PUBLIC WORKS DEPARTMENT
MEMORANDUM #2011 – 45

DATE: November 3, 2011

TO: Honorable Mayor Joyce Downing and City Council Members

FROM: William A. Simmons, City Manager
David H. Willett, Director of Public Works
Shawn Cordsen, Director of Finance
Amanda Peterson, Director of Parks, Recreation, & Culture

SUBJECT: 2012 Capital Improvement Program Summary

BACKGROUND

The City of Northglenn's Capital Improvement Program (CIP) identifies and provides a summary of all planned capital projects and corresponding funding sources for the ensuing five-year period. Both the Public Works Department and the Parks Department have projects in the proposed 2012 five year plan.

PLANNING DOCUMENTS

Current Public Works Department planning cycle studies/documents:

1. Water Treatment Plant Master Plan Update (2009)
2. Treated Water Systems Modeling Evaluation (2008)
3. *Updating...Wastewater Utility Plan (2003)*
4. Collection System Modeling Report (2007)
5. Water and Wastewater Rates (2009)
6. Master Drainage Plan Update (2007)
7. Integrated Water Resources Plan (2007)

Current Parks Department planning cycle documents:

1. Parks Master Plan (2011)

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PROGRAM SUMMARY CHANGES

City Council was presented with the proposed 2012 Capital Improvement Program Summary. Post distribution to Council, staff is proposing several changes to project budgets previously listed in the Program Summary:

Capital Projects

West 112th Ave Widening – Due to construction complexity and project timing the High Zone Meter Vault construction was postponed till 2012. The Meter Vault project is adjacent to the 112th Widening project. The construction area of both projects overlap. In order to prevent re-work, a small amount of work scope in the vicinity of the vault was removed from the West 112th project. This work will be performed by the contractor selected to install the High Zone Meter Vault. Staff is proposing to add $40,000 (2012) to the West 112th Widening project to cover the cost of work removed in 2011. Carryover from the west 112th project is not anticipated, but final reconciliation will not occur till late 2011.

Water & Wastewater

Odor Control Improvements – Project completed, no carryover anticipated, $0.00 (2012).
WWTP Standby Generator – Project will not be started in budget year 2011, 100% carryover, $224,000 (2012).

Public Works Department
Capital Improvement Project Program

Below is a listing of new, revised and reassigned projects in the proposed 2012 five year plan. The listing coincides with the summary previously presented to Council.

NEW PROJECTS

Conservation Trust

Recreation Center Locker Room Renovations (2012)
Sensory Playground Renovation (2013)
Recreation Center Pool Liner (2015)

Capital Projects Fund

Recreation Center Interior Paint (2012)
Webster Lake Trail Stabilization (2012)
Parks Barn Replacement (2012)
Recreation Center Theater Seats (2014)
NWOS Facilities Improvements (2015)
Senior Playground (2016)
RV Dump Station (2012)

Water and Wastewater Projects Fund

Forcemain Assessment (2014)
Decommission of Southern Lagoon (2015)

REVISED PROJECTS

Capital Projects Fund

Recreation Center Lighting (2014): additional budget added. Initial design work has been completed. The original budget was not sufficient to fund design and implementation.

Water and Wastewater Fund

WWTP Master Plan (2012): additional budget added
Waterline Replacement (2012): budget lowered one year, perform sonic leak detection Nov 2011
Standley Lake Pipeline Repair (2012): additional budget added/refined pricing
Chemical Building Improvements (2012): additional budget added/consolidate projects
High Zone Meter Vault (2012): additional budget added for construction complexity
Bunker Hill Lift Station (2013): additional budget added for design/construction complexity
Lift station B Assessment (2013): budget year moved from 2012 to 2013
WWTP Headworks (2014): budget year moved from 2015 to 2014
WWTP UV Replacement (2016): budget year moved from 2015 to 2016
Bull Reservoir ph Control (2016): budget year moved from 2015 to 2016

REASSIGNED PROJECTS

Conservation Trust

JD Cayton Park Fence Improvements (2012): removed from the 5 year plan. The existing fence is adjacent to Hillcrest Elementary. In the future staff may recommend removal of the fence rather than replacement.

Capital Projects Fund

DRCOG Rail Station (2012): removed from the 5 year plan. This project is on hold due to the lack of a funding commitment from RTD for the North Metro rail line.

Water and Wastewater Fund

Booster Pump and Motor Replacement (2012, 2015): removed/placed under Capital Equipment
Lift Station E Rehabilitation (2012): removed/placed under Capital Equipment
Lift Station Generator (Program): removed/placed under Capital Equipment
Deep Well Rehabilitation (2012): removed/placed under Capital Equipment
WTP Filter Rehabilitation (2012): removed/placed under Capital Equipment
WTP Laboratory Cabinet Replacement (2015): removed from the 5 year plan
High Zone Water Pump and Motor (2012): removed/placed under Capital Equipment

Public Works Department
Capital Improvement Project Program

STAFF REFERENCE

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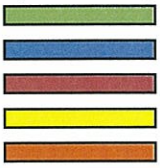
Attachments:

- Capital Improvement Program Project Descriptions.
  - Conservation Trust
  - CDBG
  - Capital projects
  - Water & Wastewater
  - Stormwater



- 2012 Budget – Summary Sheets:
  - Conservation Trust, pg 166
  - CDBG, pg 167
  - Capital Projects, pg 168
  - Water & Wastewater, pg 170
  - Stormwater, pg 172

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Greenway Trail Concrete Replacement Program

Project Dates: **Begin:** Ongoing **Finish:** Ongoing

Comprehensive Project Cost: $250,000.00 (5 year total)

Project Rationale: Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
This is an annual program to maintain the Greenway Trails.

Degraded trail sections are documented by the Parks Department throughout the year. The Greenway Trails Concrete Replacement program replaces these degraded sections to maintain a safe, accessible, and aesthetically pleasing trail system.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Conservation Trust Fund	50,000	50,000	50,000	50,000	50,000	$ 250,000
						-
						-
						-
						-
Total Revenue	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	50,000	50,000	50,000	50,000	50,000	250,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Recreation Center HVAC

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $1,700,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Replacement of the HVAC equipment and roof at the Recreation Center.

The replacement of the roof and the heating, ventilation and air-conditioning (HVAC) units are a high priority. The HVAC system affects every user of the building throughout the year, regardless of age or the programs that they choose to participate in. This project would replace all of the existing units, as well as the control devices for these units. The roof has significant leaks, and the degraded concrete tiles have impacted drainage from the roof. The current system has reached the end of its life expectancy and requires constant maintenance to keep the system functioning.

Source of Funding:	2012	2013	2014	2015	2016	5-Year Total
Open Space Tax (ADCOO)	189,816					$ 189,816
Conservation Trust Fund	845,000					845,000
Grants	500,000					500,000
						-
						-
Total Revenue	$ 1,534,816	$ -	$ -	$ -	$ -	$ 1,534,816

Expenditures:	2012	2013	2014	2015	2016	5- Year Total
Plans/Studies						$ -
Design						-
Construction	1,534,816					1,534,816
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 1,534,816	$ -	$ -	$ -	$ -	$ 1,534,816

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Jaycee Ballfield Improvements

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $135,000.00

Project Rationale: Parks and Recreation Master Plan

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Renovation of existing ballfields to include replacement of backstops, fencing, in-field mix, and basic amenities.

The existing ballfields at Jaycee are prone to flooding, and the existing in-field mix material is not at an appropriate level. The in-field mix material is the sand and soil in the in-field or where baseball diamond is located. The resulting compaction is a safety hazard and limits the use of the fields during wet weather. In addition, the fencing, bleachers, backstops and dugouts are damaged and require repair. A grant application has been submitted to ADCO in the amount of $135,000 and GOCO in the amount of $264,820. If these funds are awarded, the project will be expanded to include the creation of a "nostalgic" or "replica" field, improvements to the electrical and lighting systems, improvements to the dog park surfacing and fencing, as well as, landscaping improvements to the entire site.

Source of Funding:	**2012**	**2013**	**2014**	**2015**	**2016**	**5-Year Total**
Conservation Trust Fund	135,000					$ 135,000
						-
						-
						-
						-
Total Revenue	$ 135,000	$ -	$ -	$ -	$ -	$ 135,000

Expenditures:	**2012**	**2013**	**2014**	**2015**	**2016**	**5- Year Total**
Plans/Studies						$ -
Design						-
Construction	135,000					135,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 135,000	$ -	$ -	$ -	$ -	$ 135,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Locker Room Renovations

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $200,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Renovation of the existing locker rooms at the Recreation Center.

This project is one of several improvements at the existing recreation center proposed to occur in the five year CIP. This project includes removing all interior fixtures in both the mens and womens locker rooms, and renovating those spaces within the existing footprint. This includes new floor and wall tile, additional individual shower stalls, toilet and sink fixtures, partition walls, lighting and counter tops. The existing lockers are in good shape and will be reused.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Conservation Trust Fund	200,000					$ 200,000
						-
						-
						-
						-
Total Revenue	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	200,000					200,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Recreation Center Flooring

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $61,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Replacement of flooring in the Recreation Center

This is a continuation of the flooring replacement project that began in 2010. Thus far, flooring has been replaced in the Mountain View Room, Park View Room and Senior Center. This project will replace the flooring in the Alpine Room, upstairs recreation office, mezzanine level and front lobby area.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Conservation Trust Fund	61,000					$ 61,000
						-
						-
						-
						-
Total Revenue	$ 61,000	$ -	$ -	$ -	$ -	$ 61,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	61,000					61,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 61,000	$ -	$ -	$ -	$ -	$ 61,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Sensory Playground Renovation

Project Dates: **Begin:** Jan-2013 **Finish:** Dec-2013

Comprehensive Project Cost: $40,000.00

Project Rationale: Parks and Recreation Master Plan

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Renovation of the playground equipment at Sensory Park.

The playground equipment at the City's parks is replaced on a periodic basis due to normal wear and tear, vandalism, and unavailable replacement parts. The playground equipment at Sensory Playground was last replaced in 2006. The typical life span of a park is 10 to 12 years, however as the City's largest playground, this park is highly utilized causing equipment to wear out prematurely. This project includes replacement of various play structures and other park amenities. Not all of the playground equipment is anticipated for replacement in 2013. This project will allow for replacement of only worn pieces, extending the useful life of the playground. The type of playground equipment and park amenities will be selected through a public input process as is discussed in the Parks and Recreation Master Plan. It is anticipated that this playground will benefit from multiple renovations in the years to come, rather than one complete park replacement.

Source of Funding:	**2012**	**2013**	**2014**	**2015**	**2016**	**5 - Year Total**
Conservation Trust Fund		40,000				$ 40,000
						-
						-
						-
						-
Total Revenue	$ -	$ 40,000	$ -	$ -	$ -	$ 40,000

Expenditures:	**2012**	**2013**	**2014**	**2015**	**2016**	**5 - Year Total**
Plans/Studies						$ -
Design						-
Construction		40,000				40,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ 40,000	$ -	$ -	$ -	$ 40,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Recreation Center Pool Liner

Project Dates: **Begin:** Jan-2015 **Finish:** Dec-2015

Comprehensive Project Cost: $500,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] Yes [X] No **Operational Impact Category:** N/A

Description/Justification:
Replace the pool liner at the Recreation Center

The pool liner was installed in 1999 over the existing aluminum pool shell, rather than simply re-painting the pool as had been done in the past. At the time, a liner was marginally more expensive than painting, but provided nearly double the life expectancy of paint. The liner has been relatively maintenance free since its installation, but is nearing its life expectancy of approximately 10-12 years. It is not leaking at this time but the edges are curling up, the color has faded out of it and it has lost it's elasticity. In addition to replacing the liner, it is recommended to conduct a structural assessment of the aluminum shell and thoroughly clean and descale the Skimmer Chase and the Deck Drain. The pool deck surface is also in need of a cleaning and resurfacing. This project is budgeted at $500,000 due to the unknown condition of the aluminum shell. This figure would allow for some structural repair of the existing shell. If the shell is in better or worse condition than anticipated, this figure will increase or decrease accordingly. It is difficult to determine the condition of the aluminum shell until the liner has been removed.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Conservation Trust Fund				500,000		$ 500,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ -	$ 500,000	$ -	$ 500,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction				500,000		500,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ -	$ 500,000	$ -	$ 500,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Pedestrian Mobility Program

Project Dates: **Begin:** Jan-2014 **Finish:** Dec-2015

Comprehensive Project Cost: $300,000 (2 year total)

Project Rationale: CDBG Concrete Improvements

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
This maintenance program will replace damaged concrete in CDBG designated areas.

Instead of replacing a few damaged concrete locations annually through the annual streets resurfacing program, this Concrete Program will allow the City to focus their efforts on a specific area. Centralizing the concrete improvements will save on mobilization costs and will provide a greater visual impact to residents.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
CDBG Funding			150,000	150,000		$ 300,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ 150,000	$ 150,000	$ -	$ 300,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction			150,000	150,000		300,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ 150,000	$ 150,000	$ -	$ 300,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Grange Hall Creek (Washington St. Detention) Phase 1

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2013

Comprehensive Project Cost: $2,150,000.00 ($2.1 Million total including UCFCD funding and pedestrian underpass)

Project Rationale: Drainage System Maintenance & Improvements

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Construct Grange Hall Creek (Washington St. Detention) Phase I improvements.

Urban Drainage and the City Northglenn are currently funding the design of the Grange Hall Creek Improvements. Phase I includes improvements to Reaches 2 and 3 and is proposed as culvert enhancements under Washington Street. This includes a pedestrian underpass as part of the culverts/conveyance for larger storm events. The 2013 project will construct the improvements included in Phase I, but the costs shown do not include the underpass. Additional funding must be sought, in order to construct the project in 2013 with the underpass. Potential funding sources identified include Adams County Open Space Grant, Community Development Block Grant (CDBG), additional Urban Drainage funding and possibly Federal Emergency Management Agency (FEMA).

Source of Funding:	**2012**	**2013**	**2014**	**2015**	**2016**	**5 - Year Total**
Stormwater Fund	400,000	1,050,000				$ 1,450,000
CDBG Fund		600,000				600,000
						-
						-
						-
Total Revenue	$ 400,000	$ 1,650,000	$ -	$ -	$ -	$ 2,050,000

Expenditures:	**2012**	**2013**	**2014**	**2015**	**2016**	**5 - Year Total**
Plans/Studies						$ -
Design						-
Construction	400,000	1,650,000				2,050,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 400,000	$ 1,650,000	$ -	$ -	$ -	$ 2,050,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Theatre Lighting Improvements

Project Dates: **Begin:** Jan-2014 **Finish:** Dec-2014

Comprehensive Project Cost: $25,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] Yes [X] No **Operational Impact Category:** N/A

Description/Justification:
Replacement of the existing lights and equipment in the theatre at the recreation center.

The lighting system was originally installed in the D. L .Parsons Theatre at the Recreation Center when it was constructed in 1975. There have been periodic additions to the lighting inventory and some routine maintenance done on the entire lighting system throughout the years. This project would be to overhaul the current lighting system and add LED functionality to the theatre as well as upgrade the current dimmers and computerized lighting console. This project is being proposed due to the age of the current system, lack of available replacement parts, environmental issues, and continued functionality of the theatre.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)			25,000			$ 25,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ 25,000	$ -	$ -	$ 25,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction			25,000			25,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ 25,000	$ -	$ -	$ 25,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Recreation Center HVAC

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $1,700,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Replacement of the HVAC equipment and roof at the Recreation Center.

The replacement of the roof and the heating, ventilation and air-conditioning (HVAC) units are a high priority. The HVAC system affects every user of the building throughout the year, regardless of age or the programs that they choose to participate in. This project would replace all of the existing units, as well as the control devices for these units. The roof has significant leaks, and the degraded concrete tiles have impacted drainage from the roof. The current system has reached the end of its life expectancy and requires constant maintenance to keep the system functioning.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)	189,816					$ 189,816
Conservation Trust Fund	845,000					845,000
Grant	500,000					500,000
						-
						-
Total Revenue	$ 1,534,816	$ -	$ -	$ -	$ -	$ 1,534,816

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	1,534,816					1,534,816
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 1,534,816	$ -	$ -	$ -	$ -	$ 1,534,816

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Emergency Park Equipment Repairs

Project Dates: **Begin:** Ongoing **Finish:** Ongoing

Comprehensive Project Cost: $125,000.00 (5 year total)

Project Rationale: Emergency Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Emergency replacement of the playground equipment throughout the City.

The playground equipment at the City's parks is replaced on a periodic basis due to normal wear and tear, vandalism, and unavailable replacement parts. However, in some instances the damaged equipment presents an unsafe condition and requires immediate removal. In the event a piece of equipment is damaged, it is more likely that replacement parts will still be available if that component is replaced immediately. A delay of a year or two increases the likelihood of complete equipment replacement due to unavailable parts and leaves facilities in an undesirable condition for park patrons. Funding for the Emergency Park Repairs will only be expended on an as needed basis. In the event little or no emergency equipment replacements are necessary in a specific year, the funds would remain in the fund balance.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)	25,000	25,000	25,000	25,000	25,000	$ 125,000
						-
						-
						-
						-
Total Revenue	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	25,000	25,000	25,000	25,000	25,000	125,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Irrigation System Central Control

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2015

Comprehensive Project Cost: $40,000.00 (4 year total)

Project Rationale: Water Conservation

Future Operational Impact: [X] **Yes** [ ] **No** **Operational Impact Category:** Positive

Description/Justification:

Analyze the economic impacts and practicality of installing an irrigation central control system. If determined feasible, develop implementation plans for the city parks.

In the event of an irrigation line break or during a large storm event, staff must shut numerous valves within a park in order to turn off the irrigation system. An irrigation central control system would automate the system, allowing staff to respond to situations more quickly, in addition to conserving water. An irrigation central control system consists of a master control providing a single location to open or close irrigation valves. Central Control systems also include rain sensors that detect the quantity of rainfall and reduce the duration of watering accordingly. If the design shows potential for water savings and is cost effective, the design will be implemented throughout the park system over the next 5-10 years. Funding has been identified in the long term CIP Plan (ADCOO) to allow for installation of this system if it is determined to be appropriate.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)	10,000	10,000	10,000	10,000		$ 40,000
Conservation Trust Fund						-
						-
						-
						-
Total Revenue	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ -	$ 40,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	10,000	10,000	10,000	10,000		40,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ -	$ 40,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Danahy Playground Replacement

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $75,000.00

Project Rationale: Parks and Recreation Master Plan

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Replacement of the playground equipment at Danahy Park.

The playground equipment at the City's parks is replaced on a regular basis due to normal wear and tear, vandalism, and unavailable replacement parts. This project includes replacement of the play structure and associated amenities. Danahy park equipment was last replaced in 2002 and the typical life span of a park is 10 to 12 years.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)	75,000					$ 75,000
						-
						-
						-
						-
Total Revenue	$ 75,000	$ -	$ -	$ -	$ -	$ 75,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	75,000					75,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 75,000	$ -	$ -	$ -	$ -	$ 75,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Danahy Park Improvements

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $50,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Improvements to Danahy Park

The existing pavilion was repaired in 2010, through a volunteer effort. Additional work is still needed throughout the area, to include cracked and uneven concrete, picnic tables and trash can enclosures.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)	50,000					$ 50,000
						-
						-
						-
						-
Total Revenue	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	50,000					50,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Recreation Center Interior Paint

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $65,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] Yes [X] No **Operational Impact Category:** N/A

Description/Justification:
Interior painting of the Recreation Center

This project includes repainting the interior of the facility, with the exception of the gym. The facility has not been painted in approximately 10 years and due to both normal use and construction in recent years the facility is in need of a fresh coat of paint throughout.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)	65,000					$ 65,000
						-
						-
						-
						-
Total Revenue	$ 65,000	$ -	$ -	$ -	$ -	$ 65,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	65,000					65,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 65,000	$ -	$ -	$ -	$ -	$ 65,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Webster Lake Trail Stabilization

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $35,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Restoration and stabilization of trail.

The trail on the Northeast Corner of Webster Lake has begun to undermine due to park users using the embankment as a cut through to reach the waters edge. A temporary fence has been placed by Parks staff to mitigate the drop off condition. However, as this location is considered part of the Colorado Division of Water Resources Jurisdictional Dam, a permanent solution, approved by the state, is required.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
General Fund	35,000					$ 35,000
						-
						-
						-
						-
Total Revenue	$ 35,000	$ -	$ -	$ -	$ -	$ 35,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	35,000					35,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 35,000	$ -	$ -	$ -	$ -	$ 35,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Parks Barn Replacement

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2013

Comprehensive Project Cost: $550,000.00

Project Rationale: Facility Improvement

Future Operational Impact: [ ] Yes [X] No **Operational Impact Category:** N/A

Description/Justification:
Removal of existing parks storage area and replace with new storage and maintenance building

The existing parks barn/storage facility was originally constructed in 1950 by the school district for school busses. In 1996, the doors were re-sized and the electric overhead door openers were installed. In 2000, North Metro Fire suggested that the building be removed, due to the lack of appropriate fire exits, and the building was scheduled for demolition in 2004. This never occurred, and the building remained in use. In 2008, North Metro Fire again evaluated the building, and required that all ignition sources and electric openers be removed. To meet this requirement, all gas lines and furnaces were removed at that time. In addition to the safety concerns noted, the structure does not meet the current needs of the Parks Maintenance division. It lacks functional doors, and is not large enough to store the equipment used by the division. Both the roof and the siding have significant perforations, allowing for animals and water to enter the facility. This project includes the demolition and removal of the existing facility, and the design and construction of a new facility. The new facility is proposed to be approximately 50% larger than the existing facility and would include appropriate heating, electrical, and plumbing (ie. eye wash station, utility sink) to meet the needs of the division.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
0.5% Sales Tax	50,000	500,000				$ 550,000
						-
						-
						-
						-
Total Revenue	$ 50,000	$ 500,000	$ -	$ -	$ -	$ 550,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design	50,000					50,000
Construction		500,000				500,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 50,000	$ 500,000	$ -	$ -	$ -	$ 550,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Fox Run Playground Replacement

Project Dates: **Begin:** Jan-2013 **Finish:** Dec-2013

Comprehensive Project Cost: $170,000.00

Project Rationale: Parks and Recreation Master Plan

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:

Replacement of the playground equipment at North, Central, and South Park in Fox Run .(Typical Age Range of children: 5-12 years old).

The playground equipment at the City's parks is replaced on a regular basis due to normal wear and tear, vandalism, and unavailable replacement parts. This project includes replacement of the play structure and other park amenities. The type of playground equipment and other park amenities that are installed will be selected through a public input process as is discussed in the Parks and Recreation Master Plan. The playground equipment at the Fox Run parks were originally installed in 2001 and 2002. The typical life span of a park is 10 to 12 years.

This project, as with any playground replacement, will be evaluated in the years prior to the scheduled replacement. If the playground is in better or worse condition than anticipated, it may move forward or back on the five CIP plan accordingly.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)		170,000				$ 170,000
						-
						-
						-
						-
Total Revenue	$ -	$ 170,000	$ -	$ -	$ -	$ 170,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction		170,000				170,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ 170,000	$ -	$ -	$ -	$ 170,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Larson Park Playground Replacement

Project Dates: **Begin:** Jan-2014 **Finish:** Dec-2014

Comprehensive Project Cost: $80,000.00

Project Rationale: Parks and Recreation Master Plan

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:

Replacement of the playground equipment at Larson Park. (Typical Age Range of children: 2-12 years old).

The playground equipment at the City's parks is replaced on a regular basis due to normal wear and tear, vandalism, and unavailable replacement parts. This project includes replacement of the play structure and other park amenities. The type of playground equipment and other park amenities that are installed will be selected through a public input process as is discussed in the Parks and Recreation Master Plan. The playground equipment at Larson Park was last replaced in 2004 and the typical life span of a park is 10 to 12 years.

This project, as with any playground replacement, will be evaluated in the years prior to the scheduled replacement. If the playground is in better or worse condition than anticipated, it may move forward of back on the five year CIP plan accordingly.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)			80,000			$ 80,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ 80,000	$ -	$ -	$ 80,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction			80,000			80,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ 80,000	$ -	$ -	$ 80,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Recreation Center Theatre Seats

Project Dates: **Begin:** Jan-2014 **Finish:** Dec-2014

Comprehensive Project Cost: $45,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] Yes [X] No **Operational Impact Category:** N/A

Description/Justification:
Replacement of the theatre seats at the recreation center.

The theatre seating was originally installed in the D.L Parsons Theatre at the Recreation Center when it was constructed in 1975. In 1996/97 the seats were removed and reupholstered. Because of age and amount of use, the seats have become uncomfortable and the spring mechanism has become noisy and disruptive to performances. This project would include the complete replacement of all 300 seats.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)			45,000			$ 45,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ 45,000	$ -	$ -	$ 45,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction			45,000			45,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ 45,000	$ -	$ -	$ 45,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: NWOS Facility Improvements

Project Dates: **Begin:** Jan-2015 **Finish:** Dec-2015

Comprehensive Project Cost: $200,000.00

Project Rationale: Facility Improvements

Future Operational Impact: [ ] Yes [X] No **Operational Impact Category:** N/A

Description/Justification:
Upgrade the facilities at Northwest Open Space.

This project includes the addition of a vault-style concession, restroom and storage facility at Northwest Open Space, as well as a children's playground and covered pavilion area. The complex has no permanent structures, currently all of the structures are temporary and are in need of improvement.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)				200,000		$ 200,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ -	$ 200,000	$ -	$ 200,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction				200,000		200,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ -	$ 200,000	$ -	$ 200,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Senior Playground

Project Dates: **Begin:** Jan-2016 **Finish:** Dec-2016

Comprehensive Project Cost: $25,000.00

Project Rationale: Parks and Recreation Master Plan

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Design and Construction of new "Playground".

At the request of the senior center staff and senior center participants, a senior "playground" is proposed to be installed behind the recreation center. This space would consist of 6-8 outdoor workout stations designed specifically for the senior population. The budget includes site preparation, purchase and installation of the equipment.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Open Space Tax (ADCOO)					25,000	$ 25,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ -	$ -	$ 25,000	$ 25,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction					25,000	25,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ -	$ -	$ 25,000	$ 25,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Residential Street Program

Project Dates: **Begin:** Ongoing **Finish:** Ongoing

Comprehensive Project Cost: $1,710,000.00 (5 year total)

Project Rationale: PCI Rating - Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:

The Residential Street Program is an annual program to maintain a minimum level of pavement condition for the residential street network.

On July 27, 2006, the City Council passed Resolution 06-92, making a City policy to maintain an average PCI rating of 70% or better. The Residential Street Program is an essential component in maintaining the 70% PCI rating. The Program includes resurfacing, restriping, patching, and concrete repair of selected streets.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Transportation Tax (ADCOT)	342,000	342,000	342,000	342,000	342,000	$ 1,710,000
						-
						-
						-
						-
Total Revenue	$ 342,000	$ 342,000	$ 342,000	$ 342,000	$ 342,000	$ 1,710,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	342,000	342,000	342,000	342,000	342,000	1,710,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 342,000	$ 342,000	$ 342,000	$ 342,000	$ 342,000	$ 1,710,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Traffic Signal Cabinet Replacement Program

Project Dates: **Begin:** Ongoing **Finish:** Ongoing

Comprehensive Project Cost: $71,000.00 (5 year total)

Project Rationale: Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Upgrade of traffic cabinets and controllers on a citywide basis.

The traffic signal cabinets and associated wiring are an essential part of our traffic signal system. Many of the city's traffic signal cabinets have reached the end of their useful life and pose an electrical hazard. The replacement or upgrade of existing hardware is essential in keeping our traffic signals operating on an uninterrupted basis.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Transportation Tax (ADCOT)	14,000	14,000	14,000	14,000	15,000	$ 71,000
						-
						-
						-
						-
Total Revenue	$ 14,000	$ 14,000	$ 14,000	$ 14,000	$ 15,000	$ 71,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	14,000	14,000	14,000	14,000	15,000	71,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 14,000	$ 14,000	$ 14,000	$ 14,000	$ 15,000	$ 71,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: West 112th Ave Widening

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $1,268,390.00

Project Rationale: Roadway Widening

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Widening of W. 112th Avenue from Huron St. to West City Limit

The original design for the widening of W. 112th Avenue from Huron St. to the West City Limit was completed as a joint effort with the City of Westminster in 2007. Westminster completed their portion of the improvements in 2009. The construction of the W. 112th Avenue Widening was completed in 2011. The one year landscape maintenance agreement will take place in 2012. In addition, a portion of the trail section and landscape was removed from the original contract so the High Zone Meter Vault could be constructed without damaging new construction. The vault construction will occur in 2012 and the remainder of the trail and landscape will be completed in 2012.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Mill Levy	40,000					$ 40,000
						-
						-
						-
						-
Total Revenue	$ 40,000	$ -	$ -	$ -	$ -	$ 40,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	40,000					40,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 40,000	$ -	$ -	$ -	$ -	$ 40,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Traffic Signal Improvements Program

Project Dates: **Begin:** Ongoing **Finish:** Ongoing

Comprehensive Project Cost: $252,000 (5 year)

Project Rationale: Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Traffic signal improvements to maintain City's Signal Network.

Corrosion of traffic signal poles and mast arms can shorten the useful life of traffic signals. This project includes the cleaning and painting of a portion of the City's traffic signals. This program may also be used to fund pole replacement, LED and camera upgrades, and other costly components of the traffic signal infrastructure.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Transportation Tax (ADCOT)	50,000	50,000	50,000	50,000	52,000	$ 252,000
						-
						-
						-
						-
Total Revenue	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 52,000	$ 252,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	50,000	50,000	50,000	50,000	52,000	252,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 52,000	$ 252,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Neighborhood Concrete Program

Project Dates: **Begin:** Ongoing **Finish:** Ongoing

Comprehensive Project Cost: $250,000 (5 year total)

Project Rationale: Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Replacement of Concrete within a defined area.

The Concrete Program will replace deteriorated and hazardous concrete within the city (i.e. curb, gutter, sidewalk, cross pans ect.)

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Transportation Tax (ADCOT)	50,000	50,000	50,000	50,000	50,000	$ 250,000
						-
						-
						-
						-
Total Revenue	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	50,000	50,000	50,000	50,000	50,000	250,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: E. 120th Avenue Rehabilitation

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $800,000 (2 year total)

Project Rationale: Roadway Rehabilitation

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Rehabilitation of E. 120th Avenue between Grant St. and the eastern city limit.

The 2012 Project includes 3" milling and resurfacing of E. 120th Avenue between Washington St. and the eastern city limit. Currently, the 2012 project does not include participation by the City of Thornton.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Mill Levy	600,000					$ 600,000
						-
						-
						-
						-
Total Revenue	$ 600,000	$ -	$ -	$ -	$ -	$ 600,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	600,000					600,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 600,000	$ -	$ -	$ -	$ -	$ 600,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Huron Street Rehabilitation

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2013

Comprehensive Project Cost: $1,025,000.00

Project Rationale: Roadway Rehabilitation

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Rehabilitation of Huron Street South of 104th.

Design and construction of the Huron Street Rehabilitation South of 104th may include drainage and cross slope improvements. The total cost shown is for pavement rehabilitation only.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Mill Levy	125,000	900,000				$ 1,025,000
						-
						-
						-
						-
Total Revenue	$ 125,000	$ 900,000	$ -	$ -	$ -	$ 1,025,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design	125,000					125,000
Construction		900,000				900,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 125,000	$ 900,000	$ -	$ -	$ -	$ 1,025,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: RV Waste Dump Station

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $200,000.00

Project Rationale: Facility Improvements

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** Slight

Description/Justification:
Construction on an RV Dump Station at M & O.

The construction on an RV Dump Station at M & O will provide residents with a location to discharge wastewater from recreational vehicles. This project will include site plan design changes to M & O including fence and drive realignments for access into the proposed dump station. In addition, design and construction of all appurtenances of the dump station.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
General	200,000					$ 200,000
						-
						-
						-
						-
Total Revenue	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	200,000					200,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: WWTP Master Plan

Project Dates: **Begin:** Jan-2009 **Finish:** Dec-2012

Comprehensive Project Cost: $175,109.00

Project Rationale: Facility Improvements

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Design and long range planning for the Wastewater Treatment Facility.

In 2009 an engineering consultant was contracted by the City to do long range design and planning for a complete mechanical wastewater treatment facility. The design and planning is anticipated to be completed in 2012. This is to bring the wastewater treatment facility up to code and meet all state and federal requirements.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	10,000					$ 10,000
						-
						-
						-
						-
Total Revenue	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design	10,000					10,000
Construction						-
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Water Line Replacement Program

Project Dates: **Begin:** Ongoing **Finish:** Ongoing

Comprehensive Project Cost: $1,050,000.00 (5 year total)

Project Rationale: Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Rehabilitation of Water Lines throughout the City.

The Water Line Replacement program includes the repair and replacement of the aging waterlines throughout the City. The City's water mains are predominately Asbestos Cement (AC) pipe and because of the corrosive nature of the soil have a shortened life span. In order to ensure continuous water service to the community, the failing waterlines must be replaced.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	50,000	250,000	250,000	250,000	250,000	$ 1,050,000
						-
						-
						-
						-
Total Revenue	$ 50,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,050,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	50,000	250,000	250,000	250,000	250,000	1,050,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 50,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,050,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Standley Lake Pipeline Repair

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $300,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Repair and/or replacement of sections of the Standley Lake Pipeline.

The Standley Lake Pipeline is a 48" pipeline that conveys the City's raw water from Standley Lake to the City of Northglenn Water Treatment Plant. In 2010, the City completed the Standley Lake Pipeline Inspection that employed electromagnetic technology to inspect the entire length of the pipeline for wire breaks and identified areas for future repairs and/or replacement. The Standley Lake Pipeline Inspection report identified approximately 120 feet of the 48" concrete pipe in critical condition and additional sections requiring repair or replacement within the next 5 to 10 years.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	250,000					$ 250,000
						-
						-
						-
						-
Total Revenue	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	250,000					250,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Water Meter and Reader Replacement Program

Project Dates: **Begin:** Ongoing **Finish:** Ongoing

Comprehensive Project Cost: $750,000.00 (5 year total)

Project Rationale: Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Replacement of the existing water meters and readers.

The existing water meters and readers were installed between 2004 and 2006. The typical life span of the meters is 10 years. This program will be a continuous program to replace meters throughout the City on a ten year cycle.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	150,000	150,000	150,000	150,000	150,000	$ 750,000
						-
						-
						-
						-
Total Revenue	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 750,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	150,000	150,000	150,000	150,000	150,000	750,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 750,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Chemical Building Improvements

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $1,750,000.00 (2 year total)

Project Rationale: Water Treatment Plant Master Plan Update

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Updating the Chemical Building to meet current Health and Safety requirements.

A recommendation included in the 2009 Water Treatment Plant Master Plan Update was for improvements to the Chemical Building. The recommendation included updating the facility to meet the current building and fire codes by: providing chemical containment, adding a fire protection system, adding additional means of egress and adding emergency showers and eyewash. Two of the existing chemical storage tanks currently do not have secondary containment. Secondary containment is a safety measure that functions as a second holding tank in the event that there is a failure of the existing storage tank. This poses a significant safety hazard and water quality risk. Under the current configuration, a chemical spill would drain directly into the water. This could compromise plant operations by potentially damaging equipment and would likely contaminate the water so that the Water Treatment Plant would not meet the Colorado Primary Drinking Water Regulations. The Potassium Permanganate Feed System and Alum and Polymer Feed Systems that were proposed in the 2010 budget will be incorporated into the Chemical Building Improvements for a completely integrated project and eliminating the potential of the individual projects conflicting with one another.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	1,600,000					$ 1,600,000
						-
						-
						-
						-
Total Revenue	$ 1,600,000	$ -	$ -	$ -	$ -	$ 1,600,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	1,600,000					1,600,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 1,600,000	$ -	$ -	$ -	$ -	$ 1,600,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: New PLC for SCADA

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $275,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Replacement of the PLC for the Water Treatment Plant

SCADA(supervisory control and data acquisition) is a system that utilizes controlling equipment to automate water collection, distribution, and treatment processes. A SCADA system typically consists of a programmable logic controller (PLC), communication equipment, and a Human-Machine Interface or HMI. The PLC is a program designed to keep the equipment running within certain parameters and the HMI is the computer the operator uses to monitor and modify the treatment, distribution and collection system processes. In 2010, Staff began replacing the communication system as the existing equipment is no longer manufactured and parts are no longer available. Although the PLC as currently configured has been in place for several years and has effectively addressed the treatment process control needs, it can no longer function with the new communication equipment. This project includes the replacement of the PLC and replacement of the remaining communication system.

Source of Funding:	**2012**	**2013**	**2014**	**2015**	**2016**	**5 - Year Total**
Water & Wastewater Fund	200,000					$ 200,000
						-
						-
						-
						-
Total Revenue	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000

Expenditures:	**2012**	**2013**	**2014**	**2015**	**2016**	**5 - Year Total**
Plans/Studies						$ -
Design						-
Construction	200,000					200,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: High Zone Meter Vault

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $150,000.00

Project Rationale: Facility Improvements

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Installing vault and meter on the High Zone Water Line.

Previously, treated water flows were measured in the water treatment plant prior to entering either the Low Zone or High Zone system. These meters were very inaccurate and difficult to maintain. Subsequently, a new Low Zone meter was installed as a part of the clearwell addition completed in early 2010.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	120,000					$ 120,000
						-
						-
						-
						-
Total Revenue	$ 120,000	$ -	$ -	$ -	$ -	$ 120,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	120,000					120,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 120,000	$ -	$ -	$ -	$ -	$ 120,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Terminal Reservoir Mixing

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $196,000.00

Project Rationale: Water Treatment Plant Master Plan Update

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Water Treatment Plant Optimization by adding mixers to the Terminal Reservoir.

The 2009 Water Treatment Plant Master Plan Update made several recommendations for improvements to the Water Treatment system. One recommendation was adding mixers to the Terminal Reservoir. The City's raw water enters the Water Treatment Plant via the Terminal Reservoir. In the late summer and early fall the manganese levels in the raw water rise. The increased manganese levels significantly impact the filtration process, by clogging the filters which lowers the performance of the filters and increases the amount of backwash water required to clean the filters. The addition of mixers in the Terminal Reservoir will help in removing the manganese in the process, prior to the filters.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	196,000					$ 196,000
						-
						-
						-
						-
Total Revenue	$ 196,000	$ -	$ -	$ -	$ -	$ 196,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	196,000					196,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 196,000	$ -	$ -	$ -	$ -	$ 196,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Croke Sandout Gates

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $35,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Replacement of 3 gates.

The sandout gates that were constructed in 1909, release sand and silt from Croke Canal. The project consist of the removal and replacement of three gates, replacement of the gate seals and refacing of the concrete structure. Croke Canal is owned by the Farmers Reservoir and Irrigation Company (FRICO) and delivers water from Clear Creek to Standley Lake for FRICO shareholders (including Northglenn, Thornton and Westminster). Croke Canal water is a major component of Northglenn's water supply. Croke Canal is managed and operated by the Standley Lake Operating Committee (SLOC) comprised of representatives from the cities of Northglenn, Thornton and Westminster. This project is part of a capital improvement program for the Croke Canal developed by FRICO and SLOC. FRICO will perform the bidding and act as the contracting agency for the design and construction of this project under the terms of the 1979 4-Way Agreement between FRICO and the SLOC Cities. In addition, the 4-Way Agreement provides for Croke Canal operation and maintenance costs to be funded by SLOC with the three SLOC cities sharing the costs equally. Westminster and Thornton have previously committed to pursue funding for this project.

Source of Funding:	**2012**	**2013**	**2014**	**2015**	**2016**	**5 - Year Total**
Water & Wastewater Fund	35,000					$ 35,000
						-
						-
						-
						-
Total Revenue	$ 35,000	$ -	$ -	$ -	$ -	$ 35,000

Expenditures:	**2012**	**2013**	**2014**	**2015**	**2016**	**5 - Year Total**
Plans/Studies						$ -
Design						-
Construction	35,000					35,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 35,000	$ -	$ -	$ -	$ -	$ 35,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Standley Lake Bypass

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2012

Comprehensive Project Cost: $35,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:

Install energy dissipation devices on the two 8" bypass pipelines in the Standley Lake Valve Shaft Facility to prevent damage to the Standley Lake Pipeline.

Cavitation is caused by the formation of vapor bubbles in a pipeline where there is a high pressure drop. These vapor bubbles eventually collapse, causing shock waves that can be strong enough to significantly damage equipment, valves, etc. The installation of energy dissipation devices will result in a reduction of cavitation, thereby making operations of the Bypass valve safer and extend the useful life of the pipeline. The Standley Lake Valve Shaft Facility is located at Standley Lake. This project will be a joint venture between the cities of Westminster, Thornton, and Northglenn.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	35,000					$ 35,000
						-
						-
						-
						-
Total Revenue	$ 35,000	$ -	$ -	$ -	$ -	$ 35,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	35,000					35,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 35,000	$ -	$ -	$ -	$ -	$ 35,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: High Zone Water Storage Tank Painting

Project Dates: **Begin:** Jan-2013 **Finish:** Dec-2013

Comprehensive Project Cost: $280,000.00

Project Rationale: Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Painting of the High Zone Water Storage Tank.

Continuing maintenance is required in order to increase the life expectancy of the water storage tanks. This includes periodic painting of the tanks to prevent corrosion. The High Zone Tank was last painted in 1980 and the typical life span of coating for water storage tanks is approximately 10 to 15 years. There are also minor structural repairs that will be made during painting of the tank.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund		280,000				$ 280,000
						-
						-
						-
						-
Total Revenue	$ -	$ 280,000	$ -	$ -	$ -	$ 280,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction		280,000				280,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ 280,000	$ -	$ -	$ -	$ 280,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Collection System Rehabilitation Program

Project Dates: **Begin:** Ongoing **Finish:** Ongoing

Comprehensive Project Cost: $1,250,000.00 (5 year total)

Project Rationale: Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Rehabilitation of Wastewater Lines throughout the City.

The Wastewater Line Rehabilitation program includes the repair and/or replacement of the aging wastewater pipelines throughout the City. The existing wastewater lines in the collection system are predominately concrete pipe. Wastewater contains high levels of hydrogen sulfide and when exposed to the atmosphere the hydrogen sulfide converts to sulfuric acid. The typical life expectancy of concrete pipe is approximately 100 years, however due to the highly corrosive nature of wastewater, the life expectancy of concrete pipe in a collection system is reduced to 20 to 50 years. Initially sulfuric acid will remove the outer layer of concrete, exposing the aggregate. If the corrosion is allowed to continue the sulfuric acid will continue to remove concrete until it reaches the steel. Once the reinforcement or steel in the pipe is exposed, structural failure is eminent. In order to preserve the existing wastewater pipelines and ensure continuous wastewater collection, pipes must be repaired or replaced that are beginning to show signs of corrosion.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	250,000	250,000	250,000	250,000	250,000	$ 1,250,000
						-
						-
						-
						-
Total Revenue	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,250,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	250,000	250,000	250,000	250,000	250,000	1,250,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,250,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Bunker Hill Lift Station Meter

Project Dates: **Begin:** Jan-2013 **Finish:** Dec-2013

Comprehensive Project Cost: $300,000.00

Project Rationale: Permit Requirement

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Install a flow meter and supporting structure for the Bunker Hill Lift Station.

The Colorado Department of Public Health and Environment (CDPHE) notified the City that, by not metering the flows from Bunker Hill Lift Station, they were violating the Wastewater Treatment Plant discharge permit. Subsequently, staff began planning for a meter vault at Bunker Hill. During the planning phase, it became evident that due to hydraulic concerns and location restrictions, the Wastewater Treatment Plant is a much more advantageous and conducive location for a meter. Although the Wastewater Treatment Plant discharge permit will be temporarily satisfied with the construction of a meter at the Wastewater Treatment Plant, a meter is still required at Bunker Hill.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund		300,000				$ 300,000
						-
						-
						-
						-
Total Revenue	$ -	$ 300,000	$ -	$ -	$ -	$ 300,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction		300,000				300,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ 300,000	$ -	$ -	$ -	$ 300,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Lift Station A Facility Assessment and Rehabilitation

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $421,478.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Rehabilitation of Lift Station A.

Lift Station A is a critical component in the sanitary sewer system since it pumps approximately 95% of the City's wastewater to the Wastewater Treatment Facility. The integrity of the lift station must be maintained to provide continued service and to avoid bypassing wastewater flow to the Metro Wastewater Reclamation District via the City of Thornton sewer inter-connect. This project includes replacement of the pump valves, meter, isolation valves, and modification to the electrical system.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	271,478					$ 271,478
						-
						-
						-
						-
Total Revenue	$ 271,478	$ -	$ -	$ -	$ -	$ 271,478

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	271,478					271,478
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 271,478	$ -	$ -	$ -	$ -	$ 271,478

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Lift Station B Facility Rehabilitation

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2013

Comprehensive Project Cost: $350,000.00 (2 year total)

Project Rationale: Maintenance Program

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Completing facility assessment and rehabilitation of Lift Station B.

Lift Station B is a major component in the sanitary sewer system since it is the second largest lift station in the City's collection system. Completing a facility assessment would provide recommendation and prioritize necessary improvements to extend the life of the facility. Repairs will be made based on the recommendations of the assessment.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	100,000	250,000				$ 350,000
						-
						-
						-
						-
Total Revenue	$ 100,000	$ 250,000	$ -	$ -	$ -	$ 350,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design	100,000					100,000
Construction		250,000				250,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 100,000	$ 250,000	$ -	$ -	$ -	$ 350,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: WWTP Standby Generator

Project Dates: **Begin:** Jan-2011 **Finish:** Dec-2012

Comprehensive Project Cost: $224,000.00

Project Rationale: Wastewater Utility Plan Update

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Installation of a standby generator at the Wastewater Treatment Plant.

Wastewater treatment facilities are required to have redundant power per Colorado Department of Public Health and Environment (CDPHE) Regulation 22 requirements. Northglenn's Wastewater Treatment Plant currently has dual power feeds providing electricity to the facility in the event of a power failure. However, there have been multiple occurrences when the facility has been without power with both feeds down. As a result, in a few of these power failure instances, sewage spills have occurred.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	224,000					$ 224,000
						-
						-
						-
						-
Total Revenue	$ 224,000	$ -	$ -	$ -	$ -	$ 224,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	224,000					224,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 224,000	$ -	$ -	$ -	$ -	$ 224,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: WWTP BNR Improvements

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2013

Comprehensive Project Cost: $724,000.00 (2 year total)

Project Rationale: Wastewater Utility Plan Update

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:

This project includes improvements to the Biological Nutrient Removal (BNR) process with modifications to the aeration basins to meet short term ammonia and nitrate loading requirements.

The Colorado Department of Public Health and Environment (CDPHE)is proposing future revisions to the ammonia and nitrate loading requirements. This could potentially impact the City with the next discharge permit cycle. Modifications were recommended as a part of the 2010 Wastewater Utility Plan Update in order to meet these future regulations. The recommendations include modifications to the aeration basins as a part of the Biological Nutrient Removal (BNR) process. This project includes implementing the modifications to the aeration basins by replacing the fabric baffle curtains with concrete curtains, installing additional submerged diffusers, and modifying the existing piping.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund	121,000	603,000				$ 724,000
						-
						-
						-
						-
Total Revenue	$ 121,000	$ 603,000	$ -	$ -	$ -	$ 724,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies	121,000					$ 121,000
Design						-
Construction		603,000				603,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 121,000	$ 603,000	$ -	$ -	$ -	$ 724,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: WWTP Headworks and 3rd Secondary Clarifier

Project Dates: **Begin:** Jan-2014 **Finish:** Dec-2015

Comprehensive Project Cost: $6,477,000.00

Project Rationale: Wastewater Utility Plan Update

Future Operational Impact: [X] **Yes** [ ] **No** **Operational Impact Category:** Moderate

Description/Justification:
Design and Construction of a new Wastewater Treatment Plant headworks and 3rd secondary clarifier.

Headworks facilities are designed for removal of solids in the wastewater stream and are the first stage of wastewater treatment systems. Typically, headworks are composed of screens to remove trash such as rags or plastics and grit chambers to remove sand, gravel or other granules. Removal of the trash and grit prevents unnecessary and considerable wear and tear to the treatment system equipment. Staff currently spend a significant amount of time removing trash from the system and repairing equipment damaged by rags and grit. The headworks and 3rd secondary clarifier design is proposed for 2014, with construction in 2015. Once the headworks is in operation, the decommissioning of the existing lagoons can commence. Although there is anticipated to be a moderate increase in the tasks associated with operating a headworks, this increase should be offset by the removal of the maintenance requirements for the lagoons. The existing clarifiers are the limiting factor in the overall capacity at the WWTP. Design for expansion is required by the "Colorado Water Quality Control Act" once a facility has reached 80% of it's existing capacity. A 3rd secondary clarifier will provide redundancy in the system and increase the overall capacity of the facility to meet the planned future flows.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund			1,080,000	5,397,000		$ 6,477,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ 1,080,000	$ 5,397,000	$ -	$ 6,477,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design			1,080,000			1,080,000
Construction				5,397,000		5,397,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ 1,080,000	$ 5,397,000	$ -	$ 6,477,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Forcemain Assessment

Project Dates: **Begin:** Jan-2014 **Finish:** Dec-2014

Comprehensive Project Cost: $250,000.00

Project Rationale: Facility Maintenance

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Assessment of the existing sanitary sewer forcemain.

The existing sanitary sewer forcemain delivers wastewater flow from the City to the wastewater treatment facility. Due to hydrogen sulfide from wastewater flows and the soil materials around the pipe causes the pipe to corrode and degrade. This assessment will determine the overall condition and structural integrity of the pipe and provide recommendations for future repair and life expectancy of the pipe.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund			250,000			$ 250,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ 250,000	$ -	$ -	$ 250,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design			250,000			250,000
Construction						-
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ 250,000	$ -	$ -	$ 250,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: WWTP UV Replacement

Project Dates: **Begin:** Jan-2016 **Finish:** Dec-2016

Comprehensive Project Cost: $500,000.00

Project Rationale: Wastewater Utility Plan Update

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Replace existing UV equipment at the Wastewater Treatment Plant.

In order to comply with the Colorado Water Quality Control Act, the Colorado Department of Public Health and Environment requires disinfection for wastewater treatment systems. The City's Wastewater Treatment Plant was designed with Ultraviolet (UV) equipment to function as the disinfection process. Due to power outage events and subsequent flooding of the existing equipment, the UV system has been damaged and does not operate as designed. The manufacturer will be visiting the facility to assess the existing condition of the system and to determine what equipment requires replacement or if the existing equipment can be repaired. In the interim, the costs shown include replacement of the UV equipment.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund					500,000	$ 500,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ -	$ -	$ 500,000	$ 500,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction					500,000	500,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ -	$ -	$ 500,000	$ 500,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Bull Reservoir pH Control

Project Dates: **Begin:** Jan-2016 **Finish:** Dec-2016

Comprehensive Project Cost: $84,000.00

Project Rationale: Wastewater Utility Plan Update

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Construction of a permanent sulfuric acid dosing system.

One of the discharge permit criteria for the Wastewater Treatment Plant is the pH level. Periodically, the pH in Bull Reservoir will rise above the range set in the discharge permit. Currently, the City has a temporary sulfuric acid system to dose Bull Reservoir when the discharge from the plant has a high pH. A permanent dosing system must be installed, to ensure continued compliance with the effluent pH limit.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund					84,000	$ 84,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ -	$ -	$ 84,000	$ 84,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction					84,000	84,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ -	$ -	$ 84,000	$ 84,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Decommission Southern Lagoon

Project Dates: **Begin:** Jan-2015 **Finish:** Dec-2016

Comprehensive Project Cost: $1,321,000.00

Project Rationale: Facility Improvements

Future Operational Impact: [ ] Yes [X] No **Operational Impact Category:** N/A

Description/Justification:
Decommission Existing Southern Lagoon at Wastewater Treatment Facility.

As part of the design and construction of the full mechanical wastewater treatment facility in 2014 and 2015 the southern lagoon will no longer be required. In 2015 the design and process of how the south lagoon will be decommissioned will take place and construction is anticipated to start In 2016.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Water & Wastewater Fund				220,000	1,101,000	$ 1,321,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ -	$ 220,000	$ 1,101,000	$ 1,321,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design				220,000		220,000
Construction					1,101,000	1,101,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ -	$ 220,000	$ 1,101,000	$ 1,321,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Grange Hall Creek (Washington St. Detention) Phase 1

Project Dates: **Begin:** Jan-2012 **Finish:** Dec-2013

Comprehensive Project Cost: $2,150,000 ($2.1 Million total including UCFCD funding and pedestrian underpass)

Project Rationale: Drainage System Maintenance & Improvements

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Construct Grange Hall Creek (Washington St. Detention) Phase I improvements.

Urban Drainage and the City Northglenn are currently funding the design of the Grange Hall Creek Improvements. Phase I includes improvements to Reaches 2 and 3 and is proposed as culvert enhancements under Washington Street. This includes a pedestrian underpass as part of the culverts/conveyance for larger storm events. The 2013 project will construct the improvements included in Phase I, but the costs shown do not include the underpass. Additional funding must be sought, in order to construct the project in 2013 with the underpass. Potential funding sources identified include Adams County Open Space Grant, Community Development Block Grant (CDBG), additional Urban Drainage funding and possibly Federal Emergency Management Agency (FEMA).

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Stormwater Fund	400,000	1,050,000				$ 1,450,000
CDBG Fund		600,000				600,000
						-
						-
						-
Total Revenue	$ 400,000	$ 1,650,000	$ -	$ -	$ -	$ 2,050,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design						-
Construction	400,000	1,650,000				2,050,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ 400,000	$ 1,650,000	$ -	$ -	$ -	$ 2,050,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Grange Hall Creek and Tributaries Master Drainage Plan Update & Flood Hazard Area Delineation

Project Dates: **Begin:** Jan-2014 **Finish:** Dec-2014

Comprehensive Project Cost: $100,000.00

Project Rationale: FEMA Mapping Updates

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:

In conjunction with the Urban Drainage & Flood Control District, Thornton and possibly Adams County we would update the entire Grange Hall Creek & Tributaries 1978 Master Drainage Plan and Flood Hazard Area Delineation to develop documentation for application to FEMA on Letter of Map Revisions (LOMR) for areas within the City that should no longer be considered to be in the Floodplain. This would lead to obtaining approval from FEMA for the LOMRs.

Upstream development or storm sewer infrastructure upgrades completed since 1978 (and never formally documented and accepted by FEMA) have positively impacted areas within the City that previously were mapped by FEMA as being within the 100-year floodplain. Removal of these areas from the official FEMA mapping would allow the property owners affected to potentially reduce or cease paying for flood insurance and reduce the City's liabilities under the National Flood Insurance Program. This action was suggested in the City-Wide Drainage Master Plan Update.

This update would help determine required drainage improvements and upgrades for the FasTracks project.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Stormwater Fund			100,000			$ 100,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ 100,000	$ -	$ -	$ 100,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies			100,000			$ 100,000
Design						-
Construction						-
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ 100,000	$ -	$ -	$ 100,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM

Project Name: Lincoln/107th Street Regrading

Project Dates: **Begin:** Jan-2015 **Finish:** Dec-2015

Comprehensive Project Cost: $60,000.00

Project Rationale: Drainage Improvements

Future Operational Impact: [ ] **Yes** [X] **No** **Operational Impact Category:** N/A

Description/Justification:
Design and construct a re-graded intersection to redirect stormwater flows away from residences and into the street.
Upsize pipe at trail adjacent to I-25 to better direct storm flows into existing 42" RCP that flows to the south.

This area experiences large concentrated storm flows that are currently directed toward residences due to the grades of the street intersection. This location was identified as a Problem Area in the updated City-Wide Drainage Master Plan Update. This action should be coordinated with the streets improvement program.

Source of Funding:	2012	2013	2014	2015	2016	5 - Year Total
Stormwater Fund				60,000		$ 60,000
						-
						-
						-
						-
Total Revenue	$ -	$ -	$ -	$ 60,000	$ -	$ 60,000

Expenditures:	2012	2013	2014	2015	2016	5 - Year Total
Plans/Studies						$ -
Design				6,000		6,000
Construction				54,000		54,000
Materials						-
Equipment						-
Other -						-
Other -						-
Total Expenditures	$ -	$ -	$ -	$ 60,000	$ -	$ 60,000