

## EXHIBIT:

### **2018 Open Space Bond Capital Improvement Initial Undertaking** *Open Space Reforestation Project*

The 2018 Missoula County Open Space Bond was approved by Missoula County residents during the November 2018 General Election. The bond measure included \$250,000 for tree planting within city parks and open space areas.

Open Space bond funds are allocated to plant trees in parks and open space areas where none existed and to renew tree plantings in parks where existing trees have reached the end of their useful lifespan. Approximately 456 new trees will be planted and 65 aging trees will be removed. Irrigation systems along the Bitterroot Trail and in Bellevue Park are included in this undertaking.

Trees will be planted in 15 parks and along 2 greenways (see Map in Attachment A).

#### **PROJECT DEVELOPMENT AND PRIOR PUBLIC PROCESS:**

##### UF Master Plan

The urban forest master planning process started in December 2013, with authorization from City Council to expend \$9,000 in funds originally allocated for contractual tree care work. Work on the plan started in January of 2014. Over the next 15 months, a cadre of six core members developed the master plan. The six members included:

- Christopher Boza, City Forester City of Missoula
- Margie Ewing, Regional Urban & Community Forestry Program Manager US Forest Service
- Christopher Gray, Arborist Technician, City of Missoula
- Jamie Kirby, Urban Forester Montana Department of Natural Resources and Conservation
- Karen Sippy, Executive Director Trees for Missoula
- Susan Ridgeway, Board Member Missoula Park and Recreation Board

During the 15 months, the members conducted several activities to obtain foundational information for the management plan. These activities included:

- Historical research
- Peer city reviews
- Statistically valid public interest survey conducted by UM Institute for Tourism and Recreation Research
- Neighborhood Council meetings
- Listening sessions with over 90 stakeholder groups
- Follow-up SWOT sessions with the stakeholder groups
- Public workshops
- I-Tree analysis
- Internal staff reviews
- Park Board reviews
- Park and Conservation review
- Public hearings

Work on the management plan culminated with Missoula City Council adoption on April 20, 2015.

##### Neighborhood Planting Plans

Consistent with the implementation strategies of the Urban Forest Management Plan, staff began working with neighborhood councils to develop planting plans for specific neighborhoods. Between December 2015 and April 2017, planting plans were developed for the following neighborhoods:

- Riverfront
- University
- Rose Park
- Franklin to the Fort
- Southgate Triangle
- South 39<sup>th</sup> Street
- Moose Can Gully
- Fairviews/Pattee Canyon

Key implementation strategies identified in the management plan supporting this undertaking are shown below.

#### Risk Management Strategies

- Establish, adopt and implement specific criteria for tree removal. The criteria for tree removal typically include the following criteria:
- The tree is dead. The threshold for removal is typically 50 percent or greater of the canopy dead. The location of deadwood removal cuts, and the impact to the overall tree structure, must be considered in the decision to remove a tree.
- The tree is dying.
- The tree is diseased.
- The tree is structurally unsound. Structurally unsound trees that cannot be corrected by traditional pruning techniques are removed. Advanced tree preservation techniques such as cabling and bracing are reserved for high value trees.
- The tree inhibits all economically viable uses of private property.

#### Planting Strategies

- Develop and adopt tree planting standards to ensure tree installation is consistent, whether the installation is done through the Parks and Recreation Department, other city agencies or the private sector. The planting standards will be based upon the most current ANSI standards and ISA BMPs. Planting standards not only include the tree stock, but also include the site preparation. Industry BMPs call out specific soil volumes for Class I (Small) through Class III (Large) trees. Trees provided for installation by other city agencies or the private sector must meet the current ANSI Z60.1 standards and the ISA BMPs for tree stock.
- Select trees for specific sites based upon the site conditions and constraints. A tree that is not suitable for a specific site will not provide maximum, long-term benefits to the community. The approved tree list should provide all of the pertinent information needed to select a tree appropriate to specific site. Class II and Class III trees shall not be planted directly under electrical distribution lines, or where root growing medium is restricted.

#### Resource Strategies

- Incorporate volunteer efforts into tree care operations. Typical activities include the following:
  - Arbor Day activities
  - Educational outreach
  - K-12 educational programs
  - Tree planting
  - Young tree pruning
- Leverage city funds with grant and foundation funding opportunities. Where feasible, connect grant funded programs with volunteer programs.
- Use local technical, professional and scholastic expertise for urban forest problem solving.
- Encourage Neighborhood Council participation in urban forestry programs affecting the various neighborhoods.

## ESTIMATED BUDGET AND Project Implimentation

A multitude of funding opportunities exist for reforestation and hazard tree mitigation projects. An allocation of up to \$250,000 in 2018 Open Space Bond funding was identified as eligible for use to improve Missoula's Urban Forest canopy and reduce the risk that potentially hazardous trees pose especially in Missoula's public spaces. The goal of City project managers is to leverage 2018 Open Space bond money through partnerships, grants, donations and other funding mechanisms to do over a half of a million dollars in reforestation and hazard mitigation. The reforestation of Missoula's Urban Forest is a large undertaking, which will involve several phases and additional public process during the project development. This initial request will fund up to 650 new trees within public spaces and reduce the level of risk, by the removal of high risk trees.

Trees for Missoula, Urban Forestry's active partner and volunteer group will be integral for volunteer planting hours and labor, grants and potential funding sources. Volunteer and staff in-kind labor will be a key aspect of reforesting Missoula's Urban Forest and increasing the aging tree canopy with new tree sites. Volunteers will be planting bare root trees, installing deer protection and helping to educate citizens on the importance of reforestation during planting projects.

Urban Forestry staff will be responsible for installing and maintaining water bladders including weekly visits to each tree to fill water bladders. Urban forestry staff will also be responsible for volunteer tracking, training and supervision during projects and site inspections after project completion. Project design, management and tracking will also be conducted by Urban Forestry staff.

### Funding Strategies

- Use the existing park district as a revenue source. The park district has additional assessment capacity that can be used for urban forest maintenance activities. While not enough to fund the entire operation, it can be used as seed and/or match money for alternative funding sources.
- Use grants and partnerships that are available for tree planting.

**Initial 2018 Open Space Bond request for Reforestation and High Risk Tree Removal Project:** these figures are based on engineering and permitting estimates for similar work within the project area. Actual costs for nursery stock trees, contract costs, staff and volunteer hours, deer protection fencing, water bladders and water truck costs may vary depending on results of final project designs. Additional sites and parks have been identified based on irrigation systems, nursery stock and planting cost estimates, and Master Park Planning documents.

Activity	Estimated Quantities	Estimated Costs	Funding Source
Total Trees Planted	457-650	\$250,000.00	Open Space Bond
Total Trees Removed	65	\$69,800.00	Grants, Partnerships and Park District
Irrigation Installation	2	\$49,900.00	Grants, Partnerships and Park District
Project Design, management, coordination and replanting hours	2,500	\$40,000.00	In-kind labor both staff and volunteer hours
Total Cost w/ Irrigation		\$409,700.00	

**INDIVIDUAL SITE COST ESTIMATES**

Park Site	Neighborhood	Estimated	Unit Price	Estimated Cost	Removals	Unit Price	Cost	Irrigation	
		Tree Units						MWC	Well
Pleasantview	Cpt. John Mullan	50	\$515.00	\$25,750.00	0	\$ -	\$ -		
Northside	Northside	7	\$515.00	\$3605.00	4	\$1,000.00	\$4,000.00		
Little McCormick	Westside	10	\$515.00	\$5,150.00	3	\$900.00	\$2,700.00		
McCormick	Riverfront	30	\$515.00	\$15,450.00	15	\$1,100.00	\$16,500.00		
Sacajawea	Rose Park	15	\$515.00	\$7,725.00	11	\$1,200.00	\$13,200.00		
Bonner	University	15	\$515.00	\$7,725.00	12	\$1,000.00	\$12,000.00		
Franklin	Franklin to the Fort	15	\$515.00	\$7,725.00	9	\$1,200.00	\$10,800.00		
Bitterroot Trail - S	Franklin to the Fort	175	\$515.00	\$90,125.00	0	\$ -	\$ -	\$25,000.00	\$34,000.00
Milwaukee Trail - W	Riverfront	30	\$515.00	\$15,450.00	0	\$ -	\$ -		
Kiwanis	Heart of Missoula	35	\$515.00	\$18,025.00	7	\$900.00	\$6,300.00		
Anderson	Rose Park	5	\$515.00	\$2,575.00	3	\$1,100.00	\$3,300.00		
Pheasant Run	Moose Can Gully	4	\$515.00	\$2,060.00	0	\$ -	\$ -		
Rose Park	Rose Park	4	\$515.00	\$2,060.00	0	\$ -	\$ -		
Honeysuckle East and West/ South Hills Trail	S 39th St	70	\$515.00	\$36,050.00	0	\$ -	\$ -		
Bellevue	Southgate Triangle	20	\$515.00	\$10,300.00	1	\$1,000.00	\$1,000.00	\$15,900.00	\$15,900.00
		485		\$249,775.00	65		\$69,800.00	\$40,900.00	\$49,900.00

**ALTERNATE/ADDITIONAL LOCATIONS**

Park Site	Neighborhood	Tree Units	Unit Price	Cost
Elms	Louis and Clark	8	\$515.00	\$4,120.00
Garland	Moose Can Gully	8	\$515.00	\$4,120.00
Gregory	Lower Rattlesnake	10	\$515.00	\$5,150.00
Lafray	River Road	5	\$515.00	\$2,575.00
Lester	Louis and Clark	10	\$515.00	\$5,150.00
Marilyn	Miller Creek	5	\$515.00	\$2,575.00
McLeod	Rose Park	5	\$515.00	\$2,575.00
Penland	Farviews/Pattee Canyon	10	\$515.00	\$5,150.00
Pineview	Upper Rattlesnake	6	\$515.00	\$3,090.00
Rainbow	Miller Creek	20	\$515.00	\$10,300.00
River Pines	Moose Can Gully	5	\$515.00	\$2,575.00
Russell Park West	Southgate Triangle	5	\$515.00	\$2,575.00
Skyview	Moose Can Gully	15	\$515.00	\$7,725.00
Southside Lions	Rose Park	5	\$515.00	\$2,575.00
Wapakiya	S. 39th St	15	\$515.00	\$7,725.00
Whitaker	Farviews/Pattee Canyon	15	\$515.00	\$7,725.00
Willow Wood	S. 39th St	5	\$515.00	\$2,575.00
		152		\$78,280.00

As described earlier in this document, local support for the reforestation of Missoula's Urban Forest and tree risk reduction projects have been steadily growing for years and strong partnerships with local government agencies, non-profits and businesses already exist. Project coordinators intend to seek grants, partnerships, donations for implementation/construction as the project progresses.

This project will be implemented over a period of three to four years. The first year will be the smallest planting plan consisting of a minimum of one hundred bare root trees. The remainder of the plantings, tree removals and irrigation installations will occur in three phases.

The first phase of plantings is projected to occur in the Fall of 2020. These bare root trees will be grown in the existing gravel bed at Missoula's wastewater treatment facility. The trees will be planted by volunteers in irrigated park land.

The scope of work for the remaining trees will be contingent on nursery stock, contract costs for irrigation installation and potentially tree removal. In kind funding will be a function of the urban forestry budget, staffing and volunteer hours.

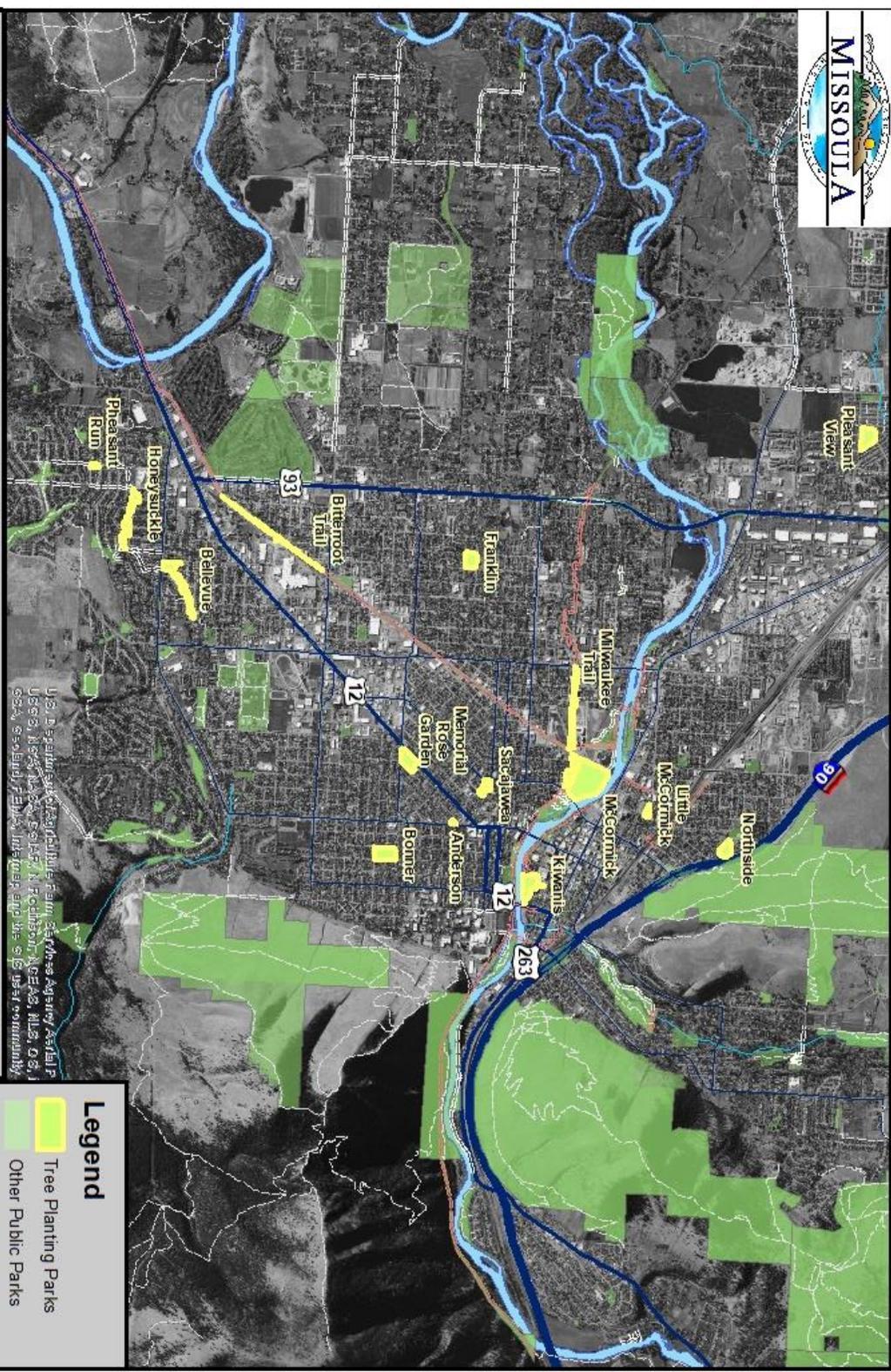
#### **SUPPORTING DOCUMENTS:**

This project is either directly or indirectly supported by the following community plans:

- 2004 Missoula's Master Park Plan ([Add Link](#))
- 2006 Missoula's Open Space Plan, adopted in 2006 ([Add Link](#))
- 2010 Missoula's Conservation Lands Management Plan, adopted in 2010 ([Add link](#))
- 2014 Missoula Parks/Open Space/Trails Asset Management Plan ([ADD LINK?](#))
- 2015 Missoula's Urban Forest Management Plan ([Add Link](#))
- 2018 Missoula's Downtown Business Improvement Plan, *currently under development* ([Add link](#))
- Missoula's Parks and Recreation Master Park Plan ([Add Link](#))

ATTACHMENT A

Working DRAFT 10 03 19



### Attachment A: Open Space Reforestation Project Map

Shows recommended parks and trails for tree plantings.

Date: August, 2019

Map by Cary Jendryas, Missoula Parks and Recreation  
 Park boundaries and trail locations are approximate. The information on this map is for reference only.  
 Projection: Lambert Conformal Conic, Coordinate System: NAD 1983 StatePlane Montana FIPS 2500 Feet



Legend	
<span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>	Tree Planting Parks
<span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>	Other Public Parks
Trails	
<span style="border-bottom: 2px solid red; width: 20px; display: inline-block;"></span>	Primary/Commuter Trail
<span style="border-bottom: 2px dashed red; width: 20px; display: inline-block;"></span>	Secondary/Commuter Trail
<span style="border-bottom: 1px solid gray; width: 20px; display: inline-block;"></span>	Other Trails

U.S. Department of Agriculture, Farm Service Agency, Aerial Photo, Missoula, MT, 2013  
 U.S. Forest Service, Aerial Photo, Missoula, MT, 2013  
 Google Earth, 2013, 2014, 2015, 2016, 2017, 2018, 2019

