaptive systems provide a significant improvement in efficiency and will provide reliable travel times during all times of the day. Projects in this program have been delayed a year to allow application for congestion mitigation funds.

Each year, traffic signal improvements rank as one of the highest priority areas from the Ames Resident Satisfaction Survey.

LOCATION

- 2020/21 Phase 1: Duff Avenue & South Duff Ave, East 13th Street to Dayton Avenue (connects to Public Works Warehouse)
- 2021/22 Phase 2: Grand Avenue from Lincoln Way to Bloomington Road (with various network looping)
- 2022/23 Phase 3: University Boulevard from Lincoln Way to Airport Road (network looping along South 16th Street and South Third/Fourth Streets)
- 2023/24 Phase 4: Lincoln Way (west Ames), South Dakota Avenue, Mortensen Road
- 2024/25 Phase 5: Bloomington Road, 24th Street, Stange Road, 13th Street, and North Dakota Avenue (NW Ames)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| COST: | | | | | | |
| Engineering | 705,000 | 136,200 | 132,600 | 140,200 | 148,700 | 147,300 |
| Construction | 8,812,400 | 1,702,200 | 1,657,300 | 1,752,800 | 1,858,800 | 1,841,300 |
| TOTAL | 9,517,400 | 1,838,400 | 1,789,900 | 1,893,000 | 2,007,500 | 1,988,600 |
| FINANCING: | | | | | | |
| G.O. Bonds | 943,800 | 141,900 | 160,400 | 209,200 | 175,700 | 256,600 |
| Road Use Tax | 959,700 | 225,800 | 197,600 | 169,400 | 225,800 | 141,100 |
| ICAAP Grant Funds | 7,613,900 | 1,470,700 | 1,431,900 | 1,514,400 | 1,606,000 | 1,590,900 |
| TOTAL | 9,517,400 | 1,838,400 | 1,789,900 | 1,893,000 | 2,007,500 | 1,988,600 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------------|--------------------|---|
| Transportation - Traffic Improvements | Public Works | 060-7513-439 320-7513-439/381-7513-439 |

TRANSPORTATION - STREET REHABILITATION

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|--|------------------|------------------|------------------|----------------|----------------|----------------|------|
| PROJECT: | | | | | | | |
| Bridge Rehabilitation Program | 1,435,000 | 375,000 | 760,000 | - | 300,000 | - | 112 |
| Pavement Restoration | 1,250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 113 |
| Main Street Sidewalk Paver Replacement | 88,000 | 88,000 | - | - | - | - | 114 |
| Right-of-Way Appearance Enhancements | 150,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 | 115 |
| Neighborhood Curb Replacement Program | 900,000 | 300,000 | - | 300,000 | - | 300,000 | 116 |
| TOTAL PROJECT EXPENDITURES | 3,823,000 | 1,043,000 | 1,040,000 | 580,000 | 580,000 | 580,000 | |
| FUNDING SOURCES: | | | | | | | |
| Debt: | | | | | | | |
| G.O. Bonds | 1,375,000 | 375,000 | 700,000 | - | 300,000 | - | |
| City: | | | | | | | |
| Road Use Tax | 2,388,000 | 668,000 | 280,000 | 580,000 | 280,000 | 580,000 | |
| Other: | | | | | | | |
| Iowa State Univeristy | 60,000 | - | 60,000 | - | - | - | |
| TOTAL FUNDING SOURCES | 3,823,000 | 1,043,000 | 1,040,000 | 580,000 | 580,000 | 580,000 | |

BRIDGE REHABILITATION PROGRAM

PROJECT STATUS: Revenue Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This program provides funding for necessary repairs recommended by the biennial Iowa Department of Transportation (IDOT) bridge inspections. The IDOT requires inspections for bridges within the city of Ames.

COMMENTS

Lincoln Way Bridge over Squaw Creek includes work to replace deteriorated handrail and minor concrete repair. The cost change in this item includes enhancements to pedestrian safety along the sidewalks on the bridge. The 2018 Bridge Inspection revealed an opportunity to construct more substantial concrete barriers between pedestrians and vehicles on the bridge while upgrading the handrails.

The South Fourth Street Bridge over Squaw Creek includes upgrades to allow pedestrian crossing along the south side of the bridge. This is a heavily trafficked pedestrian and bicycle corridor. The project also includes additional trail paving to close the gap between existing infrastructure and the new bridge structure. The revenue change is from Iowa State funding for the connection of the trail on the west side of the Skunk River across Iowa State's property along the south side of South Fourth Street.

The East 13th Street Bridge over Skunk River includes concrete repairs to the bridge substructure to extend the life of the structure.

LOCATION

- 2020/21 Lincoln Way Bridge over Squaw Creek
- 2021/22 South Fourth Street Bridge over Squaw Creek
- 2023/24 East 13th Street Bridge over Skunk River

Bicycle facilities will be included in the FY 2021/22 project on the South Fourth Street Bridge Rehabilitation project. The project will widen the bridge to include an off-street, 10-foot wide shared use path.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 200,000 | 50,000 | 100,000 | | 50,000 | |
| Construction | 1,235,000 | 325,000 | 660,000 | | 250,000 | |
| TOTAL | 1,435,000 | 375,000 | 760,000 | | 300,000 | |
| FINANCING: | | | | | | |
| G.O. Bonds | 1,375,000 | 375,000 | 700,000 | | 300,000 | |
| ISU Funding | 60,000 | | 60,000 | | | |
| TOTAL | 1,435,000 | 375,000 | 760,000 | | 300,000 | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--|--------------------|--------------------|
| Transportation - Street Rehabilitation | Public Works | 381-7757-439 |

PAVEMENT RESTORATION

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This annual program is for preventive and proactive maintenance of the streets. This allows for a large variety of possible maintenance activities including, but not limited to, slurry seal, full-depth concrete paving, milling and patching of asphalt, joint sealing, diamond grinding, partial depth patching, and new maintenance techniques to preserve and enhance City streets.

COMMENTS

This program is funded at \$250,000 annually to help extend the longevity of the pavement system and supplement the current pavement restoration activities. Priorities for this program are identified using information from the pavement management system and input from citizens and maintenance crews.

LOCATION

Locations will be coordinated with street construction to gain the best possible life cycle of streets.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 1,250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 |
| TOTAL | 1,250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 |
| FINANCING: | | | | | | |
| Road Use Tax | 1,250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 |
| TOTAL | 1,250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 |

PROGRAM - ACTIVITY:

Transportation - Street Rehabilitation

DEPARTMENT:

Public Works

ACCOUNT NO.

060-7723-439

MAIN STREET SIDEWALK PAVER REPLACEMENT

PROJECT STATUS: Site Change

Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project provides for the replacement of the pavers in the Main Street corridor. These pavers were installed with the Main Street Reconstruction project in 1999. At that time, the pavers were an aesthetic upgrade to traditional concrete sidewalks. Over time, the pavers have proven to be a difficult maintenance item. Uneven pavers appear every year, and Public Works Operations crews spend a considerable amount of time to level or replace pavers. Additional pavers are now in short supply as the pavers are not produced anymore. Winter ice control chemicals applied by adjacent business owners have led to accelerated deterioration of the pavers, especially on the southern side of Main Street where the building provides continuous shade in the winter and no sunlight reaches the sidewalk to aid in melting the snow and ice. The replacement technique will be to use colored, stamped concrete to provide better durability, in lieu of pavers.

COMMENTS

The proposed projects would be broken up into block-long segments, and work will be coordinated continually with adjacent business owners to maintain access and safe pedestrian traffic flow through the corridor. This plan will replace the pavers along Main Street in five years.

The Kellogg Avenue and Main Street intersection was programmed in FY 2023/24 in the FY 2019-2024 CIP. The intersection is still performing well and is being removed from consideration for replacement at this time.

Total Project Funding:

| | | |
|----------------|------------------------|---------------|
| 2017/18 | Clark to Burnett | 171,000 |
| 2018/19 | Burnett to Kellogg | 171,000 |
| 2019/20 | Kellogg to Douglas | 190,000 |
| <u>2020/21</u> | <u>Douglas to Duff</u> | <u>88,000</u> |
| Total | | \$620,000 |

LOCATION

Main Street corridor from Douglas Avenue to Duff Avenue (north side and south side sidewalks and crosswalks)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|---------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 11,000 | 11,000 | | | | |
| Construction | 77,000 | 77,000 | | | | |
| TOTAL | 88,000 | 88,000 | | | | |
| FINANCING: | | | | | | |
| Road Use Tax | 88,000 | 88,000 | | | | |
| TOTAL | 88,000 | 88,000 | | | | |

| | | |
|--|--------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Transportation - Street Rehabilitation | Public Works | 060-7707-439 |

RIGHT-OF-WAY APPEARANCE ENHANCEMENTS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project provides for the enhancement of the rights-of-way in the City of Ames. The funding may be used for a number of elements including retaining walls, entryway enhancements, and median enhancements.

COMMENTS

In addition to retaining wall repairs, the entryway enhancement portion could be used to enhance or repair other right-of-way elements such as decorative signs or monuments.

LOCATION

Various locations

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | | | | | | |
| Right-of-Way Enhancements | 150,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| TOTAL | 150,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| FINANCING: | | | | | | |
| Road Use Tax | 150,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| TOTAL | 150,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |

PROGRAM - ACTIVITY: Transportation - Street Rehabilitation
DEPARTMENT: Public Works
ACCOUNT NO.: 060-7731-439

NEIGHBORHOOD CURB REPLACEMENT PROGRAM

PROJECT STATUS: Cost Change Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This is the annual program for replacement of deteriorated curb and gutter in selected neighborhood areas. Curb and gutter replacement enhances neighborhood and right-of-way aesthetics.

Areas to receive curb and gutter replacement are selected by staff using input of neighborhoods, the condition of the curb, and the extent of needed repairs.

COMMENTS

Neighborhood Curb Replacement Program decision criteria approved by City Council includes the extent of curb deterioration, the number of residential structures in the block, and the longitudinal grade. Locations are coordinated with other pavement improvement locations in the CIP.

The cost change and delay are due to updated cost estimates for each project location.

LOCATION

- 2020/21 12th Street (Grand Avenue to Kellogg Avenue)
- 2022/23 Murray Drive (Northwestern Avenue to Grand Avenue)
- 2024/25 East 16th Street (Duff Avenue to Maxwell Avenue)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 90,000 | 30,000 | | 30,000 | | 30,000 |
| Construction | 810,000 | 270,000 | | 270,000 | | 270,000 |
| TOTAL | 900,000 | 300,000 | | 300,000 | | 300,000 |
| FINANCING: | | | | | | |
| Road Use Tax | 900,000 | 300,000 | | 300,000 | | 300,000 |
| TOTAL | 900,000 | 300,000 | | 300,000 | | 300,000 |

| | | |
|--|--------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Transportation - Street Rehabilitation | Public Works | 060-7770-439 |

TRANSPORTATION - TRANSIT

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|--------------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------|
| PROJECT: | | | | | | | |
| Vehicle Replacement | 13,587,274 | 5,203,900 | 2,335,128 | 1,597,897 | 1,484,895 | 2,965,454 | 118 |
| Building Expansion and Modernization | 4,131,373 | 726,373 | 790,000 | 935,000 | 840,000 | 840,000 | 119 |
| Technology Improvements | 370,000 | 125,000 | 95,000 | 50,000 | 50,000 | 50,000 | 120 |
| Bus Stop Improvements | 275,000 | 25,000 | 25,000 | 75,000 | 75,000 | 75,000 | 121 |
| CyRide Shop/Office Equipment | 349,000 | 70,400 | 70,400 | 59,400 | 84,400 | 64,400 | 122 |
| TOTAL PROJECT EXPENDITURES | 18,712,647 | 6,150,673 | 3,315,528 | 2,717,297 | 2,534,295 | 3,994,854 | |
| FUNDING SOURCES: | | | | | | | |
| City: | | | | | | | |
| Transit Fund | 4,758,202 | 1,585,231 | 703,826 | 870,752 | 776,902 | 821,491 | |
| Other: | | | | | | | |
| Federal/State Grants | 13,954,445 | 4,565,442 | 2,611,702 | 1,846,545 | 1,757,393 | 3,173,363 | |
| TOTAL FUNDING SOURCES | 18,712,647 | 6,150,673 | 3,315,528 | 2,717,297 | 2,534,295 | 3,994,854 | |

CYRIDE VEHICLE REPLACEMENT & REHABILITATION

PROJECT STATUS: Cost Change, Advanced
Revenue Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

CyRide will replace its bus fleet as grant funding opportunities arise. CyRide anticipates future state funding for new buses through the state's capital funding allocation process. CyRide has five vehicles used for administrative support and in the operations division for drivers to switch shifts. These vehicles are on a four to six-year replacement schedule, ultimately replaced when they no longer are mechanically sound. The two maintenance trucks are on a ten-year replacement cycle. Dial-A-Ride vehicles are programmed to be replaced every four to six years. Additionally, \$30,000 to \$50,000 per year is being programmed for mid-life bus rehabilitation for corrosion repair and painting.

In total, these purchases are programmed as follows:

- 2020/21 Replace two 40' buses with battery electric buses (\$2,155,800); replace three 40' buses (\$1,479,900); replace one 40' bus with a new 60' bus; replace six minibuses; mid-life rehabilitation; replace administrative vehicle
- 2021/22 Replace three 40' buses; replace two minibuses; mid-life rehabilitation; replace administrative vehicle
- 2022/23 Replace one large 40' bus; replace one large 40' bus with a new 60' bus; replace the Dial-A-Ride van (\$58,418); replace the Dial-A-Ride bus (\$95,926); mid-life rehabilitation; replace administrative vehicle
- 2023/24 Replace one large 40' bus; replace one large 40' bus with a new 60' bus; mid-life rehabilitation; replace administrative vehicle
- 2024/25 Replace five large 40' buses; mid-life rehabilitation; replace administrative vehicle

COMMENTS

The new buses will be funded with 80% federal funding, including the State of Iowa's Iowa Clean Air Attainment Program (ICAAP) funds that are a distribution of federal dollars. For FY 2020/21 to FY 2024/25 the Ames Area MPO approved \$225,000 each year to assist in funding the purchase of new articulated buses.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|
| COST: | | | | | | |
| Large Buses - 40' New | 9,661,730 | 3,635,700 | 2,052,128 | 533,553 | 554,895 | 2,885,454 |
| Large Buses - 60' New | 2,550,000 | 850,000 | | 850,000 | 850,000 | |
| Mini Buses - New | 881,200 | 658,200 | 223,000 | | | |
| Bus Mid-life Rehabilitation | 190,000 | 30,000 | 30,000 | 30,000 | 50,000 | 50,000 |
| Administrative Vehicles | 150,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| Dial-A-Ride Bus/Van | 154,344 | | | 154,344 | | |
| TOTAL | 13,587,274 | 5,203,900 | 2,335,128 | 1,597,897 | 1,484,895 | 2,965,454 |
| FINANCING: | | | | | | |
| Transit Fund | 2,673,927 | 1,159,556 | 323,426 | 391,352 | 367,502 | 432,091 |
| PTMS Funds | 9,788,347 | 3,819,344 | 1,786,702 | 981,545 | 892,393 | 2,308,363 |
| STP Funds | 1,125,000 | 225,000 | 225,000 | 225,000 | 225,000 | 225,000 |
| TOTAL | 13,587,274 | 5,203,900 | 2,335,128 | 1,597,897 | 1,484,895 | 2,965,454 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------------|--------------------|------------------------------|
| Transportation - Transit | CyRide | 552-1159-439 552-1169-439 |

CYRIDE BUILDING IMPROVEMENTS & EXPANSION

PROJECT STATUS: Scope Change

Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

CyRide's original bus storage building is 36 years old and major components of the building are at the end of their useful life. Additionally, the facility is housing more vehicles than it was originally designed for, creating higher wear and tear on the facility and a need to explore expansion options. As a result, this plan has been developed to keep the current facility in a state of good repair, as is required by the Federal Transit Administration:

- 2020/21 Replace HVAC system phase I; concrete replacement; architectural & engineering (A & E) services
- 2021/22 Replace HVAC system phase II (\$375,000); replace fueling system with high speed fueling (\$250,000); exterior facility improvements (\$75,000); concrete replacement (\$40,000); A & E services
- 2022/23 Water main replacement (\$750,000); interior improvements (\$95,000); concrete replacement (\$40,000); A & E services
- 2023/24 Construct an addition on to existing or new facility (\$750,000); concrete replacement (\$40,000); A & E services
- 2024/25 Construct an addition on to existing or new facility (\$750,000); concrete replacement (\$40,000); A & E services

COMMENTS

HVAC projects (phases I & II) will replace units that are 15 to 36 years old in two consecutive fiscal years. Concrete replacement is budgeted each fiscal year to replace concrete around the facility as it fails. High speed fueling replaces the existing system with one that is faster and has less waste. Exterior facility improvements include paint, caulk, and EIFS repair. CyRide has a water main failing under the parking lot that is to be replaced in FY 2022/23. The A & E services would provide technical expertise during the various construction projects, as well as assisting with the preparation of bid documents. This CIP assumes a plan to expand CyRide's facility is developed and that the facility will be built in pieces as funding is identified. To-date, CyRide has reserved \$715,166 in local match dollars for a grant to begin constructing more facility space.

LOCATION

CyRide, 601 N. University Blvd.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Architectural/Engineering | 235,000 | 35,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| Equipment | 1,276,373 | 651,373 | 625,000 | | | |
| Construction | 2,620,000 | 40,000 | 115,000 | 885,000 | 790,000 | 790,000 |
| TOTAL | 4,131,373 | 726,373 | 790,000 | 935,000 | 840,000 | 840,000 |
| FINANCING: | | | | | | |
| Transit Fund | 1,210,275 | 205,275 | 190,000 | 335,000 | 240,000 | 240,000 |
| State of Iowa - PTIG | 2,921,098 | 521,098 | 600,000 | 600,000 | 600,000 | 600,000 |
| TOTAL | 4,131,373 | 726,373 | 790,000 | 935,000 | 840,000 | 840,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------------|--------------------|--------------------|
| Transportation - Transit | CyRide | 552-1159-439 |
| | | 552-1169-439 |

CYRIDE TECHNOLOGY IMPROVEMENTS

PROJECT STATUS: Scope Change Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Advancements in technology have grown significantly over the past several years. As a result, CyRide will incorporate the following:

- **Bus Technology:** CyRide will be investing in bus technology that will improve system efficiency, safety and security, and improve the riding experience for passengers with disabilities. This will be accomplished by adding Wi-Fi and network capabilities to buses so that load counts per stop can be captured live with automatic passenger counters. This will allow for a faster response to changes in riding patterns. The same network capabilities will also allow for bus video to be live-streamed to dispatchers and the police in the event of an incident on a bus. There will also be an investment in bus display monitors that will show the next stops along a route to help passengers with disabilities. The same display monitors can also be used for advertising.
- **Facility Technology:** Upgrades to facility technology encompasses two main areas. Monitors, computers, and projectors used throughout the facility are over 10 years old and becoming obsolete. CyRide is planning to invest \$50,000 in FY 2020/21 to replace aging equipment. Planned expenditures also include enhancing the facility Wi-Fi system with additional receivers.

LOCATION

CyRide, 601 N. University Blvd.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Bus Technology | 300,000 | 75,000 | 75,000 | 50,000 | 50,000 | 50,000 |
| Facility Technology | 70,000 | 50,000 | 20,000 | | | |
| TOTAL | 370,000 | 125,000 | 95,000 | 50,000 | 50,000 | 50,000 |
| FINANCING: | | | | | | |
| Transit Fund | 370,000 | 125,000 | 95,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 370,000 | 125,000 | 95,000 | 50,000 | 50,000 | 50,000 |

PROGRAM - ACTIVITY:

Transportation - Transit

DEPARTMENT:

CyRide

ACCOUNT NO.

552-1159-439

552-1169-439

BUS STOP IMPROVEMENTS

PROJECT STATUS: Cost Change

Scope Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

A significant shift in riding patterns following the implementation of CyRide 2.0 led to a reduction in the amount budgeted for stop improvements. CyRide staff will be updating the bus stop improvement plan in the coming year to make sure bus stop upgrades are being implemented where they will enhance the passenger experience for the greatest number of riders. CyRide will budget \$25,000 per year for smaller projects in the CIP for FY 2020/21 while the plan is updated.

CyRide will use the number of passengers getting on and alighting from the bus to determine the level of amenities at each stop. Additionally, the Iowa DOT has recently issued a report with recommended bus stop improvements along their roadways. Recommendations from the report will be incorporated into the updated bus stop improvement plan. After the plan has been updated, an increase in funding will be requested for subsequent years.

COMMENTS

Funding for the improvements in FY 2020/21 will be 100% local funding from CyRide's budget.

LOCATION

Various locations throughout Ames

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|----------------------------|----------------|--------------------|--------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Pads, Benches, Shelters | 150,000 | | | 50,000 | 50,000 | 50,000 |
| Concrete | 125,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| TOTAL | 275,000 | 25,000 | 25,000 | 75,000 | 75,000 | 75,000 |
| FINANCING: | | | | | | |
| Transit Fund | 155,000 | 25,000 | 25,000 | 35,000 | 35,000 | 35,000 |
| Federal 5310 Grants | 120,000 | | | 40,000 | 40,000 | 40,000 |
| TOTAL | 275,000 | 25,000 | 25,000 | 75,000 | 75,000 | 75,000 |
| PROGRAM - ACTIVITY: | | DEPARTMENT: | ACCOUNT NO. | | | |
| Transportation - Transit | | CyRide | 552-1159-439 | | | |
| | | | 552-1169-439 | | | |

CYRIDE SHOP AND OFFICE EQUIPMENT

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The FY 2020/21 office equipment expenditures include the replacement of three to six computers, laptops and printers, as well as the replacement of office chairs and stand-up style desks at an estimated cost of \$14,400 to \$20,400. With the exception of stand-up desks, these expenditures are used for replacing old and obsolete equipment.

The CyRide Maintenance Division owns several pieces of specialized equipment that are used to maintain buses so that CyRide stays in compliance with Federal Transit Administration regulations regarding vehicle maintenance. The specialized equipment includes parts washers, refrigerant recovery machines, lifts, and electronic diagnostic equipment. Expenditures in this category are difficult to predict as some of the equipment is up to 36 years old and still reliable. Historically, CyRide has spent between \$30,000 and \$50,000 during a fiscal year for shop equipment.

COMMENTS

In addition to computers and related equipment, CyRide will invest in more stand-up desks as an element of employee wellness. Employees that have received these desks like the ability to alternately stand and sit throughout the work day.

CyRide Maintenance is planning to replace one refrigerant recovery machine that is used to maintain bus air conditioning systems during FY 2020/21 at an estimated cost of \$7,500.

LOCATION

CyRide, 601 N. University Blvd.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Computers/ Office Equipment | 104,000 | 20,400 | 20,400 | 14,400 | 34,400 | 14,400 |
| Shop Equipment | 245,000 | 50,000 | 50,000 | 45,000 | 50,000 | 50,000 |
| TOTAL | 349,000 | 70,400 | 70,400 | 59,400 | 84,400 | 64,400 |
| FINANCING: | | | | | | |
| Transit Fund | 349,000 | 70,400 | 70,400 | 59,400 | 84,400 | 64,400 |
| TOTAL | 349,000 | 70,400 | 70,400 | 59,400 | 84,400 | 64,400 |

PROGRAM - ACTIVITY:

Transportation - Transit

DEPARTMENT:

CyRide

ACCOUNT NO.

552-1159-439

TRANSPORTATION - AIRPORT

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|-----------------------------------|------------------|----------------|----------------|----------------|----------------|----------------|------|
| PROJECT: | | | | | | | |
| Airport Improvements | 2,541,575 | 397,600 | 637,575 | 837,300 | 269,100 | 400,000 | 124 |
| TOTAL PROJECT EXPENDITURES | 2,541,575 | 397,600 | 637,575 | 837,300 | 269,100 | 400,000 | |
| FUNDING SOURCES: | | | | | | | |
| City: | | | | | | | |
| Airport Construction Fund | 254,175 | 39,800 | 63,775 | 83,700 | 26,900 | 40,000 | |
| Other: | | | | | | | |
| Federal Aviation Administration | 2,287,400 | 357,800 | 573,800 | 753,600 | 242,200 | 360,000 | |
| TOTAL FUNDING SOURCES | 2,541,575 | 397,600 | 637,575 | 837,300 | 269,100 | 400,000 | |

AIRPORT IMPROVEMENTS

PROJECT STATUS: Site Change

Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Airport improvement projects are accomplished through this program.

COMMENTS

The projects included in this program are determined by the Airport Master Plan which details Airport development needs for a ten-year period. The Master Plan Update that was completed in 2007 identifies projects that qualify for Federal Aviation Administration (FAA) funding.

- 2020/21 Phase 1 - Electrical Vault
- 2021/22 Phase 2 – Runway 01-19 Electrical Lighting/Phase 3 - Nav aids
- 2022/23 South Apron Rehabilitation
- 2023/24 Taxiway A Electrical
- 2024/25 Drainage Study/ Drainage Improvements

The FY 2020/21 project is to relocate electrical equipment to an above-ground vault, which was previously planned to occur with the terminal building construction but was reprogrammed due to funding constraints. Projects beginning in FY 2021/22 through FY 2024/25 are high priority safety projects for the airport. The lighting at the Ames airport was initially built in the early 1970s and is starting to experience significant failures. Also, the oldest pavement on the airport property is the south apron area directly in front of the new terminal building. In FY 2024/25, the airport will study drainage issues in the area of the runway-runway intersection, which currently floods during heavy rain events, resulting in the temporary shut-down of all airport operations. The project will address the drainage issue found, depending on funding. Any unmet need will be programmed in future years of the CIP.

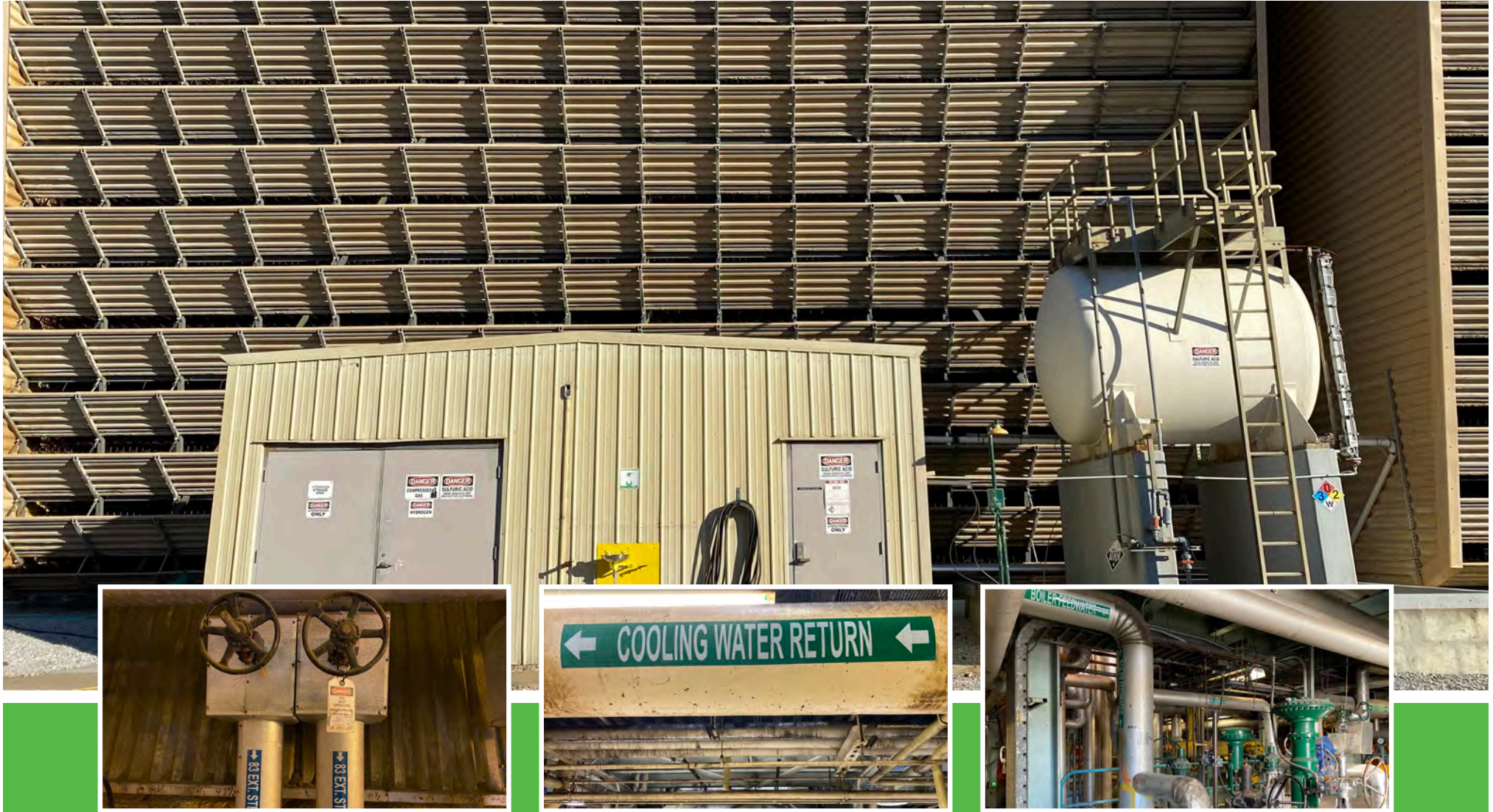
An update to the Airport Master Plan is currently underway. Future projects may change based on the results of the plan update.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 381,200 | 59,600 | 95,600 | 125,600 | 40,400 | 60,000 |
| Construction | 2,160,375 | 338,000 | 541,975 | 711,700 | 228,700 | 340,000 |
| TOTAL | 2,541,575 | 397,600 | 637,575 | 837,300 | 269,100 | 400,000 |
| FINANCING: | | | | | | |
| FAA | 2,287,400 | 357,800 | 573,800 | 753,600 | 242,200 | 360,000 |
| Airport Construction Fund | 254,175 | 39,800 | 63,775 | 83,700 | 26,900 | 40,000 |
| TOTAL | 2,541,575 | 397,600 | 637,575 | 837,300 | 269,100 | 400,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|----------------------------|--------------------|--------------------|
| Transportation - Airport | Public Works | 330-7073-439 |



CITY OF
Ames™



COMMUNITY ENRICHMENT

COMMUNITY ENRICHMENT

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
| EXPENDITURES: | | | | | | | |
| Parks and Recreation | 7,107,750 | 1,094,750 | 1,390,000 | 1,935,500 | 907,500 | 1,780,000 | 126 |
| Cemetery | 150,000 | - | 75,000 | 75,000 | - | - | 139 |
| Neighborhood Improvements | 750,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | 141 |
| Facilities | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 | 145 |
| TOTAL EXPENDITURES | 8,307,750 | 1,344,750 | 1,665,000 | 2,210,500 | 1,107,500 | 1,980,000 | |
| FUNDING SOURCES: | | | | | | | |
| Debt: | | | | | | | |
| G.O. Bonds | 2,400,000 | - | 700,000 | 1,200,000 | - | 500,000 | |
| City: | | | | | | | |
| Local Option Sales Tax | 5,382,750 | 1,219,750 | 905,000 | 1,010,500 | 1,107,500 | 1,140,000 | |
| Park Development Fund | 200,000 | - | - | - | - | 200,000 | |
| Ice Arena Capital Reserve | 240,000 | 100,000 | - | - | - | 140,000 | |
| Total City Funding | 5,822,750 | 1,319,750 | 905,000 | 1,010,500 | 1,107,500 | 1,480,000 | |
| Other: | | | | | | | |
| Ames Community School District | 50,000 | 25,000 | 25,000 | - | - | - | |
| Private Donations | 35,000 | - | 35,000 | - | - | - | |
| Total Other Funding | 85,000 | 25,000 | 60,000 | - | - | - | |
| TOTAL FUNDING SOURCES | 8,307,750 | 1,344,750 | 1,665,000 | 2,210,500 | 1,107,500 | 1,980,000 | |

COMMUNITY ENRICHMENT - PARKS AND RECREATION

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|---------------------------------------|------------------|------------------|------------------|------------------|----------------|------------------|------|
| PROJECT: | | | | | | | |
| Downtown Plaza | 1,600,000 | 200,000 | 700,000 | 700,000 | - | - | 128 |
| Park System/Facility Improvements | 2,270,000 | 505,000 | 305,000 | 875,000 | 405,000 | 180,000 | 129 |
| Playground Equipment Improvements | 827,750 | 64,750 | 150,000 | 225,500 | 212,500 | 175,000 | 130 |
| Ames/ISU Ice Arena | 240,000 | 100,000 | - | - | - | 140,000 | 131 |
| Homewood Golf Course | 320,000 | 150,000 | - | - | 20,000 | 150,000 | 132 |
| ADA Transition Plan Improvements | 125,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 133 |
| Municipal Pool | 100,000 | 50,000 | 50,000 | - | - | - | 134 |
| Ada Hayden Heritage Park | 655,000 | - | 85,000 | 10,000 | 60,000 | 500,000 | 135 |
| Furman Aquatic Center | 385,000 | - | 75,000 | 100,000 | 150,000 | 60,000 | 136 |
| Moore Memorial Park Pedestrian Bridge | 385,000 | - | - | - | 35,000 | 350,000 | 137 |
| Rose Prairie Park Development | 200,000 | - | - | - | - | 200,000 | 138 |
| TOTAL PROJECT EXPENDITURES | 7,107,750 | 1,094,750 | 1,390,000 | 1,935,500 | 907,500 | 1,780,000 | |

COMMUNITY ENRICHMENT - PARKS AND RECREATION, continued

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--------------------------------|------------------|------------------|------------------|------------------|----------------|------------------|
| FUNDING SOURCES: | | | | | | |
| Debt: | | | | | | |
| G.O. Bonds | 2,400,000 | - | 700,000 | 1,200,000 | - | 500,000 |
| City: | | | | | | |
| Local Option Sales Tax | 4,182,750 | 969,750 | 630,000 | 735,500 | 907,500 | 940,000 |
| Ice Arena Capital Reserve | 240,000 | 100,000 | - | - | - | 140,000 |
| Park Development Fund | 200,000 | - | - | - | - | 200,000 |
| Total City Funding | 4,622,750 | 1,069,750 | 630,000 | 735,500 | 907,500 | 1,280,000 |
| Other: | | | | | | |
| Ames Community School District | 50,000 | 25,000 | 25,000 | - | - | - |
| Private Donations | 35,000 | - | 35,000 | - | - | - |
| Total Other Funding | 85,000 | 25,000 | 60,000 | - | - | - |
| TOTAL FUNDING SOURCES | 7,107,750 | 1,094,750 | 1,390,000 | 1,935,500 | 907,500 | 1,780,000 |

DOWNTOWN PLAZA

PROJECT STATUS: New

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

In accordance with previous planning studies, City staff first introduced the idea of developing a gathering place in the Downtown Business District back in 2009. Most recently, the City Council has expressed interest in bringing this type of amenity to reality. The plaza could contain a main feature area that would be a spray pad in the summer and convert to an ice skating rink in the winter. The area could also include such amenities as a shelter, public restrooms, irrigated green space, picnic areas, benches, a live wall, and landscaping. In addition, storm water could be captured underground and subsequently used for irrigating grass and landscaping.

COMMENTS

The total project funding is as follows:

| | | |
|----------------|----------------------------------|----------------|
| 2019/20 | General Fund | 1,100,000 |
| 2020/21 | Design (Local Option Sales Tax) | 200,000 |
| 2021/22 | Construction (G.O. Bonds) | 700,000 |
| <u>2022/23</u> | <u>Construction (G.O. Bonds)</u> | <u>700,000</u> |
| Total | | 2,700,000 |

LOCATION

To be determined-The final determination by the City Council of a preferred site and the features to be included in the plaza would come after public input is received and cost estimates are developed.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Design | 200,000 | 200,000 | | | | |
| Construction | 1,400,000 | | 700,000 | 700,000 | | |
| TOTAL | 1,600,000 | 200,000 | 700,000 | 700,000 | | |
| FINANCING: | | | | | | |
| G.O. Bonds | 1,400,000 | | 700,000 | 700,000 | | |
| Local Option Sales Tax | 200,000 | 200,000 | | | | |
| TOTAL | 1,600,000 | 200,000 | 700,000 | 700,000 | | |

| PROGRAM - ACTIVITY | DEPARTMENT: | ACCOUNT NO. |
|---|----------------------|--------------------|
| Community Enrichment - Parks & Recreation | Parks and Recreation | 030-4937-459 |

PARK SYSTEM/FACILITY IMPROVEMENTS

PROJECT STATUS: Schedule Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

To maintain City parks in a safe and quality manner, the projects listed below address maintenance issues and improvements at various locations.

COMMENTS

- 2020/21 Bandshell: engineer/design renovations for changing rooms (\$5,000)
Inis Grove Park: install shared use paths along 24th Street and Duff Avenue (\$200,000)
Site to be determined: remove wading pool and construct a spray pad out of the flood plain (\$300,000)
- 2021/22 Bandshell: renovate changing rooms (\$75,000)
Carr Park: engineer/design bath house removal and plan new shelter with restroom (\$35,000)
Inis Grove Park: replace tennis court fencing (\$25,000)
McCarthy Lee Park: install irrigation system at McCarthy Lee sports fields (\$45,000); transition two tennis courts to six pickle ball courts (75,000)
Park Maintenance: engineer/design maintenance facility consolidation (\$50,000)
- 2022/23 Carr Park: remove bath house and construct new shelter with restroom (\$350,000)
Gateway Hills Park: engineer/design restroom addition (\$25,000)
Park Maintenance: consolidate maintenance facilities (\$500,000)
- 2023/24 Community Center: refinish gymnasium wood floor (\$30,000); replace weight room weight equipment (\$75,000)
Gateway Hills Park: construct restroom (\$150,000); install new standards, drainage, and borders on sand volleyball courts (\$50,000)
River Valley Park: install additional parking by Cottonwood Shelter (\$100,000)
- 2024/25 Brookside Park: resurface tennis courts (\$40,000)
Emma McCarthy Lee Park: add gutters to the hill drive (\$40,000)
Inis Grove Park: replace basketball court (\$25,000)
River Valley Park: replace Cottonwood Shelter (\$75,000)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|------------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 115,000 | 5,000 | 85,000 | 25,000 | | |
| Construction | 2,155,000 | 500,000 | 220,000 | 850,000 | 405,000 | 180,000 |
| TOTAL | 2,270,000 | 505,000 | 305,000 | 875,000 | 405,000 | 180,000 |
| FINANCING: | | | | | | |
| G.O. Bonds | 500,000 | | | 500,000 | | |
| Local Option Sales Tax | 1,770,000 | 505,000 | 305,000 | 375,000 | 405,000 | 180,000 |
| TOTAL | 2,270,000 | 505,000 | 305,000 | 875,000 | 405,000 | 180,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---|----------------------|--------------------|
| Community Enrichment - Parks and Recreation | Parks and Recreation | Various |

PLAYGROUND EQUIPMENT IMPROVEMENTS

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

During the past 25 years, the City has replaced old play equipment throughout the park system. The life expectancy of play equipment is 20–25 years. Therefore, it is necessary to begin replacement of playground equipment that was installed at the beginning of this cycle.

COMMENTS

- 2020/21 Replace equipment near Hawthorne Shelter in River Valley Park
- 2021/22 Replace equipment in Country Gables Park (\$50,000); replace equipment in Christopher Gartner Park (\$50,000); replace equipment in Lloyd Kurtz Park (\$50,000)
- 2022/23 Replace equipment in Christofferson Park (\$50,000); replace equipment in Bandshell Park (\$63,000); replace equipment adjacent to Cottonwood Shelter in River Valley Park (\$62,500); install new equipment in Carr Park (\$50,000)
- 2023/24 Replace equipment in Stuart Smith Park (\$50,000); replace equipment adjacent to Hickory Shelter in Brookside Park (\$50,000); replace ages 2-5 equipment (\$50,000) and ages 5-12 equipment (\$62,500) in Moore Memorial Park
- 2024/25 Replace equipment in Parkview North Park (\$56,250); replace equipment in Patio Homes West Park (\$56,250); replace equipment in North River Valley Park (\$62,500)

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|--------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 827,750 | 64,750 | 150,000 | 225,500 | 212,500 | 175,000 |
| | TOTAL | 827,750 | 64,750 | 150,000 | 225,500 | 212,500 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 827,750 | 64,750 | 150,000 | 225,500 | 212,500 | 175,000 |
| | TOTAL | 827,750 | 64,750 | 150,000 | 225,500 | 175,000 |

PROGRAM - ACTIVITY:
Community Enrichment - Parks and Recreation

DEPARTMENT:
Parks and Recreation

ACCOUNT NO.
030-4967-459

AMES/ISU ICE ARENA

PROJECT STATUS: Scope Change Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Ames/ISU Ice Arena is over 18 years old. The following item needs to be reconstructed, replaced, or repaired to maintain a quality facility:

- 2020/21 Reconstruct parking lot (\$75,000); improvements to the concession/office area (\$25,000)
- 2024/25 Replace water heaters (\$15,000); replace lobby flooring (\$125,000)

COMMENTS

Funding for capital improvement projects is provided through the Ice Arena Capital Reserve Fund. Every year, the City and Iowa State University each contribute \$20,000 to this fund to ensure the facility is well-maintained. As of June 30, 2019, this fund totaled \$231,815.

LOCATION

Ames/ISU Ice Arena, 1505 Gateway Hills Park Drive

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 240,000 | 100,000 | | | | 140,000 |
| TOTAL | 240,000 | 100,000 | | | | 140,000 |
| FINANCING: | | | | | | |
| Ice Arena Capital Reserve Funds | 240,000 | 100,000 | | | | 140,000 |
| TOTAL | 240,000 | 100,000 | | | | 140,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---|----------------------|------------------------------|
| Community Enrichment - Parks and Recreation | Parks and Recreation | 571-4928-459 572-4928-459 |

HOMEWOOD GOLF COURSE

PROJECT STATUS: Cost Increase Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The projects listed below will address facility needs and enhance provided services. To meet code requirements, a shared use path will be installed along Duff Avenue and 20th Street, and will end at the newly constructed clubhouse.

The current bridge on Hole #9 was designed for walking golfers. Since the demand for motorized carts at Homewood has increased, replacing this bridge with one designed for motorized carts will speed up play and reduce safety concerns for golfers having to drive along Hole #8 to get to the 9th green.

COMMENTS

- 2020/21 Install shared use path along Duff Avenue, 20th Street, and to the new clubhouse
- 2023/24 Engineer/design bridge replacement on Hole #9 for cart accommodation
- 2024/25 Replace the bridge on Hole #9 so it can accommodate carts

LOCATION

Homewood Golf Course, 401 E. 20th St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 20,000 | | | | 20,000 | |
| Construction | 300,000 | 150,000 | | | | 150,000 |
| TOTAL | 320,000 | 150,000 | | | 20,000 | 150,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 320,000 | 150,000 | | | 20,000 | 150,000 |
| TOTAL | 320,000 | 150,000 | | | 20,000 | 150,000 |

| | | |
|---|----------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| Community Enrichment - Parks and Recreation | Parks and Recreation | 030-4917-459 |

ADA TRANSITION PLAN IMPROVEMENTS

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

To better understand where Parks and Recreation does not comply with the 2010 Americans with Disabilities Act Standards for Accessible Design, an inventory and assessment of the park system and facilities is being conducted in FY 2019/20. Upon conclusion of the inventory and assessment, a transition plan will be developed in order to become compliant. In anticipation of items needing to be corrected, money is being put into each year of the CIP. This is an estimate; cost will not be known until the transition plan is finalized.

COMMENTS

Actual transition plan items will be determined based upon the assessment to be completed in FY 2019/20. Funding for this program from prior Capital Improvement Plans has been returned to the Local Option Sales Tax fund and will be reprogrammed to complete the improvements determined by the assessment.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 125,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| TOTAL | 125,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 125,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| TOTAL | 125,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |

PROGRAM - ACTIVITY:
Community Enrichment - Parks and Recreation

DEPARTMENT:
Parks and Recreation

ACCOUNT NO.
030-4908-459

MUNICIPAL POOL

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Engineering consultants were retained in 2006, 2009, and 2012 to provide recommendations regarding mechanical, electrical, structural, and any other needed improvements for the Municipal Pool. In 2012, consultants were given the goal of keeping this facility operational until approximately 2017. Their 2012 study indicated substantial improvements were needed between 2013 and 2017 (totaling \$450,000). It was also suggested that these improvements be made as soon as possible. The consultants also stated in their 2017 report that further repairs to this facility could be cost prohibitive.

The City and Ames Community School District's joint use agreement for the Municipal Pool expires on June 30, 2020. All capital costs are shared equally by the City and Ames Community School District. The Municipal Pool is scheduled to be closed in the spring of 2022. A new agreement will be needed for FY 2020/21 and beyond, thus shared funding is shown through FY 2021/22.

COMMENTS

The annual shared funding costs shown are approximate. Actual costs have yet to be determined.

LOCATION

Municipal Pool, 1925 Ames High Drive

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Architects/Engineering | 10,000 | 5,000 | 5,000 | | | |
| Construction | 90,000 | 45,000 | 45,000 | | | |
| TOTAL | 100,000 | 50,000 | 50,000 | | | |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 50,000 | 25,000 | 25,000 | | | |
| Ames School District | 50,000 | 25,000 | 25,000 | | | |
| TOTAL | 100,000 | 50,000 | 50,000 | | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---|----------------------|--------------------|
| Community Enrichment - Parks and Recreation | Parks and Recreation | 030-4916-459 |

ADA HAYDEN HERITAGE PARK

PROJECT STATUS: Scope Change Cost Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The addition of an accessible canoe/kayak launch would enable individuals, with or without disabilities, to get in and out of their vessels much easier. It will also allow some individuals to experience the park in ways they have not been able to before. There is a core group of individuals, Access Ada Hayden, who brought this idea forward and are willing to fundraise to make this launch a reality. The Friends of Ada Hayden Heritage Park is supporting this project as well.

By adding a wetland overlook to view wildlife, these portions of the park will be enhanced and able to be enjoyed more fully by park visitors.

COMMENTS

- 2021/22 Install accessible canoe/kayak launch
- 2022/23 Engineer/design a wetland overlook
- 2023/24 Construct a wetland overlook
- 2024/25 Replace path around south lake

LOCATION

Ada Hayden Heritage Park, 5205 Grand Ave.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering | 10,000 | | | 10,000 | | |
| Construction | 645,000 | | 85,000 | | 60,000 | 500,000 |
| TOTAL | 655,000 | | 85,000 | 10,000 | 60,000 | 500,000 |
| FINANCING: | | | | | | |
| G.O. Bonds | 500,000 | | | | | 500,000 |
| Local Option Sales Tax | 120,000 | | 50,000 | 10,000 | 60,000 | |
| Donations | 35,000 | | 35,000 | | | |
| TOTAL | 655,000 | | 85,000 | 10,000 | 60,000 | 500,000 |

PROGRAM - ACTIVITY:
Community Enrichment - Parks and Recreation

DEPARTMENT:
Parks and Recreation

ACCOUNT NO.

FURMAN AQUATIC CENTER

PROJECT STATUS: Cost Change

Schedule Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This facility opened in May 2010. It has been operational for ten seasons with an average of approximately 91,000 visitors per summer. To ensure it remains a quality facility, structural and electrical issues have been identified and will be addressed in a systematic manner.

Requests for a gathering space outside of the aquatic center have been received from users of the facility. Daycare providers would like a space to gather children for snack time and check-in. Potential renters of the facility have asked about a place to gather and picnic prior to their rental time. Adding a shelter will address these requests and potentially increase rental revenue.

The current light fixtures allow water to accumulate inside the fixture which has to be drained annually. Replacing with an LED lamp and better fixture will reduce maintenance and energy consumption. The play structure in the Splash Pool is becoming faded and needs to be refurbished. In addition, the pool basins need to be repainted every seven years.

COMMENTS

- 2021/22 Refurbish the play structure in the Splash Pool
- 2022/23 Replace the light fixtures on the pool deck
- 2023/24 Repaint pool basins
- 2024/25 Install a shelter adjacent the parking lot

LOCATION

Furman Aquatic Center, 1365 13th St.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 385,000 | | 75,000 | 100,000 | 150,000 | 60,000 |
| TOTAL | 385,000 | | 75,000 | 100,000 | 150,000 | 60,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 385,000 | | 75,000 | 100,000 | 150,000 | 60,000 |
| TOTAL | 385,000 | | 75,000 | 100,000 | 150,000 | 60,000 |

PROGRAM - ACTIVITY:

Community Enrichment - Parks and Recreation

DEPARTMENT:

Parks and Recreation

ACCOUNT NO.

MOORE MEMORIAL PARK PEDESTRIAN BRIDGE

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

Moore Memorial Park is 90 acres; 50 acres are located east of Squaw Creek and 40 acres are west of the creek. The 50-acre parcel was developed into a community park in 1991. The 40-acre parcel has been leased to Iowa State as an agricultural research plot for \$3,000 per year.

In response to community input to connect parks via hard surface trails, a pedestrian bridge will link these two parcels of City property. The plan is to then have a trail from Moore Memorial Park along Scholl Road to Ontario Street. This improvement is viable because ISU owns the land adjacent the City's 40-acre parcel. In the event ISU allows public access through its parcel, several miles of recreational trails would be linked together. Staff will meet with ISU officials to determine if public access will be allowed through this parcel of land in the future.

COMMENTS

- 2023/24 Engineer/design a pedestrian bridge to cross Squaw Creek at Moore Memorial Park
- 2024/25 Install a pedestrian bridge across Squaw Creek at Moore Memorial Park

LOCATION

Moore Memorial Park, 3050 Northridge Pkwy.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Engineering/Design | 35,000 | | | | 35,000 | |
| Construction | 350,000 | | | | | 350,000 |
| TOTAL | 385,000 | | | | 35,000 | 350,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 385,000 | | | | 35,000 | 350,000 |
| TOTAL | 385,000 | | | | 35,000 | 350,000 |

PROGRAM - ACTIVITY:
Community Enrichment - Parks and Recreation

DEPARTMENT:
Parks and Recreation

ACCOUNT NO.

ROSE PRAIRIE PARK DEVELOPMENT

PROJECT STATUS: Delayed

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Parks and Recreation Master Plan identifies neighborhood park service areas to cover a 1/4 to 1/2 mile radius. As the North Growth development occurs, this plan indicated a need for a neighborhood park to serve residents in this area. Standard amenities in neighborhood parks include a basketball pad with goals, a small shelter, a play structure and swings, and utilities. In addition, this park may require paths and sidewalks. The estimated costs to develop the Rose Prairie Neighborhood Park will total \$200,000.

COMMENTS

This project is delayed because the private development is not moving as quickly as originally planned.

LOCATION

Rose Prairie Development

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Park Development | 200,000 | | | | | 200,000 |
| TOTAL | 200,000 | | | | | 200,000 |
| FINANCING: | | | | | | |
| Park Development Fund | 200,000 | | | | | 200,000 |
| TOTAL | 200,000 | | | | | 200,000 |

| PROGRAM - ACTIVITY | DEPARTMENT: | ACCOUNT NO. |
|---|----------------------|--------------------|
| Community Enrichment - Parks and Recreation | Parks and Recreation | |

COMMUNITY ENRICHMENT - CEMETERY

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|-----------------------------------|----------------|----------|---------------|---------------|----------|----------|------|
| PROJECT: | | | | | | | |
| Cemetery Improvements | 150,000 | - | 75,000 | 75,000 | - | - | 140 |
| TOTAL PROJECT EXPENDITURES | 150,000 | - | 75,000 | 75,000 | - | - | |
| FUNDING SOURCES: | | | | | | | |
| City: | | | | | | | |
| Local Option Sales Tax | 150,000 | - | 75,000 | 75,000 | - | - | |
| TOTAL FUNDING SOURCES | 150,000 | - | 75,000 | 75,000 | - | - | |

CEMETERY IMPROVEMENTS

PROJECT STATUS: Scope Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This program provides funding to enhance the public appearance of the three Ames cemeteries.

The addition of the Funeral Pavilion will give people a place to conduct a ceremony in the Ames Municipal Cemetery when weather conditions make it difficult to get to the grave site.

There are several areas at the Ames Municipal Cemetery where hillsides are being eroded to the point where graves could be exposed in the near future. Retaining walls will be added to these areas to prevent further erosion.

The landscaping above the Ontario Cemetery retaining wall creates visibility issues, is difficult to maintain, and is not reflective of the excellence the City strives for in its facilities. The landscaping will be redesigned to reduce maintenance, make it more aesthetically pleasing, and increase visibility.

COMMENTS

2021/22 Funeral Pavilion

2022/23 Retaining walls at Ames Municipal Cemetery (\$50,000); Landscaping above the retaining wall at Ontario Cemetery (\$25,000)

LOCATION

Ames Municipal Cemetery and Ontario Cemetery

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 150,000 | | 75,000 | 75,000 | | |
| TOTAL | 150,000 | | 75,000 | 75,000 | | |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 150,000 | | 75,000 | 75,000 | | |
| TOTAL | 150,000 | | 75,000 | 75,000 | | |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|---------------------------------|----------------------|--------------------|
| Community Enrichment - Cemetery | Parks and Recreation | |

COMMUNITY ENRICHMENT - NEIGHBORHOOD IMPROVEMENTS

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|------|
| PROJECT: | | | | | | | |
| Downtown Façade Program | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 142 |
| Campustown Façade Program | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 143 |
| Neighborhood Improvement Program | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 144 |
| TOTAL PROJECT EXPENDITURES | 750,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | |
| FUNDING SOURCES: | | | | | | | |
| City: | | | | | | | |
| Local Option Sales Tax | 750,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | |
| TOTAL FUNDING SOURCES | 750,000 | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 | |

DOWNTOWN FAÇADE IMPROVEMENT PROGRAM

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

This project was introduced in 2001/02 to facilitate private improvements to the façades of the buildings in the Downtown area. For three years, the City did not receive any requests for these funds.

Downtown Design Guidelines were approved by the City Council in 2001 to ensure that financial assistance for façade improvements is consistent with the historical character of Downtown. In order to qualify for these funds, improvements must be made to at least one of the following exterior elements: upper façades, storefronts, transoms, display windows, kick plates, entrances, signs, or awnings/canopies. Beginning in FY 2011/12, the City Council expanded the program guidelines, and implemented a review and award period in the spring of each year. Additionally, to aid in comparing applications, the City Council also established a scoring process.

Under this program, the City provides up to \$15,000 in grant funds to be matched dollar for dollar. In addition, a \$1,000 grant is available to subsidize the cost of an architect. Through May 2019, the program has awarded 47 grants to downtown businesses and has expensed a total of approximately \$628,208 on 43 projects. FY 2020/21 will begin with a new \$50,000 allocation.

COMMENTS

This program continues to support the City Council's previous goals for the commercial revitalization of the Downtown. As interest in this program continues, funding can be expanded or the City Council may consider appropriating funds to priority projects.

LOCATION

Downtown Ames

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Incentives (Loans or Grants) | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |

| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
|--|--------------------|--------------------|
| Community Enrichment - Neighborhood Improvements | Planning & Housing | 030-1030-459 |

CAMPUSTOWN FAÇADE IMPROVEMENT PROGRAM**PROJECT STATUS:** No ChangeCity of Ames, Iowa
Capital Improvements Plan**DESCRIPTION/JUSTIFICATION**

This purpose of the Campustown Façade Improvement Program is to improve the Campustown commercial district by providing financial incentives to enhance the appearance and use of existing buildings with commercial uses. The program design is to encourage and maintain the eclectic culture and “uniqueness” of Campustown, to increase safety, security, and investments by property and business owners, and to add to the vitality of Campustown.

The Campustown Façade Improvement Program seeks to encourage the creation of a place that is walkable, transparent, eclectic, sustainable, social, and historic. Beginning in FY 2014/15, the first step in the process was to hire a consultant to assist the City in the development of a “Vision Statement,” prepare an “Idea Book,” review design ideas and guidelines, provide assistance to applicants wanting to apply for the program, determine costs and feasibility, and conduct workshops and working meetings with applicants and City staff. The second step was to implement two pilot projects to include construction and evaluation.

In 2015/16, \$32,000 was awarded for two pilot projects. Under this program, the City would provide up to \$15,000 in grant funds to be matched dollar for dollar. In addition, a \$1,000 grant is available to subsidize the cost of an architect. Through September 2019, the program has awarded grants to six Campustown businesses and has expensed a total of approximately \$111,980.00 on the six projects. FY 2020/21 will begin with a new \$50,000 allocation.

COMMENTS

This program will address the City Council’s goal to revitalize the Campustown area. As interest in this program continues, funding can be expanded or the City Council may consider appropriating funds to priority projects.

LOCATION

Campustown Ames

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--|--------------------|----------------|--------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Incentives (Loans or Grants) | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| PROGRAM - ACTIVITY: | DEPARTMENT: | | ACCOUNT NO. | | | |
| Community Enrichment - Neighborhood Improvements | Planning & Housing | | 030-1031-459 | | | |

NEIGHBORHOOD IMPROVEMENT PROGRAM

PROJECT STATUS: No Change

City of Ames, Iowa
Capital Improvements Plan

DESCRIPTION/JUSTIFICATION

The Neighborhood Improvement Program was originally designed to enhance the appearance of City neighborhoods with the addition of permanent physical improvements and to promote a greater sense of community through resident participation in neighborhood projects. The program focused solely on providing City grants to help residents accomplish those projects that they have identified as top priorities for their neighborhoods. Competitive proposals are solicited from neighborhood groups and are rated by a Review Panel, which consists of City staff and citizens, according to the following criteria approved by the City Council: public impact, neighborhood participation, safety, environment, housing, and public space. Neighborhood residents are expected to provide a local match to these grants on a dollar-for-dollar basis in the form of labor, materials, and/or cash.

Since the program was initiated in FY 1996/97, 124 neighborhood projects have been funded by the City, totaling \$373,920.61. Projects have included cul-de-sac, right-of-way and median landscaping; playground construction and/or restoration; alleyway beautification; street trees; pond renovation; installation of rain gardens, historic house plaques and medallions; prairie restoration; construction of a neighborhood message center; construction of a shelter house in a neighborhood City park; park sidewalks; neighborhood basketball courts; landscaping of neighborhood entryways; installation of neighborhood barbecue grills; renovating "DZ Triangle;" Monarch butterfly habitat restoration; concrete ping pong tables in a City park, neighborhood clean-up days, and playground equipment in a new neighborhood park.

With the implementation of the Neighborhood Liaison Program, the City is committed to creating great neighborhoods with a sense of community. To complement this initiative, eligibility for these funds has been expanded beyond the original intent of the Neighborhood Improvement Grant Program to include such projects as sub-area planning elements and other support programs for neighborhood associations. In addition, the application period is now open-ended with the requirement that the funds be expended one year from date of Council approval.

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|--|-----------------------|----------------|--------------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Construction | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 250,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| PROGRAM - ACTIVITY: | DEPARTMENT: | | ACCOUNT NO. | | | |
| Community Enrichment - Neighborhood Improvements | City Manager's Office | | 030-0420-459 | | | |

GENERAL GOVERNMENT - FACILITIES

| PROJECT/FUNDING SOURCE | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | Page |
|-----------------------------------|----------------|----------------|---------------|---------------|---------------|---------------|------|
| PROJECT: | | | | | | | |
| City Hall Improvements | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 | 146 |
| TOTAL PROJECT EXPENDITURES | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 | |
| FUNDING SOURCE: | | | | | | | |
| City: | | | | | | | |
| Local Option Sales Tax | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 | |
| TOTAL FUNDING SOURCES | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 | |

CITY HALL IMPROVEMENTS

PROJECT STATUS: No Change

DESCRIPTION/JUSTIFICATION

The City Hall Improvements program is focused on major maintenance or replacement of needed items for the City Hall building, the Veterans Memorial, and both east and west City Hall parking lots.

City Hall’s mechanical, electrical, plumbing, sprinkler, and numerous other support systems were installed in 1990. Funds have been allocated yearly for equipment or system failures that may occur beyond the City Hall operating budget funding levels.

Due to the 24/7 Police Department operations, flooring installed during the first remodel needs to be replaced. Currently, the area is carpeted but multiple safe and long-lasting options will be explored and considered.

COMMENTS

The FY 2020/21 amount includes \$50,000 in funding for the replacement of flooring in the Police Department.

LOCATION

City Hall, 515 Clark Avenue

| | TOTAL | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| COST: | | | | | | |
| Maintenance | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| FINANCING: | | | | | | |
| Local Option Sales Tax | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| TOTAL | 300,000 | 100,000 | 50,000 | 50,000 | 50,000 | 50,000 |

| | | |
|---------------------------------|---------------------------|--------------------|
| PROGRAM - ACTIVITY: | DEPARTMENT: | ACCOUNT NO. |
| General Government - Facilities | Fleet Services/Facilities | 030-2930-419 |