

City of Yakima Public Works Department- Low Water Use Garden Conversion Project

City of Yakima- Public Works Department  
2301 Fruitvale Blvd. Yakima, WA 98902

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## Technical Proposal and Evaluation Criteria

### Executive Summary

**Date:** 3/7/2016

**Applicant Name:** *City of Yakima Public Works Department*

**City:** *Yakima*

**County:** *Yakima*

**State:** *Washington*

**Estimated Completion Date:** *Spring 2018*

**(Project is not located on a Federal facility)**

The City of Yakima- Public Works Division is proposing a Low Water Use Garden Conversion project for four different zones within the Public Works Complex and an area of landscaping in downtown Yakima these areas are not on located on Federal property. The scope of the project converts 38,000 square feet of grass lawn and high water use plantings into low water use landscaping to promote the conservation of water, and provide education to the public about the benefits of Low Water Use Gardens within our desert region. Work in the four areas includes clearing and grubbing existing landscaping, retrofitting existing irrigation systems, placement of various size rock, and re-planting areas with low water use plantings with landscape fabric, bed edging, and mulch cover. One area east of the Public Works Complex will need clearing and grubbing of existing grass, revision and or replacement of irrigation, and replacement with approved drain rock to create a drainage swale. The conversion of the existing turf to low water use landscaping is a landscape irrigation measure that will provide a quantifiable and sustained water savings, a primary goal of the funding opportunity announcement. Funding for the project will include \$50,200 from the Yakima Basin Integrated Water Resource Management Plan, \$22,000 for the downtown merchants association, \$7,499.92 in kind work, and \$63,500 from the WaterSMART Grants: Small-Scale Water Efficiency Projects for Fiscal Year 2017 opportunity.

The project construction is expected to take three months to complete. Ongoing efforts for plant stabilization will continue through the spring of 2018. Public education about low water use planting and invitations to view the project will start in June 2018 and continue into the future.

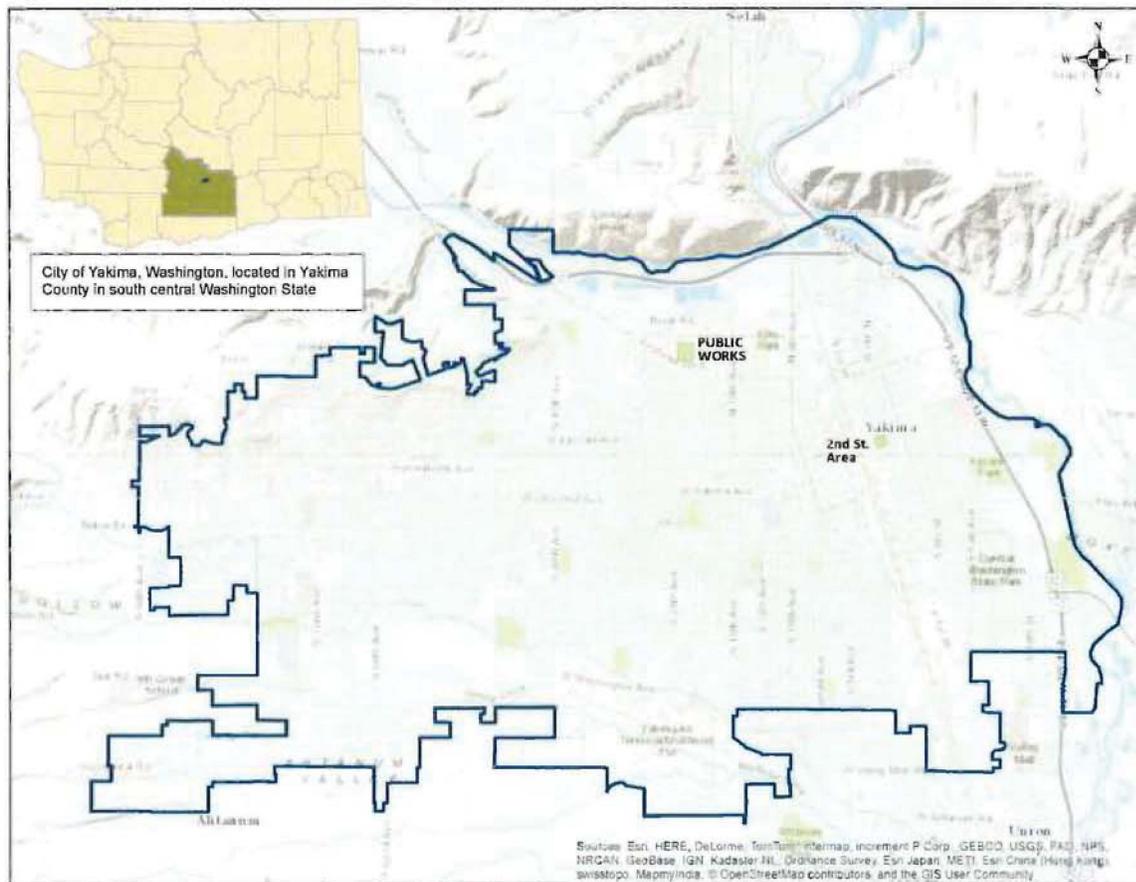
### Background Data

The City of Yakima is located in Central Washington along the I-82 corridor. Yakima is approximately 142 miles east of Seattle, in-between the cities of Selah and Union Gap. Yakima is home to 93,257 (2013 Census) residents, of which 72,624 are currently serviced by the City of Yakima's Water Division. The City's primary source of water is from the Naches River and is supplemented by four groundwater wells for emergency use. These sources are authorized through four surface water rights, a 6,000 acre foot contract with the Bureau of Reclamation (Bureau of Reclamation Contract No.14-06-W53, dated December 12, 1952), and 4 groundwater rights. The City of Yakima's Water Division currently serves municipal purposes

such as domestic potable water, lawn and garden irrigation, and industrial use. The total projected average daily water demand is 18 million gallons per day.

Beginning at the Naches River intake, the City of Yakima's water travels through our Water Treatment Plant which connects to a 48 inch concrete transmission main for delivery to the City's distribution system. Water mains in the service area consists of pipes 4 inch to 24 inch in diameter and made from either cast iron or ductile iron water mains. There are currently a total of 19,000 service connections for our users. The Water Division also has five drinking water reservoirs with a combined storage capacity of 32 million gallons, twenty pressure reducing valves, and three pressure zones.

The City of Yakima has an established working relationship with the Bureau of Reclamation, including applying and receiving a \$6,000 grant in 2001 from the Yakima River Basin Water Enhancement Program (YRBWEP) to conduct an Aquifer Storage and Recovery Test as well as our Bureau of Reclamation Contract No.14-06-W53, dated December 12, 1952.

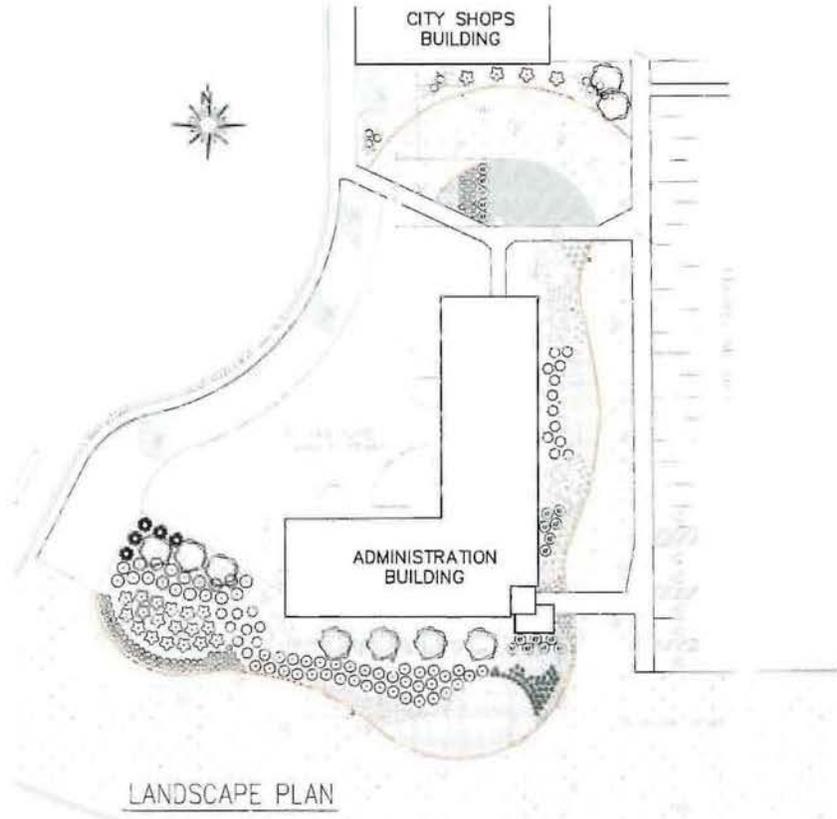


### Project Description

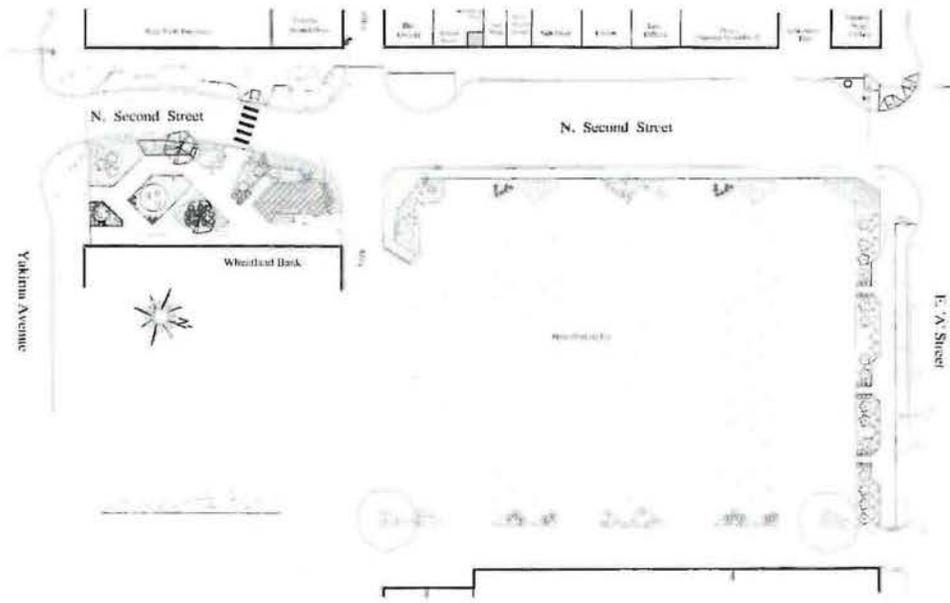
The City of Yakima Public Works Complex has approximately 80,600 square feet of landscape area. Of that, the proposed project would convert 35,023 square feet into Low Water Use landscaping. The complex currently uses 5,510,890 gallons of water annually to maintain the landscaping equating to 68 gallons per square foot. With Low Water Use Gardens, the

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estimated annual water savings is 2,132,667 gallons. That significantly cuts our water usage as well as helps conserve water if there was a drought. Droughts are likely due to the climate and location of the City.



The project will also replace high water use planting on the east side of N. 2<sup>nd</sup> Street between Yakima Avenue and Staff Sergeant Pendleton Way in the downtown area. The estimated water savings for the landscape conversion in the downtown area is expected to be 890,000 gallons per year.



Project work will consist of clearing and grubbing existing turf and plantings in the four specified zones of the Public Works Complex and one downtown. Four of the zones will need revisions or replacement of irrigation fixtures to change from sprinklers to a more efficient drip type targeted system and replacement of the controller to a "smart type" thus conserving water. Low water usage plants will be replanted with landscape fabric, bed edging, and two inches of mulch cover, further conserving water. The fifth zone, which is a storm water swale, will be cleared and grubbed of existing grass, have revisions made of the existing irrigation fixtures, and then replace with approved drain rock. Each site will include signage to educate the public about low-water landscapes. Photos and information about the gardens will also be posted on the City's website for water users to view.

**Maps of Conversion Areas**



Plant Schedule  
NORTH 2<sup>nd</sup> STREET AREA

2nd STREET PLANT LIST	PUBLIC WORKS PLANT LIST
12 - BERBERIS THUNBERGII 'TOPAZON ROMY' DWARF BARREN ROSE BARRIERS - 1 GAL	12 - BERBERIS THUNBERGII 'TOPAZON ROMY' DWARF BARREN ROSE BARRIERS - 1 GAL
13 - CALAMAGROSTIS ACUTICOMA 'KARL FORSTER' KARL FORSTER FEATHER REED GRASS - 3 GAL	13 - CALAMAGROSTIS ACUTICOMA 'KARL FORSTER' KARL FORSTER FEATHER REED GRASS - 3 GAL
14 - CORNUS STOLONIFERA SHOW-N-SUMMER - 1 GAL	14 - CORNUS STOLONIFERA SHOW-N-SUMMER - 1 GAL
15 - LINDYNE DE TINKA 'LADY' MAY LADY FLORING SPICE - 2 GAL	15 - LINDYNE DE TINKA 'LADY' MAY LADY FLORING SPICE - 2 GAL
17 - CHAENANES 'CORALINA' ORANGE FLORING SPICE - 3 GAL	17 - CHAENANES 'CORALINA' ORANGE FLORING SPICE - 3 GAL
18 - CORNUS STOLONIFERA 'MAUI' DWARF RED TAIL DOGWOOD - 3 GAL	18 - CORNUS STOLONIFERA 'MAUI' DWARF RED TAIL DOGWOOD - 3 GAL
19 - HELIOPSIS SCOPULORUM BLUE CAT GRASS - 2 GAL	19 - HELIOPSIS SCOPULORUM BLUE CAT GRASS - 2 GAL
20 - HELIOPSIS RED CAT GRASS - 2 GAL	20 - HELIOPSIS RED CAT GRASS - 2 GAL
3 - HEBOIA 'RED HEART' RED HEART IRIS - 3 GAL	3 - HEBOIA 'RED HEART' RED HEART IRIS - 3 GAL
24 - ERYTHRONIUM EYERISSER CANTARY - 1 GAL	24 - ERYTHRONIUM EYERISSER CANTARY - 1 GAL
21 - LAMNOLLA ANASTROPHIA 'MONTANA' MONTANA LAVENDER - 2 GAL	21 - LAMNOLLA ANASTROPHIA 'MONTANA' MONTANA LAVENDER - 2 GAL
43 - MIMOSA STURDII 'CORPUSC' DWARF ORION GRAPE - 2 GAL	43 - MIMOSA STURDII 'CORPUSC' DWARF ORION GRAPE - 2 GAL
1 - HOEA ARBORESCENS SEEDING NORWAY SPRUCE - ONE 3'-0" TALL	1 - HOEA ARBORESCENS SEEDING NORWAY SPRUCE - ONE 3'-0" TALL
2 - PINK CALIFORNIA 'CHARLOTTE' DWARF QUEEN FLORING SPICE - 4.5 GAL	2 - PINK CALIFORNIA 'CHARLOTTE' DWARF QUEEN FLORING SPICE - 4.5 GAL
32 - SALIX 'MISTY' PINKLE SALIX - 1 GAL	32 - SALIX 'MISTY' PINKLE SALIX - 1 GAL
	33 - SIBIRA JAPONICA 'NICHOL BATTIN' NICHOL BATTIN SPICE - 3 GAL

**Environmental and Cultural Resources Compliance**

(1) Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

No

(2) Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

No

(3) Are there wetlands or other surface waters inside the project boundaries that potentially fall under Clean Water Act (CWA) jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the project may have.

No

(4) When was the water delivery system constructed?

*First constructed in the late 1890's. The City of Yakima bought the water system in 1926 from Pacific Power.*

(5) Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

*No, there will no modifications needed.*

(6) Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

*No*

(7) Are there any known archeological sites in the proposed project area?

*No*

(8) Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

*No*

(9) Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

*No*

(10) Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

*No*

#### **Required Permits or Approvals**

The City of Yakima will obtain a plumbing permit from the Codes Administration Division for the sprinkler system modifications. No other permits will be required for this project.

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Official Resolution

RESOLUTION NO. R-2017-008

**A RESOLUTION** to authorize the City Manager to execute all necessary documents to complete and submit an application for a grant from the Department of Interior Bureau of Reclamation's WaterSMART program in the amount of \$63,500 for a low water use demonstration garden at Public Works, to execute all necessary certifications, agreements and other documents to complete the grant.

**WHEREAS**, the City of Yakima recognizes that the provision of infrastructure is important to all residents and businesses of the community; and

**WHEREAS**, in the Yakima Integrated Plan water conservation through low water use gardens is been established as a goal, and

**WHEREAS**, the city has secured a grant in the amount of \$50,200 from the Integrated Plan through the Department of Ecology, issued in May 2015; and

**WHEREAS**: the Downtown Yakima Business Improvement District has pledged \$20,000 to contribute to the low water use gardens in the downtown areas; and

**WHEREAS**, installation of a low water use garden will help with public education on reducing water use and this project is consistent with the City of Yakima and the Yakima Basin Integrated plan goals; and

**WHEREAS**, the Department of Interior – Bureau of Reclamation has made grant funds available for water efficiency projects and the amount of local match funds provided by the Integrated plan makes use eligible for this grant; and

**WHEREAS**, based on the foregoing, the City Council has determined that it is in the best interest of the City to apply for this grant to install low water use demonstration garden at the Public Works Facility And downtown town planting areas, now, therefore,

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF YAKIMA:**

The City Manager is hereby authorized and directed to execute all necessary documents to complete and submit an application for a grant for the Department of Interior – Bureau of Reclamation's WaterSMART program in the amount of \$63,500, to execute all necessary certifications, agreements and other documents to complete the grant.

**ADOPTED BY THE CITY COUNCIL** this 17<sup>th</sup> day of January, 2017

ATTEST

  
Sonya Clear Tee, City Clerk



  
Kathy Correy, Mayor

**Project Budget: Funding Plan**

Table 1. - Summary of non-Federal and Federal funding sources

Funding sources	Funding amount
<b>Non-Federal entities</b>	
City of Yakima- Public Works (in-kind donation) & Cash*	\$11,863
Yakima Basin Water Resource Management Plan	\$50,200
Downtown Merchants Association	\$22,000
<i>Non Federal subtotal:</i>	<i>\$85,863</i>
<b>Other Federal entities</b>	
n/a	
<i>Other Federal subtotal:</i>	<i>\$0</i>

The design includes proposed plant locations of trees, shrubs, ground covers, irrigation revisions and site amenities. The landscape architect will also prepare construction documents for the landscape of the five areas designated for the project. This will include plans and specifications which together will define the way the landscape construction will be implemented; addressing plant materials, soil preparation and any other necessary details. The landscape architect will provide construction observation services while the project is being completed to make sure work is consistent with the design intent. There will be a total of two site visits, one at mid project and the other at the conclusion of the project to complete a final check list.

Environmental and Regulatory Compliance Costs

The Public Works Department has included the additional cost for Environmental and Regulatory Compliance. That is a total of \$300.00.

**Evaluation Criteria**

**Evaluation Criterion A- Planning Efforts Supporting the Project**

The proposed project is supported by the existing planning effort because it will implement a low water use demonstration garden as a way to use water more efficiently, a way to promote water conservation with the community and region and to meet reduced water use goals the city has established as part of the state Water Use Efficiency rule. This project in our Water System Plan, Chapter 4.3. As part of the Integrated Plan, the City plans to continue its partnership with other municipalities and agencies in the basin to develop basin-wide municipal conservation resources, advance components of a municipal conservation program, and conduct outreach to water users and elected officials using the low water use gardens as a demonstration. This will contribute to promoting a conservation ethic within the basin and the City.

That partnership with other agencies included a grant from through the Washington Department of Ecology and other contributors to design and install low-water demonstration gardens. In 2017, the City plans to continue installation of demonstration gardens at the Yakima Public Works office and a downtown site on Yakima Avenue.

**Evaluation Criterion B- Project Benefits**

The function of the proposed project is to educate the local community residents and other Yakima valley community water managers on the benefits of low use plantings and conserving water. Yakima is located in a desert climate, where the summers are hot and winters are very cold. The hopes of this project is to make water available in times of drought by using the saved water in a reserve for future use. 2015 was a drought year for Yakima and its surrounding regions. This resulted in 47% supply for the Bureau of Reclamation prorated supply thus also causing very low (record low in some areas) stream flows. Yakima's water source that is the focus of this project is from the Bureau of Reclamation Contract No. 14-06-W53 subject to proration in drought years. In drought years, the water conserved from low usage within our landscape area would be kept in a reserve allowing more water to be available for future uses such as domestic or industrial.

The goal with transforming four zones of grass into a low water use landscape is to educate the public and surrounding communities of the benefits of conserving water, especially in years of drought. We want to lead by example and have the community be able to experience the low water use landscape first hand to increase awareness of water efficiency efforts. With the water conserved from revisions and or replacements in some irrigation systems within the proposed zones, we hope to increase the capability of future water conservation efficiency efforts and demonstrate to the community that we value our water. Very little energy components will be used in this project.

**Evaluation Criterion C- Project Implementation**

A new policy will be implemented to ensure new Low Use Garden Areas will receive reduced irrigation by monitoring of water use in the targeted areas. Water meter reading will be obtained through Yakima’s automated meter reading systems “Eye on Water” public portal. Water use criteria settings will be entered so emails to the facility Manager will be sent if water uses exceeds targets.

**Proposed Project Schedule**

The proposed project schedule is as follows:

<b>December 2016</b>	Complete design of low water use areas including sprinkler irrigation system modifications.
<b>June- July 2017</b>	Complete environmental compliance
<b>August 2017</b>	Order materials
<b>September 2017</b>	
Week 1	Clear and grub site
Week 2	Add soil amendments, complete sprinkler system modifications, and install edging
Week 3	Plant plants
Week 4	Install mulch
<b>October 2017</b>	Establish low water use plantings using supplemental irrigation
<b>June 2018</b>	Advertise that Low Water Use landscape is available to public as a demonstration of Low Water Use Gardens
<b>July 2018</b>	Project complete

The City of Yakima will obtain a plumbing permit from the Codes Administration Division for the sprinkler system modifications. No other permits will be required for this project. A local Landscape Architect has designed the four Public Works Complex zones and the downtown area to create an educational conservation approach for our community members.

**Evaluation Criterion D- Nexus to Reclamation**

The proposed project is connected to a Reclamation project through contract # 14-06-W53 for stored water, dated December 12, 1952 and amended on December 10, 1965. The project will help Reclamation meet trust responsibilities with the Yakima Tribe because the tribe wants to have less water used by municipalities. This will

**Evaluation Criterion D- Nexus to Reclamation**

The proposed project is connected to a Reclamation project through contract # 14-06-W53 for stored water, dated December 12, 1952 and amended on December 10, 1965. The project will help Reclamation meet trust responsibilities with the Yakama Tribe because the tribe wants to have less water used by municipalities. This will significantly reduce our water consumption and help them meet that goal. The City of Yakima does receive Reclamation project water through our contract, # 14-06-W53. Although this project does not utilize Reclamation facilities, it will use Reclamation dams to hold and deliver Bureau of Reclamation water through our contract, # 14-06-W53. The dams and the proposed project are within the same basin. The proposed project will contribute water the basin in which we reside which is the same basin the Reclamation project is located.

**Unique Entity Identifier/ System for Award Management  
City of Yakima # 078212651**