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## CITY COUNCIL REPORT

DATE: February 8, 2018  
TO: Mayor and Councilmembers  
CC: Josh Copley, Shane Dille  
SUBJECT: Flagstaff Watershed Protection Project Update

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### **BACKGROUND AND CURRENT STATUS:**

In 2012, 74% of Flagstaff voters approved the Flagstaff Watershed Protection Project (FWPP). The \$10M bond project was to be utilized to reduce the threat of catastrophic wildfire and post-fire flooding in two key city watersheds: Rio de Flag/Dry Lake Hills and Mormon Mountain/Lake Mary.

The bond question asked voters the following:

PURPOSE: Forest Health and Water Supply Protection Project

Amount: \$10,000,000

Description: To prevent flood damage to the City of Flagstaff ('City'), and to protect the City water supply from damages which occur from large-scale and/or severe wildfire(s) in two watersheds serving the City, shall the City be authorized to sell and issue general obligation bonds in a principal amount up to \$10,000,000:

- to expedite and conduct forest treatments in the Dry Lake Hills watershed north of town to reduce wildfire threat, thereby mitigating subsequent flooding to Sunnyside, downtown, the NAU campus, and neighborhoods bordering the Rio de Flag;
- to plan and conduct forest treatments in the Lake Mary watershed south of the City to reduce wildfire threat, thereby protecting the storage capacity and water quality of Lake Mary; and
- to pay all costs and expenses properly incidental thereto and to the issuance of bonds?

The bonds may be issued in one or more series, will not mature more than 25 years from the date or dates of their issue, will bear interest at a rate or rates not to exceed 10% per annum, and will have such other provisions as are approved by the City Council. The following sentence has been included on this ballot as required by Arizona Revised Statutes 35-454(C): The issuance of these bonds will result in a property tax increase sufficient to pay the annual debt service on the bonds.

A vote for the bonds shall have the effect of allowing the City Council to issue up to \$10,000,000 in general obligation bonds for planning and implementation of forest health and water supply protection projects.

A vote against the bonds shall have the effect of not allowing the City Council to issue up to \$10,000,000 in general obligation bonds for planning and implementation of forest health and water supply protection projects.

Since January 2013, the following has been completed:

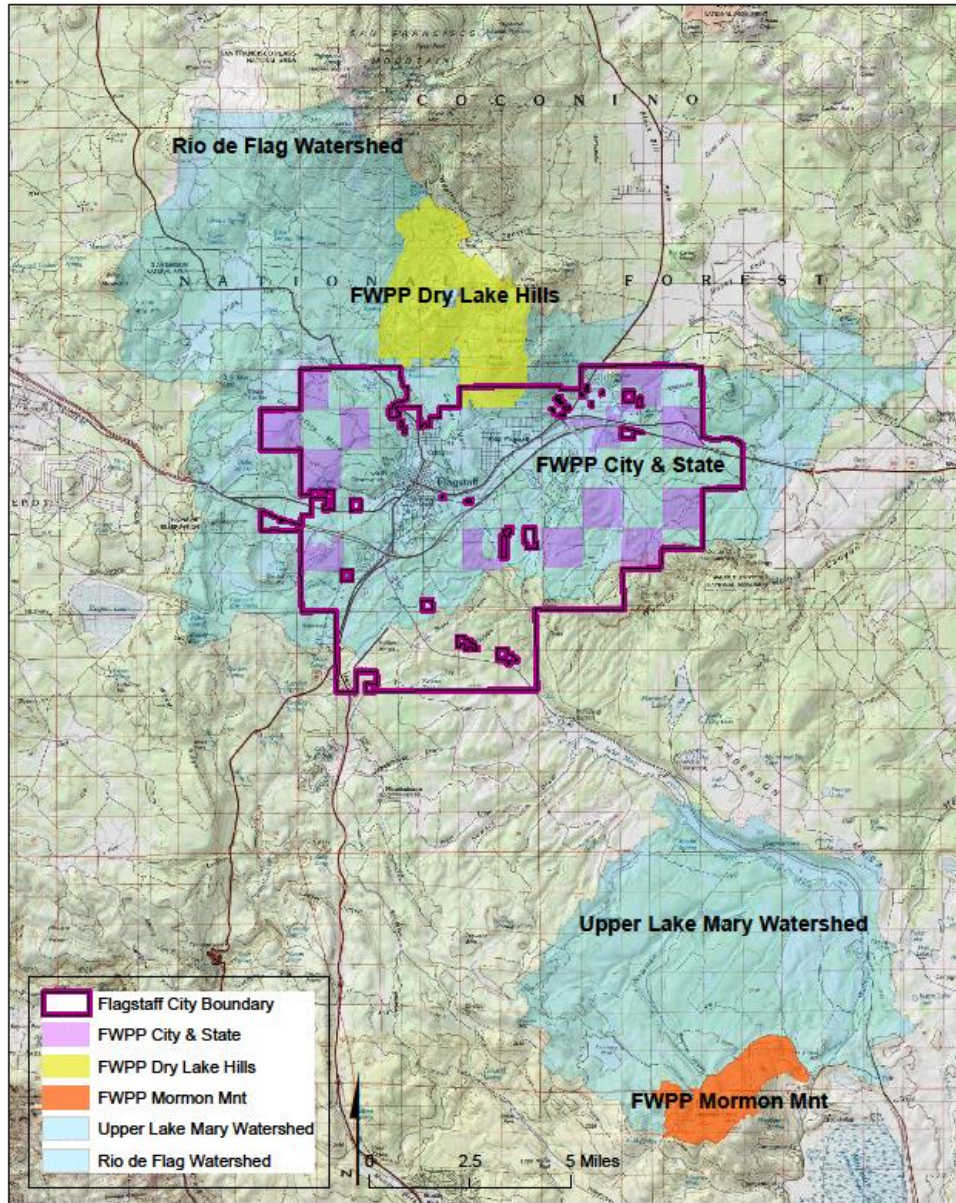
- Environmental planning (National Environmental Policy Act – NEPA) – a nearly three-year process – on all federal lands, to include approval and signing of the Final Environmental Impact Statement (FEIS) and Record of Decision (FROD).
- Boundary line surveys on all federal lands within the project footprint in the Dry Lake Hills area.
- Construction of nearly three and a half miles of temporary roads.
- Rebuilding/resurfacing of nearly eight miles of existing roads.
- A steep-slope equipment test.
- Installation of four hydrologic monitoring stations (three in the Dry Lake Hills area and one at Lake Mary).
- The City’s Monitoring Plan.
- Over 40 public events/field trips.
- 3,285 acres of tree marking.
- Field tests of the emerging tablet technology process on 1,000 acres.
- 4,184 acres have either been hand-thinned or mechanically harvested, 1,485 acres of slash has been chipped and removed, 1,688 acres of slash has been piled and burned, and another 999 acres have been broadcast burned.
- Assistance from 13,235 hours of citizen/student volunteer labor.
- Addition of \$4.9 M in non-city outside funds.
- Engaged AZ Dept of Forestry & Fire Management, The Nature Conservancy, Ecological Restoration Institute, Greater Flagstaff Forests Partnership, American Conservation Experience, and Navajo Nation.
- Provided Salt River Project slash material for a mixed coal-green biomass generating test at the Coronado Generating Station.

**INFORMATION:**

The FWPP project footprint includes a mix of City, County, State, Navajo Nation, and Federal (US Forest Service) lands located in these areas:

- Rio de Flag:
  - City, County, and State lands within the Flagstaff corporate boundary, and
  - U.S. Forest Service (USFS) and Navajo Nation lands within Dry Lake Hills
- Mormon Mountain/Lake Mary – entirely USFS lands

## Flagstaff Watershed Protection Project (FWPP) Treatment Areas



While City and State lands were relatively easy, and did not require detailed planning, federal lands were known to contain multiple challenges that would require extensive analysis, innovative technology, and time. Chief among these were steep terrain (never before attempted in the southwest), critical wildlife habitat, mixed-conifer forests (as opposed to ponderosa pine elsewhere), contractor skill-sets and equipment not found in our area, heavy recreational impacts, and multiple cultural/archeologic sites. However, planning on federal lands could not begin until the bond passed and the project was a known-event.

The chart below summarizes additional, outside funding from the project partner's (self-reported) towards this effort.

<b>FWPP LEVERAGE Summary</b>						
<b>WHO</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Sub-Total</b>
CITY	\$10,100	\$19,230	\$5,000	\$248,200	\$7,275	\$289,805
COUNTY	\$11,000	\$4,300	\$5,350	\$575	\$775	\$22,000
STATE of AZ	\$7,100	\$200,600	\$114,800	\$231,500	\$379,172	\$933,172
USFS	\$852,400	\$818,165	\$148,890	\$297,220	\$951,953	\$3,068,628
OTHER PARTNERS	\$29,440	\$93,000	\$237,975	\$85,045	\$139,456	\$584,916
<b>TOTAL</b>	<b>\$910,040</b>	<b>\$1,135,295</b>	<b>\$512,015</b>	<b>\$862,540</b>	<b>\$1,478,631</b>	<b>\$4,898,521</b>

(Information provided by leveraging partners is self-reported.)

Due to federal regulations, treatment work on federal lands could not occur for the first few years of the project due to required environmental planning and the process of acquiring an approved decision to proceed. Additionally, boundary surveys, tree-marking and other site prep activities had to occur prior to treatment work. The treatment focus during that period would be City and State lands, with work to begin as soon in 2013 (following November 2012 election), as conditions allowed.

The project was developed and the bond question was written with the understanding that:

- 1) The \$10M was only for *initial* forest treatment work,
- 2) That *additional* funds would be required to sustain the work beyond the initial work (ie - protect the investment), and
- 3) That at roughly the five-year mark FWPP would be in a position to come back to the City Council with a plan to move forward – both through the remainder of that initial treatment period and beyond.

A significant aspect of this “green-infrastructure” work is that, with the exception of City lands, the project does not manage/control either the processes of the respective agency/jurisdiction nor the land itself. The City does have control of the funds, and can/do influence the path forward, but the City presence is that of a partner, not a decision-maker within the majority of the project footprint.

For federal lands, the project was broken into three distinct Phases, to be worked on in order:

- Phase I – ground operations on flat ground at base of Mt Elden (Dry Lake Hills), largely using traditional ground-based mechanized equipment;
- Phase II – steep ground within Dry Lake Hills, using technology not found in the southwest (steep ground based equipment, cable, helicopter); and
- Phase III – Mormon Mountain, using steep ground based equipment.

As expected, the majority of treatment work to-date has been on City-State lands. The totals as of December 31, 2017, are below:

ACTIVITY	CITY-STATE	FEDERAL	TOTAL
Hand-thin or mechanical harvesting	3,569 acres 85%	615 acres 15%	4,184 acres
Chipping & removal of slash	1,485 acres 100%	0 acres 0%	1,485 acres
Pile burning of slash	1,468 acres 87%	220 acres 13%	1,688 acres
Broadcast burning	620 acres 62%	370 acres 38%	999 acres

As of January 31, 2018, the City has spent \$3.2M in bond funds. City operations to complete planned work over the next two years (anticipated through December 2019), will require an estimated \$1.8M.

Phase I was packaged as a traditional timber sale offering in the hopes that, if successful, no city bond funds, other than temporary road construction, would be expended, thus saving monies for future work elsewhere. This 662-acre unit was offered and sold in 2016, with a completion date set for December 2017. Unfortunately, the operator defaulted after completing only 20 acres. The USFS is in-process of re-advertising this sale (required) with an award to follow should a contractor(s) show interest.

If unsuccessful, the City has expressed interest in negotiating a Supplemental Project Agreement (SPA) that would allow the City to manage the operation and pay for the work, similar to what the City has done elsewhere. If needed, the City has reserved funding for this purpose.

Phase II acreage is 2,924 acres: all of this has been marked. Bid packets for the mechanical work (2,624 acres) are being developed. Like Phase I, this is currently a USFS managed effort. Up until early 2017, cost estimates were such that the City felt fairly confident the work could be completed within budget. However, recent revisions indicate that treatments costs over much of this area will be anywhere from 2-5 times as expensive as previously anticipated. In addition to the mechanical area, there are upwards of 300 acres of hand-thinning slated for completion.

Council will soon see a SPA encumbering \$4.65M to support the mechanical effort. The offering will occur later this spring with award(s) to be made by summer 2018. Some important aspects of this pending work:

- Formal contractor bids have not yet been solicited or received. The USFS needs a signed SPA to do so.
- It is anticipated that as many as five different operators will be required;

- Once work begins, due to wildlife restrictions, there is a two-year window allowed to complete all initial treatment.
- This translates into approximately 10-12 months of operational time, anticipating “normal” winter shut-downs and fire-season restrictions.
- Because there is a need to cue-up all operators to the start-line at the same time, work is not expected to begin until spring/summer 2019.
- Treatment costs for all identified areas, and all methods, within this unit are forecast to cost \$7.1M. This leaves \$2.45M remaining for Phase II.
- To manage both the two-year window and allow time to obtain additional funds, the \$4.65M will be targeted at only those areas affected by the wildlife restrictions. Areas outside of those restriction zones (primarily cable operations) will be delayed until such time that funds are available.

Due to financial constraints, Phase III field prep and follow-on operations are on-hold until such time as funds can be obtained to allow work to occur. Environmental analysis allows for up to 2,975 acres of treatment work to occur: it is important to note that as of yet, no *operational* planning has occurred. This will surely result in less acres being offered/treated. Not as complicated as Phase II, it nonetheless is challenging ground. Estimated costs for this effort is \$2M.

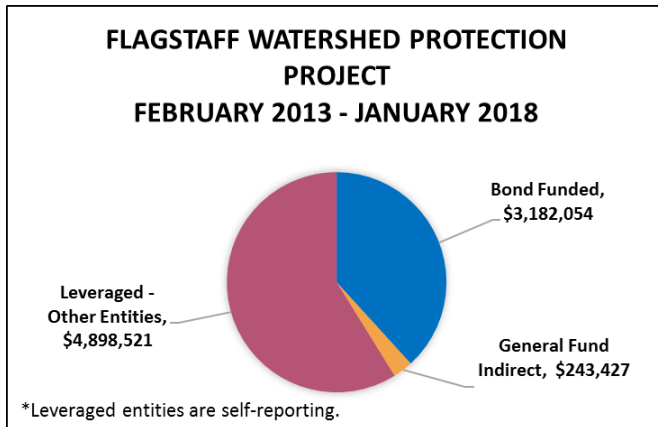
**SUMMARY:**

- 4,184 acres cut to date (39% of total).
- 6,566 acres remaining (estimate) to cut (61% of total):
  - City – 600
  - State - 0
  - Federal – 3,566 (DLH) and 2,400 (Mormon Mountain).
- Of those acres remaining to be cut:
  - Est 2,800 acres are accounted for using available bond funds
  - Est 3,766 acres are not funded.
- With bond funds, we will complete roughly 65% of the entire project.
- Projected shortfall to complete remaining 35% is \$4.5M

**EXPENDITURES AS OF JANUARY 31, 2018:**

The bond election took place on November 6, 2012. The City began tracking the expenses for the FWPP program February 2013. Below is a summary of expenditures related to the project from inception to January 31, 2018:

<b>FWPP EXPENDITURES</b>	
Bond Funded	\$ 3,182,054
General Fund Indirect	\$ 243,427
Leveraged - Other Entities	\$ 4,898,521
Total	\$ 8,324,002



Bond funded expenditures represents those funds that will be drawn down on the bond funds. To date the City has issued \$4M of the \$10M authorized bonds.

Leveraged – Other Entities represent amounts that were self-reported from our partners in the FWPP project.

General Fund Indirect represents the overhead cost to support the project to date. These are not charged to the bond funds or included in the leverage report. These costs include support such as City Manager’s Office, City Attorney’s Office, Human Resources, Finance and Purchasing.

Appendix A (attached) represents the contractual agreements approved for the FWPP project.

## APPENDIX A

### FLAGSTAFF WATERSHED PROTECTION PROJECT (FWPP) – CONTRACTUAL SERVICES

#### Forest Service (FS), Coconino National Forest

***Project Title:*** ***Fuels Reduction Demonstration Project***

Agreement No.: 13-PA-11030408-037  
Council Approved: 06/08/2013  
Location: Dry Lake Hills  
Scope of Work: Treatment of two demonstration units  
Award Amount: \$33,130 (FS Noncash)  
\$33,130 (City Labor & Printing)

***Project Title:*** ***Dry Lake Hill Thinning***

Agreement No.: 16-PA-11030420-038  
Council Approved: 06/03/2014  
Location: Phase I area Dry Lake Hills  
Scope of Work: 130 acres, Hand thinning  
Award Amount: \$120,500 (FS Cash)  
\$28,396 (FS Noncash)  
\$225,000 (City Labor & Contractual)

***Project Title:*** ***Boundary Line Survey***

Agreement No.: 14-PA-11030408-013  
Council Approved: 06/13/2014  
Location: Dry Lake Hills  
Scope of Work: Boundary surveying and posting for approximately 8 miles of Coconino County National Forest boundary  
Award Amount: \$65,000 (Contract with Coconino County)

***Project Title:*** ***Temporary Roads***

Agreement No.: 16-PA-11030420-032  
Council Approved: Job Order Contract with Eagle Mountain  
Location: Phase I area Dry Lake Hills  
Scope of Work: New construction of temporary roads - Pipeline Road, Spur Road, Schultz Creek, Schultz Trailhead Crossing  
Award Amount: \$128,556 (JOC with Eagle Mountain)  
\$21,079 (FS Noncash)

***Project Title:*** ***Dry Lake Hills Preparation Phases I and partial II***

Agreement No.: 16-PA-11030420-003  
Council Approved: 01/09/2016 (Original Agreement) / 02/07/2017 (Modification #1)  
Location: Dry Lake Hills  
Scope of Work: 5,000 acres, Preparation activities; boundaries marked, treatment prescriptions developed, temporary roads surveyed, unit layout, tree marking, inventory and mapping  
Award Amount: \$207,373 (FS Noncash)  
\$654,761 + \$414,354 (Mod. #1) = \$1,069,116 (FS Cash)



**Arizona State Forestry Division (State Forestry)**

**Project Title:** *Equestrian Parcel Forest Treatment*  
Agreement No.: FWPP 14-1  
Council Approved: 06/30/2014  
Location: Equestrian State Trust Parcel  
Scope of Work: 420 acres of treatment, selective thinning, product removal, and piling of debris for chipping and/or burning  
Award Amount: \$136,500 (State Forestry)  
\$136,500 (City)  
\$68,250 (State Forestry Grant Funds)

**Project Title:** *Section 30 Forest Treatment*  
Agreement No.: FWPP 15-1  
Council Approved: 01/06/2015  
Location: Continental Area, Section 30 State Trust Parcel  
Scope of Work: 300 areas of treatment, selective thinning, product removal, and piling of debris for chipping and/or burning  
Award Amount: \$121,875 (State Forestry)  
\$121,875 (City)

**Project Title:** *Section 20, 22, 28 and 30 Forest Treatment*  
Agreement No.: FWPP 17-1  
Council Approved: 03/07/2017  
Location: Eastside Parcels, Section 20, 22, 28, and 30  
Scope of Work: 1,000 areas of treatment, selective thinning, product removal, and piling of debris for chipping and/or burning  
Award Amount: \$320,000 (State Forestry)  
\$320,000 (City)

**Northern Arizona University (NAU), Ecological Restoration Institute**

**Project Title:** *Vegetation Monitoring*  
Agreement No.: GG3277MO  
Council Approved: 10/07/2014  
Location: Dry Lake Hills  
Scope of Work: Vegetation monitoring to inform hazardous fuels reduction treatments in Mexican spotted owl (MSO) Protected Activity Centers (PACs)  
Award Amount: \$25,000 (NAU)

**Greater Flagstaff Forest Partnership (GFFP)**

**Project Title:** *FY 2015-2017 Professional Services for FWPP*  
Agreement No.: GG3277FR  
Council Approved: 06/30/2014  
Location: FWPP Planning for Treatment Areas  
Scope of Work: Planning, Implementation, and Monitoring  
Award Amount: \$90,000 (Not-to-exceed \$30,000 per FY)

**Project Title:** *FY 2018-2020 Professional Services for FWPP*  
**Agreement No.:** GG3277FR  
**Council Approved:** 06/20/2017  
**Location:** FWPP Planning for Treatment Areas  
**Scope of Work:** Planning, Implementation, and Monitoring  
**Award Amount:** \$90,000 (Not-to-exceed \$30,000 per FY)

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**FLAGSTAFF WATERSHED PROTECTION PROJECT (FWPP) – GRANTS/OTHER**

**Project Title:** *GFFP Forest Treatments on Observatory Mesa (Pass thru to GFFP)*  
**Agency:** AZ State Forestry  
**Agreement No.:** Western Bark Beetle Initiative 11-601  
**Council Approved:** 07/21/2015  
**Location:** Observatory Mesa  
**Scope of Work:** 250 acres, forest treatment tree thinning and wood/debris disposal  
**Award Amount:** \$50,000 (Grant)  
\$50,000 (FWPP match)

**Project Title:** *Observatory Mesa*  
**Agency:** AZ State Forestry  
**Agreement No.:** Western Bark Beetle Initiative 13-601  
**Council Approved:** 04/01/2014  
**Location:** Observatory Mesa  
**Scope of Work:** 250 acres, forest treatment tree thinning and wood/debris disposal  
**Award Amount:** \$50,000 (Grant)  
\$50,000 (FWPP match)

**Project Title:** *Observatory Mesa*  
**Agency:** AZ State Forestry  
**Agreement No.:** Western Bark Beetle Initiative 14-601  
**Council Approved:** 05/17/2016  
**Location:** Observatory Mesa  
**Scope of Work:** 112 acres, forest treatment tree thinning and wood/debris disposal  
**Award Amount:** \$45,000 (Grant)  
\$45,000 (FWPP match)

**Project Title:** *Observatory Mesa*  
**Agency:** AZ State Forestry  
**Agreement No.:** Western Bark Beetle Initiative 15-601  
**Council Approved:** 04/05/2016  
**Location:** Observatory Mesa  
**Scope of Work:** 256 acres, forest treatment tree thinning and wood/debris disposal  
**Award Amount:** \$98,200 (Grant)  
\$98,200 (FWPP match)

**Project Title:** **Observatory Mesa**  
Agency: AZ State Forestry  
Agreement No.: Wildland Fire Hazardous Fuels 15-202  
Council Approved: 01/19/2016  
Location: Observatory Mesa  
Scope of Work: 200 acres, forest treatment tree thinning and wood/debris disposal  
Award Amount: \$135,000 (Grant)  
\$15,000 (FWPP match)

**Project Title:** **Observatory Mesa**  
Agency: AZ State Forestry  
Agreement No.: Western Bark Beetle Initiative 16-601  
Council Approved: 06/06/2017  
Location: Observatory Mesa  
Scope of Work: 475 acres, forest treatment tree thinning and wood/debris disposal  
Award Amount: \$40,000 (Grant)  
\$40,000 (FWPP match)

**Project Title:** **Observatory Mesa**  
Agency: AZ State Forestry  
Agreement No.: Wildland Fire Hazardous Fuels 16-208  
Council Approved: 12/06/2016  
Location: Observatory Mesa  
Scope of Work: 225 acres, forest treatment tree thinning and wood/debris disposal  
Award Amount: \$179,524 (Grant)  
\$19,836 (FWPP match)

**Project Title:** **Observatory Mesa**  
Agency: AZ State Forestry  
Agreement No.: Wildland Fire Hazardous Fuels 17-203  
Council Approved: 12/05/2017  
Location: Observatory Mesa  
Scope of Work: 154 acres, forest treatment tree thinning and wood/debris disposal  
Award Amount: \$121,858 (Grant)  
\$13,540 (FWPP match)

**Project Title:** **Forest Management Plan(s)**  
Agency: AZ State Forestry  
Agreement No.: IGA FT-16-0216-ASF-A1S  
Council Approved: 09/06/2016  
Location: Picture Canyon and Brookbank Meadow (Navajo Nation), both parcels within FWPP area  
Scope of Work: Forest Management Plans  
Award Amount: \$8,000 (Grant)

**Project Title:** *Flagstaff Watershed Protection Plan*  
Agency: Solution Search  
Agreement No.: N/A  
Council Approved: No, under \$50,000  
Location: FWPP  
Scope of Work: 50% reimburse bond for outreach efforts, 50% for supplies, equipment and materials  
Award Amount: \$25,000 (Grant)

**Project Title:** *Thinning Operations*  
Agency: American Conservation Experience (ACE)  
Agreement No.: N/A  
Council Approved: No, under \$50,000  
Location: Dry Lake Hills Phase I Area  
Scope of Work: 100 acres, hand thinning crew, outreach and volunteer efforts  
Award Amount: \$48,000 (Grant to ACE from National Forest Association)  
\$48,000 (FWPP match to ACE grant)

**Project Title:** *Gauging Station at Newman Canyon Wash*  
Agency: U.S. Geological Survey (USGS)  
Agreement No.: 14WSAZ03600  
Council Approved: 07/15/2014  
Location: Newman Canyon Wash  
Scope of Work: Install a gauging station to record flow through the Newman Canyon Wash.  
Award Amount: \$20,000 (FY2015-2018)

**Project Title:** *Upper Lake Mary Watershed Monitoring*  
Agency: Salt River Project (SRP)  
Agreement No.: 2016-1061  
Council Approved: 12/20/2016  
Location: Upper Lake Mary Watershed  
Scope of Work: Operation and Maintenance of 3 Snow Precipitation Antifreeze Guages, Installation of 7 Pressure Transducers, 2 Flowtography Stations  
Award Amount: \$15,000 (FY16-17)

**Project Title:** *Upper Lake Mary Watershed Monitoring*  
Agency: Salt River Project (SRP)  
Agreement No.: 2018-1061  
Council Approved: 09/19/2017  
Location: Upper Lake Mary Watershed  
Scope of Work: Operation and Data Services to 7 Flowtography Stations, Operation Services for 1 Flowtography Station at Newman Canyon, 3 Snow Precipitation Antifreeze Gage Stations.  
Award Amount: \$15,000 (FY18-FY20)