PARK CITY MUNICIPAL CORPORATION PLANNING COMMISSION CITY COUNCIL CHAMBERS February 28, 2018



AGENDA

MEETING CALLED TO ORDER AT 5:30PM ROLL CALL ADOPTION OF MINUTES OF February 14, 2018 PUBLIC COMMUNICATIONS – Items not scheduled on the regular agenda STAFF AND BOARD COMMUNICATIONS AND DISCLOSURES

Commission to review before it is presented to City Council. Information only, no action to be taken.	City Engineer Matt Cassel	18
REGULAR AGENDA – Discussion, public hearing, and possible action as outlined below		
8902 Empire Club Dr. –Second Amended Silver Strike Lodge Condominiums Plat – The applicant is requesting to amend the Condominium Plat to combine Units 201 and 203 with an adjacent common area hallway. Public hearing and possible recommendation to City Council on March 29.	PL-18-03786 Planner Whetstone	140
Park City Heights Subdivision Phase 2 – The applicant is requesting a final Subdivision Plat for a total of 39 single family lots consistent with the Park City Heights Master Planned Development. Public hearing and possible recommendation to City Council on March 29.	PL-17-03552 Planner Whetstone	164

ADJOURN

*Parking validations will be provided for Planning Commission meeting attendees that park in the China Bridge parking structure.

A majority of Planning Commission members may meet socially after the meeting. If so, the location will be announced by the Chair person. City business will not be conducted.

PARK CITY MUNICIPAL CORPORATION PLANNING COMMISSION MEETING MINUTES COUNCIL CHAMBERS MARSAC MUNICIPAL BUILDING FEBRUARY 14, 2018

COMMISSIONERS IN ATTENDANCE:

Chair Adam Strachan, Melissa Band, Preston Campbell, John Phillips, Laura Suesser

EX OFFICIO: Planning Director, Bruce Erickson; Polly Samuels McLean, Assistant City Attorney

REGULAR MEETING

ROLL CALL

Chair Strachan called the meeting to order at 5:35 p.m. and noted that all Commissioners were present except Commissioner Thimm, who was excused.

ADOPTION OF MINUTES

January 10, 2018

MOTION: Commissioner Band moved to APPROVE the Minutes of January 10, 2018 as written. Commissioner Phillips seconded the motion.

VOTE: The motion passed. Chair Strachan abstained since he was absent from the January 10th meeting.

January 17, 2018

MOTION: Commissioner Band moved to APPROVE the Minutes of January 17, 2018 as written. Commissioner Phillips seconded the motion.

VOTE: The motion passed unanimously.

PUBLIC COMMUNICATIONS

There were no comments.

STAFF/COMMISSIONER COMMUNICATIONS AND DISCLOSURES

Director Erickson stated that the Five-Year Affordable Housing report that was provided in the Staff report and listed on the agenda under Staff Communications was for informational purposes only. Rhoda Stauffer, the City Housing Specialist, was present to answer general questions. If the Planning Commission wanted to talk about specifics

in the report, the Staff would have to schedule a work session to have that discussion and properly notice it.

Commissioner Suesser asked if they were prohibited from asking questions about the report this evening. Assistant City Attorney McLean stated that they could ask questions, but because it was noticed as Staff and Board Communications, it was not anticipated as a work session.

Chair Strachan thought the questions would help the Planning Commission determine whether or not to have a work session. He suggested that they take care of other communications and disclosures before moving to the Affordable Housing.

Commissioner Band stated that she was replacing Steve Joyce as the COSAC Liaison, but they still needed an alternate. Commissioner Suesser volunteered to be the alternate.

MOTION: Commissioner Band moved to nominate Commissioner Suesser as the alternate for COSAC. Commissioner Phillips seconded the motion.

VOTE: The motion passed unanimously.

On behalf of the Planning Commission, Commissioner Band gave Chair Strachan a bottle of Don Perignon champagne as a thank you for his 10 years of service on the Planning Commission and for leading the Commissioners through Treasure Hill and many other projects.

Chair Strachan gave each of the Commissioners High West Whiskey because those who were remaining on the Planning Commission would need it, and those leaving the Planning Commission deserved to have it.

Director Erickson introduced Graham Bunt, the new Planner Analyst, who would be sharing duties with Liz Jackson and Laura Newberry.

On behalf of the Staff, Assistant City Attorney McLean thanked Commissioner Strachan for his incredible service over the last ten years. It has been a pleasure having him. Chair Strachan replied that it was his pleasure to be there. He was ready to go, but he was also sad to be leaving. For the Commissioners staying on, he wished them nothing but the best.

<u>Five-year Affordable Housing Plan – Staff has prepared a drafted Housing Plan for</u> review and adoption by City Council at their February 15, 2018 Council Meeting. Staff is providing the report to Planning Commission in order to add Commission input to

the City Council's review.

Rhoda Stauffer, City Housing Specialist, remarked that the intent was to get Planning Commission feedback that she could take to the City Council. The City Council would be looking at this report at their meeting the following evening, but they were not ready to adopt it at this point. She encouraged the Commissioners to send emails to her and Jason with suggestions and comments beyond what they talk about this evening.

Commissioner Suesser noted that the outside consultant and the Blue Ribbon Commission had recommended a change to the 15% requirement, and that was still being looked at by the Planning Staff. She recalled that the Planning Commission heard from the Blue Ribbon in July 2017, and she wanted to know the status of where that issue was with the Planning Department.

Ms. Stauffer stated clarified that it was actually the Legal Staff and the Housing Staff who were looking at this in a number of ways, and they would be coming back to the Planning Commission with a more thorough analysis. Ms. Stauffer explained that the question is parity for people building 20 units that are all 10,000 square foot units versus someone building 20 units that are each 1,000 square feet. Each scenario would be required to provide the exact same obligation. The Staff believed that needed to be reconsidered, and possibly looked at as a percentage of square feet or a percentage of bedrooms; rather than a percentage of units. They were still looking at it because they did not want to push the envelope to the point where a person building a 1,000 square foot house would have a housing obligation. That was not the intention.

Commissioner Suesser stated that she would email the rest of her comments regarding the report.

Commissioner Band also had comments and questions and offered to email her comments, as well.

Assistant City Attorney McLean asked if the Commissioners wanted this to come back as a work session or whether they were comfortable communicating directly with Ms. Stauffer.

Commissioners Suesser and Band were comfortable submitting their comments to Ms. Stauffer directly.

Director Erickson stated that Community Development Director, Anne Laurent, has suggested that when this plan is approved by the City Council, that it become a

technical attachment to the General Plan. The Planning Commission would have that discussion to amend the General Plan Section with respective to housing.

REGULAR AGENDA - DISCUSSION/PUBLIC HEARINGS/ POSSIBLE ACTION

1. <u>Treasure Hill, Creole Gulch and Town Lift Mid-station Sites – Vote by Planning</u> <u>Commission on a resolution supporting Treasure Hill Continuance to date</u> <u>uncertain and supporting the Mayor and City Council consideration of</u> <u>purchasing the property.</u>

Mayor Andy Beerman thanked Commissioner Strachan and Commissioner Campbell for their service on the Planning Commissioner. In his ten years of service, Commissioner Strachan has done a tremendous job for the community. He personally thanked him and he believed Mayor Thomas would have said the same thing. Mayor Beerman noted that two months ago they approached Commissioner Strachan when Treasure was at a critical point. They understood that he had plans to spend time over the holidays and in January with his family, and was looking forward to retiring from the Planning Commission. At that time, they asked him and Commissioner Campbell to stay on for additional time and he thanked them both for seeing this through. Mayor Beerman hoped that after the presentation this evening they would think it was worthwhile.

Mayor Beerman stated that the 33-year odyssey with Treasure Hill may be nearing a solution. After a lot of back and forth he believed they had found what was potentially a win/win situation. Three weeks ago he received a call from the property owner, and all the property owners had agreed that they were interested in selling the property to the City for preservation. It would remove all density and put this controversy to an end. Mayor Beerman also thanked the Sweeney's for making that available to the community; recognizing that the City had struggled with honoring their property rights and at the same time making this fit with the character and scale of Old Town, and that this might be the best solution for everybody going forward. It was a great compromise.

Mayor Beerman stated that the deal is a straight up land purchase at \$64 million. The City would put down \$6 million as earnest money and that money would be non-refundable and contingent upon a bond being passed in November for the remainder of the money. If the bond does not pass, that money goes towards a 10% density reduction on the property and they all go back into the process where they left off in December, which was 17.2. There would be three hearings to move forward with that process. Mayor Beerman was confident that the Planning Commission had good notes

to pick up where they left off in that process. However, he was more confident that the community would want to see the hillside preserved and support this bond.

Mayor Beerman reported that consideration of a land purchase was scheduled in front of the City Council the following evening for approval. He was before the Planning Commission this evening to answer questions and address any concerns.

Commissioner Suesser understood that the purchase and settlement agreement were not finalized, but the City Council would still vote on it. Mayor Beerman replied that they were finalized. They were finished with the redlines as of this afternoon. It has been published and they would have the complete copy tomorrow. They have known the substance of it for weeks, and it was just going back and forth on redlines. He pointed out that nothing significant had changed.

Commissioner Suesser had concerns about the City agreeing that any appeal would be heard and voted on within six months of a Planning Commission decision. The appeal process would not be within the City's control and she was concerned that by agreeing to that time frame the City would risk losing the 10% reduction.

City Attorney Mark Harrington replied that it is in their control, which is why they agreed to it. They could be specific in the Request for Proposal to make sure that the board members who apply for the appeal panel have that understanding and build the framework within that time commitment. Mr. Harrington noted that six months is longer than most other appeals that have taken place, other than where there has been a complete redo or an extraneous circumstance. He explained that the process still allows the opportunity for the parties to agree to mutual continuances; but given the time requirements in the current Code to prosecute the appeal, they felt that six months was a reasonable timeframe. Mr. Harrington stated that Jody Burnett was consulted regarding that provisions and he was the drafter of that compromise section.

Commissioner Suesser was curious about whether or not there was a definition of 10% of the project density in the Settlement and Purchase Agreement. City Attorney Harrington replied that it would be the unit equivalents, but he could not recall off the top of his head whether or not it was tied to the Master Planned Development. He would look into it and provide the answer. Mr. Harrington remarked that it does not call out the specific area because they allow the Planning Commission and the applicant to determine that through the process. It does not require proceeding with 17.2 or anything else. It just allows that submission to be heard and decided by March of 2019 with three public hearings.

Commissioner Suesser understood that if the proposal comes back it would be a 10% reduction of 17.2. City Attorney anticipated that, but the applicant could also decide to submit a modification for something different. They did not want to tie the hands of the applicant and make it look like the City was pushing 17.2; but at the same time preserving their right to pursue 17.2 exactly as is.

Commissioner Campbell believed the worst thing that could happen would be for the bond to fail in November. He saw the Planning Commission as cheerleaders in support, and he hoped the City would use them publicly in that capacity. He recalled that 30%+ of the people in the unofficial poll conducted by the Park Record responded by asking "What is Treasure". Commissioner Campbell pointed out the need for educating the public because he feared that 100% of that 35% would vote no on the bond. He wanted to know what they could do as a Board to help push support for the bond. Commissioner Campbell believed that the more people understand it, the more they would be in favor. He recognized the group who has been involved and invested in the Treasure Hill process, but there are many other people voting who were not affected or paid attention. It is important to educate those people, and he was willing to help in any way possible.

Mayor Beerman appreciated the offer. He stated that they would be looking for advocates in the community to promote the bond. Once it is set in motion, the role of the City Council and City Staff would be informational only. They can help people make good decisions but they will not advocate one way or another. However, there are activist groups in town who plan to advocate. Those who are leaving the Planning Commission can, as individuals, help inform the community. Mayor Beerman stated that the forums they held and individual encounters with the City Council members have been very positive. He was not too concerned about the polls. Mayor Beerman agreed that a lot of education needed to be done because several myths revolve around the project and why the City is moving forward with a buyout. He believes that Park City is a quality of life community and has always been very supportive of open space. He hoped that would continue.

Commissioner Campbell asked City Attorney Harrington to provide guidance on what the Commissioners would be allowed to say and how much they could be advocates. Mr. Harrington offered to prepare guidelines for the Commissioners. He thought the law was clear in terms of what the City can and cannot do in its official capacity, as well as what the Commissioners can do in their capacity as the Planning Commission. He pointed out that the restrictions do not apply to individuals; however, those remaining on the Planning Commission need to remain objective and make sure they do not cloud the record in their ability to objectively hear an application if it comes back. Mr.

Harrington would delineate the boundaries for them but he did not believe that needed to be addressed this evening.

Commissioner Campbell clarified that at some point he would like to get some guidance so he knows exactly what he is or is not allowed to say. City Attorney Harrington offered to come back with that request.

Chair Strachan opened the public hearing.

Steve Swanson wanted to address the Planning Commission one last time on this momentous occasion. They have drilled down on this for so long that he wanted to raise a few points. Mr. Swanson clarified that he was speaking as a citizen of Park City and not speaking on behalf of any group. He stated that Treasure Hill is a unique place and deserves protection for many reasons. He would refer to Treasure Hill/Creole Gulch because they combine into one and add to each other to make a very special place. The idea that that message needs to be brought out into the greater public is worth discussing. Mr. Swanson thought the public would support that as well. Regarding the history of Treasure Hill, Mr. Swanson stated that he has spoken before about the generosity of the citizens who live in Park City, and he believes Treasure encapsulates that. It is a generous place, it has given of itself, it has given back to the City over time. It is a special place that has a history that connects very well with Park City. It is the birth of ski jumping. Mr. Swanson thought it was accurate to say that Park City wouldn't be Park City without Treasure Hill. It served as the backdrop and it has witnessed a long history. In that respect, he would say Treasure isn't in Park City but rather Treasure is Park City. It is worth protecting and now is a good time to come to that realization.

Mr. Swanson acknowledge that the Planning Commission and the elected leadership deserves their thanks. However, when he looks back 35 years throughout the process, he felt like that all rowed this boat and that is something to consider. He asked them to think about all the people who have borne witness to this process and gave up their time. Their connection with the process has been very important because they witnessed the process and followed it through to the logical conclusion. Mr. Swanson believed that regardless of what side they were on when decisions were made, they were all in favor of saving Treasure Hill and passing it into the future.

Mr. Swanson noted that the process was followed. It was rigorous and thorough and it was lawful. No stone was left unturned, and the process can be repeated again if it ever becomes necessary with other challenges. Mr. Swanson thought everyone was fair to the process. It respected property rights, it avoided a dreaded lawsuit, and it was as efficient as possible considering the length of time. Mr. Swanson believed the

prospects for the future are good. He personally would support and be an advocate for the bond. He acknowledged THINC was a vital part of the discussion and without that group he did not believe they would have reached this point. Mr. Swanson commented on a saying, "we are known by the tracks we leave", and he thought this boded well for the community. If the bond is successful, he believes future generations will look back to this time and realize that people were thinking about the future and not just short-term.

Mr. Swanson thanked everyone for their efforts and their time.

John Stafsholt, a resident at 633 Woodside Avenue, thanked the Sweeney's for making this possible, and he also thanked Liz Rad. He noted that the City was setting up a land purchase of \$64 million with \$6 million of earnest money and a 100% conservation easement. He attended one of the public sessions which was great, and he applauded a great idea by the City to have Matt Dias, Mayor Beerman and others present to explain to the public what was occurring. Mr. Stafsholt stated that even though it is hard to believe "What is Treasure" is a large number in Park City. He has spoken with people who were totally against the bond primarily because they were misinformed. Once they find out what is really going on they change their mind fairly easy. He thought any help in educating the people would be beneficial.

Mr. Stafsholt pointed out that in the session he attended there was discussion around 22 unit equivalents that are available for TDRs. He asked if that was part of this agreement.

Mayor Beerman replied that the option was being kept alive, but the City Council had not decided whether or not to retire those.

Mr. Stafsholt stated that from the people he talks to that muddles the waters. If they are going to pay that amount of money and conserve the land 100%, he questioned why they would pull out the 22 UEs for something the City wants. Mr. Stafsholt believed that issue hurts the public opinion for the vote. He thought they needed to keep it clean and straight with a purchase agreement and a payment and the land stays vacant forever. It should not be affordable housing or anything else. People understand conservation and it should remain that way.

Mr. Stafsholt stated that those who have been through the process do not want to hear from the public that the City is sneaking something in around the 22 UEs; and he has heard that several times. Mr. Stafsholt stated that the \$6 million for the 10% density decrease stated that for the sake of transparency, the public will need to know in very simple terms what the 10% decrease would be. If it is not defined precisely in the

agreement, he recommended that they define it so everyone knows what it means and what it would entail.

Mr. Stafsholt emphasized that the City should look at defining the 10% decrease and they should consider removing the UEs out of the proposal for the bond. He thanked the Mayor and everyone else on behalf of the future Parkites yet to be born.

Chair Strachan closed the public hearing.

Commissioner Phillips stated that earlier this month he went moonlight snowshoeing through this property and walked a trail where the power station changes. He remarked that being there alone at night was a unique moment. Being in this situation and everything that had to fall in place for this to happen was a great opportunity for everyone to win. Commissioners Phillips hoped the agreement would succeed; but if that is not the case, he and others on the Planning Commission were prepared to follow through with where they left off. He thanked everyone involved for getting to this point, including his fellow Commissioners, the applicant, the Mayor, City Council, and the Staff.

Commissioner Suesser asked if this situation was unique or whether it is always the case when something will be on the ballot that the City Council, the Mayor, and the Planning Commissioners cannot advocate. She asked if that procedure was followed for Bonanza Flats. Mayor Beerman replied that it is State law and it is consistent.

Chair Strachan stated that he has been doing this for ten years and the landscape of property rights in such a pro-property rights State, as well as the landscape of the Legislature, makes it such that the biggest and best weapon is the pocketbook. If they want to preserve the quality of life they enjoy in Park City, the citizens have to use their pocketbook because the developers hold the cards. The Planning Commission, the City Council, and the Land Management Code can only go so far, and where they stop is where their pocketbooks should pick up. Chair Strachan believed this was one of those instances. Even under the most restrictive scenario that the Planning Commission could impose on this developer, there was still going to be a considerable amount of excavation and development, which was allowed under the existing Code, the existing zoning and the MPD. If no one wants that, then it was time to pay to keep it from happening.

Chair Strachan thought this made perfect sense and it was exactly the reason why they bond for things and why they should bond to preserve their quality of life. To echo Commissioner Campbell, Chair Strachan stated that he would champion and cheerlead this bond as hard as he could because in his opinion it is the perfect solution to an

enormous problem. Sitting on the Planning Commission and having worked so hard on it, there was no way they could have reached this point. He believed that \$64 million was a bargain, and he was saying that based on ten years of experience. Chair Strachan emphasized that he would do his best to convince anyone who is uninformed or not in favor of the bond, because from his perspective this agreement could not be any better. He thanked Mayor Beerman and former Mayor Jack Thomas for making this a reality.

MOTION: Commissioner Band moved to support the Mayor and City Council consideration of purchasing the property of Treasure Hill, Creole Gulch and Town Lift Midstations, and to CONTINUE to a date uncertain. Commissioner Phillips seconded the motion.

VOTE: The motion passed unanimously.

Assistant City Attorney McLean requested that because this was a resolution that the Planning Commission vote on a separate motion for continuance.

MOTION: Commissioner Band moved to CONTINUE the Treasure Hill item to a date uncertain. Commissioner Phillips seconded the motion.

VOTE: The motion passed unanimously.

Mayor Beerman thanked the Commissioners for their great work.

2. <u>925 Woodside Avenue – A plat amendment proposing to combine two</u> existing lots of record addressed at 925 Woodside Avenue into one lot of record. Application PL-17-03726

Planning Director Bruce Erickson reviewed the application in the absence of Tippe Morlan, the project planner.

Director Erickson reviewed the proposed plat amendment for 925 Woodside to combine an existing lot and a half lot into one lot of record. The site consists of the entirety of Lot 7 and the north half of Lot 6 of Block 10 of Snyders Addition to Park City. There is an existing non-historic structure on the lot that was constructed in 1971. The property line between the two existing lots bisects the structure. The requested plat amendment would resolve the lot line issue.

The Staff recommended that the Planning Commission conduct a public hearing and consider forwarding a positive recommendation to the City Council for the plat amendment at 925 Woodside Avenue.

Chair Strachan opened the public hearing.

There were no comments.

Chair Strachan closed the public hearing.

MOTION: Commissioner Band moved to forward a POSITIVE recommendation to the City Council for the plat amendment at 925 Woodside Avenue based on the Findings of Fact, Conclusions of Law and Conditions of Approval found in the draft ordinance. Commissioner Phillips seconded the motion.

VOTE: The motion passed unanimously.

Findings of Fact – 925 Woodside Avenue

1. The property is located at 925 Woodside Avenue.

2. The property consists of Lot 7 and the north half of Lot 6 of Block 10 of Snyders Addition.

3. The property is in the Historic Residential (HR-1) District.

4. There is an existing non-historic structure at this address.

5. The existing home was constructed in 1971.

6. The property line between the two existing lots bisects the structure.

7. The applicant proposes to combine the subject lots into one lot of record.

8. Lot 7 consist of 1,875 square feet and is 25 feet by 75 feet. The north half of Lot 6 included in this application consists of 937 square feet and is 12.5 feet by 75 feet.

9. No known encroachments exist on this property.

10. The existing home is a single-family dwelling which is an allowed use in the HR-1 district.

11. The minimum lot area for a single-family dwelling is 1,875 square feet. The proposed lot has an area of 2,812 square feet.

12. The minimum lot width is in the HR-1 zone is 25 feet. The proposed lot meets the requirements of this zone at 37.5 feet in width.

13. The proposed lot will also be 75 feet deep.

14. The minimum front yard setback is 10 feet. The existing house has a 14.4 foot front yard setback.

15. The minimum rear yard setback is 10 feet. The existing house has a 24-foot rear yard setback.

16. The minimum side yard setback is 3 feet on each side. The existing house has a 12.3 foot side yard setback on the north side and a 5.5 foot side yard setback on the south side.

17. The maximum building footprint for a lot this size is 1,201 square feet. The existing footprint meets this standard at approximately 715 square feet.

18. A Historic District Design Review application is required for any new construction proposed at the existing site.

Conclusions of Law – 925 Woodside

1. There is good cause for this Plat Amendment.

2. The Plat Amendment is consistent with the Park City Land Management Code and applicable State law regarding lot combinations.

3. Neither the public nor any person will be materially injured by the proposed Plat Amendment.

4. Approval of the Plat Amendment, subject to the conditions stated below, does not adversely affect the health, safety and welfare of the citizens of Park City.

Conditions of Approval – 925 Woodside

1. The City Planner, City Attorney, and City Engineer will review and approve the final form and content of the plat for compliance with State law, the Land Management Code, and the conditions of approval, prior to recordation of the plat.

2. The applicant will record the plat at the County within one year from the date of City Council approval. If recordation has not occurred within one (1) years' time, this approval for the plat will be void, unless a request for an extension is made in writing prior to the expiration and an extension is granted by the City Council.

3. Residential fire sprinklers will be required for all new construction per requirements of the Chief Building Official.

4. A 10-foot wide public snow storage easement will be required along Woodside Avenue.

3. <u>2346 Good Trump Court – Queen Esther Village No. 1 Unit 6 Amended</u> <u>Condominium Plat – A condominium plat amendment proposing to transfer</u> <u>108 square feet of Common Space to Private Space allowing the property</u> <u>owner to convert their deck area into living space</u>. Application PL-17-03712

Planning Director Erickson reviewed the application in the absence of Planner Morlan, the project planner.

Director Erickson reviewed the request for condominium plat amendment to transfer 108 square feet of common area to private area under an existing deck at Good Trump Circle, on the east side of Deer Valley.

The Staff recommended that the Planning Commission conduct a public hearing and considering forwarding a positive recommendation to the City Council for the Queen Esther Village No. 1 Unit 6 Amended Plat located at 2346 Good Trump Court.

Commissioner Phillips asked if something similar had been done on other units in the same property. Director Erickson replied that nothing similar has been done in this particular project, but it has occurred many times in other projects throughout the City.

Commissioner Phillips agreed that the Planning Commission has approved these requests in the past, but he could not recall whether there was a prior request at these condominiums. Chair Strachan was surprised that they did not see more of these requests.

Chair Strachan opened the public hearing.

There were no comments.

Chair Strachan closed the public hearing.

MOTION: Commissioner Suesser moved to forward a POSITIVE recommendation to the City Council for the condominium plat amendment for 2346 Good Trump Court based on the Findings of Fact, Conclusions of Law and Conditions of Approval found in the draft ordinance. Commissioner Band seconded the motion.

VOTE: The motion passed unanimously.

Chair Strachan announced that the majority of Commissioners would be socializing at the No Name Saloon and he encouraged the public to attend. He thanked the Staff again for ten years of a great time. The civility and the professionalism has been remarkable, and he doubted that many cities could say that.

Findings of Fact - 2346 Good Trump Court

1. The property is located at 2346 Good Trump Court.

2. The property consists of Unit 6 of the Queen Esther Village No. 1 Condominiums.

3. The property is in the Residential Development (RD) Zone District and part of the Deer Valley Master Planned Development.

4. There is an existing multi-unit structure at this address.

5. The existing structure was constructed in 1981.

6. The proposed plat converts the deck area – 108 square feet of Common Space – into Private Space.

7. The existing deck area sits beneath the second floor balcony.

8. Unit 6 is currently 1994.92 square feet in area and is proposed to be 2102.92 square feet.

9. The Queen Esther Village Project I Homeowner's Association held a vote in October of 2017, and 81 percent of homeowners approved this proposal with 21 out of 26 owners voting in its favor.

10. The use as residential condominiums is unchanged.

11. The Queen Esther Village No. 1 subdivision is comprised of 26 units within 7 structures.

12. The Deer Valley MPD allows 26 individual units as part of the Solamere development. No increase in number of units is proposed.

13. Density within the Solamere development is determined by unit and not by unit equivalents/square footage.

14. The maximum height allowed is 28 feet from existing grade. No additional building height is proposed. All proposed construction is within the existing building envelope and roof. Building complies with the 28' height allowance.

15. The required front setback is a minimum of 20 feet. No construction is proposed into the existing front setback area.

16. The required rear setback is a minimum of 15 feet. No construction is proposed into the existing rear setback area.

17. The required side setbacks are a minimum of 12 feet. No construction is proposed into the existing front setback areas.

18. The current LMC requires 2 parking spaces for a multi-family unit with a floor area of over 2,000 square feet. The unit currently has 2 off-street parking spaces in its garage and no additional parking is required.

19. The building does not exceed the allowable 28' building height and there are no nonconforming setback issues.

20. All construction is proposed within the existing building envelope.

21. The common area is designated as a blanket utility easement.

Conclusions of Law - 2346 Good Trump Court

1. There is good cause for this Plat Amendment.

2. The Plat Amendment is consistent with the Park City Land Management Code and applicable State law regarding lot combinations.

3. Neither the public nor any person will be materially injured by the proposed Plat Amendment.

4. Approval of the Plat Amendment, subject to the conditions stated below, does not adversely affect the health, safety and welfare of the citizens of Park City.

Conditions of Approval - 2346 Good Trump Court

1. The City Planner, City Attorney, and City Engineer will review and approve the final form and content of the plat for compliance with State law, the Land Management Code, and the conditions of approval, prior to recordation of the plat.

2. The applicant will record the plat at the County within one year from the date of City Council approval. If recordation has not occurred within one (1) years' time, this approval for the plat will be void, unless a request for an extension is made in writing prior to the expiration date and an extension is granted by the City Council.

3. An appropriate NFPA Fire Suppression System is needed as required by the Building and Fire Departments.

4. All conditions of approval of the Queen Esther Village No. 1 plat shall continue to apply.

5. The applicant may submit an application for a building permit according to City procedures after this plat amendment has been recorded.

6. Prior to plat recordation, letters from utility providers (Questar, Rocky Mountain Power, and communications entities) shall be submitted to Planning, that indicate there are no public utilities located under the deck, in the area proposed to be converted from common to private, or approval is granted to relocate such public utilities at the Unit owner's expense.

The Park City Planning Commission Meeting adjourned at 6:15 p.m.

Approved by Planning Commission: _____



Planning Commission Staff Report

Subject:	DRAFT Park City Municipal Forestry Plan Discussion
Author:	Matthew Cassel, P.E., City Engineer
	Bruce Erickson, Planning Director
Department:	Engineering, Planning
Date:	February 28, 2018
Type of Item:	Informational/Staff Communication

Summary Recommendations:

This report is informational. The study consultants have completed the DRAFT Park City Forestry Plan and staff would like the Planning Commission to review the plan before it is presented to City Council.

Executive Summary:

Chapter 14 of the Municipal Code requires the designated City Forestry Manager to develop and operate a comprehensive forestry plan along with overseeing the City's Forestry Board. The City currently does not have a Forestry Manager, a Forestry Plan or a Forestry Board. The attached draft Forestry Plan includes guidelines for the selection of a Forestry Manager and the creation of a Forestry Board along with the administration of the proposed Forestry Plan. The attached draft Forestry Plan will be presented to the City Council for acceptance and approval.

Background:

A technical steering committee was formed to guide the development of the Forestry Plan. The committee met numerous times from July 16, 2013 to April 13, 2015 and thus some of the members are no longer with the City. Committee members were as follows:

Matt Cassel	Engineering
Maria Barndt	Landscape Gardener
Clint Daley	Parks and Golf Supervisor
Blake Fonnesbeck	Public Works Director
Jason Christensen	Water Business Resource Coordinator
Chad Root	Building Official
Jim Blankenau	Environmental Regulatory Program Manager
Matt Twombly	Sustainability Project Manager
Phyllis Robinson	Communications and Public Affairs Manager
Kelly Johnston	Former Engineering Intern
Thomas Eddington	Former Planning Director

Analysis

The purpose for the creation of a Forestry Plan is threefold;

- 1. Meet the requirement of Chapter 14 of the City's Municipal Code;
 - Chapter 14 requires the City to have a designated Forestry Manager, Forestry Board and Forestry Plan,
 - Per Park City Municipal Code, the City Manager or their designee acts as the Forestry Manager. The City currently does not have a designee Forestry Manager,
 - The Municipal Code provides for the Park City Forestry Board to consist of three members of the Parks, Recreation and Beautification Advisory Board. The Chairman of the Parks, Recreation and Beautification Advisory Board would appoint members to the Park City Forestry Board. The Parks, Recreation and Beautification Advisory Board was restructured numerous years ago and became the Recreation Advisory Board. The Recreation Advisory board was not tasked to act as the Forestry Board,
 - This proposed Forestry Plan provides new guidelines for the selection of a designated Forestry Manager and for the creation of a Forestry Board.
- 2. Improve meet the standards of Tree City USA;
 - Park City has been a Tree City USA for many years and this proposed Forestry Plan adopted, the City will improve in meeting the four (4) standards required to be a Tree City USA;
 - Standard 1 A Tree Board or Department Park City does have a dedicated department that performs necessary tree work, but does not have a tree board that benefits from the involvement of residents and business owners. This Forestry Plan will re-establish that Forestry Board,
 - Standard 2 A Tree Care Ordinance Park City does codify the management of trees and vegetation in the public Right-of-Way but defers the decision making to the non-existent Forestry Manager and non-existent Forestry Board. This Forestry Plan provides clearer guidelines,
 - Standard 3 A Community Forestry Program with an annual budget of at least \$2.00 per Capita – Park City does budget at least \$2.00 per Capita for our forestry maintenance,
 - Standard 4 Annual Arbor Day Celebration Park City does celebrate Arbor Day on an annual basis.
- 3. Usable document Community can use to develop water wise landscaping
 - Though this document was created to manage the forestry activities in the ROW and on City property, this document can also be a very useful resource for the private sector of the community as a guidance document for more sustainable, native and water wise landscaping.

There are five chapters and appendices to the DRAFT Urban Forestry Plan. The chapters and appendices include;

• Chapter 1 – Vision and Purpose and History and Culture of Park City,'

- Chapter 2 Urban forest benefits, guiding principles and creation of the forestry board,
- Chapter 3 Current state of Park City's urban forest,
- Chapter 4 Codes and standards,
- Chapter 5 Design, water conservation and outreach guidelines, and
- Appendix Tree cover map, treasured trees, pruning techniques, irrigation and planting details and specifications, plant list

This Forestry Plan addresses Park City's urban forest but does not provide guidance for our wildland urban interface. A separate wildland urban interface ordinance will be adopted by Council, which will govern the wildland urban interface.

This Forestry Plan will require the forestry manager to make tree decisions for trees located in open space. The forestry manager would be responsible for making determination if a tree should be removed and/or replaced and whether a dead tree should remain to provide habitat to wildlife.

Schedule

The remaining schedule for the adoption of the DRAFT Forestry Plan is as follows:

- City Council Work Sessions It is anticipated to require one City Council work sessions after this meeting to review the DRAFT plan and on City council meeting to conduct a public hearing and to formally adopt the final Forestry Plan. It is anticipated that these meetings will occur in March,
- Once the Forestry Plan is adopted, changes to Chapter 14 of the Municipal Code will be made by staff and brought to Council for approval. The changes are required to make the Forestry Plan consistent with the requirements of Chapter 14.

Department Review:

This report has been reviewed by Planning, Public Works, Sustainability, Recreation and Legal. All comments have been integrated into this report.

Significant Impacts:

Once adopted, the Park City Forestry Plan will require staff time to create the forestry board, participate on the forestry board and to update Chapter 14 of the Municipal Code as well as Chapter 15, the Land Management Code.

Recommendation:

This report is informational. The study consultants have completed the DRAFT Park City Forestry Plan and staff would like the Planning Commission to review the plan before it is presented to City Council.

Exhibits – Draft Park City Forestry Plan



PARK CITY MUNICIPAL MUNICIPAL FORESTRY PLAN

Adopted by City Council XXXXXXX



Packet Pg. 21

TABLE OF CONTENTS



TABLE OF CONTENTS ACKNOWLEDGMENTS	2 4
THE URBAN FOREST	5
PURPOSE	5
CHAPTER 1	7
1.1 VISION AND PURPOSE	7
1.2 HISTORY AND CULTURE OF PARK CITY	7
CHAPTER 2	9
2.1 WHAT IS AN URBAN FOREST	9
2.2 WHY IS AN URBAN FOREST IMPORTANT	9
ENVIRONMENTAL BENEFITS	10
ENERGY CONSERVATION	10
SOCIAL AND ECONOMIC BENEFITS	12
2.3 URBAN FORESTRY GUIDING PRINCIPLES	14
2.4 THE URBAN FORESTRY BOARD	16
2.4 THE URBAN FORESTRY BOARD	
	16
	16 16
TERMS OF SERVICE	16 16 16
TERMS OF SERVICE	16 16 16 17
TERMS OF SERVICE APPOINTMENT	16 16 16 17 17
TERMS OF SERVICE APPOINTMENT MEETINGS CHAPTER 3 3.1 CURRENT STATE OF THE URBAN FOREST	16 16 16 17 17
TERMS OF SERVICE APPOINTMENT MEETINGS CHAPTER 3 3.1 CURRENT STATE OF THE URBAN FOREST PARK CITY NEIGHBORHOOD TREE EVALUATIONS:	16 16 17 17 17 17 27
TERMS OF SERVICE APPOINTMENT MEETINGS CHAPTER 3 3.1 CURRENT STATE OF THE URBAN FOREST PARK CITY NEIGHBORHOOD TREE EVALUATIONS: 3.2 SUMMARY	16 16 17 17 17 17 27 29
TERMS OF SERVICE APPOINTMENT MEETINGS CHAPTER 3 3.1 CURRENT STATE OF THE URBAN FOREST PARK CITY NEIGHBORHOOD TREE EVALUATIONS: 3.2 SUMMARY DESIGNATED OPEN SPACE	16 16 16 17 17 17 27 29 29
TERMS OF SERVICE APPOINTMENT MEETINGS CHAPTER 3 3.1 CURRENT STATE OF THE URBAN FOREST PARK CITY NEIGHBORHOOD TREE EVALUATIONS: 3.2 SUMMARY DESIGNATED OPEN SPACE WILDLAND URBAN INTERFACE	16 16 16 17 17 17 27 29 29 29 29
TERMS OF SERVICE APPOINTMENT MEETINGS CHAPTER 3 3.1 CURRENT STATE OF THE URBAN FOREST PARK CITY NEIGHBORHOOD TREE EVALUATIONS: 3.2 SUMMARY DESIGNATED OPEN SPACE WILDLAND URBAN INTERFACE INVASIVE SPECIES	16 16 16 17 17 17 27 29 29 29 31

TABLE OF CONTENTS



TREE ENCROACHMENT
STREET TREE SIZE AND PLACEMENT CRITERIA
CRITERIA FOR TREE REMOVAL
TREE REPLACEMENT
TREE PROTECTION
EMERGENCY CUTTING OR REMOVAL
CHAPTER 5
5.1 LANDSCAPE DESIGN, WATER CONSERVATION AND OUTREACH
ANALYSIS, PLANNING, AND DESIGN
Soil Improvement
IRRIGATION APPLICATIONS
IRRIGATION OF VARIOUS PLANT MATERIALS
TYPES OF IRRIGATION DEVICES
PLANTING DESIGN
TURF AREAS
LOW WATER DEMAND PLANTS40
USE OF MULCH AND GROUNDCOVERS41
MAINTENANCE
PLANT LIST
WATERING ZONES
EDUCATION AND OUTREACH
WATER CONSERVATION
OUTDOOR USE
PLANTS/VEGETATION
LANDSCAPE USE
Appendix A Appendix B Treasured Trees



The Park City Municipal Forest Plan has been prepared with the support from the following:

PARK CITY MUNICIPAL CORPORATION STAFF

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PARK CITY COUNCIL

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Steve Joyce, Council Member Tim Henney, Council Member Lynn Ware Peak, Council Member Nann Worel, Council Member Becca Gerber, Council Member

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COMMUNITY PARTICIPATION

Kim McGuire, Heritage Trees and Master Gardener

Quinn's Junction

Old To

Upper Deer Valley

Open Space

PCMR



INTRODUCTION

THE MUNICIPAL FOREST

The municipal forest (forest) in Park City is a system of trees and understory vegetation that provide habitat to wildlife, environmental benefits, economic benefits and psychological benefits. The forest contributes to the quality of our daily lives. The forest identified within this document includes areas within and directly adjacent to Park City's neighborhoods as outlined in the Park City General Plan (the shaded neighborhoods comprise the forest for the purposes of this document). These neighborhoods include:

- Lower Deer Valley
- Masonic Hill
- Old Town
- Spiro
- Bonanza Park
- Prospector
- Park Meadows
- Thayne's
- Open Space/PCMR (excluded)
- Quinn's Junction (excluded)
- Upper Deer Valley (excluded)

The benefits of an forest can be measured in many ways, some of those can be evaluated through both economics and environmental contributions. For example, a healthy forest is known to increase the amount of sales by patrons by 10-12% more in business and commercial districts.¹ Economically, with an average canopy cover and street

lined trees, a residential property value increases

between 5-15%.² One large front yard tree adds 1% to the

sales price of a home and a large specimen tree can add 10%, or more, to property values. A mature, 20 year old white ash removes 3.06 lbs of airborne pollutants and contributes on average \$3.30 per year to air quality.³ Although aesthetic and psychological benefits are not measured in numbers, they are equally important and contribute greatly to the benefits of the forest. Preserving, protecting and enhancing Park City's forest will ensure a better quality of life within Park City.

PURPOSE

The purpose of the Park City Forestry Plan (Plan) is to coordinate the administration of the Park City forest. The intent is to develop a comprehensive plan for tree management with set goals and objectives. This Plan will have a 20 year implementation period and can be updated periodically to meet the City's needs.



GOALS

The following goals and objectives were identified early in the planning process by individuals from the following departments: **Public Works, Planning, Engineering, Water, Sustainability, Building, and Environmental**. These goals and objectives have been addressed throughout the Plan.

- Sustain and Enhance the Current Municipal Forest
- Maintaining Tree Health for Public and Private Land
- · Work to Replace the Municipal Forest Canopy Currently Being Lost
- Use Trees to Improve the Urban Environment
- Set Standards for Tree Planting and Tree Care
- Develop Best Management Practices
- Establish Landscape and Irrigation Design Guidelines
- Provide Public Safety Through Design and Maintenance
- Promote Public Education
- Enhance Water Conservation through the Tree/Water Nexus

This Forestry Plan was adopted by City Council and was developed with cooperation of the City's Public Works, Planning, Engineering, Sustainability, Building, Water, and Environmental departments.

RECOMMENDATIONS AND IMPLEMENTATION OF THE PLAN

The following is a summary of recommendations for the implementation of the Plan. Implementation of this Plan is the responsibility of Park City Municipal Corporation with the guidance of the Park City Forestry Board.

Development of an Municipal Forestry Board to help oversee Park City's forest and assist in the decisions that would positively or negatively affect the forest. The Park City Forestry Board shall be led by a Forestry Manager who will be the City Manager of their designee.

Conduct an inventory of the existing trees to develop a percentage of species within the forest. An inventory can help prevent future problems by diversifying the species of the forest.

Preserve, maintain, restore and enhance the forest.

Plant new tree species and expand the existing tree canopy within the forest.

Provide funding for future tree planting processes and maintenance of the existing and future forest.

Educate the public and municipal staff to move forward together with the common goals set forth in this Plan.



1.1 VISION AND PURPOSE

The vision of this Forestry Plan is to develop a comprehensive understanding of the existing conditions, set goals and standards for future development, and develop a vision for maintaining the integrity of Park City's landscape. This is for both the urban and natural environment. The intention of this Plan is for it to act as guidance for all Park City Municipal departments.

This Plan is intended to contribute to the Park City municipal codes that reference trees, tree planting, replacement and maintenance. This document references the City's landscape code and will act as the City's design and maintenance reference manual.

1.2 HISTORY AND CULTURE OF PARK CITY

Before Park City became known as a mining town, presettlement of the area included trappers and mountain guides who were the first settlers to view the mountains and valleys of the Wasatch Range.

EARLY SETTLEMENT

The mountain lands above the Salt Lake Valley were settled in large part due to two industries: mining and logging. Mining was encouraged by Colonel Patrick E Connor of Fort Douglas as a means of populating the Utah Territory with non-Mormons. The first recorded claim of the Park City Mining District was the Young American Lode in December of 1869 (The History of Mining; David Hampshire, Martha Sontag Bradley, Allen Roberts). By the 1870s, mining was in full swing, in part spurred on by the discovery of a large silver ore vein in what



would become the Ontario Mine, once considered one of the greatest silver mines in

In May of 1872, George Snyder and his family arrived in the valley. He was awestruck by the beauty and lushness of the area, calling it a "veritable park," and hence naming it Park City. Incorporated in 1884, it was largely inhabited by miners and those who worked in trades which supported mining.

LATE 1800'S

the world.

Mining in Park City was in "the prime," with silver and lead as the dominant metals being extracted. "We are glad that moneyed men are listening more attentively now a-days to the good words spoken and written about Park City and its great mineral riches." 4

Census data of Utah indicates over 280,000 people lived in Utah; based on estimates of the time, Park City was thought to have over 5,000. The mining boom was responsible for most of the population influx, bringing in hundreds of prospectors who set up camps along the hillsides near the mines. Between 1870 and 1900, the







population grew 40 percent. As the camps grew, the town also grew, initially with boarding houses, general stores, mills, saloons, theatres, and mining building. By the 1880s, prospectors were bringing their families and homes, schools, churches, and other public buildings were erected. Much of that building was wood construction, with timber obtained from the "park-like" hillsides.

Fires plagued the town, with one of the worst being in 1898. An early morning fire, fanned by canyon winds, burned three-quarters of the town, and left Main Street in ruins.

Over 200 buildings were destroyed, but they were all hastily rebuilt—local trees provided the timber. Timber from the area provided lumber not only for the building boom in Park City but also in neighboring settlements and in the Salt Lake Valley. By the early 1900s, much of the forest which had surrounded Park City, originally comprised of aspen, spruce, and fir, was decimated due to logging and mining.

Mining in the valley saw a steady decline after World War I, with production crippled by labor unrest, the Great Depression, and competition from other metals. The advent of WW II caused further slowdowns, and by the 1950s, fewer than 200 men worked in the mines and Park City became "distinguished as a ghost town."

Mining, logging, grazing, and urbanization took its toll on the forests within and surrounding the Park City area. As in Big and Little Cottonwood Canyons, destruction of the forests would lead to reduction in water quality, increased erosion and run-off, and a loss of the original feel of the valley. It has only been through the concerted efforts in the last half century that forest health would return, and along with it, a renewed interest in restoring and preserving Park City's original asset—the trees which were an integral component of the "park-like" setting spoken of by George Snyder.

THE SECOND BOOM

Growing interest in winter sports (in part brought on by the "ski patrols" of WWII) heralded the next boom industry for Park City—tourism and recreation. With the growing interest in skiing and other mountain recreations, Park City began to see a slow increase in population, both year round and seasonal. Critical to its growing success as a recreation destination has been the dedicated reforesting of the surrounding hillsides and of the Park City Valley area.

In 2008, Park City was named by Forbes Traveler Magazine as one of the 20 "prettiest towns" in America, and in 2013 Outdoor Magazine named the city "The Best Outdoor Town Ever" no doubt in part to the concerted effort by the community to reestablish the woodland character of the valley.

Establishing and maintaining both the urban and hillside forests are critical to sustaining Park City's quality of life economically, ecologically, and aesthetically. As the City grows and businesses and homes are built, it is important to continue to support the forest and ensure its long term health.



2.1 WHAT IS MUNICIPAL FOREST

The municipal forest is a community of trees and understory vegetation that surround the urban environment. There are many definitions of municipal forestry and the majority of them all lead to the same conclusion: municipal forestry provides benefits to the community that includes social, environmental, health, economic and aesthetic appeal. All of these are elements that comprise a viable, happy and healthy community.

An American Planning Association book titled "Planning the Urban Forest: Ecology, Economy, and Community Development" stated it as "a planned and programmatic approach to the development and maintenance of the urban forest, including all elements of green infrastructure within the community, in an effort to optimize the resulting benefits in social, environmental, public health, economic, and aesthetic terms, especially when resulting from a community visioning and goal-setting process." An Urban, or Municipal, Forest Plan is the understanding, design, management and maintenance of a City's trees located along streets, buildings, trails, within parks and natural areas, and on other public and private property.

Urban or Municipal Forestry Axiom: Right Tree for Right Place

Although this Plan will primarily focus on trees, it is also just as important to mention that other green elements within the municipal forest footprint such as wetlands, riparian corridors, shrubs, grass, and other types of vegetation also have equal environmental values. These natural systems also provide similar benefits as trees and also function as stormwater filters, soil stabilizers, and help air quality. They are critical areas to preserve and enhance within the community. As development encroaches, setbacks from sensitive areas such as wetlands and riparian corridors are necessary to minimize impacts and sustain the health of the existing landscape. Once disturbed, it is difficult to reestablish a wetland or riparian corridor to preexisting conditions. General guidelines for these areas are mentioned within this document.

The City Municipal Code had requirements that the City have a Forestry Plan and a Forestry Manager, however, the City had not implemented a formal program. In 2013, City staff made the decision to move forward and formalize an Municipal Forestry Plan. They hired staff to help develop the City's first Municipal Forestry Plan which also outlines the need for a Forestry Manager to assist in executing the process. This document will evaluate Park City's existing tree canopy, set goals, and develop standards for future implementation.

2.2 WHY IS AN MUNICIPAL FOREST IMPORTANT

A Municipal Forest is an important natural resource that has environmental, energy, social, and economic benefits. When evaluating a municipal forest, there are both the **vertical and horizontal elements** that are key to the characteristics and health of the forest. The horizontal refers to the placement of the trees and the pattern of the understory creating a horizontal placement within the landscape; and the vertical references the location and vertical placement with regards to adjacent structures and elements.



ENVIRONMENTAL BENEFITS

The environmental benefits of an municipal forest include air quality, water quality, and wildlife habitat, among others. An municipal forest provides watershed protection, reduces the potential for flooding, minimizes stream and hillside erosion, and improves water quality through filtration and absorption. Trees, especially conifer trees, are capable of removing a significant number of pollutants from the air. Wetlands and riparian corridors cannot act alone when treating stormwater or

reducing the heat island effect. These areas



work together to filter air and water, provide cover, habitat and shade. Linear corridors along roadways and utilities provide "natural" unmoved areas that wildlife use for migrating, nesting and habitat. Trees provide habitat for birds and other wildlife in the urban setting.

Temperatures within an urban environment can be warmer than the surrounding open space or countryside. These temperatures can vary from 3 - 8 °F. This is known as the **urban heat island effect**. Planting trees adjacent to vertical building sites can lower the air temperatures by up to 5 °F. Planting trees within parking lots can lower the temperature by 1 - 3 °F by shading the asphalt and parked vehicles.⁵

"Environmental benefits alone, including energy savings, stormwater runoff reduction, improved air quality, and reduced atmospheric CO2, can be more than five times tree care costs." (Vargas, McPherson, Simpson, Peper, Gardner, Xiao)

Other environmental benefits include:

- Transpiration through leaves to help store water
- **Evapotranspiration** through leaves converts liquid water to water vapor and helps cool the air
- Trees deflect rainwater during storms which help reduce the volume of **stormwater** and can delay peak flows
- Roots aerate the soil and minimize compaction to reduce runoff
- Provide **carbon sinks** absorption of carbon from the atmosphere.

ENERGY CONSERVATION

When planting trees, it is important to understand the existing environmental conditions of the site. For example, understanding the direction of the prevailing winds, planting trees to help protect from the hot sun, and designing to allow sunlight and heat in during the winter months. When considering the size of the tree, particularly large trees, it is best to select species that are not fast growing, which tend to have a less sturdy root structure in high wind situations and are also prone to disease. Moderately growing trees allow the roots be establish firmly into the soil.

Shading

The best location for a deciduous tree (leaf dropping tree) is on the south and east side of a structure, this allows for summer shading and winter sunlight when the

CHAPTER 2



leaves drop. Once deciduous trees have dropped their leaves, and depending on the size and type of species, the tree can continue to block as much as 60% of the sun. Placing evergreen trees (trees that keep their leaves or needles year-round) along the west facing structures protect from the hot setting summer sun. Evergreen trees are also beneficial along areas north facing to protect against cold winter winds. The



proper placement of trees is critical when trying to achieve protection from sun and wind, and also taking advantage of the change in seasons.

The size and type of tree determines the appropriate placement within a landscape. When planting a large deciduous tree, it should not be planted directly adjacent to a structure. The angle of the sun and height of the tree should be taken into consideration to maximize the effects of shade. When planting evergreen trees and shrubs, the placement can be closer to the structure, however, placement should also take air circulation into consideration during the hot summer months as well as defensible space around the structure. ⁶



WINDBREAK SECTION

CHAPTER 2



Windbreaks

If trees are properly placed within the landscape, they can reduce energy usage in both the summer and winter months. In graphic 2.1 - Windbreak, on the previous page, the location of the conifer trees are along the north of the structure, helping block the winter winds. Reducing wind speeds from the outside into indoor spaces saves the cost of heating during the winter months.



The maximum protection of a windbreak occurs when planting a row of trees 5-7 times the height of a tree. For example, when planting a tree that grows to be 20 feet at mature height, it is recommended to plant the tree 100-140 feet away from the object or area to be protected.

Evergreen trees are the most effective tree for a windbreak, as their canopy extends to the ground surface and foliage is maintained year round. With that said, deciduous trees can also be used as a wind break; however, a larger quantity of trees and rows of trees would be needed to be effective.

The Landscaping for Energy Savings website recommends that two to three rows of evergreen trees in staggered order should be used when planting for a windbreak. If using deciduous trees, they recommend increasing to five or six rows of trees. It is also recommended that the total length of a windbreak should be 11.5 times the mature width of the stand of trees, and the selection of species within the windbreak should vary in height. ⁶

SOCIAL AND ECONOMIC BENEFITS

The social and economic benefits are observed through residential and retail patterns. Studies have shown that people tend to spend more time and migrate to areas that are well lined with trees. People that reside in areas with more trees have a tendency to be less stressed and happier. Areas with more trees have less domestic violence and a higher recovery rate for illnesses or surgeries. Residential homes with trees are valued higher than a home with fewer trees. For example, streets that are lined with trees provide a public perception of higher property values. Urban forests in the United States contain about 3.8 billion trees, with an estimated structural asset value of \$2.4 trillion. The average annual net benefit of a mature large tree is \$85 in a yard and \$113 on public land.⁷

Although the Municipal Forestry Plan will generally focus on public rights-of-way and public spaces, more than 50% of Park City's urban environment is owned by private property owners. These areas include single and multi-family residential landscapes, commercial and industrial areas, parking lots, golf course and privately owned/



undeveloped land. Since private property owners are the primary stewards of these areas, public outreach and public educations is important to help protect and enhance Park City's municipal forest.

Park City has flourished recently by preserving the area's natural environment. The development of an Municipal Forestry Plan is the City's approach to continue past and current efforts, and to establish long-term, proactive management of the entire municipal forest.

Below are some statistics on cost benefit of trees, as per the USDA book "Temperate Interior West Community Tree Guide".⁸

- Trees planted on the west side of a structure provides the highest economic benefit to the property
- The average annual street tree management cost is \$20.00 per tree
- It is estimated that 43% of trees die within a 40 year time frame, it is important to plan ahead for mortality
- Average annual net benefits (includes environmental, social, economic and aesthetic) of a tree differ with species and tree size. These numbers exclude the cost to care and maintain the tree:

Small Tree: \$12 (public) to \$24 (yard/residential)
Medium Tree: \$30 (public) to \$45 (yard/residential)
Large Tree: \$49 (public) to \$63 (yard/residential)
Conifer Tree: \$22 (public) to \$25 (yard/residential)

The average cost to care and maintain a tree varies with size as well. These costs below are averaged for public and yard/residential trees:

Small Tree: \$8 (yard/residential) and \$16 (public)
Medium Tree: \$10 (yard/residential) and \$18 (public)
Large Tree: \$11 (yard/residential) and \$19 (public)
Conifer Tree: \$7 (yard/residential) and \$12 (public)

Generally comparing annual net benefits to the annual cost to care for a tree, the annual net benefit exceeds in the medium, large and conifer tree categories. Thus, excluding the initial capital cost it is more cost effective to plant larger trees than smaller trees.



2.3 MUNICIPAL FORESTRY GUIDING PRINCIPLES

The benefits of trees, planning for trees in Park City, maintenance of trees, promoting public safety, public outreach, and setting success guidelines are all the guiding principles of the Park City Municipal Forestry Plan. Below is a list of the principles established as part of this Plan. These are principles that will be used when making determinations on tree evaluations, design and maintenance of the Park City municipal forest. These principles will also be used by the Board when providing guidance to the Urban/Municipal Forester.

Principle 1: Benefits of Trees in Park City

- Ambiance of alpine motif critical to continued tourism success
- · Alpine setting is largely native and should remain preserved
- Proliferation of trees critical to slow run-off for flood control
- Use of trees for screening highly desirable for closeness of properties
- Conifers used as wind/snow breaks can be very beneficial
- Deciduous trees to be located in southwest setting for shading but to allow for winter sun
- Shading parking lots for hydro-carbon emission control

Principle 2: Planning for Trees in Park City

- "Neighborhoods" for specific species could add diversity and interest to City landscape
- Identify levels of care for public trees, private trees, and trees on open space properties
- Species designation for trees in critical areas, i.e. parkstrips
- Species diversity
- Unacceptable parkstrip trees
- Regulations for trees on private properties
- Preservation of significant and heritage trees on private and commercial properties
- Opportunities for adding trees/open space



Principle 3: Maintenance of Park City Trees

- Inventory trees for planning and maintenance needs and safety of tree
- Species, size, health, canopy, maintenance needs Tree care (pruning especially) on public properties by a certified arborist
- Forestry Manager to oversee maintenance schedules
- Best Management Practices Public safety criteria established for pruning/ removals
- Tree infrastructure conflict plan public/private





- Criteria for nuisance/hazard tree resolution public/private
- · Budget created to properly fund necessary programs



Principle 4: Trees and Public Safety

- Hazard Tree Evaluations for private and public property
- · Pruning for clearance of street signs and traffic control devices
- Sight triangle clearance
- Tree infrastructure conflict resolution
- Nuisance tree designation
- Wildland interface/Fire wise landscapes



Principle 5: Organized Group, Outreach/Citizen/Volunteer Participation

- Tree City USA designation
- Arbor Day Celebration
- Scout and other organization tree planting projects
- Media exposure and print creation for policy and ordinance
- School and organization out reach
- Planting projects to enhance City tree inventory and provide for community participation
- Solicitations of monies to support programs

Principle 6: Forestry Plan Success

- Administration and other departments understand and embrace value of plan
- Open houses for citizen acceptance, support and input
- · Codify all tree related ordinances and code compliance issues
- Implement schedules and deadlines for plan success
- Announce and document benchmarks and accomplishments

Conclusions:

Enhancing the health, beauty, and diversity of Park City's municipal forest can only be beneficial to the City's unique character and its outstanding appeal as a destination vacation. Having a road map to utilize such an important asset as an municipal forest will be critical in the continued success for the tourism industry of Park City moving into the future. Every City has to address trees and vegetation; however, assessments can be done in the right way or the wrong way. A Forestry Plan will help ensure that trees remain an asset to the City and not a liability. Following these general principles will funnel decisions within Park City towards common goals that will benefit the future of Park City's municipal forest.



2.4 THE MUNICIPAL FORESTRY BOARD

The purpose of an Municipal Forestry Board is to oversee Park City's Municipal Forestry Program including the City's annual Arbor Day program and planting events, and to advise the Forestry Manager on policies relating to trees and landscape regulations.

TERMS OF SERVICE

Municipal Forestry Board members serve staggered, **three-year terms** and can be reappointed at the end of the three year term. An individual can be reappointed up to three consecutive times. The appointment must be staggered to minimize several people leaving the board at once.

APPOINTMENT

Municipal Forestry Board shall consist of five voting members to be appointed by the City Council. Each candidate shall submit a letter of interest to the Mayor that includes qualifications for serving on the board. Of the five voting members, two shall be from public works/public utilities, one from the planning department, and two shall be citizens of Park City.

MEETINGS

Unless otherwise noted, the Park City Municipal Forestry Board shall **meet quarterly** unless more meetings are needed, which shall be determined by the Forest Manager and/or the Board. It is required that the board meets a minimum of twice per year. The meeting times and meeting place shall be determined by the board. All meetings are open to the public. The **Forestry Manager or his/her designee** must be present in order to hold a meeting. The Forestry Manager or his/her designee will be responsible to notify and distribute the meeting agenda to the board members.

The Municipal Forestry Board shall consist of **five voting members** who are recommended by the Forestry Manager and who are appointed by the City Council and an unspecified number of non-voting members who assist the Forestry Manager with Park City forestry and landscaping issues. The Forest Manager shall be a City employee who is either an arborist, professional landscape architect or a planner with

> the knowledge and understanding of trees. The Forestry Manager or his/ her designee shall be a non-voting member.

MUNICIPAL FORESTRY PLAN

Once adopted, the Municipal Forestry Plan can be updated as needed by the Municipal Forestry Manager. It is recommended that this plan be updated every 5-10 years.


3.1 CURRENT STATE OF THE MUNICIPAL FOREST

This chapter will discuss the existing conditions of Park City's municipal forest and the framework used to evaluate the municipal forest. This analysis was conducted based on 2012 aerial photography and general assumptions. Extensive field surveying and ground truthing is necessary to complete a more thorough evaluation of the current state of the forest.

Trees provide the framework of a City. They define the City's health and character. Trees provide a sense of place and security. When trees are removed it typically results in complaints from the public, residents or City staff. Proper planning and planting of a tree is important to minimize future disturbances.

Park City is located at an elevation of 7,000+ feet above sea level. Trees and other vegetative communities at this elevation do not grow to full maturity. With an average annual precipitation of 21 inches, average temperature of 42 to 33 degrees Fahrenheit in the winter, an average summer high of 80 degrees Fahrenheit, and an average annual snowfall of 143 inches in town, Park City is a mountain community that is zoned for USDA hardiness zone 3.¹² A USDA hardiness zone is based on the average annual minimum winter temperature, divided into 10-degree Fahrenheit zones. Utah State University has taken the USDA data and compared it to nearby weather stations for a more accurate zone. Although species that can survive in zones 4 and 5 have been known to thrive in Park City, it is best to be conservative when planting trees for best survivability. Therefore, it is recommended that trees planted in Park City are hardiness zone 2-4.

PARK CITY NEIGHBORHOOD TREE EVALUATIONS:

Below is a breakdown evaluation of eight neighborhoods throughout Park City. This evaluation looks at the general tree canopy of the municipal forest within

these areas and discusses assessment needs. Aerial photography and ArcGIS was used to evaluate the general tree canopy and percentage of cover. The following neighborhoods are included in this report. Open space/PCMR, Upper Deer Valley and Quinn's Junction were excluded due to the amount of natural, open and native vegetation located within their boundary.

- 1. Lower Deer Valley
- 2. Masonic Hill
- 3. Old Town
- 4. Spiro
- 5. Bonanza Park
- 6. Prospector
- 7. Park Meadows
- 8. Thaynes





The study area within each neighborhood was narrowed to an urban boundary. The purpose was to eliminate existing "forested" areas, natural, or open space that have not been impacted by development and not considered part of the municipal forest. The study area for each neighborhood is outlined on each figure and the calculations are derived from this boundary rather than the



entire neighborhood boundary. It is recommended that as development expands into the open space and natural municipal forest, that tree canopy maps and calculations continue to be monitored by Park City Municipal staff and updated within this document.

During the development of this Plan, it was determined that Park City should strive for a **minimum of 20% tree canopy** for all the neighborhoods combined. This percentage was established based on the American Forest recommendations for tree canopy coverage, which includes 40% for in areas east of the Mississippi and 25-35% for areas Southwest and the West. The average cover over major US cities in the US is 27%.¹⁵ Based on the evaluation of each neighborhood within this document and the semi-arid climate of Park City, which is typically classified by dominate vegetation of grasses and shrubs, it was determined that a 20% goal is attainable as two of the eight neighborhoods currently have 19-20% cover. The 20% cover should be a combined average percentage of all the uses within each neighborhood, meaning, areas with less tree canopy should be offset with areas of a higher tree canopy within each neighborhood study area.

The next section describes each of the eight neighborhoods with a graphic illustrating impervious surfaces, green space within the study area, and trees within the study area. The areas were calculated using aerial imagery from 2012 in GIS. The "Tree Canopy" was calculated from individually selected trees based on aerial imagery. The "green space" is all areas identified by aerial imagery to have a surface that is soil or vegetation. The "green space" areas include surfaces below a tree canopy. The "Impervious Surface" includes all areas that cannot absorb water, these areas include sidewalks, roadways, paved trails, parking lots, rooftops and other paved surfaces.

At the end of this chapter, a summary of all eight studied neighborhoods has been provided. The summary includes the acres and percentages for each neighborhood and recommended tree plantings for single-family, multi-family, commercial/business districts and parking lots. Additionally, a aerial from the mid 1990's was evaluated and compared to the 2012 aerial. That evaluation determined that there were 1% more trees in 2012 than in the mid 1990's.





1. Lower Deer Valley

Elevation ranges from approximately 7,100 to 7,300 feet. **Characteristics** of Lower Deer Valley include the Deer Valley ski resort and parking lots which resides at approximately 7,200 feet in elevation. Development within this area is mostly residential that include town homes, condominiums and single family dwellings. Retail and lodging are located near the ski resort as well as man-made ponds.



The following calculations are for the study area boundary shown in red on the graphic.

- Study Area: 452 Acres
- Tree Canopy Percentage: 12%
- Percent of Green Space: 47%
- Percent of Impervious Surface: 53%





CHAPTER 3



2. Masonic Hill

Elevation ranges from approximately 7,000 to 7,500 feet.

Characteristics of Masonic Hill is primarily a residential community. The natural vegetation within this area is scrub/shrub. The majority of the tree cover that exists within Masonic Hill are spruce, pine trees, aspen and maples, which are located along the access roads and within the residential lots. Access to Masonic Hill is from SR-224 and also Deer Valley Drive.

The following calculations are for the study area boundary shown in red on the graphic.

- Study Area: 116 Acres
- Tree Canopy Percentage: 14%
- Percent of Green Space: 68%
- Percent of Impervious Surface: 32%















3. Old Town

Elevation approximately 7,000 feet.

Characteristics of Old Town, also known as "The Historic District," is downtown Park City mixed with residential, commercial, retail and restaurants. Old Town is one of the most urban developed areas of all the neighborhoods due to the dense and narrow development pattern.

The following calculations are for the study area boundary shown in red on the graphic.

- Study Area: 297 Acres
- Tree Canopy Percentage: 17%
- Percent of Green Space: 64%
- Percent of Impervious Surface: 36%









4. Spiro

Elevation ranges from approximately 6,800 to 7,000 feet. **Characteristics** of Spiro is residential that includes approximately 66 acres of public golf course green space and the Park City Mountain Resort.

The following calculations are for the study area boundary shown in red on the graphic.

- Study Area: 221 Acres
- Tree Canopy Percentage: 20%
 - Percent of Green Space: 67%
 - Percent of Impervious Surface: 33%





PARK CITY MUNICIPAL FORESTRY PLAN

CHAPTER 3



5. Bonanza Park

Elevation ranges from approximately 6,800 to 6,850 feet.

Characteristics of Bonanza Park are primarily industrial, commercial and retail. This area has the least tree canopy cover of all the neighborhoods. Due to the type of development that has occurred in Bonanza Park, specifically larger parking lots and structures, trees are minimal.

- Study Area: 153 Acres
- Tree Canopy Percentage: 9%
- Percent of Green Space: 54%
- Percent of Impervious Surface: 46%











6. Prospector

Elevation ranges from approximately 6,700 to 6,900 feet. **Characteristics** of Prospector are residential with some commercial and retail. Prospector is located between SR-248 and the rail trail, northeast of Bonanza Park.

- Study Area: 203 Acres
- Tree Canopy Percentage: 12%
- Percent of Green Space: 51%
- Percent of Impervious Surface: 49%







CHAPTER 3



7. Park Meadows

Elevation ranges from approximately 6,750 to 7,000 feet.

Characteristics of Park Meadows are residential with a private golf course, open space, Park City High School, Treasure Mountain Middle School and the Park City Learning Center. Park Meadows has the largest study area of all the neighborhoods.

- Study Area: 1112 Acres
- Tree Canopy Percentage: 14%
- Percent of Green Space: 77%
- Percent of Impervious Surface: 23%









CHAPTER 3



8. Thaynes Canyon

Elevation ranges from approximately 6,700 to 7,000 feet.

Characteristics of Thaynes is primarily residential development.

The following calculations are for the study area boundary shown in red on the graphic.



- Study Area: 295 Acres
- Tree Canopy Percentage: 19%
- Percent of Green Space: 74%
- Percent of Impervious Surface: 26%





3.2 SUMMARY

Below is a table summarizing each neighborhood with acres and percentages followed by recommended goals set by the American Forests ¹³ for general tree canopy. See Appendix A for a figure the combines all the studied neighborhoods onto one map.

Neighborhood	Total Neighborhood (Acres)	Study Area (Acres)	Tree Cover Within Study Area (Acres)	Percent of Tree Cover Within Study Area	Impervious Areas Within Study Area (Acres)	Percent of Impervious Within Study Area	Green Space Areas Within Study Area (Acres)	Percent of Green Space Within Study Area
Bonanza Park	197	153	13	9%	70	46%	83	54%
Lower Deer Valley	1333	452	52	12%	241	53%	211	47%
Masonic Hill	622	116	16	14%	37	32%	79	68%
Old Town	529	297	52	17%	106	36%	191	64%
Park Meadows	1558	1112	151	14%	254	23%	858	77%
Prospector	258	203	25	12%	100	49%	103	51%
Spiro	255	221	43	20%	74	33%	147	67%
Thaynes	656	295	56	19%	77	26%	218	74%

As mentioned at the beginning of this chapter, the tree canopy cover was 1% more in 2012 than in the mid 1990's. The breakdown of those neighborhoods in comparison of the two years are shown below. Bonanza Park, Park Meadows and Prospector are the three neighborhoods that had more trees shown on the 2012 aerial than the mid 1990's. Due to new development, Old Town is the only neighborhood that had a loss of tree canopy between the mid 1990's and 2012.

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Mid 90's Aerial

Neighborhood	Study Area (Acres)	Tree Cover Within Study Area (Acres)	Percent of Tree Cover Within Study Area
Bonanza Park	153	12	8%
Lower Deer Valley	452	52	12%
Masonic Hill	116	16	14%
Old Town	297	59	20%
Park Meadows	1103	139	13%
Prospector	203	24	12%
Spiro	221	53	24%
Thaynes	295	56	19%
Totals 2841		411	14%

2012 Aerial			
		Tree Cover	Percent of
Naighborhood	Study Area	Within	Tree Cover
Neighborhood	(Acres)	Study Area	Within Study
		(Acres)	Area
Bonanza Park	153	13	9%
Lower Deer Valley	452	54	12%
Masonic Hill	116	17	14%
Old Town	297	56	19%
Park Meadows	1103	156	14%
Prospector	203	27	13%
Spiro	221	52	24%
Thaynes	295	57	19%
Totals	2841	431	15%



The following are suggested tree plants for new and existing developments within Park City:

Site Trees

- One tree per 3,000 square feet of gross site area.
- Existing trees (12-inch diameter, or greater, at breast height) can count towards two municipal site trees.

Multi-Family Attached

• One tree per 3,000 square feet of gross site area.

Single-Family Attached

• One tree per 2,000 square feet of gross site area.

Corridor Design, Business Districts and Commercial

Trees shall also be planted within the parking lots, entries, along adjacent property boundaries, parking bays and parking islands to achieve a minimum of 15% canopy coverage at tree maturity.

Parking Lots

Specific tree planting ratios for parking lots has not been provided within this document. Parking lots in Park City have different purposes and snow removal should be taken into consideration. For parking lots, a 10-15% tree canopy goal is recommended within islands or along the perimeter wherever possible.

DESIGNATED OPEN SPACE

Open space within Park City is currently left natural with no intention of adding trees or maintenance needs to these areas unless necessary to:

- rehab/revegetate existing disturbed roads
- reroute/close trails
- improve waterways
- improve wildlife opportunities, etc.

Open space in Park City can either be defined as grassland, shrub/scrub areas or forested. Tree planting in open space should occur when disturbances are made and mitigation is required. If a tree is dead or showing signs of stress and safety is questioned, the Park City Forestry Manager and/or the Board shall make a determination if the tree should be removed and replaced. If a dead or damaged tree is located within close proximity to a trail, Park City should take measures of removing the tree and, when appropriate, replacing it within open space. Adequate water and proper placing of the tree should be considered when considering a location. Some dead or damaged trees can provide habitat to wildlife, the Municipal Forest Manager, his designee, or Board can make the determination on whether a tree should remain for habitat purposes.



WILDLAND URBAN INTERFACE

Fire risks are assessed by the Division of Forestry, Fire, and State Lands (FFSL) on a community level. Risk levels are designated as Extreme, High, Moderate, and No Risk and are determined across four major categories: 1) Fire Occurrence, 2) Fuel Hazard, 3) Values Protected, and 4) Protection Capabilities ⁹. Fire occurrence uses historic records to anticipate the probability of a wildfire ignition in the vicinity of the community based on past occurrences. Fuel hazards are assessed on the fuel conditions of the landscape and surrounding of the community and include aspects such as vegetation, slope, wind speed, rate of spread and fuel loading. Values protected evaluate the human and economic values associated with the community or landscape, such as homes, businesses, community infrastructure as well as high value commercial timber stands, municipal watersheds, and areas of high historical, cultural, and spiritual significance. Finally, protection capabilities assess the wildland fire protection capabilities, including the capacity and resources to undertake fire prevention measures, of all agencies or organizations with the jurisdiction.

Most of Park City falls within the Extreme Risk category. Although the High, Moderate, and No Risk areas are somewhat smaller in scope, their proximity to the Extreme Risk areas increases their likelihood of being affected should a wildfire occur. According to Utah's State Wildland Urban Interface/Fuels Coordinator, Tyre Holfeltz, "A wildfire in the Park City area would be catastrophic," based on the fact that fires have been



suppressed in Summit County for so long, and because the value of homes and properties in Park City are so high. ¹⁰

*Note that this document shall also reference future Park City Municipal wildland urban interface codes.

Below are some ways to help prevent a wildfire:

- Water systems must meet adequate flows required by the fire system, and individual water systems must be in place for dwellings without a central or community water system.
- For areas where the desired level of service cannot be provided, the developer must prepare and submit a fire protection plan for the district to review and approve.
- Developers are also responsible to be aware of the assessed fire risks in their proposed areas of development and submit fire protection and wildfire prevention measures to be approved by the Park City Fire District.
- Reference Park City Fire Service District fire protection plan as described in

CHAPTER 3



the Snyderville Basin Development Code, Section 10-4-7¹¹.

- Clear dead, down or dying materials.
- Keep vegetation a certain distance from structures.
- <u>Vegetation manipulation</u> consists of clearing vegetation from around structures and around the perimeter of developments with minimum standards available in the fire protection plan.
- <u>Slope stabilization</u> Stabilizing steep, cleared, or leveled slopes after construction is important for erosion control, which can be a serious problem during fires



 <u>Fuel Breaks</u> by FFSL is "a change in fuel continuity, type of fuel, or degree of

flammability of fuel in a strategically located parcel or strip of land to reduce or hinder the rate of fire spread" ¹¹. Fuel breaks vary in width depending on the surrounding vegetation.

*Note that this document shall reference future Park City Municipal wildland interface documents that shall also identify defensible space around structures.

INVASIVE SPECIES

Invasive species includes types of vegetation and also pests such as insects. An inventory of infected trees and invasive tree species is recommended to better assess the need for removal and replanting. Ways to minimize and suppress the introduction of invasive species are:

- Diversify the Municipal Forest Species planting a diversity of species will help with the long-term health of an municipal forest. The State of Colorado, Department of Agriculture recommends that a mix of young and mature trees is important to maintain a healthy canopy of an extended period of time. They also recommend that no more than 10% of a City's tree population consist of one species. ¹⁴
- 1. **Public Education** providing materials and outreach to the public to help educate on the identification, removal and prevention of invasive species.
- Species Removal invasive species should be removed or treated to prevent the establishment and infestation.

TREASURED TREES

Park City Municipal staff identified "treasured trees" as a species that survived in unexpected conditions, the largest tree of its species, the oldest tree of its species, or even a tree that provides historic value. As part of an open house that was conducted on February 12, 2014, several citizens nominated trees to be considered as "treasured trees." Those trees are identified in Appendix B of this document along



with photos of each tree. It is recommended that the Park City Urban Forestry Board consider additional trees to nominate that are considered "treasured trees" to the Utah Urban Forest organization and citizens of Park City.

The Utah Urban Forest is a heritage and big tree program that is administered by the Utah Division of Forestry, Fire and State Lands. The Heritage Tree Act was enacted in 1975 and requires "the preservation of rare, threatened, or vanishing species of trees in order to preserve Utah's scenic beauty and historic past." Although at the time of this Plan, no tree species were listed on the Utah Urban Forest website www.utahurbanforest.org for Park City, the Utah Urban Forest organization should be a reference for future tree listing and it is recommended that treasured trees within Park City be nominated as a "Big Tree" or "Heritage Tree" designation.



4.1 CODES AND STANDARDS

Park City's goal is to adopt this Municipal Forestry Plan and to develop an Municipal Forestry Board. A forest program will be formulated once the board has been established. The Forest Board will then provide guidance on tree assessments, planting, protecting and replacing. Please reference the Park City Land Management Code for additional information.

Once this Municipal Forestry Plan has been adopted this document will act as the Municipal Forestry Plan for public right-of-ways and parks. This document can also be used to provide Landscape Design Standards as well as a supporting document to the Park City Land Management Code. Each department will be responsible to oversee their specific areas that affect trees; this document will be used as a guiding tool.

This section will discuss Tree and Landscape Regulations. This section will address the following.

- 1. Tree Encroachment
- 2. Street Trees
- 3. Tree Pruning
- 4. Criteria for Tree Removal
- 5. Tree Replacement
- 6. Tree Protection
- 7. Emergency Cutting or Removal

TREE ENCROACHMENT

Below are criteria for the treatment of a tree if encroachment becomes a problem. The owner of a tree is responsible to rectify the problem at their cost. Before action is taken, the Park City Forestry Manager needs to provide approval.

Street Trees

Street trees planted on Park City right-of-way shall generally be located as follows to avoid conflicts with traffic control signs, sight triangles, above- and below-ground utilities, and existing trees:

- Street trees on corner lots shall have tree branching that is not lower than eight (8) feet from the ground.
- Tree branching shall not visually impede regulatory signs.
- Minimum of twenty-five (25) feet from stop signs.
- Tree canopy shall not impede with a street lamp at full maturity.
- Minimum of ten (10) feet from fire hydrants.
- Minimum of a ten (10) foot offset of utility lines and valves.

CHAPTER 4





ENCROACHMENT

- Minimum of five (5) feet from traffic control signs.
- It is preferred that for new plantings no trees shall be planted in a park strip that is less than four (4) feet wide.
- It is recommended when planting trees to keep a 2-4' clearance from paved surfaces to prevent root damage.
- All street trees, when planted, shall not be less than 1 1/2 inch in caliper.
- Corner lots shall require two (2) or more street trees depending on the length of frontage on each street for such lots.
- Lots with 25' to 75' feet of frontage shall require two (2) street trees and for each additional 50 feet of frontage one (1) additional street tree.
- When planting new trees, species shall not represent more than 20% of a five (5) block area, unless otherwise approved by the Park City Forestry Manager.
- Trees shall not be placed directly below a power line unless approved by the Forestry Manager. Trees under power lines should range 12-18' in height. The species of the tree will depend on the height of the power line.
- Plants shall be nursery grown, first class material, straight single stemmed and must meet the standards set forth in "American Standard for Nursery Stock" (ANSI Z60.1-2004 or most current edition) and as further specified herein. Plant material shall be obtained from established commercial licensed nursery growers and installed by (including tree replacements) licensed nursery and/or landscape contractors, City parks staff, and volunteers (during volunteer days and shall be supervised by City parks staff). Donated plants and volunteer planting days shall have prior approval by the Forestry Board.
- Planting of a street tree shall be coordinated with the Park City Forestry Manager prior to planting.
- Park strip widths should be five (5) feet in width minimum for a small canopy. A small tree shall not be planted as a street tree.



STREET TREE SIZE AND PLACEMENT CRITERIA

The placement of trees along the residential collector, or arterial street can affect the look and feel of the corridor. The physical spacing of trees is also dependent upon the road design speed and the type of community. Generally, trees placed on roads with higher speeds can be spaced further apart than roads with slower speeds. Residential neighborhoods should have street trees placed more densely to maintain 20% tree canopy coverage. Varying heights and species is strongly recommended.

The graphic below illustrates a site distance triangle. Sight distance is the distance that a driver can see ahead in order to observe and successfully react to a hazard, obstruction, decision point, or maneuver. The AASHTO Green Book should be referenced for design speed and stopping sight distance at an intersection, which includes the placement of trees and shrubs. No conifer trees, branching within eight (8) feet from lowest branch to ground surface, and no shrubs over two (2) feet allowed



within triangle.

TREE PRUNING

For tree pruning methods reference Utah State University's "Pruning Landscape Trees: An Overview" By Mike Kuhns, State Extension Forester. Located in Appendix B. The table on the following page explains guidelines for when a tree should be pruned and when a tree should be removed.



	Prune Tree	Fix Sidewalk	Remove Tree	
	Tree branches lower than eight (8) feet that overhand or encroach on a public sidewalk or other pedestrian way.	Tree roots that have cracked or displaced a sidewalk, curb or street.	Impediment of views of traffic or access to any public facility (if pruning is not a viable option).	
lssue	Overhang/encroachment of tree branches lower than twelve (12) feet on a public or private street.		Obstruction of drainage facilities.	
	Impediment of views of traffic or access to any public facility (prune if the view can be fixed through pruning, otherwise, remove tree).		Tree roots that have entered a wastewater, stormwater or water line.	

CRITERIA FOR TREE REMOVAL

The following is criteria used by the Park City Forestry Manager when determining if a tree should be removed. The Park City Forestry Manager or his/her designee shall determine if a tree should be removed:

- Tree is dead or dying as determined by a certified arborist, Forestry Manager, or his/her designee.
- The tree is deemed hazardous, when the hazardous condition cannot be corrected through pruning or other reasonable arboriculture practices.
- When trees are not deemed dead, dying or hazardous, the following factors will be considered:
 - Life expectancy of the tree.
 - Desirability of the tree species.
 - Amount of space allowable for tree growth.
 - Overall quality and structural integrity of the tree.
 - Persistent and uncontrollable insect, disease or fruiting problems.
 - Frequency and extensiveness of the tree's maintenance requirements.
 - Feasibility and timeliness in which a replacement tree will be planted.
 - Proximity and quality of trees near to the one considered for removal.
 - · Wishes and desires of the property owner/resident
 - Quality and extent of past pruning and other tree maintenance practices the tree has undergone.
 - Extent and frequency of damage the tree is causing to surrounding infrastructure such as sidewalks, streets, sewers, etc.
 - Location of the tree with regard to streetlights, traffic control devices, intersection sight lines and the requirements of the tree related to available growing space.



TREE REPLACEMENT

Trees within Park City are lost due to disease, construction, maintenance or other reasons. Removal or replacement of trees within rights of way, include areas that are associated with private development which are governed by provisions within the City Code, site plan conditions, or other City policies and/or procedures. As a minimum, trees of 6" caliper or less that are removed from the rights-of-way will be replaced on a one-for-one basis. Significant trees (caliper greater than 6") will be replaced at a rate derived from a formula below.

The guidelines above include parks, open spaces, public properties or private properties that required a City permit for construction.

Tree Replacement Formula

The formulas below are for conifer and deciduous trees.

- Trees 0-6 inches in diameter at breast height (DBH) to be replaced in kind at a one-to-one basis.
- Trees over 6 inches in DBH shall be replaced as follows: for every 2-inches of caliper removed a new 2-inch caliper tree replaced. For example, if an 8-inch caliper tree is removed, 4 new (2-inch) caliper trees shall replace it.
- A 5-6' conifer tree is equivalent to a 2-inch caliper.
- Trees shall be replaced in kind unless otherwise approved by the Municipal Forestry Manager.





Tree "Banking"

Where there is not adequate room to plant the replacement trees within the project limits, the excess trees can be transferred into a dollar amount for the value of a new tree. The dollar amount for each tree shall be paid to the City and applied towards the "banking" system. The City will plant a new tree on public property as close to the original project site as possible.

- Trees lost from public rights-of-way cannot be replaced onto private property, they must be replaced within a city right-of-way.
- The value of the tree is based on 2 times the retail cost to account for planting. The retail cost shall be the average cost provided by three local Park City nurseries for a 2-inch caliper deciduous tree or 5-7' conifer tree.

TREE PROTECTION

The boundary of the tree protection zone is at the dripline of the tree. During construction or other activities that can be damaging to a tree, the tree dripline shall



be protected at all times. If a tree could be damaged due to an activity, the Municipal Forestry Manager shall be called upon to evaluate the tree. A tree on public right-of-way or public land cannot be tampered with intentionally without prior approval from the Municipal Forestry Manager.

EMERGENCY CUTTING OR REMOVAL

If an emergency cutting or removal within city right-of-way or public land is necessary due to safety concerns or utility impediment, the tree may be removed or cut with a notification to the Municipal Forestry Manager. The party removing or cutting shall document the tree with photos prior to removal. The photos shall be provided to the Municipal Forestry Manager within 3 days of the tree removal.



5.1 LANDSCAPE DESIGN, WATER CONSERVATION AND OUTREACH

Water-wise landscapes begin, not with a plant list, but a comprehensive waterconserving landscape program that includes site analysis and planning, smart design, and efficient irrigation. This section explains key elements for successful planting.

Note that sections of Park City are located in areas of contaminated soils, therefore, it is required to verify the soil ordinance boundary. If planting within the soil ordinance boundary reference CHAPTER 15 - PARK CITY LANDSCAPING AND MAINTENANCE OF SOIL COVER. Code 11-15- 1.

ANALYSIS, PLANNING, AND DESIGN

The first step in creating a water-wise landscape is site analysis: identifying the specific characteristics of a site that contribute to its ecological nature and create its micro-climates. Site analysis identifies and catalogues such naturally occurring characteristics as sun, wind, and soil, as well as man-made characteristics such as structures and paving. Planning incorporates needs and uses, identifying how a space as a whole and its component areas is used. Design integrates analysis and planning to create a space that is both beautiful and sustainable. Plant selection can then take place, reflecting the ecological and physical realities of a place, along with the needs of those using or acting in the space, creating balance and enhancing our urban environment.

Soil Improvement

Urban soils do not always contain all the physical and chemical properties necessary for healthy plant growth and development. Soil improvements are often needed in order to correct poor water infiltration, percolation, and drainage, while still providing adequate water holding capacity and nutritional balance of the soil. When amending the soil, it is best to amend entire areas rather than individual holes. Additionally, when planting trees, it is best to not amend the soil unless the tree in being planted in a contained or confined space.

Note that if you are landscaping with native plants, soil amendments may not be necessary, and in fact, might be detrimental to long-term health of the plants. For many native plants, the only preparation necessary is to loosen the soil.

Common soil amendments include compost, decomposed leaves or pine duff, manures, or utelite.

IRRIGATION APPLICATIONS

Matching the amount of water supplied to each plant with that plant's water requirement is the most efficient way to irrigate, and it is a good idea to plan the irrigation system at the same time as the landscape design. To eliminate waste from over-watering and runoff, plants should be grouped according to their water needs, and turf should be irrigated separately from other plantings.



Irrigation of Various Plant Materials

Turf (more commonly known as maintained grass areas or lawns): Turf areas shall not be less than seven feet wide if possible. Sprinkler heads shall have a minimum of 4" tall stems for best coverage. Areas using 8' spray nozzles shall incorporate 6" tall stems. Provide separate zones based on microclimate or field conditions, such as slope, aspect, exposure. Do not mix heads with dissimilar precipitation rates.

Shrubs: Shrub areas shall be zoned to irrigate separately from turf and native areas. Low volume devices, such as bubblers, point source or in-line drip shall be the preferred method for shrub areas. Spray heads up to 15' in diameter may be used. Spray heads in shrub areas shall have 12" pop up stems. MP rotators can be used only if the shrub beds are less than 20-25 feet wide.

Native and Wildflowers: Native and wildflower areas shall be zoned separate from turf and shrub areas. Spray, rotary, and small – medium rotors used in native areas shall have 12" pop up stems. Do not mix plant types on irrigation zones.

Types of Irrigation Devices

Low Volume devices: This type of device includes bubblers, point source and inline drip equipment. Products with check valves and pressure regulation shall be preferred devices. These products shall be used primarily in shrub areas, and not in turf or native areas. Drip devices shall provide a ratio of 1:2:8; with 1 for perennials, 2 for shrubs and 8 for larger trees.

Spray type sprinkler heads: Spray heads shall be placed at no greater than 90% of manufacturer published coverage data. (i.e.; spacing shall be reduced by 10% or more to improve uniformity and efficiency. Depending upon the plant material application, 4", 6" or 12" stem heights shall be used. All heads shall include check valves and pressure regulation devices.

Rotary nozzle type sprinkler heads: Rotary nozzle heads shall be placed at no greater than 90% of manufacturer published coverage data. (i.e.; spacing shall be reduced by at least 10% to improve uniformity and efficiency). Typically only 4" stem height heads shall be used. All heads shall include check valves and pressure regulating devices.

Small / Medium rotor type sprinkler heads: Rotor heads shall be placed at no greater than 90% of manufacturer's published coverage data. (i.e. spacing shall be reduced by at least 10% to improve uniformity and efficiency.) All heads shall include pressure regulation devices and check valves if options are available. Rotor stems shall be a minimum of 4" pop-up, and may require 5 or 6" stem height. Swing pipe swing joints may be used on heads with 6 or less GPM per head. Any heads requiring over 6 GPM's shall be connected via a rigid swing joint made up of a S/80 nipple and 3 marlex street elbows.

Large or Sports field rotors: Spacing shall not exceed 65' between heads. All large



and sports field rotors shall be connected to the lateral pipe via a manufacturer assembled swing joint. Rotor heads shall be placed at no greater than 90% of manufacturer's published coverage data. (i.e. Spacing shall be reduced by at least 10% to increase uniformity and efficiency. Matched precipitation rate, coverage distance shall be the same or similar when possible. Part-circle heads shall not be on the same zone as Full-circle heads; zones shall use the same nozzle and adjust run times by double for full circle zones vs. part circle zones, to match the amount of application required.

PLANTING DESIGN

When planting within a public right-of-way, it is necessary to avoid planting in areas that would potentially cause harm or pose safety concerns. The designer and/or contractor should provide clearances to utilities and other obstructions as explained in Chapter 4. Small tree canopies should not be planted as street trees. When designing and planting within a park strip, it is recommended to place the



PARKSTRIP PLANTING NOT TO SCALE

sidewalk behind the park strip as shown in the above graphic. This allows for more shade on paved surfaces and provides a buffer for pedestrians.

Other Design Elements to Consider:

- In order to provide adequate clearances for a tree canopy and a tree root system, it is recommended that the a park strip width shall be no less than four (4) feet wide.
- Tree grates should be expandable.
- Electrical devices shall not be attached to a tree.
- Plastic, non permeable weed barriers are prohibited.

Turf Areas

Cool season turf grasses, such as Kentucky bluegrass and fescue, typically require 15 to 22 inches of supplemental water in Park City during the growing season to sustain a green, lush lawn. Turf should be limited in the landscape to areas consistent with core use patterns and should be irrigated separately from other plantings. Kentucky bluegrass shall not be planted within city ROW and should only be used in public parks where appropriate for high traffic and recreational purposes. In all other areas, drought tolerant or resistant species should be planted. Water use may also be reduced by replacing turf grass in high traffic areas not intended for play with patios, decks or other appropriate materials. Also, where possible, consider non-traditional turf species such as buffalo or blue grama grass, or non-turf plants such as thyme.





Low Water Demand Plants

Many beautiful and functional plants are available that thrive with natural precipitation or only small amounts of supplemental water. The availability of plants with low water requirements permits selecting for function, beauty, and seasonal interest. However, as with all plant selections and planting, care must be taken to match specific needs of plants to the environmental conditions and the intensity of human activity at the planting site.

Use of Mulch and Groundcovers

The function of mulch is to buffer soils against climatic extremes. In summer, mulch reduces soil heating, slows water loss from evaporation, and reduces weed growth. In winter, mulch protects shallow roots from damage by preventing the daily freeze/thaw cycle and drying of soils. Mulch can include bark - no gravel is allowed in the City's right-of-way. Gravel may be allowed in park areas with Forestry Manager or his/her designee approval.

Maintenance

Low maintenance is **not** no-maintenance; a water-wise landscape still requires the extra care required of a more traditional landscape. Once plants fill in and establish, however, maintenance demands decrease, plants require less water, and weeds are crowded out. Many native and low water plants also require less fertilizer, and have fewer pest problems than more traditional landscape plants, adding to the decrease in maintenance demands.

 Integrating these seven elements of a waterwise landscape (see pg. 30) in the planning, development, and maintenance of landscapes has been shown to conserve water and reduce annual maintenance costs without sacrificing function or beauty.

Plant List

Located in Appendix E is a list of trees, shrubs, herbaceous perennials, ornamental grasses, vines, groundcovers, annuals, and turfgrass has been compiled to serve as a guide to the public and landscape professionals for selection of landscape plants that have less water demand; some of these plants have very low demands and are considered xeric. Some of these plants are familiar and though not considered water-wise, have been habitually over-watered and with proper watering schedules in place, can be a valued part of a water-efficient landscape.

While every effort has been made to make the list as comprehensive as possible, it should not be considered definitive. As additional information becomes available over time it is likely that plants may be added, or removed, from this list. To this end, input from individuals or organizations involved in the landscape industry, as well as members of the general public, is welcomed. Changes to this plant list must be approved by the Forestry Board.



Watering Zones

It should be understood that, while plants will survive with minimal amounts of water, some plants may not maintain their best appearance without some additional water. Additionally, during periods of extended droughts, even xeric plants might benefit from periodic supplemental watering. It is assumed that the establishment period will be a minimum of two years during which more frequent supplemental water may be needed.

Note: watering frequency changes during the growing season, with fewer frequencies occurring in spring and autumn.

Below is a plant category with recommended volume of water to be delivered in inches per irrigation application. This should be adjusted during spring and fall months when watering is not as much of a demand for plants.

Plant Type	Volume of Water per Irrigation/Inches
Turfgrass	0.5
Groundcover and vine	0.5
Annual	0.5
Perennial	1.0
Ornamental Grass	1.0
Deciduous shrub	1.5
Evergreen Shrub	1.5
Deciduous Tree	2.0
Evergreen Tree	2.0

EDUCATION AND OUTREACH

The purpose education and outreach is to gain acceptance for the Forestry Plan from the commercial and residential sectors of Park City and to promote the wonderful benefits of trees. Another reason is to establish a strong tradition of celebrating Arbor Day for the purpose of maintaining Park City's Tree City USA status and maintain the City's municipal forest. In order to qualify for a Tree City USA community, there are four standards that have to be met: 1. Develop a Tree Board 2. Develop a Tree Care Ordinance 3. Develop a Community Forestry Program With an Annual Budget of at Least \$2 Per Capita 4. An Arbor Day Observance and Proclamation

Recommendations for Education and Outreach:

- Continue to maintain the National Arbor Day Foundation Tree City USA status.
- Select a day in the year to be declared as Park City Arbor Day.
- Utilize a local elementary school class to hold an Arbor Day Poster Contest. Host a City wide Arbor Day planting and allow the poster contest winner to

help plant the Arbor Day tree. This helps promote Arbor Day and creates interest for people to attend the planting ceremony.

- Publish frequent articles in local newspapers or the City Newsletter to educate property owners on their relationships with trees and how the Forestry plan will affect them. Host annual or semi-annual pruning classes to educate residents on proper pruning techniques and on the folly of topping trees.
- Partner with local nurseries and other business to publish a Park City specific tree brochure.
- Create an atmosphere to encourage City Parks staff or the Forestry Board members to obtain an International Society of Arboriculture Arborist Certification. Send interested parties from either group to educational seminars such as the annual Utah Greens Conference or the Utah Community Forest Councils annual Arborist Training School.
- Create an annual budget for the purpose of promoting the Forestry Plan and the wonderful benefits of trees, as recommended by the Arbor Day Foundation and the National Association of State Foresters of \$2 per capita. Include monies for educating appropriate personnel and an annual tree expenditure. It is recommended that the City Council adopt and fund this annual budget.

WATER CONSERVATION

Why conserve water? Our state consumes approximately 240 gallons of water per person, per day. In residential use, 65% of Utah water is used outdoors, while the remaining 35% is used for indoor purposes. The State of Utah offers an online resource for outdoor water use, specifically when to begin outdoor watering of vegetation and ways to conserve water. This resource can be found here:

http://www.conservewater.utah.gov/guide.html

Some general water conserving guidelines provided by the State of Utah are:

Outdoor Use

- Plant drought-tolerant plants, see plant list for specific species.
- Cover outdoor open pools to avoid evaporation.
- Sweep areas rather than spray with water.
- Check outdoor faucets, pipes, hoses and pools for leaks.
- Change your lawn mower to a 3-inch clipping height and try not to cut off more than one-third of the grass height when you mow.
- Apply as little fertilizer to your lawn as possible.
- Recycle and reuse the water in fountains and other ornamental water fixtures.
- Check the level in your pool using a grease pencil. Your pool shouldn't lose more than 1/4 inch each day. If it is losing more than this, check elsewhere for leaks.
- Avoid bursting or freezing pipes by winterizing your outdoor spigots.



- Use a bucket of soapy water to wash your car, or simply place a shut-off nozzle on the end of your hose.
- Plant your garden when temperatures are cooler and plants require less water—this is also less stressful for the plants.
- Use a thick layer of mulch around landscape plants and on bare soil surfaces—this reduces evaporation, promotes plant growth and reduces weeds.
- Collect the runoff from your roof in a barrel and use it on your plants and garden.
- Water brown spots in your lawn with a hose instead of increasing the irrigation time on your timer.
- Place children's water toys on any dry spots in your lawn.
- Instead of washing your car in the street or driveway, park it on the lawn where it won't go to waste.
- Take the pets outside to be bathed—pick a dry spot in the lawn to wash them.
- Remember that not all brown spots in your lawn are caused from lack of water. If you have distinct irregularly shaped brown spots, the symptoms are most severe in late summer, and section of dead turf can be pulled up easily, the problem is probably grubs, a beetle larva. They feed on your turf's root system and kill it. If you question what is causing your turf problem, contact your USU Extension County Office or a local nursery professional. They will probably want to see a sample of your turf.

Plants/Vegetation

- Plant your garden when temperatures are cooler and plants require less water—this is also less stressful for the plants.
- Use a thick layer of mulch around landscape plants and on bare soil surfaces—this reduces evaporation, promotes plant growth and reduces weeds.
- Collect the runoff from your roof in a barrel and use it on your plants and garden.
- Arrange plants in your garden according to watering need. This is called "Hydrozoning".
- Remove weeds from the garden—this helps cut down on excess water consumption due to plant competition.
- Don't overreact and try to drown the brown spots in your lawn. Simply moisten the area up a bit and the grass will green up in a few days.
- Create a compost pile and use it in your yard to add needed nutrients and organic matter to the soil.
- Don't over-water your plants. Learn how much water they need and how best to apply just the right amount.



Landscape Use

- Visually inspect your sprinkler system once a month during daylight hours. Check and fix any tilted, clogged or broken heads. Although watering at night is recommended, you won't notice problems with your system unless you see it in operation.
- Avoid watering your landscape during the hottest hours of the day (10 am until 6 pm) to minimize evaporation.
- Water your landscape in cycles by reducing the number of minutes on your timer and using multiple start times spaced one hour apart. This allows the water to soak into the soil and avoids runoff.
- Water your lawn only when it needs it. If you leave footprints on the grass, it is usually time to water.
- Turn your sprinkler system off during or after a rainstorm and leave it off until the plants need to be watered again.
- Consider installing an automatic rain shutoff device on your sprinkler system.
- Install drip irrigation systems for trees, shrubs and flowers.
- Check your sprinkler valves for leaks when checking all your heads.
- Avoid watering your lawn on windy days.
- Try to add more days between watering. Allowing your lawn to dry out between watering creates deeper roots and allows you to water deeper and less often.
- Place a rain gauge in your backyard to monitor rainfall and irrigation.
- Set the kitchen timer when you water by hose.
- Test soil moisture with a soil probe or screwdriver before you water. If the soil is moist, don't water!
- Watch out for broken sprinklers, open hydrants, broken pipes and any other significant water losses in your community. Be sure to notify the property owner or the water district of the problem.
- Make sure the water coming out of your sprinklers is not misting and drifting away in the wind. This is usually caused by too high of pressure—if necessary, install a pressure reducer on your sprinkler line.
- Turn back your automatic timers in the spring and fall. Water only once or twice a week during the spring and fall.





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- Utah State University Cooperative Extension Service. Interagency Forage & Conservation: Planting Guide for Utah. Logan, Utah: University of Utah.



APPENDIX A TREE COVER MAP

PARK CITY MUNICIPAL FORESTRY PLAN

Packet Pg. 68





APPENDIX B TREASURED TREES

PARK CITY MUNICIPAL FORESTRY PLAN

Packet Pg. 70

Legend





OpenSpace





Projects\PC Tree Inventory Heritage Trees.mxd mdavis 7/22/2015





Courtesy of Google Earth





#2







#4







#6




Courtesy of Google Earth





#8



#9



APPENDIX C PRUNING TECHNIQUES

PARK CITY MUNICIPAL FORESTRY PLAN

Packet Pg. 74



Urban/Community Forestry (Reviewed May 2012)

NR/FF/004 Revised

Pruning Landscape Trees: An Overview

Mike Kuhns, State Extension Forester

This fact sheet describes why, when, and how to prune branches from landscape trees. It describes where to make pruning cuts to avoid stubs and flush-cuts, and describes why wound dressings should not be used.

What Is Pruning?

Pruning is the purposeful removal of plant parts. Its use is preferred to less precise terms like *trimming*. This fact sheet deals mainly with pruning of branches on ornamental trees. It does not cover pruning of fruit trees for fruit production, shearing or other intensive crown shaping practices, or root pruning.

Why Prune?

Reasons for pruning landscape trees generally fit into three closely-related categories: *health*, *hazard*, and *form*. Step back and reconsider if you find yourself pruning off healthy, non-hazardous branches on a tree with good form.

Health — Pruning for tree health includes removal of insect or disease infested branches, broken or dead branches, crowded branches, and branches or portions of trunks with included bark. Pruning to "open-up" a tree's crown to encourage light penetration or air movement generally is not needed.

Hazard — Pruning to reduce hazard to people or property includes removal of dead and decaying branches; branches that interfere with sight lines or travel along streets, driveways, or sidewalks; branches that rub against structures; thorny or spiny branches that might cause injury, and pruning for utility line clearance. Healthy,

strong, properly attached branches that overhang a building do not usually pose an unreasonable safety risk and do not necessarily need to be removed.

Form — Pruning for tree form or shape involves removal of certain branches and leaving others to direct growth toward and away from certain areas. Pollarding, crown raising, and topiary all are examples of pruning for form.

When to Prune

Time of Year — Pruning can be done at any time of year with special care and knowledge, but certain times are better than others. Pruning is best done in winter or early spring before buds swell when tree energy reserves are high and the tree is dormant. Though certain trees, such as birches, maples, and walnuts, may exude sap or "bleed" when pruned at this time of year, this is not a problem and stops within a few days. During the spring growth period bark is tender and easily damaged and pruning must be done very carefully. In fall pruning wounds may be more easily infected with decay microorganisms. Though summer pruning can be done, considerable dieback may occur at the edges of summer pruning wounds, possibly due to drying of the living tissues at wound edges. Quickly wrapping such wounds with white plastic sheeting can reduce this dieback (see page 4).

Time of Life — At planting time only prune branches that are dead, broken, or that have insect or disease problems. Otherwise, prune early in a branch or tree's life to avoid pruning large branches or letting serious problems develop. For maintenance pruning on established trees try to prune branches before they exceed 2 inches in diameter.

Pruning Severity

Avoid pruning off more than 20 to 25% of a tree's leaf area in any year. Pruning stresses trees because pruning wound repair requires energy from food while pruning removes leaves that make food and wood that stores food. Younger and more vigorous trees can stand heavier pruning than mature or stressed trees. If heavy pruning is unavoidable, remove branches over two or more years to reduce stress.

Pruning Tools

Sharp, well-maintained tools make cleaner cuts and are safer than dull tools. Use shear-type hand pruners for small twigs (sometimes called bypass pruners; anviltype pruners cause slightly more injury than shear-type), loppers for small branches, and pruning saws for branches up to 3 or 4 inches in diameter. Good pruning saws have thin curved blades and teeth that are angled back to cut mainly as you pull rather than push. Chainsaws should only be used for large branch removal. Bow saws are not suitable for pruning since their blade wanders and the handle gets in the way. Sterilization of tool blades between cuts (with alcohol or bleach) often is recommended to avoid spreading disease, but researchers have shown that most quick sterilization techniques are not effective.



Pruning Techniques

Safety — Removing large branches or cutting down entire trees is dangerous. Call in an insured, welltrained professional arborist (preferably certified by the International Society of Arboriculture) if you are unsure of your abilities or if climbing is involved. Pruning near utility lines should only be done by certified line clearance professionals — call your electric company.

Where to Cut: Natural Target Pruning — Good pruning involves removing as much of the branch as possible without leaving a stub or flush cutting. Good pruning cuts are called *natural target cuts* by arborists, who use two targets on the tree to show them where to make the cut. These targets are the *branch bark ridge* (BBR) and the branch collar. The BBR is an area of excess bark that accumulates where two branches meet. It extends down the branch or trunk on either side of the branch crotch. The branch collar is (typically) a swollen, wrinkled area at the branch base where branch and trunk (or branch and branch) tissues come together.



Natural target pruning of dead and live branches; broadleaves (top) and conifers (bottom). Final cuts should be from A to B.

A natural target cut leaves the BBR and branch collar on the tree without leaving a stub. Such a cut passes just outside the BBR on top and usually slants out and down, leaving a bump but no stub (from A to B on diagram). Sometimes the swollen branch collar extends all the way around the branch base and the resulting cut is more vertical. Though the "targets" usually are easy to see on most broadleaved trees, some trees like sycamore constantly lose bark and don't accumulate a BBR. Conifers also may not accumulate a typical BBR. In both cases, just cut outside any swollen or wrinkled branch collar.

Wound Closure - Natural target cuts start to seal over quickly as *woundwood*, sometimes called *callus*, forms at the wound edges (callus forms first and becomes woundwood as it matures and becomes woody). Woundwood usually forms in a continuous ring around a natural target cut, eventually sealing over the wound as it grows together. Gaps in the woundwood at the top and/ or bottom indicate flush-cuts, cuts that were made too close to the stem (see below). Though such wounds may eventually seal, they have a greater chance for dieback, decay, and crack formation than natural target cuts. The term "seal," rather than "heal," is used to describe tree wound closure, since the wound still exists inside the tree even after it no longer shows on the outside.



Woundwood patterns around a natural target cut (A-B), versus cuts made too close at the top (C-B), bottom (A-D), or top and bottom (C-D).

Pruning Dead Branches — Shortly after a branch dies a swollen ring of woundwood starts to form around its base. A branch protection zone also forms in the wood at the branch base. This zone contains chemicals that help the tree resist microbial attack. Cut off dead branches just outside the live woundwood without leaving a stub (see broadleaved diagram on page 2). Promptly remove large dead branches since they pose significant hazards.

Pruning Large Branches and Narrow Angles — Remove large branches with a three step cut: an undercut one-third of the way up through the branch one or two feet out from the trunk (to prevent bark stripping), a top cut directly into or slightly outside of the undercut to remove most of the branch weight, and a final natural target cut that removes the stub. Final cuts can be made from the bottom up to the crotch (B to A in the previous diagrams) if the branch angle is tight and tools won't fit in the crotch.

Pruning Leaders or Co-dominant Stems — Pruning to remove a leader or main stem sometimes is called crown reduction. A leader can be pruned off where another branch is attached if the remaining branch is healthy

and vigorous and at least 1/3 the diameter of the leader to be removed (so a 6" leader could be removed at a 2" branch). Also, no more than about one-quarter of the foliage should be removed from the branch that is being shortened. The final pruning cut should be on the other side of the BBR sloping out and down with the bottom of the cut straight across from the bottom of the BBR. As before, the BBR remains on the tree and no stub is formed. Co-dominant stems (stems nearly equal in size) are pruned similarly.



Natural target pruning of a leader. Final cut from A to B with B straight across from bottom of BBR (C). Remaining branch is healthy and at least 1/3 the diameter of leader being removed.

Included Bark — Sometimes the bark where two branches meet turns in instead of out, forming a seam of included bark inside the tree instead of a BBR. Areas of included bark often die and become decayed. These areas are naturally weaker than branch attachments with normal BBRs. Included bark is especially common on certain species or cultivars, like Bradford pear and littleleaf European linden, but can be found on any tree. It also is more common where branches attach to one another at a very narrow angle, but can occur with wide attachment angles. Avoid purchasing trees with included bark.

Don't prune off all branches with included bark (on some trees nothing would be left), but watch for signs of dieback or cracks extending down from the crotch below the bark seam. Remove a branch that has included bark by cutting from the open crotch down and out (or cut up to the crotch). This actually leaves a small stub on or in the tree, but cutting farther down may cause serious trunk wounds.

Wound Care

Wound Dressings — Pruning wounds and other tree wounds should be left open to the air, with no covering or dressing (see exception below). Though various paints, shellacs, and tar-like materials are available for treating wounds, none have been shown to slow or prevent decay or promote wound healing or sealing. In fact, research

Packet Pg. 76

has shown that such dressings can actually promote decay by keeping the wound protected and moist — perfect conditions for the growth of decay microorganisms. An exception is the use of white polyethylene sheeting to wrap wounds made in summer when conditions are hot and dry. Recent research has shown that wrapping wounds with such sheeting (preferably within minutes of pruning) results in less dieback and better healing than with unwrapped wounds. Wrapping can be held on the tree with tape and can be removed in two or three weeks.

Scribing and Wound Shaping — In the past it has been thought that wounds needed to be shaped or scribed to promote healing. Researchers have found, however, that scribing simply makes wounds larger and is not needed. Wounds from natural target pruning usually heal well on their own. Always remove any loose bark or pieces of wood that stick out from a wound.

Topping

Trees should never be topped. Topping or rounding-over is the removal of branches without regard to where other branches attach, usually leaving stubs. Topping is done to gain clearance from an obstruction or to reduce a tree's height or crown spread. Sometimes cuts are made where a branch is attached, but the remaining branch is too small or weak to assume dominance. Quick regrowth, combined with decay in the stubs, leads to poor tree health and potential hazards. Unfortunately, there is no longterm way to keep a tree small and healthy if it is naturally large.



Topping (left) leaves many stubs that encourage decay and sprouting. Directional pruning (right) minimizes sprouting and decay using natural target pruning.

An Alternative to Topping: Directional Pruning — Directional pruning is the removal of branches with natural target cuts to guide growth away from certain locations. It is commonly used to keep branches out of utility lines without topping, but it is useful in many other circumstances. Just start at the tip of the branch to be removed and follow it back to where it meets another healthy branch that can remain on the tree and that is large enough to assume dominance (at least 1/3 the diameter of the branch to be removed). Remove unwanted branches with natural target cuts as described earlier.

For More Information

Contact USU Extension Forestry (<u>extension.usu.edu/</u> <u>forestry</u>) or the Utah Community Forest Council (<u>www.</u> <u>utahurbanforest.org</u>) for urban forestry information. Other useful pruning-related publications include:

✓ Harris, R.W., J.R. Clark, & N.P. Matheny. 2003. Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines, 4th Edition. Prentice Hall, Englewood Cliffs, NJ. 592 pp.

✓ Gilman, Edward F. 2002. *An Illustrated Guide to Pruning, 2nd Edition*, Delmar Cengage Learning, Florence, KY. 256 pp.

The National Arbor Day Foundation's Tree City USA Bulletin Number 1, *How to Prune Young Shade Trees*, contains valuable information about pruning and tree care (www.arborday.org).

Acknowledgments

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APPENDIX D IRRIGATION AND PLANTING DETAILS & SPECIFICATIONS

PARK CITY MUNICIPAL FORESTRY PLAN

Packet Pg. 78













SLEEVES TO BE 2X PIPE SIZE WITHIN. JOINTS TO BE WATERTIGHT. MECHANICALLY TAMP TO 95% PROCTOR.



- (3) 18" MINIMUM, 24" MAXIMUM PIPE COVER (4) 6" MINIMUM, 18" MAXIMUM
- (2) FINISH GRADE

SCALE: NTS

D

(1) 4" MINIMUM CLEARANCE



STOP

SCALE: NTS

F

&



WASTE VALVE

SECTION VIEW DETAIL

(1) FINISH GRADE



SECTION DETAIL



SECTION VIEW

PLAN VIEW







NOTE INLET PIPE LENGTH OF SENSOR MUST BE MIN. 10X PIPE DIA. STRAIGHT, CLEAN RUN OF PIPE, NO FITTINGS OR TURNS. OUTLET PIPE LENGTH OF SENSOR MUST BE MIN. 5X PIPE DIA. OF STRAIGHT CLEAN RUN OF PIPE, NO FITTINGS OR TURNS.

SCALE: NTS

Η

MASTER VALVE /

FLOW SENSOR

(1) MODEL HFS-XXX

(2) MODEL FCT-XXX (SEE CHART TO SIZE)

3 MIN. 18/2 WIRE TO ACC POWER MODULE. MAXIMUM WIRE DISTANCE RUN OF 1,000'

(4) STANDARD VALVE BOX

G STANDARD VALUE

5 FINISH GRADE

6 MAIN LINE PIPE

(7) MASTER VALVE, SEE RCV DETAIL

FCT FITTING SELECTION

FCT100	1 INCH	SCH. 40
FCT150	1.5 INCH	SCH. 40
FCT158	1.5 INCH	SCH. 80
FCT200	2 INCH	SCH. 40
FCT208	2 INCH	SCH. 80
FCT300	3 INCH	SCH. 40
FCT308	3 INCH	SCH. 80
FCT400	4 INCH	

SECTION DETAIL







**INDICATES COMPONENT SHALL BE SAME SIZE AS LARGEST LATERAL ON THIS MANIFOLD. DOWNSTREAM OF BALL VALVE: MANIFOLD FITTINGS SHALL BE S/80, PVC PIPE SHALL BE S/40



6 S/40 COUPLER OR BELL (7) LASCO UNITIZED SWING JOINT (8) QUICK COUPLER IN 10" BOX

(9) **APOLLO BALL VALVE

(10) **S/80 TOE NIPPLE

SECTION DETAIL

- (5) **S/40 MANIFOLD MAIN LINE
- (4) RCV IN CARSON STANDARD 1419 VALVE BOX
- (3) **S/80 FITTINGS
- (2) ACTION MANIFOLD FITTINGS
- (1) DRIP ZONE KIT, JUMBO BOX



SCALE: NTS

(5)

- 2" S/40 PIPE WITH 4 2" S/40 FEMALE ADAPTER MUELLER ORISEAL 3/4" (5) STOP & WASTE VALVE MODEL H-10288

6 BRASS STREET ELL

(7) 1 CU/FT 3/4" GRAVEL

(9) 3/4" BRASS STREET ELL

(1) STANDARD VALVE BOX

(3) REMOTE CONTROL VALVE

(4) WATERPROOF CONNECTORS (2)

(2) FINISH GRADE

(10) MAIN LINE PIPE

MANUAL DRAIN VALVE

CARSON BROOKS



(1) FINISH GRADE

2 IRRICAP















SECTION 02900 LANDSCAPING

PART 1 - GENERAL

- 1.1 THE REQUIREMENT
- A. The CONTRACTOR shall perform all the landscaping and all appurtenant work, complete, in accordance with the requirements of the Contract Documents.
- B. Scope of Work: Landscaping as referred to herein shall include, but not be limited to the following work: soil preparation, installation of headers, weed control, finish grading, furnishing and installing plant materials, tree staking and tying, cleanup, maintenance, and guarantee.
- C. The Section cross references the following sections:
- 1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS
- A. Federal Specifications:

FS O-F-241 D Fertilizer, Mixed, Commercial

B. Commercial Standards

ANSI/ASTM D 422 Method for Particle-Size Analysis of Soils ANSI Z601 Nursery Stock American Association of Rules and Grading Provisions Nurserymen, Inc.

- 1.3 CONTRACTOR SUBMITTALS
- A. General: The CONTRACTOR shall furnish a certificate with each delivery or bulk material delivery, stating source, quantity, and type of material. All materials shall conform to specification requirements. All certificates shall be delivered to the LANDSCAPE ARCHITECT (here in referred to as L.A.) at time of each delivery. All bulk delivered materials shall be delivered with level load volume plainly marked on the truck bed.
- B. Topsoil Report: Topsoil report as well as literature on fertilizers, mulch and seed mixes, shall be submitted to the L.A.
- 1.4 QUALITY ASSURANCE
- A. General: All plants furnished by the CONTRACTOR shall be true to type or name as shown in the Contract Documents and shall be tagged in accordance with the standard practice recommended by the Agricultural Code of the State of Utah; however, determination of plant species or variety will be made by the L.A.

PARK CITY MUNICIPAL CORP Urban Forestry Plan LANDSCAPING 02900-1

- B. All plants shall comply with Federal and State laws requiring inspection for plant diseases and infestations. Inspection certificates required by law shall accompany each shipment of plants, and certificates shall be delivered to the L.A.
- C. All inspections herein specified will be made by the L.A. or its representative. The CONTRACTOR shall request inspection at least 24 hours in advance of the time inspection is required. Inspection will be required on the following stages of the WORK:
 - 1. During preliminary grading, soil preparation, and initial weeding.
 - 2. When trees are spotted for planting, but before planting holes have been excavated.
 - 3. When finish grading has been completed.
 - 4. When all specified work, except the maintenance period has been completed.
- 5. Final inspection at the completion of the maintenance period.
- D. Plants shall be subject to inspection and approval or rejection by the L.A. at place of growth and upon delivery to the site at any time before or during progress of the WORK and according to:
 - 1. Quantity, quality, size, and variety;
 - 2. Ball and root condition; and
 - 3. Latent defects and injuries resulting from handling, disease, and insects.
- E. Plants approved at pre-planting inspection shall still be subject to rejection during planting if found to be below Specifications.
- F. Rejected plants shall be identified in an obvious manner, removed from the site and replaced with acceptable equals.
- G. Plants shall have been grown in nurseries which have been inspected by the governing authorities. Inspection of plant materials required by City, County, State, or Federal authorities shall be the responsibility of the CONTRACTOR, who shall have secured permits or certificates prior to delivery of plants to site.
- 1.5 CLEANUP
- A. Upon completion of all planting operations, the portion of the project site used for a work or storage area by the CONTRACTOR shall be cleaned of all debris, superfluous materials, and equipment. All such materials and equipment shall be entirely removed from the project site.
- B. All walks or pavement shall be swept or washed clean upon completion of the WORK of this Section.

LANDSCAPING 02900-2

- C. During the entire Contract period, plant containers that have been cut or removed from plant materials shall be removed from the project site daily, in accordance with the provisions for maintenance and guarantee.
- 1.6 MAINTENANCE OF LANDSCAPE PLANTING PRIOR TO ACCEPTANCE OF PROJECT
- A. General: The CONTRACTOR shall be responsible for protecting, watering, and maintaining all planting and irrigation systems until final acceptance of all work under the contract.
- B. Watering: Trees and shrubs shall be thoroughly soaked after planting and provided with additional water at intervals as necessary to provide for good health and growth of the planting.
- C. The new planting shall be kept watered by the sprinkling system existing on the site during dry weather or whenever necessary for proper establishment of the lawn. Care shall be taken to avoid excessive washing or puddling on the surface and any such damage caused thereby shall be repaired by the CONTRACTOR at its own expense.
- D. Protection: The CONTRACTOR shall provide adequate protection to all newly planted areas including the installation of approved temporary fences to prevent trespassing and damage, as well as erosion control, until acceptance.
- E. The CONTRACTOR shall replace any materials or equipment it has damaged or which has been damaged by its employees or subcontractors.
- F. Partial utilization of the project shall not relieve the CONTRACTOR of any of the requirements contained in the Contract Documents.
- G. Plants shall be maintained in a vigorous, thriving condition by watering, cultivating, weeding, pruning, spraying, and other operations necessary. No trees or shrubs will be accepted unless they are healthy and show satisfactory foliage conditions.
- H. All planted areas shall be cultivated at least every 2 weeks and raked smooth, to present a neat appearance and additional mulch shall be added where necessary.
- I. Maintenance shall include, in addition to the foregoing, cleaning, edging, repairs to stakes, wire, and wrappings, the repair of erosion, and all other necessary work of maintenance. Sidewalks and other paved areas shall be kept clean while planting and maintenance are in progress.
- J. Any and all sprinkler lines broken or disrupted during this construction shall be replaced to proper working order prior to contract work and be acceptable to the OWNER.
- 1.7 PARK CITY INSPECTION SCHEDULE, MAINTENANCE AND WARRANTY
- A. Inspections: All contractors are required to follow an Inspection schedule. Should any of the work be covered of completed before inspections and test, the contractor shall uncover the work at their own expense.

- B. Due to Utah having limited growing season, no inspections will be preformed from October 31 through March 31, unless conditions permit and at the Parks Division discretion.
- C. The contractor shall set up an inspection schedule with the Parks Division. Prior to each inspection date, the contractor shall give twenty-four (24) hours= notice to the Parks Division. There shall be a minimum of five inspections. The contractor may not proceed to the next phase of construction until the previous phase has been inspected and approved.
- D. After installing the irrigation main line, the contractor shall schedule a first inspection from the Parks Division.
- E. The developer/contractor shall maintain the property for a period of twelve months following the 75 percent bond release. During this warranty period the contractor is responsible for all aspects of maintenance including but not limited to; mowing, fertilizing, irrigation scheduling and repair, and all safety inspections.
- F. At the end of the twelve month warranty period a fifth Inspection shall be scheduled by the contractor. If at that point the project is still termed satisfactory, the city shall assume the maintenance of the property. The contractor shall obtain written approval from the Parks Division, the City has officially assumed maintenance and that all work has been completed to City Standards.
- G. As built: the Landscape Architect/Contractor shall furnish the Parks Division with two (2) preliminary sets of blue line prints for review, showing all irrigation and landscape work required. After initial review by the City, the Landscape Architect shall make all noted corrections as discussed with the staff. The Landscape Architect shall submit two (2) final sets of blue line prints to be signed and approved by the Parks Division. Upon completion of the installation, the contractor shall submit the as-built to the Parks Division. The Parks Division shall receive the corrected set of as-built plans prior to accepting the project for final release.

1.8 INSPECTION SCHEDULE

A. Weekly construction inspections will be conducted by the Landscape Architect during the Landscape and Irrigation work and installation with the Landscape Contractor.

PART 2 -- PRODUCTS

- 2.1 GENERAL
- A. All landscaping materials for soil conditioning, weed abatement, or planting shall be firstgrade, commercial quality and shall have certificates indicating the source of material, analysis, quantity, or weight attached to each sack or container or provided with each delivery. Delivery certificates shall be given to the L.A. as each shipment of material is delivered. A list of the materials used, together with typical certificates of each material, shall be submitted to the L.A. prior to the final acceptance of the job.

2.2 TERMINOLOGY AND QUALIFICATIONS

- A. Plants or plant material having characteristics not conforming to terms as defined will not be accepted. The terms "plant material" or "plants" refer to all vegetation, whether trees, shrubs, ground cover, or herbaceous vegetation.
- B. Quality refers to structure and form, as evidenced by density and number of canes and branches, compactness, symmetry, and general development without consideration of size or condition. Standard quality indicates the least acceptable quality. Plants shall be typical of the species and variety of good average uniform growth, shall be well formed and uniformly branched, and shall have the minimum number of canes specified, free from irregularities, or shall conform to minimum quality index. Where the number of canes is not specifically stated in describing this grade, the standards of the "Horticultural Standards" as adopted by the American Association of Nurserymen, shall apply. In this case, the number of canes and other factors for the appropriate classification under "quality definition" in the Horticultural Standards shall be the Quality index. Plant material below this standard will be considered "culls" and are not acceptable. Plants shall be nursery grown.
- C. Specimen means an exceptionally heavy, symmetrical, tightly-knit plant, so trained or favored in its development and appearance as to be outstanding, superior in form, number of branches, compactness, and symmetry.
- D. Size is the factor controlled by dimensions representing height or spread, or both, without consideration of quality or conditions. For standard quality, a dimension is given for height or container size, or a dimension is given for height as well as container size.
- E. Height is usually indicated with a tolerance. The smaller dimension is the minimum acceptable. The larger dimension represents the maximum permissible. The average dimension of all plants must equal the average of the tolerance figures shown on each item
- F. Condition is the factor controlled by vitality and ability to survive and thrive and be comparable with normal plants of the same species and variety in the vicinity, at the same season of the year. In addition, plants shall be free from physical damage or adverse conditions that would prevent thriving. Conditions also sometimes refer to state of growth, i.e., whether "dormant condition" or "growing condition" and this state shall be comparable to plants of similar species in the vicinity or leaves, formation of buds, and the like.
- G. Cane means a primary stem which starts from the ground, or close to the ground, at a point not higher than 1/4 the height of the plant.
- H. Caliber shall be taken 12 inches above the finish grade or ground, as a guide, or where a dimension in trunk appears to form the head of the tree.
- I. Foliage line is maximum dimension in case of specimen plants. It measures from ground to lowest part of body of plant.
- J. Collected plants shall not be used.

2.3 TOPSOIL

- A. Existing on site topsoil may be stripped and stockpiled on site for landscape use.
- B. Topsoil shall be imported and placed at a depth of X-inches (to be filled in by designer) in areas that are landscaped; this includes turf seeding and sodding. Grading shall take into account mulch.
- C. Imported topsoil shall be obtained from naturally drained areas and shall be fertile, friable loam suitable for plant growth. Topsoil shall be subject to inspection and approval at the source of supply and upon delivery.
- D. The topsoil shall be of uniform quality, free from subsoil stiff or lumpy clay, hard clods, hardpan, rocks, disintegrated debris, plants, roots, seeds, and any other materials that would be toxic or harmful to plant growth. Topsoil shall contain no noxious weeds or noxious weed seeds.
- E. Imported topsoil shall contain at least 6 percent organic matter as determined by loss of weight after ignition of dried (moisture-free) samples in accordance with current methods of the Association of Official Agricultural Chemists.
- F. Imported acidity range of the topsoil shall be (pH 5.5 to pH 7.5). The salinity level shall be less than 3 millimhos/cm.
- G. Imported topsoil clay, as determined by the Bouyoucous hydrometer or by the Recantation method, shall not exceed 60 percent of the topsoil material.
- H. Mechanical analysis shall be performed and shall conform to ANSI/ASTM D 422. QUALITY ASSURANCE
- 2.4 FERTILIZER AND ADDITIVES
- A. Fertilizer shall be furnished in bags or other standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon.
- B. Chemical fertilizers shall be a mixed commercial fertilizer "Evergreen Simplot Best" conforming to FS O-F-241 D, Type I, with percentages of nitrogen, phosphoric acid, and potash at 5-3-1. The combined N-P-K content shall be following percentages of total weight: 5 percent nitrogen 3 percent phosphoric acid and 1 percent potash. Fertilizers shall be uniform in composition, dry, and free flowing.
- C. Tablets shall be 21 grams each 20-10-5 "Agriform," "Lesslie", or equal.
- 2.5 MULCH & COMPOST
- A. Organic Compost material as outlined in "Compost Quality Guidelines for Landscaping" by Isaman, Koening, Cerny, USU Extension, 3 March 2003.

2.6 PLANT MATERIALS

- A. Plants shall meet requirements of the Contract Documents and shall be in accordance with the botanical names and applicable standards of quality, size, condition, and type. They shall be true to name, genera, species, and variety in accordance with reference publications.
- B. Plant names are defined in "Standardized Plant Names" and "Bailey's Encyclopedia of Horticulture." When a name is not found in either reference, the accepted name used in the nursery trade shall apply.
- C. Plants shall be marked for identification. Each bundle of plants and at least 25 percent of each species and variety of separate plants in any one shipment shall have legible labels securely attached before delivery to the site.
- D. All trees and shrubs shall be measured while their branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch or root tip to tip. No trees will be accepted with their leaders cut, or so damaged that cutting is necessary.
- E. All plants shall be symmetrical and shall conform to the size, age, and condition as specified on the plant list shown in the Contract Documents. Exceptions are as follows:
 - 1. Plants larger than specified in the plant list may be used if approved by the L.A., but use of such plants shall not increase the contract price. If the use of larger plants is approved, the spread of roots or ball earth shall be increased in proportion to the size of the plant. Bare root plants furnished in size greater than specified shall be balled and burlaped when required by the L.A.
 - 2. Where caliper or other dimensions of any plant materials are omitted from the Plant List, it shall be understood that such plant materials shall be normal stock for type
- F. Plants shall be of sound health, vigorous, and free from plant disease and shall be wellbranched, shall have full foliage when in leaf, and shall have a healthy well-developed normal root system. Cold storage plants will not be accepted. Plants that are sensitive to shock from elevation change shall be grown at elevations close enough to site to alleviate any plant damage due to such change for at least 2 years.
- I. Roots or balls of all plants shall be adequately protected at all times from sun and drying winds.
- J. Plants (indicated to be in marked cans, pots, or other containers on the plant list) shall have been grown in the containers for a minimum of 6 months and a maximum of 2 years. Roots shall fill the containers but show no evidence of being or having been root bound.
- K. Trees shall have straight trunks and all old abrasions and cuts shall be completely callused over. In no case shall trees be topped before delivery.

- L. Plants shall have been transplanted or root-pruned at least once in the 2 years. Plants shall not be pruned prior to delivery except as authorized by the L.A.
- 2.8 STAKING MATERIALS
- A. Stakes for supporting trees to be wood posts.
- B. Guying kits for trees will be "Cable Guy" (Alpine Nursery 1-800-356-6633) #CG-4000 and CG-6800-T. Add extra hose where guy cable comes in contact with tree.
- C. Wire covering shall be a flexible guard and approved by the Park City Urban Forester or his/her designee.
- D. Wire for tree bracing and guying shall be double strand pliable No. 10-gage galvanized steel wire or vinyl-coated steel wire.

PART 3 -- EXECUTION

- 3.1 GENERAL
- A. The landscape work shall not be performed at any time when it may be subject to damage by climatic conditions.
- B. The CONTRACTOR shall carefully scale or otherwise verify all dimensions in the Contract Documents. Dimensions and plant locations shown shall be coordinated with L.A. and final location shall be site-oriented by the planter and L.A. Any discrepancies or inconsistencies discovered shall be brought to the attention of the L.A.
- C. In case of conflict between the plant list totals and total plant count of the Contract Documents, the CONTRACTOR shall provide the higher number of plants.
- D. Delivery of materials may begin only after samples and tests have been approved by the L.A. All materials furnished for the work shall be not less than the approved sample.
- E. Substitutions for the indicated plant materials may be permitted pursuant to the Contract Documents.
- F. The CONTRACTOR shall provide temporary fencing, barricades, covering, or other protections to preserve existing landscaping items indicated to remain and to protect the adjacent properties and other structures when they may be damaged by the landscape work.
- G. Waste materials shall be removed and disposed of off the Owner's property, unless otherwise indicated.
- H. It shall be the responsibility of the CONTRACTOR to avail itself of any information regarding utilities which are in the area of work and to prevent damage to the same. The CONTRACTOR shall provide protection to the utilities as necessary.

- I. Burning of combustible materials on the site shall not be permitted.
- J. The CONTRACTOR shall provide protection to structures, sidewalks, pavements, and other facilities in areas of work which are subject to damage during landscape work. Open excavations shall be provide with barricades and warning lights which conform to the requirements of governing authorities and the State's OSHA safety requirements from dusk to dawn each day and when needed for safety.
- K. Planting areas include all areas to be landscaped unless, specified or shown, otherwise.
- 3.2 SOIL PREPARATION
- A. The landscape work shall not begin until all other trades have repaired all areas of settlement, erosion, rutting, etc., and the soils have been re-established, recompacted, and refinished to finish grades. The L.A. shall be notified of all areas which prevent the landscape work from being executed.
- B. Areas requiring grading by the landscaper including adjacent transition areas shall be uniformly level or sloping between finish elevations to within 0.10-ft above or below required finish elevations.
- C. The landscape work shall not proceed until after walks, curbs, paving, edging, and irrigation systems are in place. The contract operations shall be completed to a point where the landscape areas will not be disturbed. The sub grade shall be cleaned free of waste materials of all kinds.
- D. During grading waste materials in the planting areas such as weeds, rocks (1 inches and larger) building materials, rubble, wires, cans, glass, lumber, sticks, etc., shall be removed from the site. Weeds shall be dug out by the roots.
- E. Fertilizers, additives, seed, peat, etc. subject to moisture damage shall be kept in a weatherproof storage place in such a manner that they will be kept dry.
- F. After removal of waste materials the planting areas sub grade shall be scarified and pulverized to a depth of not less than <u>12 inches in the proposed planting area</u> and all surface irregularities below the cover of topsoil removed.
- G. Finish sub grade and topsoil placement and grading shall consist of:
 - 1. Prepare sub grade by rough grading and removing all irregularities and debris, then till and scarify subsoil to a depth of <u>6 inches</u> before placing topsoil. Dig sub grade down as required in shrub beds for the placement of topsoil. Provide laser leveling on large flat areas to create a uniform level sub grade.
 - 2. Place <u>X inches</u> (to be filled in by designer) of topsoil over all lawn and irrigated grass seeding areas. Sub grade soil shall be in a loosened and rough surface finish before topsoil is placed over sub grade. (Sub-grade surface shall not be smooth, but a rough surface shall exist for a transition zone of topsoil to subsoil.) If areas of sub grade become compacted

before topsoil is placed, sub grade shall be tilled again before topsoil placement.

- 3. Placing all soil additives and fertilizers for the areas as noted on the plan.
- 4. Tilling planting area sub soils and top soils that are compacted.
- 5. After tilling, bring areas to uniform grades by floating and/or hand raking.
- 6. In large open level areas, perform laser leveling to create uniform level areas.
- 7. Make minor adjustment of finish grades as directed by the landscape architect or owner.
- 8. Remove waste materials over 1" in size such as stones, roots, or other undesirable foreign materials and finish raking, dishing, dragging, and smoothing soil ready for planting.
- 9. No grading or soil placement shall be undertaken when soils are wet or frozen.
- 10. Provide dust control measures at all times by wetting down the soil surface as required to prevent blowing dust.
- H. Any unusual subsoil condition that will require special treatment shall be reported to the L.A.
- I. Topsoil shall be uniformly distributed over all areas where required. Sub grade and topsoil shall be damp and free from frost.
- J. Surface drainage shall be provided as shown by molding the surfaces to facilitate the natural run-off of water. Low spots and pockets shall be filled with topsoil and graded to drain properly.
- K. Finish grade of all planting areas shall be 2 inches below finish grades of adjacent pavement of any kind for sod areas.

3.3 DELIVERY, STORAGE, AND HANDLING OF PLANT MATERIALS

- A. No plants other than the required samples shall be dug or delivered to the site until the required inspections have been made and the plant samples are approved
- B. Plants shall not be pruned prior to delivery except upon approval by the L.A.
- C. Plant material shall be planted on the day of delivery if possible. The CONTRACTOR shall protect the stock in a temporary nursery at the project site where it shall be protected from sun and drying winds and shall be shaded, kept moist, and protected with

damp soil, moss, or other acceptable material. Plants shall be planted within 2 days after delivery.

- D. All balled and burlapped plants which cannot be planted immediately in delivery shall be set on the ground and shall be well protected with soil, wet moss, or other acceptable material. Bare rooted plants, which cannot be planted immediately, shall be planted on heeled-in trenches immediately upon delivery. No material heeled-in more than one week may be used. Bundles of plants shall be opened and the plants separated before the roots are covered. Care shall be taken to prevent air pockets among the roots.
- E. During planting operations, bare roots shall be covered with canvas, wet straw, or other suitable materials. No plants shall be bound with wire or rope at any time so as to damage the bark or break branches.
- F. Plants shall not be picked up or moved by stem or branches, but shall be lifted the ball or container.
- G. Plants shall be lifted and handled from the bottom of the ball or container. Plants with balls cracked or broken before or during planting operations will not be accepted and shall be immediately removed from the site.
- 3.4 GENERAL SEEDING
- A. Weather Conditions: Fertilizing, seeding, or mulching operations will not be permitted when wind velocities exceed 5 miles per hour or when the ground is frozen, unduly wet, or otherwise not in a tillable conditions. Seeding shall not be conducted when temperatures exceed 80°F. The recommended seeding window is March 15 – May 15 and September 15 – December 1st. Contractor shall obtain approval from the L.A. or City Representative to verify weather conditions prior to seeding.

Native Seed Mix:

General Upland Grass Mix - for above bank line and outside of wetlands.

- 15% Western Wheatgrass
- 15% Nodding Brome 15% Mountain Brome
- 10% Big Bluegrass
- 15% Sheep Fescue
- 10% Blue Wildrye
- 15% Slender Wheatgrass
- 5% Rocky Mtn. Penstemon
- B. Topsoil: X inches of approved, imported, amended topsoil shall be placed in all shrubs and tree planting areas. Imported, amended topsoil shall be placed and raked smooth prior to seeding or planting. Depth of topsoil to be determined by designer.
- C. Soil Preparation: The ground to be seeded shall be graded in conformance with the Drawings and shall be loose and reasonably free of large rocks, roots, and other material which will interfere with the work.

LANDSCAPING 02900-11

- D. Grass seed mix for lawn turf areas shall consist of 80% Kentucky bluegrass, 20% Perennial Ryegrass. Seeding rate: 4-5 pounds per 1000 square feet.
- **3.2** DRILL SEEDING, NON IRRIGATED SEEDING
- A. Only those areas that are too steep to drill may be broadcast or hydro-seeded.
- B. Seeding: Seed shall be uniformly drilled to an average depth of 1/4 to 1/2 inch at the rate specified using equipment having drills not more than 6-1/2 inches apart. Row markers shall be used with the drill seeder. Drill seeding shall take place 3 days after application of herbicide.
- C. Rolling: Immediately after seeding, the entire area shall be firmed with a roller not exceeding 90 pounds for each foot of roller width. Areas seeded with drills equipped with rollers shall not be rolled.
- D. Hydro mulch: Apply hydro mulch over the entire seeded area at a rate of 2000 pounds per acre as noted in the hydro seeding section.
- 3.3 HYDRO SEEDING
- A. Hydro seeding shall only be used in areas that are too steep for drill seeding.
- B. Hydro seeding shall occur from March 15 May 15. The actual seeding period must be approved by the L.A. because weather conditions vary from year to year. No seed shall be conducted until approved.
- C. Hydro mulch or slurry shall conform to the following:
 - 1. Apply specified seed at twice the listed rate with one half the seed to be applied to the prepared ground surface by broad casting. The remaining seed shall be mixed with the slurry mix.
 - 2. Echofiber or Conwed or approved equal wood fiber mulch, applied at a rate of 2000 pounds per acre.
 - 3. M-binder or Plantego tackifier, applied at a rate of 150 pounds per acre.
 - 4. 16-16-8 slow release fertilizer, applied at a rate of 150 pounds per acre
 - 5. Water at a rate of 4000 gallons per acre.
- D. Hydro mulch shall be applied using a hydro seeding equipment manufactured by Finn or Bowie or approved equal. Machines shall be equipped with heavy duty cast iron pumps and agitators capable of thoroughly mixing the slurry.
- E. Spray of hydro mulch shall begin immediately after the tank is full and the slurry components are mixed.
- F. Apply hydro mulch in a downward drilling motion using a fan stream nozzle. It is important to ensure that all of the components enter and mix with the topsoil.
- G. Only qualified and trained personnel shall perform hydroseeding to insure the uniformity of the hydro seeding application.

- H. Hydro mulch slurry less fertilizer and seed shall also be applied to areas that may be susceptible to erosion that were drill seeded.
- 3.4 TREE AND PLANT LOCATIONS
- A. The CONTRACTOR shall locate and stake all tree and shrub locations and have the locations approved by the L.A. before starting excavation for same. The plant locations shall be observed, and their locations shall be adjusted as directed by L.A. before final approval.
- B. No trees shall be located closer than 72 inches to structures unless otherwise shown. Ground covers and shrubs may be planted up to structures or curbs.

3.5 PLANT PITS

- A. Plant pits, centered on location stakes, shall be excavated circular pits with vertical sides and flat or saucer shape bottom in accordance with the following sizes unless shown
 - 1. Tree pits shall be at least 3 feet greater in diameter than the specific diameter of ball or spread of roots, and at depth of ball or roots.
 - 2. Shrubs shall be planted in pits or holes of soil the depth of ball below finished grade, or as much deeper as necessary to properly set the plant at finished grade. Shrubs with balls shall be planted in pits that are at least 12 inches greater in diameter than the bottom of ball.

3.6 PREPARED BACKFILL

- A. Tree and shrub pit backfilling soil shall consist of ½ existing soil from plant pit and ½ topsoil mixed.
- B. Tree and shrub pits shall be provided with fertilizer tablets as follows:
 - 1 per one-gallon can plant
 - 2 per 5-gallon can plant
 - 3 per 1.5" cal. tree

3.7 ROCKS OR UNDERGROUND OBSTRUCTIONS

- A. In the event that rock or underground obstructions are encountered in the excavation of plant pits, alternative locations shall be selected by the L.A. Moving of trees to alternative locations shall not entail additional costs to the OWNER.
- 3.8 SETTING PLANT MATERIALS
- A. The soil shall not be worked when the moisture content is so great that excessive compaction will occur, nor when it is so dry that a dust will form in the air or that clods will not break readily. Water shall be applied if necessary to provide ideal moisture for filling and for planting as herein specified.

- B. Plants shall be set in center of pits as shown in the Contract Documents. They shall be set plumb and straight, and at such a level that after settlement that the crown of the plant will be 2 inches above the finished grade.
- C. Balled and burlapped trees shall have planting soil placed and compacted around base of ball to fill all voids. All burlap ropes or wires shall be removed from the sides and tops of balls.
- D. All ground cover plants shall be evenly spaced, staggered in rows, and set at intervals specified, so as to produce a uniform effect. Plants shall be watered immediately after Planting operations have been completed.
- E. All shrubs and vines shall be pruned to remove damaged branches. All bare root shrubs shall be pruned and shaped to compensate for transplant root loss.
- F. Planting soil around roots or balls shall be thoroughly compacted and watered. After planting, the soil in the shrub beds shall be cultivated between shrubs, raked smooth, and neatly outlined. Muddy soil shall not be used for backfilling. All broken or frayed roots shall be properly cut off.
- G. Trees and shrubs on slopes steeper than 6 to 1 shall be provided with watering dams or berms at least 6 inches high and 8 inches wider than planting pit (hole) unless specified or shown otherwise.
- H. All trees shall be thoroughly watered immediately after planting.
- I. Remove all tags and labels when directed by L.A.
- 3.9 STAKING AND TREE WRAPPING
- A. Staking of trees shall be done immediately after they are planted. Plants shall stand plumb after staking. Staking shall be as specified unless shown or indicated otherwise.
- B. Trees 2-inch caliper and less shall be supported by 2 stakes placed diametrically opposite at perimeter line of ball and to sufficient depth to hold tree rigid. Stakes shall be driven vertically and not twisted or pulled. Trees shall be wired to each stake as indicated on staking details. Trees shall be protected with rubber hose over wires at points of contact.
- C. Trees (deciduous) 3-inch caliper and evergreen trees over 6 feet tall to be guyed at points of branching with 3 wire guys spaced equally around and outside the perimeter of the ball with "Cable Guy" product model #CG-4000. Trees over 3-inch caliper to be guyed with "Cable Guy" product CG-6800-T. Each guy shall be positioned below crotches. Provide extra hose cushion where cable comes in contact with tree.
- D. Tree wrap all trees that may be susceptible to winter sun damage as follows:
 - 1. Starting as low as possible, wrap Treesaver in a smooth spiral to assure overlapping each previous wrap by 1/4 inch.

- 2. Continue wrapping up the trunk to just below the second scaffold branches.
- 3. Tie of Treesaver with a half hitch knot.
- 4. Cover the base of tree and the first wrap of Treesaver with soil.

3.10 PRUNING AND MULCHING

- A. Each tree and shrub shall be pruned in accordance with standard horticultural practice to preserve the natural character of the plant in the manner fitting its use in the landscape design, as approved by the L.A.
- B. All dead wood or suckers and all broken or badly bruised branches shall be removed by thinning out and shortening branches. Deciduous bare-rooted plants shall have not less than 1/3 of their respective leaf surfaces removed. All cuts shall be made just above a healthy bud. Pruning shall be done with clean, sharp tools.
- C. Plants shall be mulched after planting and cultivating have been completed. A layer of mulch materials, as hereinbefore specified, shall be spread on finished landscaping grade within all planting areas to a depth of 4 inches. The mulch around isolated trees shall follow the tree planting details shown on plans. All shrub and ground cover beds shall be completely covered with the mulch.

END OF SECTION

SECTION 02810 LANDSCAPE IRRIGATION SYSTEM

PART 1 - GENERAL

- 1.1 SUMMARY OF PROJECT
- A. Work to be done on Project shall:
 - 1. Include all labor, materials, equipment, tools and transportation.
 - 2. Perform all operations, in connection with and reasonably incidental to; the complete installation of the irrigation system.
 - 3. Follow direction is shown on the plan sheets, legend, notes, details, specifications (the Construction Documents, hereafter referred to as CD's).
- B. Items of work specifically included are:
 - 1. Procurement of all applicable licenses and permits.
 - 2. Payment of any fees for connection to water source and power source.
 - 3. Coordination of location of underground utilities, by contacting local services: 'Blue Stakes' or 'Call Before You Dig'.
 - 4. Sleeving necessary for irrigation pipe and wire.
 - 5. Provision for and connection of the electrical power supply to the irrigation control system.
 - 6. One year warranty of all irrigation components and all labor required to install.
 - 7. 90 day maintenance period of irrigation system and components.
- C. All disturbed areas shall receive irrigation unless specifically indicated on CD's.
- D. Revise, repair, and/or restore existing irrigation system to continue operation of existing components and to accommodate new construction. All plant material on the Project shall be irrigated unless specifically indicated on CD's.
- E. Contractor shall note that location or routing of irrigation components on CD's is approximate. Piping, sleeving and/or other components may be shown schematically on CD's for graphic clarity and to demonstrate component groupings and separations. All irrigation components shall be placed in landscaped areas, with the exception of pipe and wire in sleeving under hardscaped areas.

1.2 DEFINITIONS

- A. Construction Documents: All documents provided to Contractor for proper installation of irrigation system; including plan sheets, legend, notes, details, specifications and supplemental plan issues or addenda. Referred to in this section by the acronym CD's.
- B. Contract: For the purposes of the irrigation section of the specification, (Section 02810) this term refers to the Contract, Sub-Contract, or portion of the Contract dealing <u>only</u> with the irrigation system.

LANDSCAPING IRRIGATION 02810-1



- C. Contractor: For the purposes of the irrigation section of the specification this term refers to the specific contractor or sub-contractor responsible for installation of the irrigation system for this project.
- D. GPM: Acronym for Gallons per Minute.
- E. Isolation Valve: A manual valve located on the main line that when shut off, will remove constant pressure to a specific section of the main line and corresponding downstream irrigation components.
- F. Line Valve: A manual valve located on the main line that when shut off, restricts flow in the main line. More than one line valve must be shut off to isolate a section of main line and corresponding downstream irrigation components.
- G. Lateral Line Piping: Circuit piping downstream of remote control valve (RCV) providing water to sprinkler heads, bubblers, or drip components. Under pressure only when RCV activated and opened.
- H. Line Voltage Wiring: Wiring used to convey power to electrically operated equipment on the Project, such as 120 VAC, 240 VAC, or 480 3PH VAC.
- I. Low Voltage Wiring: Wiring used to convey power to irrigation system components, such as RCV's, master valve, flow meter, decoders, etc. An example would be: 14 AWG PE UL RCV control wire.
- J. Main Line Piping: Piping downstream of Point of Connection (POC). Provides water to RCV's, Quick Couplers, and hose bibs. Normally under constant pressure.
- K. OAR: Acronym for Owner's Approved Representative. This individual designated by Owner who is authorized to make decisions on behalf of the Owner. This individual is authorized by the Owner to direct actions of the Contractor. This individual shall have detailed involvement in the project and be on Project site at regular intervals.
- L. POC: Acronym for Point of Connection. The physical location of the water source for this Project, and the actual components installed connecting to the water source. May require Contractor to provide additional saddles, valves, nipples, fittings, spools etc. to provide water to the Project.
- M. RCV: Acronym for Remote Control Valve. An electrically operated 24 VAC valve.
- N. Static Pressure: Pressure measured at the POC, with no flow taking place within the system.
- O. Water Supply: Potable, and/or Non-Potable, and/or Effluent piping and components, furnished and installed by trades or contractors other than the irrigation contractor; to provide irrigation water to this Project upstream of (prior to) the POC.
- 1.3 ELIGIBILITY TO BID
- A. The minimum level of expectation for Experience and Qualifications required to be eligible to bid the irrigation system on this Project are listed below in this section.

- 1. See Sections referring to 'Experience, Qualifications and Certifications' for more information and details.
- 2. Contractor shall be in compliance with these requirements at the bid date.
- B. Contractor shall be prepared to submit documentation supporting their Experience and Qualifications to the General Contractor and the OAR within 48 hours of bid date. Failure to provide supporting documents within 48 hours of bid may result in elimination of the Contractor's bid or his ability to work on this Project.
- C. Failure to meet the minimum requirements for Experience and Qualifications may result in elimination of the Contractor's bid or his ability to work on this Project.
- D. Requirements for documentation of Certifications are also listed below in the same Section. Contractor shall not be required to submit documentation of Certification at Bid date, but at date indicated.
- 1.4 PROJECT CONDITIONS
- A. Contractor shall accept Project site in 'as-is' condition.
- B. Contractor shall revise, restore, repair existing irrigation system to return to or continue operation of system outside project area of disturbance.
- C. Interruption of water service
 - 1. Should irrigation installation require shut-down of existing Project irrigation system, Contractor shall be responsible to coordinate with and receive approval from OAR. Contractor shall be responsible to restore operation of existing irrigation systems within 48 hours.
 - 2. Contractor shall be responsible for continuous provision of irrigation water maintaining all existing or new plant material on Project in a healthy condition during full term of this project.
- D. Contractor shall maintain Project work area in a safe condition, and provide flagging, taping, barricades, trench covering, shoring and or fencing necessary to maintain safety.
- 1.5 PERFORMANCE REQUIREMENTS
- A. Minimum pressure and minimum flow required:
 - 1. Irrigation CD's expect that the POC has available a minimum static pressure and a minimum flow capable to safely and efficiently operate irrigation system as designed. Minimum design requirements are listed in plan legend.
 - 2. Contractor shall perform static/working pressure and volume test within 48 hours of commencement of work, and provide written results to OAR.
- B. Responsibility for coverage:
 - 1. Irrigation system basic design intent is to provide 100% coverage of sprinklers (also known as double coverage or head-to-head coverage.)

- 2. Spray heads shall be placed at no greater than 90% of manufacturer's published coverage data. Contractor shall have authority to make minor adjustments to actual placement of sprinkler heads or irrigation components vs. locations shown on plan, in order to best achieve full coverage indicated above, without significant overspray on hardscapes, buildings or other project features.
- 3. Contractor shall notify OAR in writing of: potential discrepancies or weaknesses due to field conditions; in implementing irrigation CD's.
- C. Layout of Components
 - 1. During layout and staking, consult with OAR to verify proper placement of major irrigation components.
 - 2. Contractor shall not proceed with implementation of CD's without OAR's approval.
 - 3. Contractor shall have authority to make minor adjustments to pipe routing or equipment locations due to conflicts with site utilities or other obstructions.

1.6 SEQUENCING

- A. Contractor shall contact local utility locator service at least 48 hours prior to commencement of work on the Project.
- B. Contractor shall familiarize with himself with site utilities and hazards prior to commencement of work.
- C. Contractor shall coordinate this work with other work by other trades on Project as well as other landscape tasks on Project.
- D. Install sleeving prior to installation of concrete flat work, paving or other permanent site elements as needed.
- E. Irrigation system Point of Connection components, backflow prevention and pressure regulation devices shall be installed and operational prior to all downstream components.
- F. All main lines shall be thoroughly flushed of all debris prior to installation of Remote Control Valves.
- G. All lateral lines shall be thoroughly flushed of all debris prior to installation of any sprinkler heads.
- 1.7 REFERENCE DOCUMENTS
- A. The following references apply to this project, the Contractor shall be responsible to be familiar with, refer to, and implement these references in completion of this project:
 - 1. ASTM American Society for Testing and Materials.
 - 2. Irrigation Association: Turf and Landscape Irrigation Best Management Practices (BMPs).



- 3. American Society of Irrigation Consultants (ASIC) 'ASIC Guideline 100-2002 (January 2, 2002) For Earth Grounding Electronic Equipment in Irrigation Systems.
- 4. Utah Irrigation Professionals document: Minimum Standards for Landscape Design and Construction.
- 5. Any other existing local governing agency codes, ordinances and/or any standards, details and specifications for irrigation agency may have.
- 6. Applicable industry codes, ordinances or standards such as (but not limited to) UBC or NEC.
- B. Generally, this specification section shall take precedence over all others. Any discrepancies discovered by Contractor shall be brought to OAR's attention within 8 hours via telephone and within 48 hours in writing. Contractor shall not proceed with work until OAR provided direction or approval.
- 1.8 RELATED SPECIFICATION SECTIONS
- A. 02900 Landscaping
- 1.9 SUBMITTALS
- A. Contractor shall follow format and requirements as set forth in General Conditions section of this specification document for materials submittals.
- B. Contractor shall provide submittal for irrigation equipment and materials prior to ordering or taking delivery of any products.
- C. Equipment or materials purchased or installed prior to receiving written submittal approval is at risk of rejection by OAR. Contractor may be liable for removal or replacement of any or all non-approved products at his own expense.
- D. Contractor shall provide OAR with 2 copies of Operations and Maintenance manual, containing:
 - 1. Copy of approved submittal products
 - 2. Instruction for Spring Start-up and Winterization.
 - 3. Site map showing Controller zones, each zone distinguished by a different color.
 - 4. Table showing typical Controller program schedule for worst case day.
 - 5. Copy of control system certification if required for this Project.

1.10 EXPERIENCE

- A. Contractor shall provide an <u>Experience</u> resume or document; in pdf format, indicating:
 - 1. The contractor shall demonstrate experience with mine hazardous tailings related projects in the Park City area.
 - 2. That Contractor is licensed to perform landscape and irrigation construction in the State where Project resides.
 - 3. That Contractor is bondable and insured for the work to be performed.
 - 4. That Contractor has been installing sprinkler systems on commercial projects for the last five previous years.

5. References of five projects of similar scope and size completed within the last five years. Three of the projects listed shall be local.

1.11 QUALIFICATIONS

- A. Contractor shall provide a <u>Qualifications</u> resume or document; in pdf format indicating:
 - 1. That Contractor currently employs both skilled and unskilled workers in sufficient quantities to complete project within time limits indicated by Contract.
 - 2. A list of employees to be assigned to this project and their irrigation experience.
 - 3. Contractor shall include a listing of the supplier(s) where irrigation related material will be purchased for this Project.
 - 4. That Contractor possesses proper power equipment of appropriate size and quantity to complete project within time limits indicated by Contract.
 - 5. Person on project site, in charge of irrigation daily field operations: (Project Foreman, Superintendent, Supervisor etc.)
 - a. Has at least five consecutive years of commercial irrigation experience.
 - b. This person is able to communicate with OAR. Is fluent in reading, writing and speaking English.
 - c. Is a <u>Certified Irrigation Contractor (CIC)</u> in good standing as set forth by the Irrigation Association. This person shall be on the project site at least 75% of each working day.
 - i. Contractor's CIC shall be a regular full-time employee of the Contractor firm, or a sub-contractor to Contractor, where subcontractor's firm provides all irrigation installation for the Project and meets all listed requirements for Experience, Qualifications and Certifications.
 - ii. NOTE: Contractor shall not engage a CIC as a consultant or representative to oversee Contractor's staff install the Project irrigation system, i.e. the Contractor shall not 'rent' a CIC or CIC's license.

1.12 CERTIFICATIONS

- A. Contractor shall provide copies of appropriate <u>Certification</u> documents for all applicable staff. In order to provide a minimum level of workmanship, all installation personnel expected to perform any tasks involving PVC pipe, electrical components, and or drip components; shall have Certificates for each task they perform as designated below:
 - 1. All installation personnel who will work on PVC pipe and PVC fittings in the irrigation system shall be certified by IPS Corporation. The certification shall cover PVC pipe and fitting assembly using solvent weld joining techniques. It is the responsibility of the Contractor to obtain such certification and to provide a copy of the "Certificate of Completion" for each person handling PVC products on the project to the OAR prior to commencement of work. It is the Contractors responsibility to contact IPS Corporation and then the local IPS authorized representative well in advance of commencement of work to schedule his/her attending of a scheduled seminar or to make an appointment to schedule a new seminar. Contact IPS Corporation, Weld-On Customer Service at 800 421-2677,

to obtain a referral for the local IPS factory authorized representative contact information.

- 2. All installation personnel who will work on the electrical circuits of the irrigation system shall be certified by Paige Electric Co., LP. The certification shall cover irrigation wires, cables, proper installation and splicing methods, and protecting electronic equipment from lightning and power surges. It is the responsibility of the Contractor to obtain such certification and to provide a copy of the "Certificate of Completion" for each person installing electrical products on the project to the OAR prior to commencement of work. It is the Contractors responsibility to contact Paige Electric well in advance of commencement of work to schedule his/her attending of a scheduled seminar or to make an appointment for a new one. Contact Vince Nolletti, Vice President Irrigation Operations, Paige Electric Co, LP, 559 431-2346.
- 3. If Drip irrigation products are to be used on this Project, all installation personnel who will work on drip components of the irrigation system shall be certified by the manufacturer of the corresponding drip products specified to be used on the Project. The certification shall cover proper application and installation of point source and inline drip irrigation products, and also adaptation of drip product to Project soil types and infiltration rates. It is the responsibility of the Contractor to obtain such certification and to provide a copy of the "Certificate of Completion" for each person installing drip products on the project to the OAR prior to commencement of work. It is the Contractors responsibility to contact the drip product manufacturer and the local manufacturer's authorized representative well in advance of commencement of work to schedule his/her attending of a scheduled seminar or to make an appointment for a new one. Courtesy contact information for the following manufacturers is shown below:
 - a. Rain Bird Corporation--Dave Palumbo (310) 503-4004
 - b. Hunter Industries—Justin Hamula (801) 231-9504
 - c. Netafim USA—Kelly Keicher (303) 513-3738
- 4. Documents verifying certifications for the following shall be provided to OAR through the General Contractor at least 7 days prior to commencement of any irrigation work on the Project:
 - a. PVC Solvent Weld certification
 - b. Electrical certification
 - c. Drip certification

1.13 CERTIFICATIONS FOR NON-TRADITIONAL CONTROL OR CENTRAL SYSTEMS

- A. If non-traditional and/or central control equipment or products are to be used on this Project, (such as decoders, two wire systems, weather-based systems, or soil moisture sensors):
 - 1. All installation personnel who will work on the specific system, equipment or product shall be certified by the manufacturer of the corresponding products to be used on the Project.
 - 2. The certification shall cover proper application and installation of these products, and also adaptation of the products to this specific Project.
 - 3. It is the responsibility of the Contractor to obtain such certification and to provide a copy of the "Certificate of Completion" for each person installing these products on the project to the OAR prior to commencement of that portion of work.

- 4. It is the Contractors responsibility to contact the product manufacturer and the local manufacturer's authorized representative well in advance of commencement of work to schedule his/her attending of a scheduled seminar or to make an appointment for a new one.
- B. <u>Local Distributor, Manufacturer's Representative or Manufacturer are authorized to</u> withhold sales or delivery of non-traditional equipment until such time that the Contractor demonstrates adequate understanding of assembly, installation, programming, operation and maintenance of the equipment.
- 1.14 QUALITY ASSURANCE
- A. Inspection Scheduling
 - 1. Contractor shall expect a minimum of five irrigation inspections:
 - a. Main Line pipe and wire
 - b. Main Line pressure test
 - c. Progress inspection
 - d. Final inspection
 - e. Completed Punch list inspection
- B. Main Line Piping
 - 1. Main line pipe shall not be buried until approved by OAR. Pipe buried prior to approval shall be excavated and exposed for OAR's review.
 - 2. Upon completion of main line pipe or sections thereof, Contractor shall isolate and pressurize to 150 PSI for two hours. OAR shall determine acceptable amount of loss. Contractor shall expect to provide a test with losses not to exceed between 0.5% and 5%
 - 3. Contractor shall provide OAR with 48 hours request prior to testing date and time.
- C. Grounding Resistance Testing
 - 1. Pedestal Controllers shall be tested by Licensed Electrical Contractor and show resistance of 10 Ohms or less.
 - 2. Grounding not in compliance shall be corrected by Contractor at his expense.
 - 3. Specific grounding requirements for Central Control systems shall be met by Contractor or corrected at his expense.
- D. Project Record Copy
 - 1. Maintain on Project site, one copy of all CD's clearly marked 'Project Record Copy'. Mark any deviation in material installation on CD's. Maintain and update sheets at least weekly.
 - 2. Project Record Copy shall be available to OAR on demand.
- E. Regulatory Requirements
 - 1. Contractor shall comply with all plumbing requirements which direct work to be done by a licensed plumber.
- 2. Contractor shall comply with all electrical requirements which direct work to be done by a licensed electrician.
- 3. All work and materials shall be according to any and all rules, regulations or codes, whether they are local, state or national requirements.
- 4. CD's may not be construed or interpreted to permit work or materials not conforming to the above codes.
- F. Adequate Water Supply
 - 1. Water supply to this Project is or shall be installed by trades other than the Irrigation Contractor. Connection to this supply at the POC shall be by this Contractor. Contractor shall be responsible to verify that proper connection exists, and is of adequate size and pressure.
 - 2. Notify OAR verbally immediately and in writing within 48 hours of problems encountered with water supply.
- G. Workmanship and Materials
 - 1. It is the intent of the Irrigation CD's that all material required shall be of the highest quality available and meeting the requirements specified.
 - 2. All work shall be performed in accordance with the best standards of practice relating to this trade.
- 1.15 PROJECT MATERIALS
- A. Contractor shall purchase materials to be used on Project. The Owner shall reserve the right to provide the controller and master valve.
- B. Contractor shall not remove materials purchased for this Project from this site.
- C. Contractor shall not store or co-mingle materials for this Project with materials for other Projects on this site.
- D. Delivery, Storage and Handling
 - 1. All materials shall be protected from contamination, damage, vandalism and prolonged exposure to sunlight.
 - 2. All material stored on project site shall be neatly organized in a compact arrangement, and this storage shall not disrupt project owner or other trades on Project site.
 - 3. Project materials shall be handled by Contractor with care necessary to prevent damage or breaking.
 - 4. Damaged or blemished materials attributed to Contractor shall be replaced with new, at Contractors expense.
- E. If this Project qualifies for manufacturer rebate, credit or incentive programs; Contractor shall provide OAR with documents in pdf format from distributor and/or manufacturer indicating required information of product purchased and/or dollar value which qualify for corresponding program. Documents shall be delivered within 14 days of purchase of products.

1.16 EXTRA MATERIALS

- A. Furnish the following items to OAR:
 - 1. One (1) 30" gas cock key (also referred to as sprinkler or meter key) for manual drains.
 - 2. One (1) 5-6' key for 2" square operating nut valve.
 - 3. One (1) 5-6' key for stop & waste valve.
 - 4. Two (2) keys for each automatic controller.
 - 5. Two (2) quick coupler keys with hose swivels attached.
 - 6. One (1) quick coupler valve.
 - 7. One (1) of each size or type of remote control valve used on Project.
 - 8. Five (5) of each sprinkler head and each nozzle used on Project.
 - 9. Two (2) of each type of specialty screwdriver/key/wrench/tool (used to adjust arc, radius, change nozzle etc.) for each type of sprinkler.

1.17 WARRANTY

- A. Contractor shall provide one-year Warranty for Project. Warranty shall cover all material, workmanship and labor.
- B. Warranty period begins upon date of acceptance by OAR that Project is substantially complete.
- C. Warranty shall include filling and/or repairing depressions, replacing turf or other plantings due to settlement of irrigation trenches or irrigation system components, and adjustment of valve boxes, sprinkler heads and all other irrigation components which have settled from proper finish grade.
- 1.18 ADDITIONAL SERVICES
- A. Winterization:
 - 1. Contractor shall winterize entire irrigation system installed under this Contract prior to the first winter following installation; prior to hard frost--but no later than October 15th, unless directed otherwise by OAR in writing.
 - 2. Winterize entire system via 'blow-out' method, using compressed air.
 - a. Compressor shall be industrial type, capable of evacuating water from all main line and lateral line pipe, with a minimum capacity of 185 CFM.
 - b. Compressor shall be mechanically regulated to not more than 60 PSI.
- B. Spring Start-up:
 - Contractor shall start up entire irrigation system the Spring following installation; prior to plant need--but following danger of damaging frost, yet no later than April 15th.
 - 2. Contractor shall energize entire main line pipe, all RCV's, and check for correct program installation and operation of Controller, each RCV and each quick coupler valve.

- C. As-built documents: Prior to final inspection, prepare and submit to OAR As-built drawings.
 - 1. Show field dimensioned locations of sleeving, POC, mainline piping, wiring runs not in main line pipe trench, and valves/valve boxes.
 - 2. Dimensions are to be taken from permanent site features or finished hardscapes.

1.19 OWNER'S INSTRUCTION

A. After system is installed, inspected, and approved; Contractor shall instruct OAR or other OAR designated individuals in complete operation and maintenance procedures of irrigation system. Coordinate instruction with references to previously submitted Operation and Maintenance manual.

PART 2 - PRODUCTS

- 2.1 GENERAL NOTES
- A. Contractor shall use products as specified by CD's.
- 2.2 POWER SOURCE
- A. Power source for irrigation equipment shall not be included in the irrigation Contractor's portion of this Contract.
- 2.3 CENTRAL CONTROL SYSTEM
- A. A Central Control System IS/IS NOT (to be determined by designer) included in this Project. Central Control equipment IS/IS NOT (to be determined by designer) included in this project.
- 2.4 CONTROLLER
- A. Design intent is to use existing controller and replace/add zones as needed.
- B. Manufacturer and model shall be as listed on plan legend.
- C. Contractor shall connect control wires and power wires to controller.
- D. Controller shall be wall mounted exterior in SS Box.
- E. Exterior wall mount controllers shall use rigid galvanized steel electrical conduit for all wiring.
- F. PVC pipe, conduit sweeps, and fittings shall not be used for any controller wiring.
- 2.5 POWER WIRE
- A. DIRECT BURY WIRE FOR FIELD LOCATED WALL OR PEDESTAL MOUNTED CONTROLLERS:

- 1. All power cables shall be Paige Wire, type Tray Cable.
- 2. Wire shall be Paige Wire specification number P7266D for 10 AWG and smaller.
- 3. Wire shall be Paige Wire specification number P7267D for 8 AWG and larger.
- 4. 120 VAC wires shall be 3 conductor (hot, neutral and ground)
- 5. 240 VAC cables where service is provided to controller only, shall be 3 conductor (2 hot and 1 ground)
- 6. 240 VAC cables where service is provided to controller and other 120 VAC equipment (such as a convenience outlet) shall be 4 conductor (2 hot, 1 neutral and 1 ground)
- B. CONVENTIONAL WIRING FOR WALL MOUNTED CONTROLLERS:
 - 1. Power wire or cable for conventionally wired wall mount or conduit-fed pedestal mount shall be according to local and NEC codes.
- 2.6 CONTROL WIRE
- A. Remote Control Valve wire shall be Paige Electric specification number P7079D.
- B. Common wire shall be white in color, 12 AWG, Paige part number 150170.
- C. Control or 'hot' wire for projects with a single controller shall be red in color, 14 AWG, Paige part number 150040.
- D. Spare wire shall be orange in color, 14 AWG, Paige wire.
- E. Trace wire shall be Yellow in color, 14 AWG, Paige wire.
- F. Master Valve wire shall be blue in color, 14 AWG, Paige wire.
- G. NO SUBSTITUTIONS ALLOWED.
- 2.7 COMMUNICATION WIRE
- A. Communication wire/Sensor wire shall be Paige brand, model 7171D or P7315D (PE 39).
- 2.8 WIRE CONNECTORS
- A. RCV wire splicing connectors and Decoder wire splicing connectors shall be Paige P7364D, Paige part number 270670 or 270671 (3M model 'DBY/R'). No substitutions allowed.
- B. Communication wire splicing or connection shall be Paige brand, model 273211 (3M model SliC) and Paige brand, model 270228R (3M model 316IR). No substitutions allowed.
- 2.9 POINT OF CONNECTION
- A. Precise or specific products required of Contractor for installation of the POC are unknown. Contractor shall be prepared for a variety of POC conditions including:

- 1. Tapping, Saddling, Pac-Joint connection, extension, flared end connectors.
- B. Stop & Waste Valve
 - 1. POC's with connection sizes 1" through 2"
 - 2. Mueller Oriseal H-10288 1" 2"
 - 3. Cambridge Brass 263NL-FXFX 1" 2"
- 2.10 MASTER VALVE
- A. Manufacturer and model shall be as listed on plan legend.
- 2.11 FLOW METER
- A. Manufacturer and model shall be as listed on plan legend.
- 2.12 SLEEVING PIPE
- A. Minimum sleeve size shall be 2" pipe.
- B. Sleeving 2" through 4" shall be S/40 PVC pipe. Sleeving 6" and larger shall be CL/200 PVC pipe.
- C. Sleeves shall typically be two nominal sizes larger than the pipe to be placed within them. Sleeve material and sizes shall be according to the following SLEEVING TABLE:

INTERIOR PIPE	SLEEVE PIPE	INTERIOR PIPE	SLEEVE PIPE
³∕₄" S/40	2" S/40	4" CL/200	8" CL/200
1" S/40	2" S/40	6" CL/200	10" CL/200
1-1/4" S/40	2-1/2" S/40	8" CL/200	12" CL/200
1-1/2" S/40	3" S/40	10" CL/200	14" C905
2" S/40	4" S/40		
3" S/40	6" CL/200		

2.13 MAIN LINE PIPE

- A. Pipe 1" through 2 1/2" shall be S/40, solvent weld-bell end.
- B. Pipe 3" through 12" shall be CL/200 gasketed-bell end.
- C. Yelomine pipe with grooved ends and couplers shall be used for above grade applications such as bridge crossings.
- 2.14 MAIN LINE FITTINGS
- A. All main line fittings 2 1/2" and smaller shall be S/80.

- B. All main line fittings 3" and larger shall be mechanical joint, or 'MJ'.
- C. All MJ fittings shall include megalug restraints.
- 2.15 MANUAL CONTROL VALVES
- A. Line or isolation valves 2-1/2" and larger shall be:
 - 1. Matco Norca model 200 RTD ductile iron resilient wedge push on w 2" square operating nut.
 - 2. Matco Norca model 200 WD ductile iron resilient wedge flanged with 2" square operating nut.
 - 3. Matco Norca model 200 MD ductile iron resilient wedge Mechanical Joint (MJ) with 2" square operating nut.
- B. Line or isolation valves 2" and smaller shall be:
 - 1. Matco Norca model 503 bronze gate valve OR
 - 2. Milwaukee model 105 bronze gate valve OR
 - 3. Hammond model IB645 bronze gate valve
- C. Isolation valves for RCV Manifolds (1" through 2-1/2") shall be:
 - 1. Matco Norca model 503 bronze gate valve OR
 - 2. Milwaukee model 105 bronze gate valve OR
 - 3. Hammond model IB645 bronze gate valve
- D. Drain Valves shall be:
 - 1. ³/₄" Mueller Oriseal model H-10288.
 - 2. ³/₄" Cambridge Brass model 263NL-F3F3.
- 2.16 QUICK COUPLER VALVE
- A. Manufacturer and model shall be as listed on plan legend.
- B. Swing joint for 1" quick coupler valves shall be Lasco model 13S-212 factory assembled swing joint , or owner approved equal
- C. Swing joint for ³/₄" quick coupler valves shall be Lasco model 13T-212 factory assembled swing joint, or owner approved equal.
- 2.17 VACUUM/AIR RELIEF VALVE
- A. Manufacturer and model shall be as listed in plan legend.
- B. Additional product necessary for installation and operation of vacuum/air relief valve shall be indicated on plan detail sheet.
- C. Contractor shall submit for approval, vacuum/air relief valve and assembly components.

2.18 REMOTE CONTROL VALVE

- A. Manufacturer and model shall be as listed on plan legend.
- B. Union assembly products shall be as listed on plan detail sheet.
- C. Contractor shall submit for approval; remote control valve and all components necessary to complete installation of valve.
- 2.19 VALVE BOXES
- A. Carson Industries Specification Grade valve boxes shall be used on this project unless otherwise indicated.
- 2.20 LATERAL LINE PIPE
- A. All lateral piping shall be new, S/40 PVC, solvent weld bell end. Sized as indicated on plans.
- 2.21 LATERAL LINE FITTINGS
- A. All lateral line fittings shall be new S/40 PVC.
- 2.22 MEDIUM ROTOR HEAD SPRINKLERS
- A. Manufacturer and model shall be as listed on plan legend.
- B. Nozzles for medium rotor heads shall be as listed on plan legend.
- C. All rotor heads shall be on a swing joint assembly composed of one 12" S/80 nipple (extruded, cut and threaded—not molded), and three marlex street elbows. Swing joint fittings shall be same size as inlet on head.
- D. Contractor shall submit for approval rotor heads and swing joint components.
- 2.23 ROTARY NOZZLE SPRAY HEAD SPRINKLER
- A. Manufacturer and model shall be as listed on plan legend.
- B. Rotating type nozzles for spray heads shall be as listed on plan legend.
- C. All small rotor sprinklers shall be on a swing joint assembly composed of 12-24" of swing pipe, two ½" spiral barb elbows, 12-24" swing pipe, one M412-005 ½" marlex street elbow.
- D. Contractor shall submit for approval spray heads, rotary nozzles, swing pipe, spiral barb elbow, and marlex street elbows.



2.24 SPRAY HEAD SPRINKLER

- A. Manufacturer and model shall be as listed on plan legend.
- B. Nozzles for spray heads shall be as listed on plan legend.
 - 1. Nozzles shall be fixed spray type whenever possible, adjustable arc nozzles shall be used only when a fixed spray model is not available.
- C. All spray heads shall be on a swing joint assembly composed of: 12-24" of swing pipe, two 1/2" spiral barb elbows, 12-24" swing pipe, one M412-005 1/2" marlex street elbow.
- D. Contractor shall submit for approval: spray heads, spray head nozzles, and swing joint assembly components.
- 2.25 DRIP COMPONENTS
- A. Drip components shall be manufacturer and model as listed on plan legend or details.
- 2.26 GLUE AND PRIMER
- A. Sprinkler pipe glue shall be IPS Weld-On model 711.
- B. Sprinkler pipe primer shall be IPS Weld-On model P-70.
- C. No substitutions allowed.

PART 3 - EXECUTION

- 3.1 GENERAL NOTES
- A. Contractor shall repair or replace work damaged by irrigation system installation.
- B. If damaged work is new, Contractor shall engage original installer of that work to perform repairs.
- C. The existing landscape of this Project shall remain in place. Contractor shall protect existing plant material and work around existing plant material as necessary.
- D. Plant material deemed damaged by OAR shall be replaced at Contractor's expense.
- E. Contractor shall route pipe, wire and other irrigation elements around outside of tree canopy drip line to minimize damage to tree roots.
- F. Contractor shall not cut existing tree roots larger than 2" to install this Project.
- G. Coordination of trench and valve locations shall be laid out with OAR prior to any excavation occurring.

- H. Contractor shall have no part of existing irrigation system used by other parts of Project landscape without water for more than 48 hours.
- 3.2 POWER SOURCE
- A. Power supply to irrigation controller (Strong Box installation and Meter base with load center) shall not be included in the irrigation portion of this Project. Power supply shall be a part of other Contracts associated with this Project. See Electrical Construction Documents and Specifications for information and/or detail. Controller power wire from load center(s) to Controller shall be a part of this Contract.
- B. Pedestal mount controllers shall have Paige Wire grounding grid installed per Section 1.05 C. of this document.
- C. Locate Controllers in general location shown on Construction drawings. Coordinate power supply and breaker allocation with electrical contractor. Contractor shall be responsible for all power connections to Controllers, whether they are wall mount or pedestal mount. Contractor shall coordinate with electrical or other Project trades as needed to facilitate installation of power to controllers.
- 3.3 CONTROLLER
- A. All grounding shall be as directed by controller manufacturer and ASIC guidelines, not to exceed a resistance reading of 10 OHMs.
- B. Locate controllers in protected, inconspicuous place when possible.
- C. Coordinate location of pedestal controllers with OAR to minimize visibility.
- D. Coordinate location of wall mount controllers with building or electrical Contractor to facilitate electrical service and future maintenance needs. Wall mount shall be securely fastened to surface. If exterior mounted, wall mount controllers shall have electrical service wire and field control wire in separate, appropriate sized weatherproof electrical conduit, PVC pipe shall not be used.
- E. Wire under hardscape surfaces shall be placed continuously in conduit.
- F. Pedestal controllers shall be placed upon VIT-Strong Box Quick Pad as per manufacturer's recommendations.
- G. Controllers shall be oriented such that Owner's Representative maintenance personnel may access easily and perform field system tests efficiently.
- H. Place Standard valve box at base of controller or nearby to allow for three to five feet of slack field control wire to be placed at each controller.
- I. This Contractor shall provide conduit access if needed for Electrical contractor. Electrical supply and installation, as well as hook-up to controller shall be by this Contractor.



3.4 CONTROL WIRE

- A. One spare wire from every valve grouping containing three or more valves shall be 'home run' to the controller.
- B. Install at least one spare wire for every three valves.
- C. Total number of spare wires shall not be less than 1/3rd of the total control valves installed.
- D. Spare wire shall be looped within each valve box of the grouping it is to service.
- E. A minimum of 24" of additional wire shall be left at each valve, each splice box and at each controller.
- 3.5 WIRE CONNECTORS
- A. Wire splicing between controller and valves shall be avoided if at all possible.
- B. Any wire splices shall be contained within a valve box.
- C. Splices within a valve box that contains no control valves shall be stamped 'WIRE SPLICE' or 'WS' on box lid.
- 3.6 SLEEVING PIPE
- A. Sleeves shall be extended 6" minimum beyond walk or edge of pavement.
- B. Wire or cable shall not be installed in the same sleeve as piping, but shall be installed in separate sleeves.
- C. Sleeve ends on sleeve sizes 4" and larger shall be capped with corresponding sized PVC slip cap, pressure fit, until used, to prevent contamination.
- D. Sleeve ends on sleeve sizes 3" and smaller may be thoroughly taped to prevent contamination.
- E. Sleeves shall be installed at appropriate depths for main line pipe or lateral pipe
- F. Contractor shall be responsible to protect existing underground utilities and components.
- G. Sleeve all piping and wiring that pass under paving or hardscape features.
- H. Sleeves shall be positioned relative to structures or obstructions to allow for pipe or wire within them to be removed if necessary.
- 3.7 MAIN LINE / LATERAL LINE PIPE
- A. All fittings 3" and larger having change of direction shall have proper concrete thrust block installed.
- B. Pulling of pipe is recommended within Park City's soil Ordinance District

- C. Over excavate trenches both in width and depth. Ensure base of trench is rock or debris free to protect pipe and wire. Grade trench base to ensure flat, even support of piping. Backfill with clean soil or import material.
- D. Contractor shall backfill no less than 2" around entire pipe with clean, rock free fill.
- E. Main line piping and fittings shall not be backfilled until Designer or Owner's Representative has inspected and pipe has passed pressure testing. Perform balance of backfill operation to eliminate any settling.
- F. Place irrigation pipe and other elements at uniform grades. Automatic drains shall not be installed on this Project. Manual drains shall only be installed at POC where designated on Construction Drawings.
- G. Install pipe to allow for expansion and contraction as recommended by pipe manufacturer.
- H. Install main line pipes with 18" of cover, lateral line pipes with 12" of cover, or as otherwise noted on CD.
- I. Drawings show diagrammatic or conceptual location of piping—Contractor shall install piping to: minimize change of direction, avoid placement under large trees or large shrubs, avoid placement under hardscape features.
- J. Plastic pipe shall be cut squarely. Burrs shall be removed, spigot ends of pipes 3" and larger shall be beveled.
- K. Pipe shall not be glued unless ambient temperature is at least 50 degrees F. Pipe shall not be glued in rainy conditions unless properly tented.
- L. All solvent weld joints shall be assembled using IPS 711 glue and P70 primer according to manufacturer's specification, no exceptions.
- M. Glued main line pipe shall cure a minimum of 24 hours prior to being energized. Lateral lines shall cure a minimum of 2 hours prior to being energized and shall not remain under constant pressure unless cured for 24 hours.
- N. All threaded joints shall be wrapped with Teflon tape or paste unless directed by product manufacturer or sealing by o-ring.
- O. All main line pipe, lateral line pipe and other irrigation elements shall be bedded and backfilled with clean soil, free of rocks 1" and larger.
- P. Contractor shall furnish and install additional backfill material as necessary due to rocky conditions.
- Q. Trenches and other elements shall be compacted and/or water settled to eliminate settling.
- R. Debris from trenching operations un-usable for fill shall be removed from project and disposed of properly by Contractor.

- S. Maximum acceptable flow through piping shall be 5.0 FPS maximum flow through piping shall be:
 - 1. 1"—13 GPM
 - 2. 1-1/4"—22 GPM
 - 3. 1-1/2"—30 GPM
 - 4. 2"—50 GPM
 - 5. 2-1/2" 75 GPM

3.8 MANUAL CONTROL VALVE

- A. For 3" and larger valves, place sleeve of 6" or larger pipe over top of valve vertically and then extend to grade. Place 10" round valve box over sleeve at grade. See detail for additional information.
- B. Isolation valves 2-1/2" and smaller shall be contained in a Carson Standard size valve box. Valves shall be installed with S/80 PVC TOE Nipples one both sides of valve.
- 3.9 QUICK COUPLER VALVE
- A. Quick coupler valves shall be placed with manifold groups and protected by manifold isolation valves.
- B. Top of quick coupler valve cover shall allow for complete installation of valve box lid, but also allow for insertion and operation of key.
- C. Base of quick coupler valve and top of quick coupler swing joint shall be encased in ³/₄"gravel.
- D. Contractor shall not place quick coupler valves further than 200 feet apart, to allow for spot watering or supplemental irrigation of new plant material.
- E. Quick coupler valve at POC shall not be eliminated or relocated.
- 3.10 REMOTE CONTROL VALVE
- A. Contractor shall place remote control valves in groups as practical to economize on quantity of manifold isolation valves.
- B. Remote control valves shall be located separately and individually in separate control boxes.
 - 1. Flows through 1" valves shall be 1-25 GPM.
 - 2. Flows through 1-1/2" valves shall be 26-50 GPM.
 - 3. Flows through 2" valves shall be 51 through 75 GPM
 - 4. Flows through 3" valves shall be 76 GPM through 200 GPM.
- C. Valves shall be located in boxes with ample space surrounding them to allow access for maintenance and repair.



- D. Where practical, group remote control valves in close proximity, and protect each valve with a manifold isolation valve as shown in details. Valve boxes shall be set over valves so that all parts of the valve can be reached for service. Valve box and lid shall be set to be flush with finished grade.
- E. Only one remote control valve may be installed in a Carson 1419124 box.
- F. Place a minimum of 4" of ³/₄" washed gravel beneath valve box for drainage.
- G. Bottom of remote control valve shall be a minimum of 2" above gravel.
- H. See remote control valve manifold detail for more information.
- 3.11 DRIP COMPONENTS
- A. Planting beds shall be graded to continuous uniform finish grade prior to tubing installation. Surface installed drip tubing shall be installed after plant material, but prior to bark mulch being installed. Tubing shall be installed with equal spacing between lateral runs of tubing. Tubing shall be adequately staked or stapled to the soil surface to prevent tubing from penetrating bark surface. Any tubing visible at bark surface shall be re-installed and re-stapled at Contractor expense.
- B. Sub-surface drip tubing shall be installed at uniform depth and uniform lateral spacing using small powered pipe puller or other similar method. Care shall be taken to prevent contamination with soil in tubing.
- C. Contractor shall place filters, regulators, air/vac vents and flush valves as necessary to meet manufacturer's minimum recommendations.
- D. Field conditions, specifically soil type conditions shall dictate any alteration in emitter size, emitter spacing and row spacing. Contractor shall notify OAR to request confirmation of soil type prior to ordering drip tubing products to ensure proper product and proper spacing are used.
- 3.12 SYSTEM ADJUSTMENT
- A. Sprinkler heads shall be adjusted to proper height when installed.
- B. Changes in grade or adjustment of head height after installation shall be considered a part of the original contract and at Contractor's expense.
- C. Adjust all sprinkler heads for arc, radius, proper trim and distribution to cover all landscaped areas that are to be irrigated. Adjust sprinklers so they do not water buildings, structures, or other hardscape features.
- D. Adjust run times of stations to meet needs of plant material the station services.
- E. No sprinkler shall be located closer than 6" to walls, fences, or buildings.
- F. Heads adjacent to walks, curbs, or paths shall be located at grade and 2" away from hardscape.

- G. Control valves shall be opened and fully flush lateral line pipe and swing joints prior to installation of sprinklers.
- H. Spray heads shall be installed and flushed again prior to installation of nozzles.
- I. Contractor shall be responsible for adjustment if necessary due to grade changes during landscape construction.
- 3.13 CLEANUP
- A. Contractor shall clean all work areas daily, leaving areas accessible to the public in a 'broom clean' condition.
- B. Open trenches and or hazards shall be protected by chain link fence, snow fencing, or caution tape as directed by the OAR.
- C. Contractor shall coordinate with OAR for periodic as well as final cleanliness inspection.
- D. Upon project completion, Contractor shall remove all excess material, construction debris, packing, etc. attributable to his work.
- E. Contractor shall follow all rules and requirements when digging in soils within Park City's Soil Ordnance Boundaries.

END OF SECTION





APPENDIX E PLANT LIST

PARK CITY MUNICIPAL FORESTRY PLAN

Packet Pg. 123

Park City Plant List - 2015

BOTANICAL NAME	COMMON NAME	MATURE SIZE H x W	LIGHT EXPOSURE	COMMENTS	EVERGREEN	COLOR FOLIAGE	FALL COLOR FOLIAGE	COLOR FLOWER	FLOWER SEASON	FRUIT	UTAH NATIVE	WATERWISE
CONIFEROUS TREES												
Abies concolor	White Fir	60' x 15-25'	Sun to part shade	Grayish blue color; stiff thick needles. Pyramidal habit. Utah native found from 5,000 to 9,500 feet. Grows in dry to moist soils, as long as they are well drained. Tolerates drought once established.	х	Blue green		Male - red Female - green	Summer	Cone	x	х
Abies lasiocarpa	Sub Alpine Fir	60-90' x 15-20'	Sun to part shade	Evergreen, coniferous tree with a narrow and pyramidal habit, 1 to 1.5" needles, and 2 to 4" dark purple cones at maturity. Prefers well drained soil and cooler temperatures. Alpine environments are ideal.	х	Blue green		Male - red Female - green	Summer	Cone	x	х
Juniperus osteosperma	Utah Juniper	15' x 10'	Full sun	Very cold, drought, and heat resistant, and adaptive to a wide range of soils. Generally smaller than J. scopulorum. Utah native found from 4,000 to 8,000 feet.	x	Yellow Green		Yellow	Spring	Berrylike cone	x	х
Juniperus scopulorum	Rocky Mountain Juniper	20' x 10'	Full sun	Utah native found from 5,000 to 9,000 feet. Utilized by birds for food and shelter. Do not plant near hawthorns or crabapples as they are alternate hosts for rust disease.	x	Green		Inconspicuous	Spring	Berrylike cone	x	х
Picea abies	Norway Spruce	60' x 25'	Sun to light shade	Dark green needles; pyramidal form with drooping branches.	х	Dark Green		Pink inconspicuous	Spring	Cone		
Picea engelmannii	Engelmann Spruce	60-80' x 15-25'	Full sun	Utah native found from 6,500 to 9,500 feet. Does not do well in the lower valleys, but is well suited to Park City and upper elevations.	х	Blue green		Male - Purple Female - Red	Spring	Cone	х	
Picea pungens	Blue Spruce	30-60' x 20'	Sun to light shade	Blue or green foliage; pyramidal form. Utah native found from 6,000 to 9,500 feet.	х	Blue green		Red, occasionally yellowish-green	Late Spring, Early Summer	Cone	х	х
Pinus aristata	Bristlecone Pine	15-20' x 10-15'	Full sun	Utah native. Interesting pine with contorted form. Slow growing. Does not belong in lawn areas.	х	Green		Red/Purple		Cone	х	х
Pinus edulis	Pinyon Pine	20-30' x 10-20'	Full sun	Twigs orange to brown; edible seeds. Utah native found from 5.000 to 7.000 feet.	х	Dark Green		Yellow	Summer	Pine nut	х	х
Pinus flexilis	Limber Pine	25-35' x 20'	Full sun	Long needles; bluish green. Utah native found from 6,000 to 11,000 feet.	х	Blue Green		Male - Yellow/Brown Female - Red/Purple	Spring	Cone	x	
Pinus flexilis 'Vanderwolf Pvramidal'	Vanderwolf Pine	25'35' x 15'	Full sun	A narrower form than the species well suited to urban areas.	х	Blue green				Cone		
Pinus heldreichii leucodermis	Bosnian Red Cone Pine	40-50' x 20'	Sun to part shade	Glossy green needles; pyramidal form.	х	Green		Male - Yellow Female - Red		Cone		
Pinus monophylla	Single-needled Pine	30' x 20'	Sun to light shade	Utah native. Needles borne individually on twig.	х	Blue green		Yellow Inconpsicuous		Cone	х	
Pinus nigra	Austrian Pine	50' x 25'	Full sun	Broad dense evergreen with dark green needles.	х	Dark Green		Yellow	Spring	Cone		
Pinus ponderosa	Ponderosa Pine	80' x 25'	Full sun	Pyramidal to irregular habit. Needles dark to yellowish green. Bark is brownish black to cinnamon red with deep fissures. Utah native found from 5,000 to 9,000 feet.	x	Dark to Yellowish Green		Male - Red Female - Greenish Pink	Spring	Cone	x	
Pinus strobiformis	Western White Pine	40-50' x 20'	Full sun	Nice blue-green color.	х	Blue Green		Male - Yellow Female - Yellow	Summer	Cone		
Pinus sylvestris	Scotch Pine	60' x 25'	Sun to light shade	Pyramidal in youth, broad canopy in maturity. Older bark is orange.	х	Green		Male - Reddish/Tan Female - purple	Spring	Cone		
Pseudotsuga menziesii	Douglasfir	40-80' x 12-20'	Full sun	A stately tree well suited to the elevations of Park City. Prefers neutral to slightly acid soils; well drained. Does not fair well in drying winds so use where it has some shelter in its youth. Narrow habit makes it nice in groups.	х	Blue Green		Male - Red Female - Green	Spring	Cone	x	

BOTANICAL NAME	COMMON NAME	MATURE SIZE H x W	LIGHT EXPOSURE	COMMENTS	EVERGREEN	COLOR FOLIAGE	FALL COLOR FOLIAGE	COLOR FLOWER	FLOWER SEASON	FRUIT	UTAH NATIVE	WATERWISE
DECIDUOUS TREES	•	•		•						•		
Acer ginnala	Amur Maple	15-20' x 15'	Full to part sun	Medium green leaves; yellow to red fall color. Best as multi-stemmed tree		Green	Yellow to Red	Yellowish White	Late Spring, Early Summer	Samara		×
Acer glabrum	Rocky Mountain Maple	15-20' x 6-10'	Full to part sun	Attractive, multi-stemmed maple has smooth gray bark and deeply lobed leaves. Deep yellow fall color.		Green	Orange	Yellow	Spring	Samara	х	х
Acer grandidentatum	Bigtooth Maple	20' x 20'	Part to full sun	Thick, dark green leaves remain attractive throughout summer. Yellow to red fall color. Utah native found from 4,500 to 8,500 feet.		Green	Yellow to Red	Inconspicuous		Samara	х	
Acer X freemanii	Autumn Blaze Maple	50' x 40'	Full sun to part shade	A rapid growing, deciduous tree with a dense oval head at maturity. Deeply lobed, rich green leaves with vivid fall color of orange-red to red. This is a hybrid between the red and silver maple. It can be grown in a single stem, or multi-stemmed clumps		Green	Red	Inflorescences	Spring	Samara		
Acer negundo 'Sensation'	Sensation Boxelder	30' x 25'	Full sun	A colorful and unique male selection of the rugged and adaptable North American native species. Sensation does well in harsher climates. It is highly adaptable to site conditions including wet or dry soils. This seedless variety is less attractive to boxelder bugs.		Red	Red to Green					x
Acer platanoides	Emerald Queen Norway Maple	50' x 40'	Full sun	Dense, upright, oval tree with dark green, glossy foliage. The leaves are reddish when they emerge in the spring, fall color is bright yellow. Overplanted in the Utah urban forest.		Green	Yellow	Inconspicuous	Spring	Samara		
Acer pseudoplatanus	Sycamore Maple	50' x 30'	Full sun	Dark green leaf with lighter underside. Gray to brown platy bark exfoliates to reveal orange bark underneath. May be subject to chlorosis.		Green	Yellow	Inconspicuous	Spring	Samara		
Acer tataricum	Tatarian maple	20' x 15-20'	Sun to light shade	Shrubby maple, alternative to Amur Maple. Attractive red fruit. Orange to red fall color.		Green	Orange to Red	Greenish White then Red Fruit	Spring	Samara		Х
Amelanchier alnifolia	Saskatoon Serviceberry	15' x 10-15'	Sun to shade	White spring flower followed by black edible fruit. yellow to red fall color. Utah native		Green	Yellow to Red	White	Late Spring, Early Summer	Berry-like Pomes	х	х
Amelanchier arborea	Downy Serviceberry	15- x 10-15'	Sun to shade	Red brown to dark gray bark; white spring flowers; edible fruit. Orange fall color. Good alternative to Aspen.		Green	Orange	White	Spring	Berry-like Pomes		х
Amelanchier x grandiflora	Juneberry	20' x 15'	Sun to shade	Multi-stemmed tree with soft green leaves and white spring fruit. Orange to red fall color. Good substitute for Aspen.		Green	Orange to Red	White	Spring	Pome, but resembles a berry		
Catalpa speciosa	Western Catalpa	40-70' x 30'	Full sun	Large, trumpet shaped fragrant flowers in early summer; large soft green leaves; yellow fall color.		Green	Yellow	White	Early Summer	Legume		х
Celtis occidentalis	Common Hackberry	50' x 40'	Full to part sun	Elm-like foliage; upright arching branches. Thick, knobby bark. Tolerates urban air pollution. Good for parking islands.		Green	Yellow	Inconspicuous	Spring	Drupe		х
Corylus colurna	Turkish Filbert	20-30' x 15-20'	Full sun	Fine textured leaf; dense habit of growth. Prefers well drained soils, is pH adaptable. Heat tolerant.		Green	Pale Yellow/Green	Inconspicuous	Spring	Nut		х
Crataegus crus-galli v inermis	Thornless Hawthorn	20' x 20'	Full to part sun	White spring flowers; red fall fruit; red fall color.		Green	Red	White	Spring	Pome		
Fraxinus mandshurica	Manchurian Ash	45' x 35'	Full sun	Dense, oval crown. Glossy dark leaves. Yellow fall color.		Green	Yellow	Greenish Yellow	Spring	Samara		
Fraxinus pennsylvanica var. lanceolata	Marshall Seedless Ash	45' x 35'	Full sun	Easily grown in average, medium moisture, well- drained soils in full sun. Established trees demonstrate adaptability to a wide range of soils and growing conditions. Leaves glossy green, turn bright yellow in fall.		Green	Yellow					
Fraxinus pennsylvanica var. lanceolata 'Patmore'	Patmore Green Ash	45' x 30'	Full sun to light shade	An extremely hardy seedless ash which tolerates widely differing growing condition. Has an erect trunk, with a broadly ovate head and well spaced branches. Works well as a street tree. Leaves turn yellow in fall.		Green	Yellow					x
Gymnocladus dioicus	Kentucky Coffeetree	50' x 25'	Full sun	Erect, rounded crown. Greenish white fragrant flowers. Double pinnately compounded leaves turn deep yellow in fall. Pods provide winter interest. Tolerates alkaline, salt.		Green	Yellow	Greenish White	Summer	Legume		х
Malus species	Crabapple	varies	varies	A variety of crabapples have been used in the Park City area and have proven to thrive. Flowers, color, disease and form vary between species. Crabapples consist of several species and hundreds of cultivars from all over the world. Shade intolerant. Fruit and/or plant part can be nuisances; use fruitless varieties if possible. Sucker (sprout) growth can be a problem.		varies	varies	varies	Spring			x

BOTANICAL NAME	COMMON NAME	MATURE SIZE H x W	LIGHT EXPOSURE	COMMENTS	EVERGREEN	COLOR FOLIAGE	FALL COLOR FOLIAGE	COLOR FLOWER	FLOWER SEASON	FRUIT	UTAH NATIVE	WATERWISE
Populus alba 'Pyramidalis'	Bolleana Poplar	65' x 40'	Full sun	Tall columnar form is useful for windbreak or screen. Underside of leaf is white. Typically used in riparian areas. Not to be confused with the silver maple.		Green	Yellow	Inconspicuous	Spring	Achene		
Populus angustifolia	Narrowleaf Cottonwood	45' x 15'		Rarely used and no cultivars are available. Use only where cottonwoods are appropriate (needs plenty of water). Typical of riparian areas.		Green	Yellow	Dioecious	Spring	Achene	х	
Populus tremuloides	Quaking Aspen	20-60' x 30'	Full sun to light shade	Utah native found from 5,000 to 10,000 feet. Best grown in groups and with ample room to accommodate its suckering habits. Avoid placing near building foundations.		Green	Yellow	Green then brown catkins	Late Spring, Early Summer	Cottony seed	х	
Populus tremula 'Erecta'	Columnar Swedish Aspen	40' x 10'		Very narrow form, but still with the flat, rounded leaves that flutter and rustle in the wind. Green leaves turn yellow in the fall. Great for tight spaces or lining a driveway.		Green	Yellow	Green then brown catkins	Late Spring, Early Summer	Cottony seed	х	
Prunus padus	May Day Tree	20' - 40' tall and wide	Full sun	Also called European Birdcherry. Medium to small deciduous tree and close relative of the native Chokecherry. Serrated green leaves turn yellow in the fall. A very adaptable and easy to grow tree.		Green		White	Spring	Berry		х
Prunus virginiana	Canada Red Chokecherry	25' x 25'	Full sun to light shade	An oval to rounded tree with foliage that changes from bright green in the spring to deep purple in the summer and fall. The late April flowers are white, single and held in pendulous clusters. (Shrub form is a native to Utah)		Green - Burgundy	Burgundy	White	Spring	Drupe		х
Pyrus communis	Common Pear Tree	30' x 10'	Full sun	Should only be grown where fruit is desired. Leaves shinier, thinner and less hairy than the apple tree. Twigs include many spur shoots and may include thorms. Numerous varieties.		Green		White	Spring	Fruit		
Quercus gambelii	Gambel Oak; Scrub Oak	15-20' x 15-20'	Full sun	Native oak has persistant winter foliage. Important habitant and forage plant. Utah native.		Green	Red	Inconspicuous catkins	Spring	Acorn	х	х
Quercus macrocarpa	Burr Oak	50-80' x 50'		Dark green leaves become yellow brown in fall. Broad and spreading with maturity.		Green	Yellow Brown	Inconspicuous catkins	Late Spring/Early Summer	Acorn		х
Syringa reticulata	Japanese Tree Lilac	25' x 20'		Creamy white flowers early summer; later than other lilacs; yellow fall color. Tolerant of heat and winds.		Green	Yellow	Creamy White	Early Summer	cluster of capsules		х
Tilia species	Lindon Trees	30-60' x 25-35'		Excellent varieties of this species include: cordata, and americana. Drought tolerant and can be used as a street tree.		Green	Yellow					х
Ulmus parvifolia	Lacebark Elm	40' x 25'	Full sun	Glossy green foliage turns orange to rust in fall. Exfoliating bark. Resistant to Dutch Elm Disease and phloem necrosis. Attractive exfoliating bark.		Green	Orange to Rust	Inconspicuous	Fall	Samara		х

BOTANICAL NAME	COMMON NAME	MATURE SIZE H x W	LIGHT EXPOSURE	COMMENTS	EVERGREEN	COLOR FOLIAGE	FALL COLOR FOLIAGE	COLOR FLOWER	FLOWER SEASON	FRUIT	UTAH NATIVE	WATERWISE
SHRUBS		•					<u> </u>			•		
Alnus incana; A. tenuifolia	Thinleaf Alder	15' x 10'	Full to part sun	Smooth gray bark; glossy leaves		Green	Yellow (unreliable)			Mini pinecone like		
Amelanchier alnifolia	Saskatoon Serviceberry	6-15" x 8'	Sun to shade	Utah native. White spring flowers, edible fruit, silvery bark, red fall color		Green	Red	White	Spring	Berry-like Pomes	х	х
Amelanchier utahensis	Utah Serviceberry	4'-8' x 6'	Sun to shade	Utah native found from 5,000 to 9,000 feet. Smaller leaves, denser habit than other serviceberry		Green	Yellow	White	Spring	Pome	х	
Arctostaphylos patula	Greenleaf Manzanita	5-6' x 8-10'	Sun to light shade	Green leathery leaves; urn shaped pinkish flowers in spring; deep reddish wood. Utah native.	х	Green	Green	Pink	Late Spring/Early Summer	Drupe	х	
Aronia arbutifolia	Red Chokeberry	6-8' x 4-5'	Sun to light shade	White spring flowers, glossy leaves, red berries.		Green	Purple Red	White	Spring	Pendulous berry clusters		
Aronia melanocarpa	Black Chokeberry	8' x 6'	Sun to light shade	White spring flowers, glossy foliage, black berries. Red fall color and persistent fruit. Attractive hedge or foundation plant.		Green	Red	White	Spring	Pendulous berry clusters		х
Artemisia bigelovii	Bigelow's Sage	16" x 24"	Full sun	Low growing sagebrush; light green color	Х	Light Green		Yellow	Fall	Achene		
Artemisia cana	Silver Sage	2-3' x 3'	Full sun	Thicker leaves than other sages. Native to intermountain area.	х	Silver Blue	Silver Blue	Inconspicuous	Fall	Achene		х
Artemisia filifolia	Sand Sage	3' x 2'	Full sun	Feathery foliage. Utah native	х	Silver Blue	Silver Blue	Yellow to Brown	Late Summer/Fall	Achene	х	
Artemisia frigida	Fringed Sage	6-18" x 18-24"	Full sun	Utah native growing from 3,000-11,000 feet. Grows in fine, sandy, or rocky soils. Mat-forming habit; aromatic foliage; blooms June to September.	x	Silver		Yellow	Late Summer	Achene	х	
Artemisia nova	Black Sage	2' x 2'	Full sun	Foliage lead-gray; flower spikes dry to dark brown. Well suited to south or west exposures. Utah native is found from 4,000 to 10,000 feet.	х	Lead-gray		Yellow	Fall	Achene	х	
Artemisia tridentata	Big Basin Sage	4' x 4'	Full sun	Utah native. Large shrub with aromatic foliage.	х	Silver Blue		Cream to Yellow	Late Summer/Early Fall	Achene	х	х
Berberis sp.	Mentor Barberry, Red Leaf Barberry, Rose Glow Barberry	5'-6' x 4'-6'	Sun to light shade	Rounded, dense shrubs with small round leaves in yellow, red, or green depending on variety. Not well suited for south or west facing walls. Has thorns.		Yellow, Red, or Green				Berry		
Berberis thunbergii 'Crimson Pygmy'	Crimson Pygmy Barberry	2' x 2'-4'	Sun to light shade	Rounded dense shrub with red foliage. Not well suited for south or west facing walls. Has thorns.		Red Purple	Red Purple	Yellow	Spring	Berry		
Buddleia sp.	Butterfly Bush	4-8' x 4-10'	Sun to light shade	Upright and arching shrubs with late summer flowers similar to lilacs. Gray to green foliage.		Gray to Green	Gray to Green	Wide Range	Late Summer	Pod		х
Caragana arborescens	Siberian Pea Shrub	10' x 6'	Full sun	Yellow spring flower; lime green foliage with yellow fall color.		Lime Green	Yellow	Yellow	Spring	Pod		х
Caragana pygmaea	Pygmy Pea Shrub	3' x 4'	Full sun	Fine textured foliage; yellow spring flower.		Green		Yellow	Spring	Pod		х
Caryopteris x clandonensis	Blue Mist Spirea	2-3' x 4'	Full sun	Grayish green foliage; blue flowers in late summer. Most attractive when cut back hard in late winter.		Grayish Green		Blue	Late Summer	4-valved capsule		х
Ceratoides lanata (also listed as Krascheninnikova lantana)	Winterfat	3' x 2'	Full sun	Silvery white foliage; important winter forage. Utah native found from 4,000 to 9,500 feet.		Silver White					х	
Cercocarpus intricatus	Dwarf Mountain Mahogany	4-6' x 5'	Full sun	Very dense, rounded form, tiny needle-like leaves.		Green			Spring	Achene		х
Cercocarpus ledifolius	Curl-leaf Mountain Mahogany	15' x 8'	Full sun	Evergreen. Dark small foliage. Feathery seed plume. Utah native found from 6,000 to 10,000 feet.	x	Green		Creamy Yellow	Spring	Achene	х	х
Cercocarpus montanus	Mountain Mahogany	8' x 6'	Full sun	Silver gray bark; thick dark green leaves. Utah native.		Dark Green		White	Spring	Achene	х	х
Chamaebatiaria millefolium	Fernbush	4' x 3'	Full sun	Green, aromatic foliage; clusters of white flowers late summer. Utah native found from 4,000 to 7,000 feet. May be semi-evergreen if afforded adequate winter shelter and a hot, well drained exposure.		Green		White	Late Summer	Follicle	x	х
Chrysothamnus nauseosus	Rubber Rabbitbrush	4' x 4'	Full sun	White stems, silver foliage; spectacular yellow fall flowers. Utah native found from 4,000 to 8,000 feet.		Silver	Silver	Yellow	Fall	Achene	х	х
Cotinus coggygria	Smoke Tree	15' x 8'	Full sun	Dark reddish leaves, flower plumes are smoky purple, orange fall color.		Red	Orange	Purple	Late Spring/Summer	Drupe		х
Cotoneaster acutifolia	Peking Cotoneaster	8-10' x 8-10'	Sun to light shade	Deciduous shrub with glossy green leaves, small white summer flowers, red fall berries.		Green	Orange-Red	White	Spring	Small Pome		
Cotoneaster apiculata	Cranberry Cotoneaster	3' x 4'	Sun to light shade	Rounded dense shrub, dark glossy leaves, white flowers, red berries.		Green	Red, Purple-Red	White	Spring	Small Pome		[]
Cotoneaster divaricata	Spreading Cotoneaster	5' x 8'	Sun to light shade	White spring flower; red summer fruit; small round		Green	Orange	White	Spring	Small Pome		х
Cowania movicana (also listed as	Cliff Rose	2-5' x 4'	Full sun	dark leaves have orange fall color. Semi-evergreen. Potentilla-like flowers in late spring. Utah native.	х	Dark Green	Dark Green	Creamy White	Late Spring	Achene	х	

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Daphne cneorum	Rose Daphne	3' x 4'	Light shade	Evergreen spreading shrub with narrow dark leaves. Clusters of white to pink, fragrant flowers in spring.	х	Green	Green	White to Pink	Spring	Drupe		
Euonymous alata	Winged Euonymous	8' x 10'	Sun to light shade	Large rounded shrub with dull green leaves and fiery red fall color. Interesting corky bark. In full sun requires more water.		Green	Red	Inconspicuous, Greenish Yellow	Spring	Aril		
Euonymous alata 'Compacta'	Dwarf Winged Euonymous	5' x 5'	Sun to light shade	Bright green spring foliage darkens in summer; turns fiery red in fall. Needs more water in full sun.		Green	Red	Inconspicuous, Green	Late Spring	Aril		
Fallugia paradoxa	Apache Plume	4' x 4'	Full sun	Delicate, white flowers followed by mauve colored, fluffy seed heads. Utah native found from 4,000 to 8,000 feet.		Green		White	Spring	Achene	х	х
Forsythia sp.	Forsythia	6' x 6-8'	Sun to light shade	Early yellow flowers on arching stems. Reddish fall color.		Green	Red	Yellow	Spring	Capsule		
Hippophae rhamnoides	Sea Buckthorn	8-18' x 12'	Full sun	Informal shrub; small greenish flower; orange, edible fruit on female plants. Good for wildlife.		Silver Green	Grayish Green	Green	Spring	Berry		
Holodiscus dumosus	Rock Spray Spiraea	3' x 4'	Full to part sun	Graceful shrub with arching branches covered in spring with cream blossoms. Utah native .		Green	Red	Cream	Spring	Achene	х	х
Jamesia americana	Cliff Jamesia	3' x 5'	Full to part sun	White flowers spring and early summer. Utah		Green	Orange to Pink	White	Spring, Early Summer	Capsule	х	
Juniperus ssp.	varies	varies	Full sun	Evergreen. Berries provide forage opportunities for many birds. Upright forms provide nesting.	х	Green	Green		Summer	Berry-like Cone		х
Kolkwitzia amabilis	Beauty Bush	8' x 8'	Sun to part shade	Pink flowers in early summer; upright, arching stems form dense round shrub		Golden/Green	Orange Red	Pink	Early Summer	Capsule		х
Lonicera	Honeysuckle Species	varies	Full sun to part shade	This species can be either a shrub or vine form.	varies	Green	varies	varies	Spring			х
Mahonia aquifolium	Oregon Grape	10' x 10'	Part to full shade	Evergreen leaves are holly-like. Fragrant yellow spring flowers followed by edible dark berries.	х	Green	Green	Yellow	Spring	Berry		х
Mahonia compacta	Compact Oregon Grape	4-5' x 4'	Part to full shade	Evergreen holly-like leaves; fragrant yellow spring flowers; dark edible berries.	х	Green	Green	Yellow	Spring	Berry		х
Pachistima myrsinites (may also be listed as Paxistima)	Mountain Lover	3' x 4-5'	Part to full shade	Evergreen with boxwood- shaped leaves that turn	х	Green	Red (in Winter)	Yellow	Spring	Capsule	х	
Philadelphus lewisii	Lewis' Mockorange	4-6' x 5-8''	Sun to part shade	Medium sized shrub with fragrant white flowers in early summer.		Green		White	Early Summer	Capsule		
Philadelphus microphyllus	Littleleaf Mockorange	4-6' x 4-6'	Sun to light shade	Snowy white flowers off and on all summer; dark green foliage; dense habit.		Dark Green		White	Spring	Capsule		х
Physocarpus opulifolius	Ninebark	5' x 6'	Sun to light shade	White May flowers followed by red pods. Yellow fall color. Attractive exfoliating bark.			Yellow	White	Spring	Capsule		х
Physocarpus opulifolius 'Diabolo'	Diabolo Ninebark	8-10' x 8-10'	Sun to light shade	Dark, reddish purple foliage; white spring flower. Best color in full sun.		Reddish Purple		White	Spring	Capsule		х
Pinus mugo v. mugo	Dwarf Mugo Pine	4' x 4'	Full sun	Mounding evergreen of varying size. 'Tannenbaum' is a dependably hardy form growing to 11 feet tall and about 6 feet wide. A nice tree-like dwarf.	х	Green	Green	Inconspicuous		Cone		х
Potentilla fruticosa	Shrubby Cinquefoil	3' x 3'	Full sun	Many varieties with flower color in white, yellow, and red. Summer blooming.		Green	Yellow Brown	White, Yellow, & Red	Summer	Achene		х
Prunus besseyi	Western Sand Cherry	5' x 5'	Full sun	Dull, dark green foliage, white spring flowers, edible fruit. Spreading, open habit		Dark Green	Bronze to Red	White	Spring	Drupe		х
Prunus triloba v. multiplex	Flowering Almond	10-12 x 1-'	Sun to light shade	Attractive pink flowers in April. Foliage is a bit course. Dwarf forms available. Nice in perennial borders.		Green	Yellow/Copper	Pink	Spring	Drupe		
Prunus x cistena	Purple Sand Cherry	6-8' x 8'	Sun to part shade	Dark purple leaves; white fragrant spring flower.		Dark Purple	Bronze Green	White	Spring	Drupe		
Prunus virginiana	Chokecherry	10' x 10'	Full sun to part shade	Large shrub can grow to 10 feet tall and round and is very productive of dark red-black cherries in late summer. Grows white flowers in the spring, followed by dark red fruit and a display of fall colors later on.		Green	White	White	Spring	Berry	х	х
Purshia tridentata	Antelope Bitterbrush	6' x 6'	Full sun	Trilobed leaves; yellow spring flower. Very attractive to deer. Utah native.	Semi	Green		Yellow	Spring	Achene	х	х
Rhamnus frangula 'Columnaris'	Tallhedge Buckthorn	10-12' x 4'	Sun to part shade	Tall narrow shrub with glossy foliage turning yellow in fall, insignificant greenish flowers turning into attractive dark berries.		Green	Yellow	Inconspicuous		Drupe		х
Rhus glabra	Smooth Sumac	8' x 8'	Full sun	Bright red seed heads and red fall color.		Green	Red	Greenish Yellow	Summer	Drupe		Х
Rhus glabra v cistmontana	Dwarf Smooth Sumac	4' x 6'	Full sun	Insignificant flowers followed by attractive red fruit that provides winter forage. Red fall color Utah native.		Green	Red	Inconspicuous		Drupe	х	х
Rhus trilobata	Oakbrush Sumac, Skunkbrush	3-6' x 5'	Sun to part shade	Dense and wide spreading shrub. Red fruit eaten by winter birds. Fall color yellow to red. Utah native.		Green	Yellow to Red	Inconspicuous Yellow	Late Spring/Early Summer	Drupe	х	х

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Rhus typhina	Staghorn Sumac	10' x 15'	Sun to part shade	Bright green, finely dissected, pinnate leaves turn scarlet in fall. Bright red seed head in fall. Forms colonies. Attractive to wildlife.		Bright Green	Red	Greenish Yellow	Summer	Drupe		х
Ribes alpinum	Alpine Current	3-6' x 3-6'	Full sun to shade	Shiny dark green leaves are finely textured. Excellent choice for dry shade.		Dark Green	Yellowish Green	Green-Yellow	Spring	Berry		
Ribes aureum	Golden Currant	4' x 4'	Part to full shade	Yellow spring flowers; red berries provide forage. Utah native found from 4,500 to 8,500 feet.		Green	Red & Yellow	Yellow	Spring	Berry	х	х
Ribes cereum	Squaw Currant	3' x 5'	Full to part shade	Nice compact form; Small leaves, whitish pink flowers, red berries.		Green	Yellow	Whitish Pink	Spring	Berry		
Ribes odoratum	Clove Currant	6-8' x 6-8'	Sun to part shade	Irregularly formed shrub with arching branches. Profuse spring flowers are clove-scented. Foliage is bluish green. Alternate host for White Pine Blister Rust.		Bluish Green	Yellow	Yellow	Spring	Berry		
Robinia neomexicana	New Mexico Locust	6-20' x 10-15'	Full sun	Beautiful clusters of rose pink flowers; gray green foliage; winter seedpods. Has thorns; may sucker.		Gray Green		Pink	Late Spring/Summer	Legume		
Rosa foetida 'Bicolor'	Austrian Copper Rose	6-8' x 8'	Full sun	Yellow flowers turn coppery red; very hardy and very thorny.		Green		Yellow then Red	Spring/Summer	Hip		
Rosa glauca (also listed as R. rubrifolia)	Redleaf Rose	6-7' x 4-6'	Sun to part shade	Reddish foliage (gray green in shade); simple rose pink flower early summer; dark red hips; red- orange fall color.		Reddish (Gray green in shade)	Red-Orange	Pink	Early Summer	Hip		
Rosa meideland	Meideland Rose	2-3' x 6'	Full sun	Everblooming shrub roses with low profile. White, pinks and reds available. Has thorns.		Green Red	Green Red	White, Pink, & Red		Hip		
Rosa rugosa	Rugosa Rose	4-6' x 6-8'	Full sun	Tough roses in a wide range of sizes and colors. Tend to be bushier than hybrids. Many have attractive rose hips. Thorns.		Dark Green	Yellow	Dark Pink to White	Summer	Hip		х
Rosa woodsii	Woods Rose	5' x 5'	Sun to part shade	Delicate pink spring blossoms; large red hips persist into winter. Utah native.		Green	Red and Yellow	Pink	Spring	Hip	х	х
Rosa x harisonii	Harison's Yellow Rose	2-5' x 4-6'	Full sun	Bright yellow spring blossoms followed by showy black hips. Thorns.				Yellow	Spring			
Rubus deliciosus	Boulder Thimbleberry	4-6' x 5-8'	Sun to part shade	Large, single, white rose-like flower in early summer; foliage bright green with yellow fall color. Vase-shaped shrub.		Bright Green	Yellow	White	Early Summer	Aggregate		х
Sambucus ssp	Elderberry	8-10' x 8'	Full to part sun	Lacy white flowers in spring; edible blue berries in late summer; attractive to wildlife. The more sun it receives, the more water it needs. Laceleaf and variegated forms are available and are equally hardy.		Wide range	Wide range	White	Spring	Drupe		
Shepherdia argentea	Silver Buffaloberry	10' x 6'	Full sun	Fine, silvery foliage, small yellow flowers; red edible fruit. Valuable as habitat and forage.		Silver		Yellow	Spring	Berry		х
Sorbaria Sorbifolia	Ash Leaf False Spirea	5-10' tall and wide	Full sun to part shade	Best grown in well-drained soils in full sun and requires moderate moisture. Has no known serious disease or pest problems and should be pruned in late winter to early spring. Suckering.		Green	Orange	White	Summer			х
Spiraea x bumalda	Bumald Spirea	2-5' x 4-6'	Sun to light shade	Clusters of early summer blooms, mostly in pinks and white. Some have colorful foliage.		Dark Green	Bronze	Pink & White	Early Summer	Follicles		
Spiraea x vanhouttei	Bridal Wreath Spirea	8' x 10'	Sun to light shade	Cascades of white flowers late summer. Graceful arching habit. Red fall color.		Green	Red	White	Late Summer	Follicles		
Symphoricarpos albus	Common Snowberry	4' x 5'	Part to full shade	Tubular white flowers followed by white berries that are persistant into winter.		Green	Green Yellow	White	Spring	Drupe		Х
Symphoricarpos occidentalis	Wolfberry	1-3' x 5'	Part to full shade	Tubular pinkish flowers; forms colonies. Berries are eaten by birds and small mammals.		Green		Pink	Summer	Drupe		
Symphoricarpos orbiculatus	Indiancurrant Coralberry	3' x 6'	Part to full shade	Small, soft green leaves on arching branches. Deep pink fruit forms in late summer and persists into winter.		Green		Yellow-White	Spring	Drupe		х
Symphoricarpos oreophilus	Mountain Snowberry	2-5' x 3-5'	Full to part sun	Vase shaped shrub, light gray leaves, pink bell shaped flowers. Snowy white berries persist into winter. Utah native.		Light Gray		Pink	Summer	Drupe	х	х
Symphoricarpos x chenaultii	Chenault Coralberry	3-4' x 4-6'	Sun to part shade	Delicate, bluish green foliage; clusters of pinkish flowers followed by colorful purple berries that persist into winter.		Bluish Green		Pink	Summer	Drupe		х
Syringa patula	Dwarf Korean Lilac	3' x 4'	Full sun	Late spring purple flowers; leaves smaller than on S. vulgaris. Makes a nice hedge.		Green		Purple	Late Spring	Capsule		
Syringa vulgaris	Common Lilac (many cultivars)	8-20' x 10-15'	Full sun	Spring flowers, sometimes fragrant. Allow for good air circulation to reduce or avoid powdery mildew.		Green		White to Purple	Spring	Capsule		х
Taxus x media 'Densiformis'	Dense Yew	3-4' x 4-6'	Part to full shade	more water to reach establishment.	x	Dark Green	Dark Green	Inconspicuous		Arils		
Viburnum lantana	Wayfaring Tree	10-15' x 10-15'	Sun to part shade	White spring flower clusters; leathery green leaves turn maroon in fall; summer berry attractive to birds.		Green	Maroon	White	Spring	Drupe		х
Viburnum rhytidophyllum	Leatherleaf Viburnum	10-12' x 10-15'	Part to full shade	Yellowish flowers mid May; dark leathery foliage. Tolerates dense shade.	Semi	Dark Green		Yellow	Late Spring	Drupe		х

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Yucca filamentosa	Adam's Needle	3-6' x 3'	Full sun	Broad, sword-like leaves; some forms are variegated. Flowers appear along tall stalk mid- summer.	х	Green	Green	White	Mid-Summer	Capsule		х
Yucca harrimaniae	Harriman's Yucca	12" x 12"	Full sun	Utah native found from 4,000to 9,000 feet; cold hardy to USDA Zone 4. Sword-like foliage has threads along edges; tall spire up to 3 feet.	х	Green	Green	White	Spring to Summer	Capsule	х	х
PERENNIALS												
Achillea ageratifolia	Greek Yarrow	4" x 18"	Full sun	Bright white flower clusters above gray green foliage. Late spring bloom.				White	Late Spring			х
Achillea filipendula	Fernleaf Yarrow	2-4' x 2'	Full sun	Two widely used cultivars, 'Coronation Gold' and 'Moonshine'		Green		Gold	Summer			х
Achillea millefollium.	Yarrow	36" x 24"	Full sun	Wide range of colors. Over watering tends to make the plants flop. Aggressive when over-watered.				Wide Range				х
Achillea serbica	Serbian Yarrow	4" x 15"	Full sun	Tight gray mats of evergreen foliage topped by white spring flowers.	х			White				х
Adenophora latifolia	Lilyleaf Ladybells	2-3' x 2'	Part to full shade	Tall stalks of trumpet-like lavender blue flowers in early summer. Good in dry shade.				Lavender Blue	Early Summer			
Aethionema schistosum	Persian Rockcress	10" x 15"	Full sun	Fragrant, soft pink flowers cover plant in early spring. Tiny leaves are evergreen and powdery blue.	х	Powdery Blue		Pink	Early Spring			х
Agastache cana	Wild Hyssop	2-3' x 2'	Full sun	Unusual colors, fragrant flowers, and aromatic gray foliage. Airy, upright habit. Late summer blooming.		Gray		Wide Range	Late Summer			
Agastache rupestris	Licorice Hyssop	2-3' x 2'	Full sun	Orange and lavender mid-summer to fall flowers, fragrant needle-like foliage. Very attractive to hummingbirds.				Orange & Lavender	Mid-Summer to Fall			х
Alcea rosea	Hollyhocks	3-6' x 3'	Full sun	Simple flowered forms are more heat and drought tolerant. Tall spires of flowers in magenta to apricot.				Wide Range				
Alchemilla mollis	Lady's Mantle	12-18" x 15"	Part shade	Round foliage with felt like texture; chartreuse flower in late spring.				Yellow Green	Late Spring			
Alyssum montanum	Mountain Gold Alyssum	4" x 15"	Sun to part shade	Bright yellow flowers in early spring cover gray green foliage.		Gray Green		Yellow	Early Spring			
Amorpha canescens	Leadplant	2-4' x 3'	Full sun	Silvery-white hairy foliage with pink pea-like flower		Silvery White		Pink				
Anacyclus depressus	Mount Atlas Daisy	2" x 18"	Full sun	Silvery green foliage; bright white daisy-like flower mid spring		Silvery Green		White	Mid Spring			х
Anaphalis margaritacea	Pearly Everlasting	2' x 2'	Sun to light shade	Utah native found from 4,000-9,000 feet. Golden flowers in silver bracts; woolly silver foliage. Good choice for meadow mixes.				Silver			х	х
Antennaria parviflora; A rosea; A microphylla	Pussytoes; Pink Pussytoes; Rosy Pussytoes	4" x 18"	Sun to part shade	Utah native found from 6,000-11,000 feet. Silvery foliage, pink or white ball shaped flowers.		Silvery		Pink or White			х	
Aquilegia caerulea	Rocky Mountain Columbine	24" x 18"	Part shade	Utah native found from 5,000-12,000 feet. Blue and white flowers. The more sun, the more water it needs. Utah native				Blue & White			x	
Aquilegia chrysantha	Golden Columbine	2' x 2'	Sun to part shade	Utah native found from 4,500-10,500 feet. Yellow flower. This species is more drought tolerant than other columbine.				Yellow			×	
Aquilegia formosa	Western Columbine	18" x 24"	Full sun to part shade	Utah native found from 4,500-10,000 feet. Yellow petals with orange-red sepals. More drought tolerant than most other columbine				Yellow			x	
Arenaria macradenia	Shrubby Sandwort	5-18" x 18-24"	Full to part sun	Utah native found from 4,000-10,000 feet. Needs irrigation until established, but tolerates very dry conditions afterwards. Shrubby habit, fine resinous foliage, white flower April to July.				White	Spring to Summer		x	х
Armeria maritima	Common Thrift	6" x 12"	Sun to part shade	Rose pink ball-like flowers; grass-like foliage. Might need more water in heat of summer.				Pink	Spring			х
Artemisia spp.	Wormwood	10- 36" x 36"	Full sun	Silver foliage, finely cut. Size varieties with cultivar.		Silver		Yellow	Summer/Early Fall			
Asclepias speciosa	Showy milkweed	3' x 3'	Sun to light shade	Upright perennial with gray green leaves and clusters of pinkish white flowers appearing in mid- summer. Very attractive to butterflies. May form larger colonies. Utah native.		Gray Green		Pinkish White	Mid-Summer		x	
Asclepias tuberosa	Butterfly Milkweed	1-2' x 2'	Full sun	Utah native found from 4,500-7,500 feet. Orange mid-summer blooms are a favorite of butterflies and provides critical for Monarch butterfly caterpillars.				Orange	Mid-Summer		x	х
Astragalus utahensis	Utah Lady finger; Utah milkvetch	4" x 10"	Full sun	Utah native found from 4,000 to 7,000 feet. Hairy, silver foliage; rose pink flowers		Silver		Pink	Late Spring		х	х
Baptisia australis	False Indigo	3-4' x 4'	Sun to part shade	Indigo-blue flowers in mid to late spring on long racemes; seed pods are shiny black. Foliage is pea-like and blue green. Slow to establish.		Blue Green		Indigo Blue	Mid to Late Spring			х

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Bergenia cordifolia	Bergenia, Saxifrage	12" x 12"	Part to full shade	Large, oval leaves are persistent into winter; pink spring flower				Pink	Spring			х
Berlandiera lyrata	Chocolate flower	18" x 12"	Full sun	Yellow mid-summer daisy; fragrant				Yellow	Mid-Summer			Х
Callirhoe involucrata	Poppy Mallow; Prairie Winecup	12" x 36"	Full sun	Magenta flowers mid-summer into fall. Deeply lobed foliage				Dark Pink	Mid-Summer to Fall			х
Campanula portenshlagiana	Dalmatian Bellflower	5-10" x 15"	Morning sun to light shade	Bell shaped purplish flowers mid spring; dark green heart shaped foliage.		Dark Green		Purplish	Mid Spring			
Campanula rotundifolia	Bluebells-of-Scotland	6-12" x 12"	Part to full shade	Utah native found from 7,500 to 11,500 feet. Nodding, lavender blue bell-shaped flowers early summer to fall. Pollinated by native bees and bumblebees.				Lavender Blue	Early Summer to Fall		х	
Centranthus ruber	Keys Of Heaven, Jupiter's Beard, Red Valerian	36" x 24"	Sun to part shade	Pink to red flowers off and on all summer. White form is C. alba.				Pink to Red	Summer			х
Coreopsis verticillata	Threadleaf Coreopsis	24" x 24"	Sun to light shade	Delicate yellow daisy-like flowers all summer. Needle like foliage.				Yellow	Summer			х
Corydalis lutea	Yellow Corydalis	15" x 15"	Part to full shade	Yellow "snap-like" flower throughout summer				Yellow	Summer			х
Dianthus gratianopolitanus	Garden Pinks	8" x 18"	Sun to part shade	Gray or silver foliage; flower color varies with cultivar.		Gray or Silver		Varies	Late Spring/Summer			х
Dianthus pinifolius	Pine-leafed Garden Pink	24" x 12"	Full sun	Blue-green foliage, very fine. Flowers are dark red.		Blue-green		Dark Red	Late Spring/Early Summer			
Echinacea angustifolia	Prairie Purple Coneflower	36" x 18"	Sun to part shade	Recurved petals are long and fine; prominent cone enjoyed by birds. Deer resistant.				Pink-Lavendar	Summer			
Echinacea paradoxa	Ozark Coneflower	30-36" x 15"	Sun to part shade	Yellow recurved petals. Deer resistant.				Yellow	Late Spring			
Epilobum caanum v. arizonica (formerly Zauschneria arizonica)	Hummingbird Trumpet	1-2' x 2-4'	Sun to part shade	Delicate scarlet, trumpet shaped flowers in early fall. Utah native.				Dark Red	Early Fall		х	
Epilobum caanum v. latifolia (formerlyZauschneria latifolia)	Hummingbird Flower	18" x 18"	Full sun	Brilliant scarlet trumpets late summer into fall				Dark Red	Late Summer to Fall			
Epimedium x rubrum	Barrenwort	12" x 12"	Shade	Small orchid-like flowers in early summer; foliage is heart-shaped and evergreen in mild winters.	х	Red to Green	Reddish Brown	Red with White or Pink Spurs	Spring			
Eriogonum umbellatum	Sulfur Flower	12" x 18"	Full sun	Utah native found from 5,000 to 11,500 feet. Early to mid-summer sulfur-yellow flowers above dark green foliage. Does well in harsh, dry conditions.		Dark Green		Yellow	Mid-Summer		х	х
Erodium chrysanthum	Yellow Stork's bill	5" x 12"	Full sun	Lacy gray green foliage; soft yellow flowers during summer months.		Gray Green		Yellow	Summer			
Eupatorium greggii	Texas Mist Flower	30" x 36"	Sun to part shade	Lavender blue flowers, like fluffy balls, bloom all summer. With less water needs more shade. Attractive to butterflies.				Lavender Blue	Summer			
Gaillardia aristata	Blanket Flower	2-3' x 2-3'	Full sun	Utah native found from 7,000 to 9,500 feet. Yellow and mahogany summer flower; reseeds.				Yellow and Dark Red	Summer		х	х
Gaura lindheimeri	Gaura, Whirling Butterflies	36" x 30"	Full sun	White butterfly-like flowers bloom all summer. Fine textured foliage. Wispy appearance.				White	Summer			х
Geranium endressii	Endress Cranesbill	16-20" x 18-24"	Part shade	Deep pink flowers in early to mid-summer.				Dark Pink	Early to Mid- Summer			
Geranium sanguineum	Bloody Cranesbill	8" x 18"	Sun to part shade	Magenta flowers in early summer. Green foliage turns orange in fall.		Green	Orange	Dark Pink	Early Summer			Х
Geranium viscosissimum	Sticky Geranium	2-3' x 2'	Part shade	Utah native found from 6,000 to 10,500 feet. Soft pink flowers; nice fall foliage color.				Pink	Late Spring/Summer		х	х
Globularia cordifolia	Leather Leaf Powder Puff	4" x 15"	Sun to part shade	Low mat of evergreen leaves; light blue flower puffs in late spring. Native to the mountains of western Turkey and very adaptive to alkaline soil. Hardy to USDA Zone 4.		Green		Light Blue	Late Spring			
Helianthemum nummularium	Rockrose	6" x 18"	Sun to part shade	Simple, five-petaled flowers in a wide range of colors; mats of green to gray foliage have fine texture.		Green to Gray		Wide Range	Late Spring/Early Summer			х
Hemerocallis hybrid	Daylily	1-6' x 1-3'	Sun to light shade	Wide variety of flower colors, heights. Useful for massing. Foliage is grass-like.				Wide Range	Summer			х
Heuchera spp.	Coral Bells	12" x 15"	Part to full shade	Round, lobed foliage; slender stems with white to pink bell shaped flowers.				White to Pink	Early to Mid- Summer			х
Iberis sempervirens	Candytuft	12" x 12"	Sun to light shade	Evergreen. Bright white flowers mid spring.	х			White	Mid-Spring			х
Iris hybrids	Bearded Iris; German Iris	1-3' x 2'	Full to part sun	Flowers late spring to early summer; sword-like foliage		Green		Varies	Early Summer			х
Iris pallida	Sweet Iris	24-36" x 12-18"	Full to part sun	Variegata' is the most common form, with golden yellow and green striped foliage and clear blue, fragrant flowers. 'Argenta Variegata' have white to cream and green variegated foliage. This form is a little slower to establish than the yellow-variegated form.		Yellow and Green Striped		Blue	Early Summer			x
Iris sibirica	Siberian Iris	2-4' x 18-24"	Full sun to part shade	Though they tolerate drier soils, their best flowering occurs when they are planted in fertile soils and are regularly watered.				Varies	Late Spring/Early Summer			х

BOTANICAL NAME	COMMON NAME	MATURE SIZE H x W	LIGHT EXPOSURE	COMMENTS	EVERGREEN	COLOR FOLIAGE	FALL COLOR FOLIAGE	COLOR FLOWER	FLOWER SEASON	FRUIT	UTAH NATIVE	WATERWISE
Kniphorfia uvaria	Red Hot Poker	3' x 3'	Full sun	Grass like foliage, unusual bi-color flower spikes in yellow to red. Deer resistant.				Bi-Color Yellow to Red	Summer			х
Lavandula angustifolia	English Lavender (many cultivars available including Munstead, Hidcote Nana, and Jean Davis)	15-30" x 15-24"	Full sun	Aromatic green or gray foliage topped by fragrant purple spires. Mid-summer bloom. Evergreen. Deer resistant.	х	Green or Gray		Purple	Mid-Summer			х
Lavandula x intermedia	French Lavender	24-36" x 18-24"	Full sun	Aromatic, evergreen foliage; flowers slightly later than English Lavender. Deer resistant.	х			Purple	Early Summer to Fall			х
Liatris punctata	Dotted Gayfeather	18" x 18"	Full sun	Magenta pink spires in late summer; grass-like foliage.				Dark Red	Late Summer			х
Liatris spicata	Gayfeather	2-3' x 2'	Full sun	Grass-like foliage and showy flower spikes in purple and violet.		Green		Purple & Violet	Late Summer			х
Linum lewisii (also listed as L. perenne v. lewisii)	Blue Flax; Lewis' Flax	24" x 18"	Full to part sun	Utah native found from 4,000 to 11,500 feet. Wispy foliage; blue spring flower. It has a high drought tolerance, though it will sometimes respond by going dormant, only to have new seedlings emerge with cooler fall temperatures.				Blue	Spring		x	х
Lychnis coronaria	Rose Campion	36" x 24"	Sun to light shade	Magenta flowers appear along woolly white stems. Leaves are silvery gray.		Silver Gray		Magenta	Spring/Summer			
Mirabilis multiflora	Desert Four O'Clock	2' x 5'	Full sun	Utah native found from 3,000 to 7,500 feet. Plant in a very sunny, hot location. Magenta flowers open in evening; thick, leathery foliage.				Magenta	Summer to Fall		х	х
Nepeta x faassenii	Catmint	18" x 30"	Sun to light shade	Lavender blue flowers early summer; soft gray fragrant foliage. 'Walker's Low,' 'Six Hills Giant,' and 'Little Trudy' are commonly available cultivars that are not invasive.				Lavender Blue	Early Summer			х
Oenothera berlandieri 'Siskiyou'	Siskiyou Pink Mexican Primrose	12" x 12"	Sun to part shade	Papery pink flowers bloom all summer; foliage is dark green. Can become invasive if over-watered.		Dark Green		Pink	Summer			
Oenothera caespitosa	Tufted Evening Primrose	6" x 6"	Full sun	Utah native found from 3,000 to 10,000 feet. Large white flowers; opens in evening				White	Spring		х	х
Oenothera howardii	Bronze Evening Primrose	6" x 6"	Full sun	Utah native growing from 5,000 to 8,000. Yellow flowers fade to bronze				Yellow	Late Spring/Summer		х	х
Oenothera missouriensis	Missouri Evening Primrose	10-12" x 24"	Full sun	Large, lemon yellow flowers open towards the end of day; glossy green foliage. Flowers all summer.		Green		Yellow	Summer			
Oenothera pallida	Pale Evening Primrose	12" x 12"	Full sun	Utah native found from 3,000 to 8,000 feet. Fast growing. Large white flowers; good choice for sandy soils.				White	Mid-Spring to Mid-Summer		x	х
Papaver orientale	Oriental Poppy	30" x 24"	Sun to light shade	Papery flowers in mid spring in a variety of colors. Hairy basal foliage goes dormant in low water situations.				Wide Range	Early Summer			х
Penstemon ambiguus	Sand Penstemon	2' x 2'	Sun to light shade	Utah native found from 3,000 to 6,500 feet. Airy clumps of grass-like foliage with many stems of pink flowers early to mid-summer.				Pink	Early to Mid- Summer		х	х
Penstemon barbatus	Scarlet Bugler	2-4' x 2'	Sun to light shade	Foliage is a low mound; flowers rise on spires early summer. Utah native					Early Summer		х	х
Penstemon caespitosa	Tufted Beardtongue	2-12" x 36"	Sun to light shade	Utah native found from 7,000 to 10,000 feet. Compact mat of gray green foliage covered with purple flowers from early to late spring.		Gray Green		Purple	Early to Late Spring		х	х
Penstemon cyananthus	Wasatch Beardtongue	36" x 12"	Full sun	Utah native found from 5,000 to 11,000 feet. Sky blue flowers early to mid-summer.				Blue	Early to Mid- Summer		х	х
Penstemon eatonii	Eaton's Beardtongue	36" x 12"	Sun to light shade	Scarlet red flowers; dark shiny green foliage. Utah native. Will die if over-watered.		Green		Red	Late Spring/Summer		х	х
Penstemon linarioides	Mat Penstemon	1' x 3'	Sun to light shade	Fine textured gray green leaves; lavender-blue snap-like flowers late spring.		Gray Green		Lavender Blue	Late Spring			
Penstemon palmeri	Palmer Penstemon	3' x 2'	Full sun	Tall spikes of pale pink, fragrant flowers. Utah native. Will die if over-watered.				Pink	Late Spring/Early Summer		х	х
Penstemon pinifolius	Pine-leaf Penstemon	12" x 12"	Full sun	Fine foliage; small scarlet trumpet-shaped flowers				Red	Late Spring to Mid-Summer			х
Penstemon pseudospectabilis	Desert Penstemon	2-3' x 2'	Sun to part shade	Vibrant, hot pink flowers late spring to mid- summer. Blue green foliage		Blue Green		Bright Pink	Late Spring to Mid-Summer			х
Penstemon strictus	Rocky Mountain Penstemon	30" x 30"	Full sun	Brilliant purple blue flowers early to mid-summer. Rich green foliage. Utah native found from 6,500 to 10,500 feet.		Green		Purple Blue	Early to Mid- Summer		х	х
Penstemon whippleanus	Whipple's Penstemon	2-3' x 2'	Sun to light shade	Burgundy purple flowers early to late summer. Utah native found from 6,000 to 11,500 feet.				Burgandy	Early to Late Summer		х	х
Perovskia atriplicifolia	Russian Sage	3-5' x 3-4'	Full sun	Small lavender blue flowers in tall spires; foliage is gray green and aromatic. Cut back to ground in spring keeps plant lush. Overwatering may result in rampant, over-zealous growth.		Gray Green		Lavender Blue	Summer			х
Phlox subulata	Creeping Phlox	6" x 12"	Sun to light shade	Low, matting foliage in light green; flowers appear in spring in a variety of colors. This perennial does much better in the cool nights of this mountain town than it does in the valley.		Light Green		Wide Range	Spring			

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Pulsatilla vulgaris (also listed as Anemone pulsatilla)	Pasque Flower	9-12" x 12"	Sun to part shade	Utah native found from 8,500-11,500 feet. Magenta or purple cup shaped flowers in early spring, followed by fuzzy plum colored seed heads.				Magenta or Purple	Early Spring		х	х
Ratibida columnifera	Prairie Coneflower, Mexican Hat	24" x 18"	Full sun	Yellow and mahogany petals surround pronounced center mid-summer; ferny foliage				Yellow & Mahagony	Mid-Summer			х
Rudbeckia fulgida	Black Eyed Susan	3' x 2'	Full sun	Deep golden flowers mid to late summer. Leaves are large, oval to heart shaped and glossy green.		Green		Golden	Mid to Late Summer			х
Rudbeckia nitida	Orange Coneflower	2-4' x 3'	Full sun	Smaller flowers than R. fulgida; densely branched with many flowers mid-summer.		Green		Yellow	Mid-Summer			
Rudbeckia occidentalis	Western Coneflower	4' x 2'	Full sun	Utah native found from 3,200 to 9,000 feet. Tall spire with brown cone, very small yellow petals. Utilized by finches and other perching birds. This native tends to grow in moist mountain meadows; it requires regular watering and good drainage.		Green		Yellow tipped but overall appearance of brown	Summer to Early Fall		x	
Salvia chamaedryoides	Germander Sage	18" x 24"	Full sun	True blue flowers on spikes above green foliage. Foliage is evergreen during mild winters.	х	Green		Blue	Summer			
Salvia nemerosa	Plume-flowered Salvia	30" x 24"	Full sun	Rosy purple flowers with fuzzy appearance, mid- summer. Gray green foliage.		Gray Green		Purple	Mid-Summer			х
Salvia officinalis	Kitchen Sage	2'x 3'	Full sun	Evergreen gray green foliage; edible foliage is aromatic.	х	Gray Green		Purple/ Lavender	Early Summer/ Summer			х
Salvia superba	Garden Salvia	2-3' x 2'	Full sun	Spires of flowers mid-summer; foliage typically dull green.		Dull Green		Varies	Mid-Summer			
Santolina chamaecyparissus	Lavender Cotton	12-18" x 18"	Full sun	Gray foliage forms compact mound; yellow button flowers mid-summer. Evergreen in mild winter. Aromatic.	х	Gray		Yellow	Mid-Summer			х
Santolina virens	Green Santolina	12-18" x 18"	Full sun	Bright green compact foliage; evergreen in mild winters.	х	Bright Green		Yellow	Spring/Summer			х
Saponaria ocymoides	Rock Soapwort	6" x 24"	Sun to part shade	Pink or white spring flowers; fine textured foliage.				Pink or White	Spring			
Scutellaria resinosa	Prairie Skullcap	10" x 10"	Full sun	Neat mounds of thyme-like foliage; lavender blue flowers late spring.				Lavender Blue	Late Spring			
Sedum spectabile	Showy Stonecrop	18-24" x 15"	Sun to light shade	Fleshy blue-green leaves appear in mid spring, followed by white to pink broccoli-like flower.		Blue Green		White to Pink	Late Summer			х
Sempervivum tectorum	Hens And Chicks	4" x 12"	Full sun	Succulent foliage forms low rosettes. Interesting specimen in rock gardens.	х	Green		Pink	Summer			
Spharealcea ssp.	Globernallow	2-3' x 1'	Full sun	True orange flowers in summer. Foliage is pale gray green. Utah native.		Pale Gray Green		Orange	Summer		х	х
Tanacetum densum	Partridge Feather	6-8" x 12"	Full sun	Mats of silvery white, finely cut foliage; yellow button flowers early summer.		Silvery White		Yellow	Early Summer			
Teucrium aroanium	Creeping Germander	3" x 18"	Sun to light shade	Mounds of silver foliage; lavender pink fragrant flowers mid-summer. Requires good drainage.		Silvery White		Lavender Pink	Mid-Summer			
Teucrium chamaedrys	Wall Germander	1' x 2'	Sun to light shade	Dark glossy foliage is evergreen in mild winters; spikes of lavender pink flowers in summer. Poor drainage will shorten the life of this perennial.	х			Lavender Pink	Summer			х
Viguiera multiflora	Showy Goldeneye	24" x 36"	Full sun	Utah native found from 4,500 to 10,000 feet. Small daisy-like yellow flowers; will naturalize. Leaves are lance-shaped.				Yellow	Late Summer		х	х
Zizophora clinopodioides	Blue Mint Bush	18" x 18"	Sun to part shade	Blue, thyme-like flowers cover plant in summer. Foliage is dull green. Fragrant. Hardy to -20 degrees.		Dull Green		Blue	Summer			

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ANNUALS												
Ageratum houstonianum	Ageratum; Flossflower	12 to 26 inches	Sun to filtered shade	Set out after frost. Space dwarf varieties 6 inches apart; tall varieties 12 to 18 inches apart. Deadhead to promote bloom. Not frost tolerant.		Green		Blue, Pink, Lavender	Spring to Fall			
Amaranthus caudatus	Love-lies-bleeding	24 to 4 feet tall	Full sun to part shade	Dramatic, long racemes of brilliantly colored flowers. Space shorter varieties 18 inches apart; taller varieties 24 to 36 inches.		Light Green		Pink, Red, Purple	Summer			
Antimhinum majus	Snapdragon	12 to 36 inches tall	Full sun to part shade	summer. Space small forms 6 inches apart; intermediate 8 to 12 inches; and tall forms 12 to 18 inches. May over winter if grown in a protected spot.				Variety	Summer			
Brassica	Flowering Kale and Cabbage	12 to 18 inches	Full sun	Grown for its colorful foliage. Pairs well with pansies, snapdragons, and other cool season annuals. Foliage is edible, though bitter, and makes a lovely garnish. Space 15 to 18 inches apart.		White/Cream, Pink, Rose, Red and Purple		Insignificant				
Calendula officinalis	Calendula; pot marigold	12 to 30 inches tall	Full sun	Warm yellows, oranges, apricots and cream colored varieties. Flowers are edible; use petals in salads, soups, and egg dishes. Plant 12 to 15 inches apart.				Yellow, Orange, Cream	Late Spring/Early Summer			
Callistephus chinensis	China aster	6 to 30 inches tall	Full sun to light shade	Similar in appearance to perennial asters. Excellent cut flower (though they do not re-bloom). Space 6 to 12 inches apart.		Green		Varies	Summer to Fall			
Campanula medium	Canterbury bells	30 inches	Full sun to light shade	Technically a biennial, though some annual varieties have been developed. Classic campanula bell-shaped flower, just on a taller scale. Long lasting cut flower. Space 12 inches apart.		Green		Blue, Violet, White, Pink	Late Spring to Mid-Summer			
Centaurea cineraria	Dusty Miller	12 to 18 inches	Full sun	Felty, velvety silver to white foliage is a lovely contrast to busy summer flowers. Sometimes overwinters.		Silver to White						
Centaurea cyanus	Bachelor's buttons	To 36 inches	Full sun	Bushy annual with corn-flower blue, pink, or white flowers. Excellent cut flower. Deadheading will extend season of bloom. Birds enjoy the seed heads. Plants may reseed, providing years of pleasure.				Blue, Pink or White	Late Spring/Summer			
Chrysanthemum multicaule and paludosum	Annual chrysanthemums; marguerites	To 24 inches	Full sun	Lush bright green foliage is topped by small daisy- like flowers. Sprawling habit makes it well suited to hanging baskets or at the edges of pots where they will spill and cascade. Plant 12 inches apart.		Bright Green		Yellow/White	Spring to Summer			
Cleome	Cleome; Spiderflower	To 5 feet tall	Full sun to light shade	Tall, leggy annual with clusters of flowers in shades from white to magenta. Excellent cut flower, but mind the thorns that form at branch joints.				White to Magenta	Early Summer to Fall			
Coleus	Coleus	To 24 inches	Filtered sun to light shade	Grown for colorful foliage; excellent in containers indoors or out.		Green with Pink or Purple						
Coreopsis tinctoria	Annual coreopsis	To 24 inches	Full sun	Annual coreopsis has daisy-like blooms in bold yellow, gold, and orange, many forms with a dark red eye. Foliage is green and lance-like, similar to perennial coreopsis. Space about 12 inches apart.		Green		Yellow, Gold, & Orange	Spring, Early Summer			
Cosmos bipinnatus	Cosmos	24 inches to 6 feet	Full sun to part shade	Graceful plants with airy foliage and daisy-like flowers in a wide range of pastel hues. Space 12 inches apart.		Green		Red, Violet, White, Pink	Summer to Fall			
Cosmos sulphureus	Klondike cosmos	12 inches to 6 feet	Full sun	Bold yellow, golden orange, or scarlet orange daisy- like flowers. Foliage is more coarse than in C. bipinnatus. Space 12 inches apart.				Yellow, Golden Orange, Scarlet Orange	Summer to Fall			
Delphinium ajacis (also listed as Consolida ambigua)	Larkspur; Annual Delphinium	To 4 feet	Partial shade	Similar in appearance to delphinium, though less fussy. Tall plants are leggy with fine foliage; flowers bloom at stem ends. Pastel and jewel colors. May reseed.				Range	Summer			
Dianthus barbatus	Sweet William	3 to 18 inches	Full sun	A bit more coarse than China pinks, but with lovely bold flowers in whites, pinks, reds, and bicolor. A biennial, it may overwinter to flower again. Space 12 inches apart.				White, Pink, Red, & Bicolor	Late Spring to Summer			
Dianthus chinensis	Carnation; China pinks	8 to 18 inches	Full sun	Similar in appearance to perennial dianthus. Charming flowers with dense mounding forms and fragrant flowers in shades of white, pink, scarlet, and every hue in between.				White, Pink, Scarlet	Late Spring to Summer			

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Eschscholzia californica	California poppy	8 to 24 inches	Full sun	A good annual for naturalizing. Generally not well suited to container culture, they grow best in coarse, rocky, dry soils. Plant from seed for best results.		Green Gray		Yellow to Orange	Summer			
Felicia	Blue marguerite	To 18 inches	Full sun	Blue daisy-like flower spills over rich green, dense foliage. Its sprawling, tumbling habit makes it well suited to hanging baskets and the edges of containers. Plant 6 to 12 inches apart.		Green		Blue	Summer/Fall			
Gomphrena	Globe amaranth	10 to 24 inches	Full sun	Unusual globe-like flowers come in shades of lavender, magenta, even orange. Excellent cut flowers for fresh or dry bouquets. Space 8 to 12 inches apart.				Lavender, Magenta, Orange	Early Summer to Fall			
Helianthus annuus	Sunflower	12 inches to 12 feet	Full sun	Sunflowers need a lot of sun and heat over a long season, so plant where they will benefit from reflective heat of walls. Birds enjoy the seeds.				Yellow	Summer			
Helichrysum bracteatum	Strawflower	12 to 36 inches	Full sun	Strawflowers thrive in dry soils. Flowers are excellent cut fresh and for drying. Broad range of colors.				Wide Range	Late Spring to Fall			
Lathyrus odoratus	Sweet pea	Climbers to 5 feet	Full sun	Sweet peas thrive in cooler climates and are well suited to the milder summer temperatures of Park City. Fragrant flowers spill over grey-green foliage. Provide support for climbing, or let cascade over a container or wall.		Gray-Green		All colors except yellow	Late Spring/Early Summer			
Limonium sinuatum	Statice	10 to 48 inches	Full sun	Clusters of tiny flowers sit atop tall stems. Foliage is large and oval to lance-shaped, nicely contrasting with other leaves in the garden. Excellent cut flower for fresh or dry arrangements.		Green		Range	Late Summer/Fall			
Lobelia erinus	Lobelia	4 to 6 inches	Full sun to part shade	Tiny flowers cover mounds of soft green foliage. Its sprawling, tumbling habit makes it well suited to hanging baskets and the edges of containers. Blues, violet, lavender, white, rose, some with prominent eyes. Space 6 inches apart.		Soft Green		Blue, Violet, Lavender, White, Pink	Late Spring/Early Summer			
Lobularia maritima	Sweet Alyssum	4 to 6 inches	Full sun to light shade	Honey scented flowers in shades of pink, lavender, rose, or white cover finely texture green foliage. Well suited to the edge of a flower border, containers, or hanging baskets. If flowering diminishes, cut back by half and fertilize. May reseed. Space 6 to 8 inches apart.				Pink, Lavender, White	Spring/Early Summer			
Moluccella laevis	Bells-of-Ireland	15 to 36 inches tall	Full sun	Similar in appearance to hollyhock, but with green bracts. The flowers are charming in bouquets. Space 12 inches apart.				White flowers in green calyces	Summer to Fall			
Myosotis sylvatica	Forget-me-not	6 to 12 inches tall	Light shade	Its preference for cooler climes makes forget-me- nots well suited to Park City. Blue, white, and pink varieties. Combines well with pansies. Plants die back in the heat of the summer, but cut them back and they may come up and bloom again with the return of cooler weather. Plant 6 to 8 inches apart.				Blue, White, Pink	Spring/Early Summer			
Nicotiana	Flowering tobacco	10 inches to 4 feet	Full sun to light shade	Nicotiana is an old-fashioned annual with star-like flowers in nearly every shade imaginable. Set out after danger of frost has past, though they will tolerate the cooler evenings of late summer. N. sylvestris grows about 5 feet tall, is white, with a heady, clove scent.				Wide Range	Summer			
Nigella damascene	Love-in-a-mist	18 to 24 inches tall	Full sun to part shade	Dainty cornflower-like blooms in pale blue, rose, lavender, and white. Seed heads are globe-like and multicolored, and are fabulous in dry arrangements. A charming annual for border or container, it may reseed, and protifically so. Stops blooming in very hot weather, though the seedheads are attractive.				Light Blue, Pink, Lavender, White	Summer			
Papaver nudicaule	Icelandic poppy	6 to 16 inches tall	Full sun	An early season annual thriving in the cooler temperatures of Park City. Wide range of colors. Tends to die out in hot weather. Needs well drained soil. Space 6 to 8 inches apart.				Wide Range	Early Spring to Fall			
Papaver rhoeas	Flanders poppy	12 to 24 inches tall	Full sun	Wide range of colors. The parent of Shirley poppy. Leaves are pale green and deeply cut. Prefers the cooler weather of spring or fall. Space 8 to 12 inches apart.		Pale Green		Wide Range	Late Spring to Summer			

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Pelargonium	Geranium	8 to 36 inches	Full sun to part shade	There are just too many geraniums to describe; from white to every imaginable shade of pink, red, magenta, and orange, and everything in between. Many hybrids have variegated foliage. Some forms have deliciously scented leaves that make lovely potpourris, teas, and jellies. Ivy-leaved forms are cascaders well suited to hanging baskets.				Wide Range	Spring/Summer/ Fall			
Petunia hybrida	Garden petunia	8 to 28 inches	Full sun	Wide range of colors. Habits range from mounding to cascading, so choose a form best suited to your need and container. Pinching plants will make them bushy, and deadheading will keep them flowering. Plant 6 to 10 inches apart. Petunias love hot sites.				Wide Range				
Rudbeckia hirta	Gloriosa daisy	8 to 36 inches	Full sun to light shade	Similar in appearance to perennial Rudbeckia, Gloriosa daisy come in shades of orange, reds, browns, and maroons. Blooms well in the heat of the summer; shorter lived than perennial Rudbeckia.				Orange, Red, Brown, Maroon	Summer			
Salpiglossis sinuate	Painted tongue; Velvet flower	12 to 36 inches	Full sun	Trumpet-shaped flowers come in soft pastels with darker colored veins. Prefers the cooler temperatures of Park City. A lovely cut flower, it grows well with love-in-a-mist and baby's breath. Pinch young plants to encourage a bushy habit. A perennial in milder climates, it may reseed. Plant 12 inches apart.				Soft pastels with darker veins				
Salvia	Salvia; Flowering sage	8 to 36 inches	Full sun to partial shade	Tender cousins of the tough perennial salvias, these annuals provide pleasant vertical interest to containers with their spires in white, blue, or pink.Deadheading will keep them flowering over the whole summer.				White, Blue, or Pink				
Sanvitalia procumbens	Creeping zinnia	6 to 8 inches	Full sun	Low mounding annuals with tiny white, yellow, or orange flowers with immense dark seed heads. These love hot sites, so plant them in beds against walls or containers surrounded with concrete.				White, Yellow, or Orange				
Tagetes	Marigolds	6 inches to 4 feet	Full sun	A huge array of flower forms, from single petaled to doubles to pompoms, in warm tones of yellows, oranges, cream, and multicolored. Deadheading will prolong the bloom season and make for tidier plants.				Yellow, Orange, Cream, & Multicolored				
Tropaeolum majus	Nasturtium	To 15 inches	Full sun	Lovely flowers are reminiscent of large pea flowers, but more open and trumpet like. Foliage is round, soft green, grey green, or mottled with cream. Loves heat. Cascading habit makes it well suited to hanging baskets or the edges of containers. Flowers and leaves are edible, with a peppery flavor. Space 8 t o12 inches apart.		Green, Gray Green, or Mottled with Cream						
Verbena hybrids	Garden verbena	6 to 12 inches	Full sun	Small, richly colored fragrant flowers form tight clusters 3 to 3 inches across. Foliage is a soft green, and the leaves are lance-like with serrated edges. Pinch back young plangs to encourage bushy habits, deadhead to prolong blooming season.		Soft Green						
Viola	Pansy; Viola	To 8 inches tall	Full sun to part shade	Pansies are the quintessential spring bloom, with every color imaginable in every combination. Plants enjoy the cool temperatures of spring and fall, and may die out during the heat of the summer. Cut back when they stop flowering and they may come back and bloom some more. Fall planted pansies usually survive the winter and bloom in the spring. Technically perennials, they are treated as annuals because they don't like the summer heat.				Wide Range	Spring & Fall			
Zinnia elegans	Garden zinnia	3 inches to 36 inches tall	Full sun	Zinnias are popular annuals with many forms, heights, and colors. They bloom during the heat of the summer. Deadheading will prolong the bloom and make for tidy plants.				Wide Range	Summer			

BOTANICAL NAME	COMMON NAME	MATURE SIZE H x W	LIGHT EXPOSURE	COMMENTS	EVERGREEN	COLOR FOLIAGE	FALL COLOR FOLIAGE	COLOR FLOWER	FLOWER SEASON	FRUIT	UTAH NATIVE	WATERWISE
GROUNDCOVERS	P				•	·······					· · · · · · · · · · · · · · · · · · ·	
Ajuga reptans	Ajuga, Bugleweed	2-4" x 12-18"	Part to full shade	Low-growing groundcover with spires of blue or pink flowers. Leave color varies with cultivar, from dark green, to purple, and variegated.		Varies: Dark Green to Purple		Blue or Pink	Summer			х
Alyssum montanum	Mountain Gold Alyssum	4" x 15"	Sun to part shade	Bright yellow flowers in early spring cover gray green foliage.		Gray Green		Yellow	Early Spring			
Anacyclus depressus	Mount Atlas Daisy	2" x 18"	Full sun	Silvery green foliage; bright white daisy-like flower mid spring		Silvery Green		White	Mid-Spring			
Antennaria parviflora; A. rosea	Pussy Toes; Pink Pussy Toes	4" x 18"	Sun to part shade	Utah native; silvery foliage, pink or white ball shaped flowers		Silvery		Pink or White			х	
Arctostaphylos uva-ursi	Kinnikinnick	3-6" x 24-36"	Part shade (avoid afternoon sun)	Evergreen. Dark glossy foliage; pinkish bell shaped flowers in early spring. Intolerant of soils that stay wet. Utah Native. Zone 1 if grown in shade.	x			Pink	Early Spring		x	
Campsis radicans	Trumpet Vine	30' x 20'	Sun to part shade	Needs a strong support. Orange to scarlet trumpet- shaped flowers mid-summer; interesting winter pods.				Orange to Scarlet	Mid-Summer			
Cerastium tomentosum	Snow In Summer	8" x 24"	Full sun	Mat-forming, silvery white foliage; very white spring flower; will die out in center if over-watered. May be invasive	1	Silvery White		White	Spring			х
Clematis spp.	Clematis	20' x 10'	Plant so that the base of the plant is in the shade and its branches are in the sun	Some may be invasive. Utah Natives include C. ligusticifolia, C. hirsutissima. C. occidentalis							x	
Convallaria majalis	Lily-Of-The-Valley	8" x 24"	Part to full shade	Dark green foliage; white bell shaped, fragrant flowers in early spring.		Dark Green		White	Early Spring			
Cotoneaster horizontalis	Rockspray Cotoneaster	2-3' x 10-15'	Sun to light shade	Stiff angled branches have small round leaves. White flowers followed by red berries.				White				
Euonymus fortunei	Purple-leaf Winter Creeper	2' x 6'	Part shade	Evergreen, though sometimes semi-evergreen. Dark green leaves turn deep purple in fall. Will adhere to and climb surfaces.	x	Dark Green						
Fragaria sp.	Wild Strawberry	2" x 24"	Sun to part shade	Utah Natives F. vesca and F. virginiana							х	
Galium odoratum	Sweet Woodruff	4" x 18"	Part to full shade	Whorls of bright green foliage; star-shaped flowers in late spring		Bright Green		White	Late Spring			
Juniperus communis	Common Juniper	2-4' x 4-6'	Full sun to light shade	Evergreen. Low growing junipers; color and texture varies with cultivar.	х	Varies						
Juniperus horizontalis	Creeping Juniper	6-18" x 5-8'	Full sun	Evergreen. Needle color varies with cultivar.	х	Varies						
Lamium maculatum	Dead nettle	8-12" x 24"	Part to full shade	White to purplish blooms late spring; foliage varies with cultivar – many variegated. Adaptable to dry shade.		Varies		White to Purple	Late Spring			
Lonicera japonica	Japanese Honeysuckle	12' x 15'	Sun to light shade	There are dozens of hybrids now with a range of colors in the pinks, reds, and corals. Not as fragrant as 'Halliana', but lovely to look at.				Pink, Red, Coral				
Lonicera japonica 'Halliana'	Halls Honeysuckle	12-20' x 12-20'	Sun to light shade	Pale yellow and creamy white summer flowers are very fragrant, if not very showy.				Pale Yellow to Creamy White	Summer			
Mahonia repens	Creeping Oregon Grape	2' x 6'	Part to full shade	Evergreen. Utah native found from 4,000 to 10,000 feet. Needs occasional supplemental irrigation in full sun, and less when planted n shade. Good choice for dry shade.	х			Yellow	Spring		x	x
Parthenocissis spp.	Virginia Creeper, Boston Ivy	40' x 15'	Sun to light shade	Deciduous vine that adheres itself to nearly any surface. Large dark green leaves, red fall color. Spreads easily and can choke out other plants. Not suitable for gardens adjacent to native areas.		Dark Green	Red					
Rhus aromatica 'Autumn Amber'	Autumn Amber Sumac	1' x 3-4'	Sun to shade	Lower growing than Gro-low; same glossy foliage and good fall color.								
Rhus aromatica 'Gro-low'	Gro-low Sumac	2' x 6'	Sun to shade	Glossy green, three-lobed leaves have red fall color. Yellow spring flower followed by fuzzy red berries. Good choice for dry shade.			Red	Yellow				
Sedum spp.	Stonecrop	1- 6" x 12-24"	Full to part sun	Large group of low growing succulents; leaf color and shape varies with cultivar. Not tolerant of foot traffic, typically not dense enough to choke out weeds and grass.		Varies		Varies				х
Stachys byzantina	Lamb's Ear	12-18" x 36"	Sun to light shade	Velvety leaves are silvery white; spires of pink flowers mid- summer. Avoid overhead watering.		Silvery White		Pink	Mid-Summer			
Symphoricarpos x chenaultii	Chenault Coralberry	3-4' x 4-6'	Sun to part shade	Delicate, bluish green foliage; clusters of pinkish flowers followed by colorful purple berries that persist into winter.		Bluish Green		Pink				
Teucrium aroanium	Gray Creeping Germander	3" x 18"	Sun to part shade	Silver gray leaves; fragrant lavender flowers in early summer.		Silver Gray		Lavender	Early Summer			
Thymus pseudolanuginosus	Woolly Thyme	1-2" x 18"	Full sun	Hairy gray foliage turns plum colored in fall; evergreen. Tolerates moderate foot traffic.	х	Gray	Plum					х

BOTANICAL NAME	COMMON NAME	MATURE SIZE H x W	LIGHT EXPOSURE	COMMENTS	EVERGREEN	COLOR FOLIAGE	FALL COLOR FOLIAGE	COLOR FLOWER	FLOWER SEASON	FRUIT	UTAH NATIVE	WATERWISE
Thymus ssp.	Creeping Thyme	3-4" x 18"		Spring flowers in white, pinks, reds; green foliage; tolerates moderate foot traffic.		Green		White, Pink, & Red	Spring			х
Veronica liwanensis	Turkish Speedwell	2" x 18"		Vigorous perennial; evergreen foliage; violet blue flowers in spring. Needs afternoon shade.	х			Violet Blue	Spring			х
Veronica oltensis	Thyme-leaf Speedwell	1" x 24"		Tiny dark gray green leaves; azure blue flowers late spring; evergreen.	х	Dark Gray Green		Azure Blue	Late Spring			
Veronica pectinata	Blue Woolly Speedwell	2" x 18"		Dense mat of small dark green leaves, covered with tiny blue flowers mid spring		Dark Green		Blue	Mid-Spring			

BOTANICAL NAME	COMMON NAME	MATURE SIZE H x W	LIGHT EXPOSURE	COMMENTS	EVERGREEN	COLOR FOLIAGE	FALL COLOR FOLIAGE	COLOR FLOWER	FLOWER SEASON	FRUIT	UTAH NATIVE	WATERWISE
TURFGRASSES and ORNAM	MENTAL GRASSES											
Bouteloua curtipendula	Sideoats Grama	1-2' x 1'	Full sun	Popular grass for meadows and reclamation. Fine textured, Purple spikelets form on one side of stem.				Purple				
Blepharoneuron tricholepis	Pine Dropseed; Hairy Dropseed	30" x 30"	Sun to light shade	Upright, arching bunchgrass. Green panicles turn straw colored, and persist into winter. Provides food and shelter for butterflies and birds.		Green	Straw					
Bouteloua gracilis	Blue Grama	8-10" x 12"	Full sun	Native plains grass suitable for turf. Warm season grass goes dormant in winter months. Suitable as a turf grass.					Summer			х
Calamagrostis acutiflora	Feather Reed Grass	4' x 2'	Full sun	Very upright grass; plumes early					Summer			Х
Calamagrostis acutiflora 'Overdam'	Overdam Reedgrass	3' x 2'	Part sun	Green and white variegated foliage; whitish plumes; best in afternoon shade.		Green & White Variegated		Whitish	Summer			х
Calamagrostis arundinacea 'Karl Foerster'	Foerster Reedgrass	4' x 3'	Full sun	Very upright grass; Oat like plumes bloom mid- summer and persist well into winter.				Oat	Mid-Simmer			
Elymus cinereus	Great Basin Rye	3-4' x 2'	Full sun	Utah native. Blue gray foliage		Blue Gray			Summer		х	
Elytrigia elongate	Tall Wheatgrass	4-5' x 18"	Full sun	A very upright grass; straw yellow stalks.		Straw Yellow						
Festuca arizonica	Arizona Fescue	10"-2' x 2'	Sun to light shade	Clumping bunchgrass with wiry seed stalks up to 3 feet tall. Gray green to blue green leaves.		Grany Green to Blue Green						
Festuca ovina glauca	Blue Fescue	1-2' x 1'	Full sun	Evergreen. Bluish color. Many cultivars are available, most not as large as the species.	х	Bluish			Summer			х
Helictotrichon sempervirens	Blue Avena grass; Blue oat grass	4' x 2'	Full sun	Gray-blue foliage; soft brown plumes mid-summer		Gray-Blue		Soft Brown	Mid-Summer			х
Koeleria macrantha	Prairie Junegrass	2' x 1'	Sun to light shade	Clumping bunchgrass with bright green foliage and upright flower spike. Provides food and habitat for birds and large mammals.		Bright Green						
Miscanthus sinensis	Maidenhair Grass	4-10' x 3-7'	Sun to light shade	Upright fountain-like habit; wide variety; white variegated forms prefer some afternoon shade; good winter presence.					Summer			Х
Muhlenbergia capellensis	Muhly Grass	3' x 3'	Full sun	Plumes dusty pink				Dusty Pink				
Muhlenbergia montana	Mountain Muhly	30" x 24"	Sun to moderate shade	Upright bunchgrass with open panicles of green, aging to straw and persistent into winter.		Green	Straw					
Muhlenbergia rigens	Deergrass	3-5' x 3'	Sun to light shade	Upright and arching, coarse-textured bunchgrass; spikelets to 5 feet tall, aging to straw. Wildlife and bird habitat. Good container plant.			Straw					
Muhlenbergia wrightii	Spike Muhly	1-2' x 2'	Full sun	Fine textured, upright green leaf blades. Green florets age to gray black and persist into winter.		Green	Gray Black					
Oryzopsis hymenoides (also listed as Stipa hymenoides)	Indian Rice Grass	2' x 2'	Full sun	Cool-season native bunch grass with showy panicles. Provides forage and habitat opportunities for wildlife.								
Panicum virgatum	Switch grass	2' x 2' Flower stalks to 5 '	Full sun	Steel blue foliage; upright habit. Florets arranged on arching stem. Plant turns orange in fall. Seeds attractive to birds.		Steel Blue	Orange		Summer			х
Pennisetum alopecuroides	Fountain Grass	2-3' x 2-3'	Sun to light shade	Soft, foxtail-like plumes appear mid-summer. Requires good drainage. Plumes useful for flower arrangements.					Summer			х
Pleuraphis jamesii (also listed as Hilaria jamesii)	Galleta grass; Curly grass; James' grass	18" x 2'	Full sun	Dense, fuzzy spikelets are angled zig-zag up 2 foot tall stalks. Foliage is gray green, aging to straw. Good choice for dry wildflower meadow. Attractive to butterflies.		Gray Green	Straw					
Poa fendleriana	Muttongrass	1-2' x 1'	Sun to shade	Upright bunchgrass; bright green foliage. Airy panicles of yellow-green florets. Attractive to birds, butterflies.		Bright Green		Yellow-Green				
Schizachyrium scoparium	Little Bluestem	2-4' x 30"	Sun to light shade	Upright, erect habit. Leaves flat and stiff, light green aging to darker green; fall color is red. Inflorescence is wispy. Tolerant of heavy clay soils. Attractive to butterflies, birds. Utah native.		Light to Dark Green	Red		Summer		x	х
Sorghastrum nutans	Indiangrass	4-5' x 18"	Full sun	Upright habit; nice fall color; habitat for ground dwelling birds					Summer			х
Sporobolus airoides	Alkali sacaton	2' x 2'	Full sun	Delicate appearing foliage with pinkish inflorescence. Tolerant of saline and clay soils.				Pink	Summer			х
Sporobolus contractus	Spike Dropseed	16" x 12"	Full sun	Very heat tolerant. Interesting flower spikes. Utah native. Tolerates sandy soils but is adaptive.							х	
Stipa comata	Needlegrass	4' x 1'	Sun to light shade	Slender grass with long, elegant awns.								



Planning Commission Staff Report

Subject:	Silver Strike Lodge Condominiums Second Amended plat
Author:	Kirsten Whetstone, MS, AICP
Date:	February 28, 2018
Type of Item:	Legislative– Amendment to Condominium plat

Summary Recommendations

Staff recommends the Planning Commission hold a public hearing for the Second Amended Silver Strike Lodge condominium plat and forward a positive recommendation to the City Council based on the findings of fact, conclusions of law and conditions of approval as found in the draft ordinance.

Description

Applicants:	Elie and Joni Antar, owners
	Silver Strike Lodge Homeowners' Association
Applicant representative:	Marshall King, Alliance Engineering
Location:	8902 Empire Club Drive, Pod A, Village at Empire Pass
Zoning:	Residential Development (RD) as part of the Flagstaff
	Master Planned Development (MPD)
Adjacent Land Uses:	Condominiums and other development parcels of the Village at Empire Pass, Open Space and Deer Valley Resort ski lift and ski runs.

Executive Summary

This application is a request for approval of the Second Amendment to the Silver Strike Lodge Condominiums plat to combine Units 201 and 203 with an adjacent hallway (**Exhibit A**). The amendment also converts the hallway from common area to private area. Unit 201 was previously a deed restricted unit, converted to private area with the First Amendment to the Silver Strike Lodge (**Exhibits B and C**). The City purchased Unit 201 as an affordable unit, and in October of 2017 agreed to sell Unit 201 to the owner of Unit 203 to resolve the unaffordable HOA fee and eliminate future payments to the HOA. The deed restriction was removed at the time of the sale. The City has put the fund in its housing fund for affordable units in other areas of the City

On July 28, 2004, the Planning Commission approved a Master Planned Development for the Village at Empire Pass, aka Pod A. Silver Strike Lodge is Building 6. On September 30, 2004, the City Council approved a Final Subdivision Plat for the Village at Empire Pass, Phase I. The City Council approved the Village West Side plat on May 26, 2005. The Silver Strike project is located on Lot 14. On January 25, 2006, the Planning Commission approved a Conditional Use Permit for the Silver Strike Lodge. The Conditional Use Permit approved 34 units totaling approximately 71,200 square feet for approximately 35.6 Unit Equivalents. In addition, 2 ADA units, one Employee Housing Unit, and 1,106 square feet of retail commercial space were proposed within the building. On August 24, 2006, the City Council approved the Silver Strike Lodge condominium record of survey for 34 residential units ranging in size from 1,647 square feet to 3,386 square feet. The previously proposed retail space was eliminated.

The property is located in the Residential Development (RD) District on a 36,590 sf Lot 14 of the Village at Empire Pass Phase I Subdivision and is subject to the Village at Empire Pass Master Planned Development (VEP MPD) (as Building 6), approved by the Planning Commission on July 28, 2004 (Exhibit G- link to VEP MPD approval) and the Silver Strike Conditional Use Permit approved on January 25, 2006, for 34 residential units totaling 71,200 sf utilizing 35.6 UE. The approval included an ADA unit platted as common area and an affordable employee housing unit (EHU) converted to private area with the September 3, 2009 condominium plat amendment approval. An underground parking structure provides 53 parking spaces, including 3 ADA spaces, as well as limited common storage areas for each unit.

<u>Acronyms</u>

ADA	American Disability Act
CUP	Conditional Use Permit
EHU	Employee Housing Unit
LMC	Land Management Code
MPD	Master Planned Development
PUD	Planned Unit Development
RD	Residential Development
SBWRD	Snyderville Basin Water Reclamation District
UE	Unit Equivalent
VEP MPD	Village Empire Pass Master Planned Development

Background

On June 24, 1999, Council adopted Ordinance 99-30 and Resolution 20-99 approving an annexation and development agreement for the 1,655 acre Flagstaff Mountain area. Resolution 20-99 granted the equivalent of a "large-scale" master planned development (MPD) and set forth the types and locations of land use; maximum densities; timing of development; development approval process; as well as development conditions and amenities for each parcel.

On July 28, 2004, the Planning Commission approved a Master Planned Development for the Village at Empire Pass, aka Pod A. Silver Strike Lodge is Building 6.

On September 30, 2004, the City Council approved a Final Subdivision Plat for the Village at Empire Pass, Phase I. The Silver Strike project is located on Lot 14.

On January 25, 2006, the Planning Commission approved a Conditional Use Permit for the Silver Strike Lodge. The Conditional Use Permit approved 34 units totaling approximately 71,200 square feet for approximately 35.6 Unit Equivalents. In addition, 2 ADA units and one Employee Housing Unit and 1,106 sf of support retail space were approved. On August 24, 2006, the Silver Strike Lodge condominium plat was approved by City Council. The condominium created 34 residential units ranging in size from 1,647 square feet to 3,386 square feet. The previously proposed retail space was eliminated (**Exhibit B**).

On May 21, 2009, the City received a completed application for the First Amended Silver Strike Lodge condominium plat. The first amendment was for Sheet 3 of 11 only and changed the Employee Housing Unit #201 from Common to Private ownership for the purpose of selling the unit under the City's deed restrictions. The First Amended Silver Strike Lodge condominium plat was approved by City Council on August 27, 2009 and recorded at Summit County on March 17, 2010 (**Exhibit C**).

Unit 201 was the EHU unit and the Owners qualified for the EHU as one Owner was the property manager for the Lodge when they purchased the Unit. Due to issues regarding the high monthly Homeowners Association (HOA) dues and issues between the Owners and the HOA the City purchased the unit in August 2017 to resolve the unaffordable HOA fees, and eliminate future payments to the HOA.

On October 12, 2017 City Council approved removal of the deed restrictions and agreed to disposition of Unit 201, pursuant to <u>Municipal Code 2-3-11-link</u>. City Council approved the Real Estate Purchase Contract (REPC) with Joni Antar, for the city-owned property located at 8902 Empire Club Drive, #201.

On January 23, 2018, the City received a complete application for the Second Amended Silver Strike Lodge Condominium plat (**Exhibit A**). The amended condominium plat combines Units 201 and 203 with an adjacent common area hallway creating amended Unit 203 consisting of 2,572 square feet. See **Exhibits D, E and F** for applicant's letter, aerial photo and photos of the site.

Alternatives

- The Planning Commission may forward a positive recommendation to the City Council for the Second Amended Silver Strike Lodge condominium plat as conditioned or amended, or
- The Planning Commission may forward a negative recommendation to the City Council for the Second Amended Silver Strike Lodge condominium and direct staff to make Findings for this decision, or
- The Planning Commission may continue the discussion on the Second Amended Silver Strike Lodge condominium plat.

<u>Analysis</u>

The First Amended Silver Strike Condominium plat identifies Employee Housing Unit #201 as Private area. A deed restriction for Unit 201 was recorded with the original plat and an amended deed restriction was recorded with the First Amended plat. The City removed the deed restriction from Unit 201 at the time of the sale of the Unit 201 to the owners of Unit 203, which was approved by City Council on October 12, 2017.

The HOA voted to approve conversion of the adjacent hallway from common area to private area and documentation of the vote was provided with the submittal. All other elements of the condominium record of survey remain in place and are compliant with the Master Planned Development and Land Management Code.

Staff reviewed the emergency egress with the Building Department and Fire District and recommends a condition of approval that prior to plat recordation and building permit issuance to combine the hallway with the Units 201 and 203 an amended emergency and ADA exit plan for the building shall be approved by the Park City Fire District and the Park City Building Department. This may entail additional exit signs, relocation of fire sprinklers and possible relocation of common utilities from the hallway area.

Staff finds good cause for this amended condominium plat as it is substantially consistent with the original approvals, creates no new density, makes no changes to the exterior of the building, and creates no additional parking demand.

Department Review

This project has gone through an interdepartmental staff review meeting held on February 6, 2018. No further issues were brought up at that time.

Notice

On February 14, 2018, the property was posted and notice was mailed to property owners within 300 feet. On February 10, 2018, legal notice was published in the Park Record and Utah public notice website.

Public Input

No public input has been received by the time of this report.

Future Process

Approval of this plat amendment application by the City Council constitutes Final Action that may be appealed following procedures found in LMC 15-1-18.

Significant Impacts

There are no significant fiscal or environmental impacts from this application.

Consequences of not taking the Suggested Recommendation

The units and hallway could not be combined to create a single unit.

Recommendation

Staff recommends the Planning Commission hold a public hearing for the Second Amended Silver Strike Lodge condominium plat and forward a positive recommendation to the City Council based on the findings of fact, conclusions of law and conditions of approval as found in the draft ordinance.

Exhibits

Ordinance

- Exhibit A-Proposed plat amendment
- Exhibit B-
- Silver Strike Lodge Condominium plat First Amended Silver Strike Lodge Condominium plat Exhibit C-
- Applicant letter of intent Exhibit D-
- Aerial photo of property Exhibit E-
- Exhibit F-Photos
- Flagstaff Development Agreement (link) Exhibit G-
Draft Ordinance No. 2018-

AN ORDINANCE APPROVING THE SECOND AMENDED SILVER STRIKE LODGE CONDOMINIUM PLAT LOCATED AT 8902 EMPIRE CLUB DRIVE, PARK CITY, UTAH.

WHEREAS, the owners of the property known as the Silver Strike Lodge, located at 8902 Empire Club Drive, Lot 14 of the Village at Empire Pass West Side Subdivision, have petitioned the City Council for approval of the Second Amended Silver Strike Lodge Condominium plat; and

WHEREAS, on February 14, 2018, the property was posted and notice was sent to all affected property owners according to the requirements of the Land Management Code; and

WHEREAS, on February 10, 2018, proper legal notice was published in the Park Record and posted to the public notice website according to requirements of the Land Management Code; and

WHEREAS, the Planning Commission held a public hearing on February 28, 2018, to receive input on the Second Amended Silver Strike Lodge condominium plat; and

WHEREAS, the Planning Commission, on February 28, 2018, forwarded a _____ recommendation to the City Council; and,

WHEREAS, the City Council, on March 29, 2018, held a public hearing to receive input on the Second Amended Silver Strike Lodge condominium plat; and,

WHEREAS, it is in the best interest of Park City, Utah to approve the Second Amended Silver Strike Lodge condominium plat.

NOW, THEREFORE BE IT ORDAINED by the City Council of Park City, Utah as follows:

SECTION 1. APPROVAL. The above recitals are hereby incorporated as findings of fact. The Second Amended Silver Strike Lodge condominium plat as shown in Exhibit A is approved subject to the following Findings of Facts, Conclusions of Law, and Conditions of Approval:

Findings of Fact:

- 1. The property is located at 8902 Empire Club Drive.
- 2. The Silver Strike Lodge is located in the RD-MPD zoning district.
- 3. The City Council approved the Flagstaff Mountain Development Agreement/Annexation Resolution 99-30 on June 24, 1999. The Development

Agreement is the equivalent of a Large-Scale Master Plan. The Development Agreement, which was amended in March of 2007, sets forth maximum densities, location of densities, and developer-offered amenities.

- 4. On July 28, 2004, the Planning Commission approved a Master Planned Development for the Village at Empire Pass, aka Pod A. Silver Strike Lodge is Building 6 of the MPD.
- 5. On September 30, 2004, the City Council approved a Final Subdivision Plat for the Village at Empire Pass, Phase I. The Silver Strike project is located on Lot 14.
- 6. On January 25, 2006, the Planning Commission approved a Conditional Use Permit for the Silver Strike Lodge. The Conditional Use Permit approved 34 units totaling approximately 71,200 square feet for approximately 35.6 Unit Equivalents. In addition, 2 ADA units, one Employee Housing Unit, and 1,106 square feet of retail commercial space were proposed within the building.
- 7. On August 24, 2006, the City Council approved the Silver Strike Lodge condominium record of survey for 34 residential units ranging in size from 1,647 square feet to 3,386 square feet. The previously proposed retail space was eliminated.
- 8. An Employee Housing Unit (EHU) of 874 square feet (Unit #201) was provided. In the submitted documents reviewed by the City Council in 2006, the EHU unit was platted as private space.
- 9. The recorded page 3 of 11 showed Employee Housing Unit 203 as Common, contrary to what was reviewed and approved by the City or intended by the applicant.
- 10. A First Amended Silver Strike Lodge condominium plat was approved by City Council on August 27, 2009, recorded at Summit County on March 17, 2010. The first amended condominium plat corrected the designation for Unit 201 from common to private area.
- 11. A deed restriction for the Employee Housing Unit was recorded on with condominium plat at time of recordation.
- 12. This Second Amended Silver Strike Lodge condominium plat combines Units 201 (874 sf) and 203 (1,364 sf) with 334 sf of adjacent hallway. The amendment also changes the designation of the hallway from common area to private area.
- 13. No exterior changes are proposed. The Silver Strike Lodge meets the minimum setback requirements.
- 14. A height exception was granted for this building for a total height of 92 feet above existing grade and no changes are proposed to the building height.
- 15. Parking is provided at 75% of the Code requirement consistent with the Development Agreement. No additional parking is required with this plat amendment.
- 16. The proposed amended plat is consistent with the approved Master Planned Development for the Village at Empire Pass.

Conclusions of Law:

- 1. There is good cause for this amended condominium plat.
- 2. The amended plat is consistent with the Park City Land Management Code and applicable State law regarding condominium plats.

- 3. Neither the public nor any person will be materially injured by the proposed amended plat.
- 4. Approval of the amended plat, subject to the conditions stated below, does not adversely affect the health, safety and welfare of the citizens of Park City.

Conditions of Approval:

- 1. The City Attorney and City Engineer will review and approve the final form and content of the amended plat for compliance with State law, the Land Management Code, and the conditions of approval, prior to recordation of the plat.
- 2. The applicant will record the amended plat at the County within one year from the date of City Council approval. If recordation has not occurred within one year's time, this approval for the plat will be void.
- 3. A plat note indicating that all conditions of approval of the Village at Empire Pass Master Planned Development, the Village at Empire Pass West Side subdivision plat, and the Silver Strike Conditional Use Permit shall continue to apply.
- 4. Prior to plat recordation and issuance of a building permit to combine the hallway with the Units 201 and 203, any common utilities within the hallway area shall be relocated as determined by the Chief Building Official, and an emergency and ADA exit plan for the building shall be approved by the Park City Fire District and Park City Building Department.

SECTION 2. EFFECTIVE DATE. This Ordinance shall take effect upon publication.

PASSED AND ADOPTED this _____ day of _____, 2018.

PARK CITY MUNICIPAL CORPORATION

Andy Beerman, MAYOR

ATTEST:

Michelle Kellogg, City Recorder

APPROVED AS TO FORM:

Mark Harrington, City Attorney

Exhibits

Exhibit A – Amended Condominium plat

EXHIBIT A



EXHIBIT B









EXHIBIT C



EXHIBIT D

SECOND AMENDED SHEET 3 OF 11 SILVER STRIKE LODGE UNITS 201, 203 AND ADJACENT HALLWAY

(8902 Empire Club Drive)

January 16, 2018

PROJECT INTENT

Silver Strike Lodge is a condominium project recorded November 28, 2006, as Entry No. 797588 in the Office of the Recorder, Summit County, Utah and is located on Lot 14 of the Village at Empire Pass West Side, recorded August 12, 2005, as Entry No. 746744 within the Empire Pass development and is adjacent to Silver Strike Express ski lift at Deer Valley Resort.

Unit 201 and Unit 203 have the same owner of record. Unit 201 is a former employee housing unit which was recently purchased by the applicant. These two units are currently accessed separately (there is no access between Unit 201 and Unit 203) by a hallway designated as Common Ownership on the First Amended Sheet 3 of 11, Silver Strike Lodge, recorded March 17, 2010, as Entry No. 894239. The owners of Unit 201 and Unit 203 have agreed to purchase, should the plat amendment be approved, the Common Ownership hallway from the homeowners' association with the goal of incorporating this hallway into Unit 201 and Unit 203. The resulting space combining Unit 201, Unit 203 and the hallway would be known as Unit 203. The interior entry to the newly created space will be at the south end of the current hallway and the existing exit at the north end of the hallway will remain in its current location.

EXHIBIT E



EXHIBIT F



Silver Strike Lodge, looking southeasterly



Current exit from hallway, to remain as exit from combined Unit.

Silver Strike Lodge, looking southwesterly



Silver Strike Lodge level 2 hallway, looking north











Planning Commission Staff Report



Subject:Park City Heights Phase 2
Subdivision platPLANIAuthor:Kirsten Whetstone, MS, AICPPLANIDate:February 28, 2018Legislative- Subdivision plat (work session)Project #:PL-17- 03552

Summary Recommendations

Staff recommends the Planning Commission conduct a public hearing for the Park City Heights Phase 2 Subdivision plat, review the application and draft Ordinance as a work session, and continue this item to March 28, 2018, with direction to Staff and the applicant to return with any additional information and or revisions deemed necessary to make a final recommendation to City Council. Staff and applicant request discussion regarding 1) amended phasing plan; 2) maximum house sizes; 3) Conditional Use Permit and visual analysis requirements for Lots 205, 206, 214 and 215; and 4) draft conditions of approval.

Topic	
Applicant:	Ivory Development LLC
Location:	3900 Calamity Lane (Located south of Richardson Flat Road and west of US Highway 40)
Zoning:	Community Transition (CT), subject to the Park City Heights Master Planned Development
Adjacent Land Uses:	Single family homes and lots of Park City Heights Phase 1, Open Space, and future Park City Heights phases.

Disclosure: The City retains a security interest as the holder of a Trust Deed in conjunction with a prior transaction regarding the property. However, the City is not an "applicant" and does have any current ownership in the property.

<u>Proposal</u>

This is a request for approval of a final subdivision plat (**Exhibit** A) for Phase 2 of the Park City Heights Master Planned Development (MPD) and Subdivision, pursuant to a revised approved Park City Heights preliminary plat for 239 residential lots (**Exhibit B**). This second phase consists of thirty-nine (39) single family lots ranging in area from 12,596 to 27,752 square feet and one 105.91 acre open space parcel (Parcel D), located south and west of Park City Heights Subdivision Phase 1.

Also included in this application is a request to revise the overall phasing plan (**Exhibit C**). This requested Phase 2 includes construction of the extension of Calamity Lane and two short cul-de-sacs. The applicants are required to construct the water tank this summer and plan to access the site from the extension of Calamity Lane. Proposed

Phase 2 is a logical extension of Phase 1. Street and utility designs are under review by the City Engineer, Water Department, and Snyderville Water Reclamation District. As conditioned, Parcel D will include easements for public trails and utilities.

The first phase consisted of 28 Townhouse lots, 35 Park Home lots, and 40 Cottage/Homestead lots (**Exhibit D**). In Phase 1, all 28 Townhouses and 35 Park Homes are designated as affordable deed restricted homes. Currently eight Townhouses, six Park Homes, and five Cottage Homes are complete and have certificates of occupancy. An additional six Park Homes and ten Cottage Homes are under construction.

Lot and street layout is consistent with the amended Park City Heights MPD and the approved revised preliminary subdivision plat (amended and approved by the Planning Commission on November 6, 2013). Conditions of approval of the amended Park City Heights MPD Development Agreement (<u>Exhibit E</u>), as well as Park City Heights Annexation Agreement (<u>Exhibit F</u>) continue to apply. See **Exhibits H and I** for an aerial photo and photographs of the site.

House size restrictions are proposed for all Homestead lots within the Park City Heights MPD, per the 2014 Amended Development Agreement and based on the Lot numbers of the approved preliminary plat. Staff recommends the following maximum house sizes:

4,500 square feet for Lots 201 to 205 5,000 square feet for Lots 206 to 211 and Lots 236 to 239 6,000 square feet for Lots 212 to 235

The applicant requests the following maximum house sizes:

5,000 square feet for Lots 201-205 and Lots 236 to 239 6,000 square feet for Lots 206-235

Additionally, the Agreement requires a CUP (with review of a visual analysis included as part of the CUP) for any house with a proposed maximum height greater than 28' (from top of the ridge/roof to existing grade) located on western perimeter Lots 205, 206, 214, and 215. Conditional Use Permit applications shall include a visual analysis of the proposed house from the intersection of State Highway 248 and Richardson Flat Road, from the intersections of Richardson Flat Road with Ledger Way and Piper Way, and from the Rail Trail crossing of Richard Flat Road.

Background

May 27, 2010 - The property was annexed into Park City with the Park City Heights Annexation and was zoned Community Transition (CT).

May 11, 2011 - Park City Planning Commission approved the Park City Heights MPD for a mixed residential development consisting of 160 market rate units and 79 affordable units for a total of 239 units on 239 acres.

June 22, 2011 - Planning Commission approved a preliminary subdivision plat for the Park City Heights MPD.

November 17, 2011 - City Council approved the original Park City Heights Phase 1 subdivision plat.

November of 2012- Ivory Development took ownership of the property.

January 24, 2013 - City Council approved an extension of the Phase 1 plat to allow the applicant addition time to resolve issues regarding historic mine soils.

November 6, 2013 - Planning Commission approved an amended Master Planned Development and an amended overall preliminary subdivision plat for the entire Park City Heights Development to address relocation of lots, streets, and parcels due to mine soils mitigation and a Voluntary Clean-up plan to be approved by the State.

February 26, 2014 - Amended Development Agreement for the Park City Heights MPD was ratified by the Planning Commission that includes terms, requirements, and restrictions of the development, per the November 6, 2013 amended MPD, and includes all conditions of approval of the amended MPD.

February 27, 2014 - City Council approved Park City Heights Subdivision Phase 1 plat.

November 4, 2014 - Phase 1 plat recorded at Summit County.

March 8, 2017 – Planning Commission approved amendments to the Design Guidelines that were subsequently recorded at Summit County.

May 2, 2017 - City Planning Department received an application for a final subdivision plat for 16 single family lots as Park City Heights Phase 2. The application was deemed complete on May 24, 2017. Additional information was requested specific to MPD compliance regarding house size restrictions.

January 19, 2018 - revised submittal was received, requesting 39 single family lots and extending Calamity Lane to the end of the cul-de-sac in order to facilitate construction of a required water tank.

February 2, 2018 - revised submittal was considered complete.

<u>Analysis</u>

Subdivision Plat

This second phase consists of thirty-nine (39) single family Homestead lots ranging in area from 12,596 to 27,752 square feet and one 105.91 acre open space parcel (Parcel D), located south and west of Park City Heights Subdivision Phase 1. Phase 2 includes

construction of the extension of Calamity Lane off of Ledger Way and two short cul-desacs. Street and utility designs are under review by the City Engineer and the Snyderville Water Reclamation District.

Parcel D includes blanket easements for public trails, access and utilities. The lots, parcels, and street layout are consistent with the amended Park City Heights MPD and the preliminary subdivision plat. Dedication of public streets and utility, snow storage, drainage, access and trails easements are also included.

These lots are consistent with the Lot and Site Requirements of the Community Transition (CT) zone as further conditioned and allowed by the Park City Heights MPD and as stated in the approved and recorded Park City Heights Design Guidelines. No non-conforming conditions are created by the subdivision plat. Maximum houses sizes, setbacks, building height, and other site and lot restrictions are described in the approved Park City Heights Design Guidelines.

Access to the development is from Richardson Flat Road a public county road that intersects with State Highway 248. Access to individual lots and parcels is from local public streets within the subdivision, including Ledger Way and Calamity Lane.

All streets and drives within the subdivision plat are public streets, with final dedication to the City required upon completion and acceptance of public improvements. The City will commence maintenance and snow removal once 50% of the units for this phase are complete with certificates of occupancy.

An existing 50' wide power line easement for PacifiCorp traverses parcels D. An additional 10' is being dedicated with this plat for a total width of 60' as requested by PacifiCorp to meet future anticipated utility easement needs.

Revised Phasing Plan

The applicant is also requesting to revise the overall phasing plan (**Exhibit C**). Phasing approved with the preliminary plat (**Exhibit B**) included 46 lots south of Phase 1 consisting of a mix of Cottage Homes and Homestead Homes. This requested Phase 2 plat includes construction of the extension of Calamity Lane (off Existing Ledger Way) and two short cul-de-sacs and incorporates a portion of approved Phase 3 as well as Phases 5 and 6. The applicants are required to construct a water tank this summer and plan to access the site from an extension of Calamity Lane. Proposed Phase 2 is a logical extension of Phase 1.

Affordable Housing

A housing mitigation plan was approved by the Park City Housing Authority (**Exhibit K**) that identifies 6 Park Homes and 4 Townhouses to be constructed in 2016, 2017, and 2018, with a deed restricted Cottage Home to also be constructed in 2018. Six Park Homes and 8 Townhouses were completed by the end of 2017 with an additional 6 Park Homes under construction. Permits for 8 Townhomes were recently submitted for completion by the end of 2018. One cottage home is also required for 2018.

Land Management Code review

The subdivision is located in the Community Transition (CT) District. The subdivision plat is subject to the following LMC criteria as well as the amended Park City Heights MPD conditions and Park City Height Design Guidelines (Exhibit J):

CT Zone	Permitted	Proposed
Height	28' (+5' for pitched roof)	28' (+5' for pitched roof). Lots 205,206, and 214 limited to 28' maximum without approval of a Conditional Use Permit and visual analysis. Complies
Density	1 unit per acre (MPD approved 239 units on 239 acres)	39 single family units and 1 Open Space parcel for Phase 2. Consistent with MPD. Total area of Phase 2 is 127.42 acres. Complies.
Lot Size	No minimum lot size	Homestead lots range in area from 12,596 to 27,752 sf. Complies
Front setback	Per MPD and Design Guidelines.	Minimum of 20' to house, 30' to front garage, 15' to porches and single story bays (various LMC exceptions apply) Complies.
Rear setback	Per MPD and Design Guidelines	Minimum of 25' (various LMC exceptions apply) Complies.
Side setbacks	Per MPD and Design Guidelines	Minimum of 6', minimum combined side setbacks of 16'. Corner lot side minimum of 15' to house, 25' to front facing garage, and 10' to porches. Various LMC exceptions apply. Complies.
Parking	2 spaces per dwelling unit	2 spaces per dwelling unit Complies.
Maximum house size	No maximum required in LMC	Staff recommends 4,500 sf for Lots 201 to 205 5,000 sf for Lots 206 to 211 and Lots 236 to 239 6,000 sf for Lots 212 to 235

General Subdivision Requirements

- (A) Subdivision Name- The proposed subdivision name does not duplicate or closely approximate the name of another Subdivision in the area. The streets have unique names.
- (B) Monuments- All survey monumentation as required by the LMC is required to be completed prior to acceptance of public improvements.
- (C) Limits of Disturbance- A grading and limits of disturbance plan for construction of the streets and utilities was submitted with the plat to identify the limits of disturbance for construction of streets and utilities, with conditions related to revegetation of disturbed areas per the Park City Heights MPD for this phase. Limits of Disturbance plans are required for each individual building permit.
- (D) Ridgeline Development- Lots 205, 206, and 214 (identified as Lots 66, 67, and 76 on the preliminary plat) are identified as Lots located on a minor ridge along the western perimeter. The amended MPD requires that these lots be reviewed at the time of final plat to determine whether a Conditional Use Permit should be required for houses with a building height of greater than 28' from existing grade. Staff recommends a condition of approval that construction on Lots 205, 206 and 214 requires a Conditional Use Permit if proposed building height exceeds 28 feet from existing grade. A visual analysis, as viewed from the intersection of State Highway 248 and Richardson Flat Road and from the intersection of Richardson Flat Road and Ledger Way, shall be submitted with the Conditional Use Permit applications for these lots.
- (E) Open Space- Open space parcel D is designated consistent with conditions of the Park City Heights MPD.
- (F) Roads and Utility Lines- All roads will be designated as public streets. Easements are provided for public utilities. Final approval of the utility plans is subject to approval of this plat and per final review by the City Engineer and other utility providers. Off-site utility improvements may require additional off-site easements that will need to be dedicated prior to commencing construction of said utilities. All utilities will be designed to minimize disturbance of existing vegetation. Re-vegetation and/or remediation of disturbed areas are conditions of final utility installation acceptance.
- (G) Drainage Ways- Existing drainage areas and ways will be incorporated into the storm water management system and open space parcels to the greatest extent possible, per the Park City Heights storm water management plan. Final design of the storm water management system for this phase is subject to approval by the City Engineer.
- (H) Soils Conditions- As required by the Park City Heights MPD, and due to the potential for areas of expansive soils within this subdivision, a soils conditions report shall be submitted prior to issuance of any building permits for structures, utilities, and roads, and shall be reviewed by the City Engineer and Building Official prior to issuance of an excavation permit for any construction. The

approved Voluntary Clean- up plan for historic mine waste soils is complete.

- (I) Trails and Sidewalks- Trails and sidewalks are consistent with the Park City Heights MPD. Sidewalks are proposed within public right of way areas. HOA open space areas shall include trail easements or shall state that blanket trail easements are dedicated for public trails within HOA open space parcels. Trails within dedicated open space parcels can be constructed without specific easements. Off-site trails crossing other property shall be placed in easements prior to construction. The exact location of trails within Parcel D will be approved by the City prior to construction and once constructed will assume to be within a 10' public trail easement.
- (J) Limits of Disturbance/Building Pad locations- The location of houses for this phase is stipulated by adherence to minimum building setbacks and limit of disturbance conditions, as identified in the Park City Heights Design Guidelines.
- (K) Top Soil Preservation and Final Grading- Staff recommends a condition of approval that all applicable requirements of the LMC regarding top soil preservation and final grading be completed prior to issuance of a certificate of occupancy for each house. No portion of this phase is within the Park City Soils Ordinance boundary; however, areas of disturbance due to off-site utility improvements that do fall within the Park City Soils Ordinance boundary are required to adhere to all requirements of the Ordinance.
- (L) Architectural Standards- Architecture is reviewed at the time of building permit issuance for compliance with the Park City Heights Design Guidelines.
- (M) Water Bodies and Water Courses- There are no bodies of water that are iincorporated into the lots so as to not burden the City with responsibility of the water body. The HOA is responsible for maintenance of open space and drainage areas that are not part of individual lots, including natural drainage areas. Retention areas that are part of the storm water management plan may have standing water at times. Maintenance of these areas is the responsibility of the HOA.
- (N) Fire Sprinkling- There is a plat note requiring all construction to comply with the International Building Code requirements for fire sprinklers.

General Lot Design Requirements

Staff has reviewed the proposed plat for compliance with the General Lot Design Requirements per LMC 15-7.3-3 as follows:

(A) Lot Arrangement- there are no foreseeable difficulties, for reasons of topography or other conditions, in securing building permits to build on these lots in compliance with the IBC, the LMC, and in providing reasonable Driveway access.

(B) Building Sites- proposed building sites are designed to minimize disturbance of existing vegetation in areas not already disturbed by grading required to remediate mine soils.

(C) Square footage- maximum house sizes are recommended as a plat note per the Park City Heights MPD and Design Guidelines.

(D) Lot Dimensions- proposed lot dimensions take into consideration additional width for corner lots, depth and width of lots for non-residential purposes, and areas

for parking.

(E) Double Frontage Lots and access to Lots- Lots fronting on two streets is avoided, with the exception of corner lots.

(F) Lot Drainage- Lots are laid out to provide positive drainage away from all Buildings. Individual lot grading and drainage shall be included with each building permit.

(G) Landscaping- Prior to issuance of a building permit for each lot a landscape plan is required to be submitted and reviewed by the Staff for compliance with the LMC and Design Guidelines. Any disturbed HOA open space areas shall be revegetated and/or landscaped per the MPD and Design Guidelines.

(H) Limits of Disturbance/Vegetation protection- Prior to issuance of a building permit for each lot a landscape plan showing limits of disturbance and vegetation protection is required to be submitted and reviewed by the Staff for compliance with the LMC and conditions of the MPD.

(I) Re-vegetation, seed, and sod- All disturbed areas will be re-vegetated, seeded, and/or sodded prior to issuance of a certificate of occupancy per the LMC.

(J) Debris and Waste- Debris and waste are required to be removed per the LMC prior to issuance of a certificate of occupancy. This is a condition of building permitting. The Park City Heights MPD requires consolidation and recycling of construction waste and debris to be identified on the Construction Mitigation Plan prior to issuance of a building permit.

(K) Fencing- Fencing of hazardous conditions may be required by the Chief Building Official. Fences will be constructed according to standards of the LMC and conditions of approval of the Park City Heights MPD.

Road Requirements and Design

Staff has reviewed the proposed plat for compliance with the Road Requirements and Design per LMC 15-7.3-4 as follows:

(A) Layout requirements- Street layout for this phase complies with general layout requirements, including frontage on improved streets, relation to existing topography, block design, access to arterials and collectors, and dead-end roads.

(B) Road Names- Road names shall be sufficiently different in sound and spelling from other names in Summit County with final confirmation of street names to be provided by the City Engineer prior to plat recordation.

(C) Road Regulatory Signs- All required road and street signs will need to be approved by the City Engineer and Public Works prior to installation.

(D) Street Lighting- Installation of street lights shall be approved by the City Engineer and Planning Department prior to installation.

(E) Reserve or Protection strip- No reserve or protection strips are proposed.

(F) Road Design Standards- The roads are in compliance with the street design and layout approved by the Planning Commission during approval of the Park City Heights MPD and consistent with the LMC.

(G) Intersection Design Standards- The streets are laid out in compliance with intersection standards of the LMC.

(H) Bridges- No bridges are proposed.

(I) Road Dedications and Reservations- No new perimeter half-streets are proposed. No new frontage roads are proposed with this phase. No new dedication for widening existing roadways is required.

Staff finds this subdivision complies with the Land Management Code regarding final subdivision plats, including CT District requirements, general subdivision requirements, and lot and street design standards and requirements. General subdivision requirements related to 1) drainage and storm water; 2) water facilities; 3) sidewalks and trails; 4) utilities such as gas, electric, power, telephone, cable, etc.; 5) public uses, such as parks and playgrounds; and 6) preservation of natural amenities and features have also been addressed through the Master Planned Development process as required by the Land Management Code. Utility, grading, and site work (streets) plans were submitted with the plat for review and coordination by the City and service providers (Exhibit G1 and Exhibit G2).

Sanitary sewer facilities are required to be installed in a manner prescribed by the Snyderville Basin Water Reclamation District (SBWRD). The applicants have met with the SBWRD officials to review the plat and utility plans for compliance with these requirements. Final approval of the sewer facilities and a signature on the plat from SBWRD is required prior to final plat recordation.

Good Cause

There is good cause for this subdivision in that it creates legal lots and parcels of record from metes and bounds described parcels; memorializes and expands utility easements and provides for new utility easements for orderly provision of utilities; provides a parcel to be dedicated as open space areas within and around the subdivision; dedicates trail easements and public streets; and provides future development parcels for affordable and attainable housing and market rate units consistent with the approved the Park City Heights Annexation Agreement and amended Master Planned Development.

Department Review

This application has been reviewed by the Development Review Committee, including other City Departments and utility and service providers. Identified concerns were addressed by revisions and notes on the plat and with conditions of approval as stated in the attached ordinance.

Notice

On February 14, 2018, the property was posted and notice was mailed to property owners within 300 feet according to requirements of the Land Management Code. On February 10, 2018, legal notice was published in the Park Record and on the Utah Public Notice website, according to requirements of LMC.

Public Input

Staff has not received specific input from adjacent property owners regarding this plat application at the time of this report.

Future Process

Approval or denial of this subdivision application by the City Council constitutes Final Action that may be appealed following the procedures found in LMC 1-18.

Alternatives

- The Planning Commission may hold a public hearing, discuss this application in work session, and continue this item to March 28, 2018, with direction to the applicant to return with any additional information and or revisions necessary to make a final decision. This is the Staff recommendation.
- The Planning Commission may forward a positive recommendation to City Council to approve the revised Park City Heights Phase 2 subdivision plat as conditioned or amended.
- The Planning Commission may forward a negative recommendation to City Council to deny the revised Park City Heights Phase 2 subdivision plat and direct staff to make Findings for this decision.

Significant Impacts

There are no significant negative fiscal or environmental impacts that result from this application that have not been sufficiently mitigated with plat notes, conditions of approvals, and adherence to the approved, amended MPD and Park City Heights Design Guidelines. Portions of this phase were included in the voluntary soil remediation that removed all vegetation and soils as necessary to receive certification that the clean-up was complete. An on-site soil repository for these soils was created at the Park City Heights site.

Consequences of not taking the Suggested Recommendation

The property would remain as individual metes and bounds parcels and separate lots of record would not be created for the approved Park City Heights MPD. Building permits could not be issued for construction of dwelling units unless lots are platted.

Recommendation

Staff recommends the Planning Commission conduct a public hearing for the Park City Heights Phase 2 Subdivision plat, review the application and draft Ordinance, and continue this item to March 28, 2018 with direction to Staff and the applicant to return with any additional information and or revisions deemed necessary to make a final recommendation to City Council.

<u>Exhibits</u>

Ordinance

- Exhibit A Proposed Park City Heights Subdivision Phase 2 plat
- Exhibit B Approved amended Park City Heights Preliminary plat (and phasing)
- Exhibit C Proposed revised overall phasing plan
- Exhibit D Park City Heights Subdivision Phase One plat
- Exhibit E Park City Heights MPD Development Agreement- link
- Exhibit F Park City Heights Annexation Agreement link

Exhibit G1- <u>Site and Utility plans - link</u> Exhibit G2- <u>Street Plans and details- link</u> Exhibit H - Aerial photo Exhibit I - Photos of the site Exhibit J- <u>Design Guidelines- link</u> Exhibit K – Housing Mitigation Plan

DRAFT Ordinance No. 2018- xx

AN ORDINANCE APPROVING THE PARK CITY HEIGHTS PHASE 2 SUBDIVISION LOCATED AT 3900 CALAMITY ROAD SOUTH OF RICHARDSON FLAT ROAD AND WEST OF US HIGHWAY 40, PARK CITY, UTAH.

WHEREAS, the owners of the property known as Park City Heights Phase 2 located south of Richardson Flat Road, south and east of State Road 248 and west of US 40, have petitioned the City Council for approval of the Park City Heights Phase 2 final subdivision plat; and

WHEREAS, on February 14, 2018, the property was posted and mailed notice was sent to property owners within 300 feet, according to requirements of the Land Management Code; and

WHEREAS, on February 10, 2018, legal notice was posted in the Park Record and on the Utah Public Notice website, as well as the Park City website; and

WHEREAS, the Planning Commission held a public hearing on February 28, 2018, to receive input on the subdivision; and

WHEREAS, the Planning Commission, held a public hearing and on March 28, 2018, forwarded a ______recommendation to the City Council; and

WHEREAS, on ___ 2018, the City Council held a public hearing on the Park City Heights Phase 2 final subdivision plat; and

WHEREAS, there is good cause and it is in the best interest of Park City, Utah to approve the Park City Heights Phase 2 final subdivision plat.

NOW, THEREFORE BE IT ORDAINED by the City Council of Park City, Utah as follows:

SECTION 1. APPROVAL. The above recitals are hereby incorporated as findings of fact. The Park City Heights Phase 2 final subdivision plat, as shown in Exhibit A, is approved subject to the following Findings of Facts, Conclusions of Law, and Conditions of Approval:

Findings of Fact

- 1. The property is located south of Richardson Flat Road, south and east of SR 248 and west of US Highway 40.
- 2. The property was annexed into Park City with the Park City Heights Annexation on May 27, 2010, and was zoned Community Transition (CT).
- 3. On May 11, 2011, the Park City Planning Commission approved the Park City Heights MPD for a mixed residential development consisting of 160 market rate units and 79 affordable units on 239 acres.

- 4. On June 22, 2011, the Planning Commission reviewed and approved a preliminary subdivision plat as being consistent with the Park City Heights MPD.
- 5. On November 17, 2011, the City Council approved the original Park City Heights Phase 1 final subdivision plat.
- 6. On January 24, 2013 the City Council approved an extension of the Phase 1 plat to allow the applicant additional time to resolve issues regarding historic mine soils.
- 7. On November 6, 2013, the Planning Commission approved an amended Park City Heights MPD and preliminary plat to address relocation of lots and streets due to mine soils mitigation.
- 8. On February 27, 2014, the City Council approved a revised Park City Heights Phase 1 final subdivision plat that was subsequently recorded at Summit County on November 4, 2014.
- 9. On May 2, 2017, the City Planning Department received an application for a final subdivision plat for 16 single family lots as Park City Heights Phase 2. The application was deemed complete on May 24, 2017. Additional information was requested specific to MPD compliance regarding house size restrictions.
- 10. On January 19, 2018, the City Planning Department received a revised submittal requesting 39 single family lots and extending Calamity Lane to the end of the culde-sac in order to facilitate construction of a required water tank in 2018.
- 11. On February 2, 2018, the revised submittal for 39 lots was considered complete.
- 12. The property is restricted by the Land Management Code, the Park City Heights Annexation Agreement, and the Amended Park City Heights Master Planned Development Agreement and the Park City Heights Design Guidelines.
- 13. The lots are not within the Entry Corridor Protection Overlay zone (ECPO) and no portion of this plat is within the Park City Soils Ordinance boundary.
- 14. The proposed subdivision plat creates lots of record for 39 Homestead houses and dedicates public streets, utility, snow storage, drainage, access and trail easements.
- 15. The Homestead lots of this phase range in area from 12,596 to 27,752 square feet. Parcel D is also platted as a 105.91 acre open space parcel. The lots are consistent with the Lot and Site Requirements of the Community Transition (CT) District as conditioned by the Park City Heights MPD and Design Guidelines.
- 16. The applicant requests a revised overall phasing plan to include the extension of Calamity Lane within this second phase in order to construct the required water tank this summer. Access to the water tank requires the extension of Calamity Lane.
- 17. No non-conforming conditions are created by the subdivision.
- 18. An existing 50' wide power line easement for PacifiCorp traverses Parcel D. An additional 10' is being dedicated with this plat for a total width of 60' as requested by PacifiCorp to meet future anticipated utility easement needs.
- 19. The Park City Heights development is accessed from Richardson Flat Road, a public county road, and access to lots and parcels within the proposed subdivision is from local public drives and streets. No lots or parcels access directly to Richardson Flat Road. All streets are public streets.
- 20. The subdivision complies with the Land Management Code regarding final subdivision plats, including CT zoning requirements, general subdivision requirements, and lot and street design standards and requirements.
- 21. General subdivision requirements related to 1) drainage and storm water; 2) water

facilities; 3) sidewalks and trails; 4) utilities such as gas, electric, power, telephone, cable, etc.; 5) public uses, such as parks and playgrounds; and 6) preservation of natural amenities and features have been addressed through the Master Planned Development process as required by the Land Management Code.

- 22. Sanitary sewer facilities are required to be designed and installed in a manner prescribed by the Snyderville Basin Water Reclamation District (SBWRD).
- 23. There is good cause for this subdivision plat in that it creates legal lots and an open space parcel of record from metes and bounds described parcels; memorializes and expands utility easements and provides for new utility easements for orderly provision of utilities; provides for open space areas within and around the subdivision; dedicates easements and public streets; and provides for future development parcels for market rate units consistent with the approved the Park City Heights Annexation Agreement and Master Planned Development.
- 24. There are no deed restricted affordable lots within this Phase.
- 25. Findings in the Analysis section are incorporated herein.

Conclusions of Law:

- 1. The subdivision complies with LMC Chapter 7 as conditioned.
- 2. The subdivision is consistent with the Park City Land Management Code and applicable State law regarding subdivision plats.
- 3. The subdivision is consistent with the Park City Heights Annexation and the Park City Heights MPD and preliminary plat as amended and conditioned.
- 4. Neither the public nor any person will be materially injured as a result of approval of the proposed subdivision plat, as conditioned herein.
- 5. Approval of the proposed subdivision plat, subject to the conditions stated herein, will not adversely affect the health, safety and welfare of the citizens of Park City.

Conditions of Approval:

- 1. City Attorney and City Engineer review and approval of the final form and content of the subdivision plat for compliance with State law, the Land Management Code, and the conditions of approval, is a condition precedent to recordation of the plat.
- 2. The applicant will record the subdivision plat at Summit County within one year from the date of City Council approval. If recordation has not occurred within one year's time, this approval for the plat amendment will be void, unless a complete application requesting an extension is made in writing prior to the expiration date and an extension is granted by the City Council.
- 3. A plat note shall state that all conditions of approval of the Park City Heights Annexation, as stated in the Annexation Agreement, continue to apply.
- 4. A plat note shall state that all conditions of approval of the Amended Park City Heights MPD approved on November 6, 2013 by the Planning Commission and memorialized in the Park City Heights Development Agreement, as amended, February 26, 2014 and March 8, 2017, continue to apply.
- 5. A plat note shall state that this plat is subject to this Ordinance (2018-xx).
- 6. Final approval of the sewer facilities by the Snyderville Basin Water Reclamation District is required prior to final plat recordation.
- 7. A plat note shall state that trees, structures and retailing walls shall not be located

within SBWRD easements.

- 8. The plat shall indicate that all streets and utilities, except for sewer laterals, constructed within the ROW are dedicated to the City for public use. Final acceptance of these streets by the City shall occur upon completion and acceptance of the public improvements. The City will commence maintenance and snow removal from public streets once 50% of the units within this phase are complete and certificates of occupancy have been issued.
- 9. Ten foot wide public snow storage easements are required along all street frontages.
- 10. All survey monumentation as required by the LMC is required to be completed prior to acceptance of public improvements.
- 11. Parcel D shall be deed restricted as open space, non-development parcels to be owned and maintained by the Homeowner's Association and shall include blanket utility, drainage, snow storage, and public trails easements, unless specific easements are provided as required by utilities and service providers.
- 12. A plat note shall state that public trails within the open space parcels shall be constructed in type and location as approved by the City consistent with the MPD. Final constructed trails are agreed, by the recording of this plat, to be within ten (10') foot public trail easements.
- 13. A plat note shall state that all construction, including streets, utilities, and structures shall comply with recommendations of the June 9, 2006 Geotechnical Study provided by Gordon, Spilker, Huber Geotechnical Consultants, Inc. and the supplemental, updated soils investigation conducted by AGEC on December 20, 2011.
- 14. A plat note shall state that additional soils studies and geotechnical reports may be required by the City Engineer and Chief Building Official prior to issuance of any building permits for structures, utilities, and roads. The report shall be reviewed by the City Engineer and Chief Building Official and any recommendations for utilization of special construction techniques to mitigate soils issues, such as expansive clays, shall be incorporated into conditions of the building permit and ROW Permit approval.
- 15. A plat note shall state that a landscape and irrigation plan shall be submitted and approved by the City for each lot, prior to building permit issuance. Landscaping and irrigation shall be consistent with the Park City Heights Design Guidelines.
- 16. A plat note shall state that a limits of disturbance plan (LOD) and existing vegetation protection plan shall be part of the building permit submittal.
- 17. A plat note shall state that exterior lighting shall conform to requirements of the City's Lighting Ordinance and the Park City Heights Design Guidelines.
- 18. A plat note shall state that applicable requirements of the LMC regarding top soil preservation, final grading, and landscaping shall be completed prior to issuance of a certificate of occupancy.
- 19. A plat note shall state that grading, drainage and storm water run-off plans shall be approved by the City Engineer prior to building permit issuance.
- 20. A plat note shall state that prior to issuance of a building permit for any units within this plat, all building plans shall be reviewed for compliance with the Park City Heights Design Guidelines, including building setbacks, building height, building articulation, landscaping, lighting and other elements as stated in the Design

Guidelines.

- 21. A plat note shall state that all exterior building materials, colors and final design details must comply with the Park City Heights Design Guidelines and shall be approved by staff prior to building permit issuance.
- 22. Confirmation of street names shall be provided by the local postmaster and City Engineer prior to plat recordation.
- 23. A note shall be added to the plat stating that all units shall be constructed to National Association of Home Builders National Green Building Standards Silver Certification (or other equivalent Green Building certification approved by the Planning Director) OR reach LEED for Homes Silver Rating (minimum 60 points). Green Building Certification or LEED rating criteria to be used shall be those applicable at the time of the building permit submittal.
- 24. A plat note shall state that In addition to meeting Green Building or LEED for Homes checklists and in order to achieve water conservation goals, each house must either: 1) achieve at a minimum, the Silver performance Level points within Chapter 8, Water Efficiency, of the National Association of Home Builders National Green Building Standards; OR 2) achieve a minimum combined 10 points within the 1) Sustainable Sites (SS2) Landscaping and 2) Water Efficiency (WE) categories of the LEED for Homes Checklist. Points achieved in these resource conservation categories will count towards the overall score, as further described in the Park City Heights Design Guidelines.
- 25. A plat note shall state that an industry standard Third Party inspector shall be mutually agreed upon by the Chief Building Official and the applicant prior to issuance of a building permit to provide third party inspection for compliance with Green Building requirements as required by the Master Planned Development and Annexation Agreement. Final certification documenting compliance shall be provided to the Building Department prior to issuance of certificates of occupancy.
- 26. A construction mitigation plan (CMP) shall be submitted and approved by the City for compliance with the Municipal Code, LMC, and the MPD conditions of approval prior to building permit issuance.
- 27. A construction recycling area and excavation materials storage area within the development shall be utilized for this phase as required by the MPD conditions of approval.
- 28. A financial guarantee, in a form and amount acceptable to the City and in conformance with the LMC and MPD conditions of approvals, for the value of all public improvements, shall be provided to the City prior to plat recordation. All public improvements shall be completed according to City standards and accepted by the City Council prior to release of this guarantee.
- 29. A plat note shall state that maintenance of sidewalks (including, without limitation, snow removal), trails, lighting, and landscaping within the public rights-of-way and common areas, with the exception of the Public Park and public trails, shall be provided by the HOA, unless otherwise agreed upon by the City Council.
- 30. A plat note shall state that a fire protection and emergency access plan shall be submitted and approved by the Park City Fire District prior to the issuance of any building permits for this phase. The fire protection and emergency access plan shall include any required fire sprinkler systems and landscaping restrictions within the

Wild land interface zones and shall ensure that Park City's ISO rating is not negatively affected by the development.

- 31. A plat note shall state that modified 13-D residential fire sprinklers are required for all occupied structures.
- 32. An existing 50' wide power line easement for PacifiCorp traverses Parcels D and an additional 10' shall be dedicated with this plat for a total width of 60', as requested by PacifiCorp to meet future anticipated utility easement needs.
- 33. Issuance of building permits for Phase 2 are subject to completion and issuance of certificates of occupancy for deed restricted affordable housing as required by the approved Housing Mitigation Plan (based on annual completion requirements).
- 34. A note shall be included on the final plat stating that a Conditional Use Permit is required for construction on Lots 205, 206, 214 and 215, if Building Height exceeds 28' from existing grade to the top (ridge) of the roof. Conditional Use Permit applications shall include a visual analysis of the proposed house from the intersection of State Highway 248 and Richardson Flat Road, from the intersections of Richardson Flat Road with Ledger Way and Piper Way, and from the Rail Trail crossing of Richardson Flat Road.
- 35. A note shall be included on the final plat stating the following maximum house sizes shall apply:

4,500 square feet for Lots 201 to 205

5,000 square feet for Lots 206 to 211 and Lots 236 to 239

6,000 square feet for Lots 212 to 235

SECTION 2. EFFECTIVE DATE. This Ordinance shall take effect upon publication.

PASSED AND ADOPTED this ____ day of _____, 2018.

PARK CITY MUNICIPAL CORPORATION

Andy Beerman, MAYOR

ATTEST:

Michelle Kellogg, City Recorder

APPROVED AS TO FORM:
Mark Harrington, City Attorney

EXHIBIT A









EXHIBIT B



Packet Pg. 186

EXHIBIT C



February 22, 2018

Park City Senior Planner Kirsten Whetstone Park City Planning Department Park City, UT 84060

RE: Park City Heights Revised Phasing Plan

Dear Kirsten:

This letter is in response to your email requesting information regarding the proposed change to the approved phasing plan for Park City Heights Subdivision. At the time the current phasing plan was approved, the location of the final water tank was not finalized and as such the location of the water line that would be feeding the water tank was also not able to be determined. Over the past four years we have been working with Roger McClain from the water department to finalize the location of the tank along with the supply lines to the water tank. Per the amended water agreement with Park City dated October 31, 214, the water tank will need to be constructed concurrent with the next phase of development. The need to amend the phasing plan stems from the need to build the infrastructure to the water tank. The water tank supply lines are planned to run in Calamity lane. The sanitary sewer, storm drain lines, culinary water, and power will also need to be run in the road at the same time as the supply line to the tank to avoid future utility conflicts. The road will need to be built to access the tank. Therefore with all the infrastructure in place needed to build the tank, it makes sense to build the proposed phase 2 as the next phase of development. Phase 3 is proposed to be the 2 lots that will access off Hidden Oaks subdivision. Originally these 2 lots were included in the phase 6 lots. However due to a property acquisition from Summit County in order to facilitate the platting of these lots it makes sense to keep the 2 lots as a separate plat. The timing of phase 3 may not come sequentially due to the acquisition of property from Summit County. Phase 4 is proposed to be more of the cottage lots adjacent to the detention area and is currently planned to be constructed in 2019-2020. Phase 5 will be the last phase and will have to be built following the construction of phase 4 to connect to sanitary sewer. The timing of phase 5 will depend on the market.

Sincerely,

Brad Mackay, PE Ivory Development LLC



EXHIBIT D



11111 1000



EXHIBIT E - LINK TO MPD AGREEMENT

EXHIBIT F- LINK TO ANNEXATION AGREEMENT

EXHIBIT G- LINK TO SITE AND UTILITY PLANS



EXHIBIT I- PHOTOS OF SITE

View of Phase 2 looking southwest

View of Phase 2 looking southwest from Calamity Ct

Packet Pg. 197

View looking northeast from Calamity Court and Ledger Way intersection

Packet Pg. 198

View looking North to Phase 2 Cottage homes on Ledger Way

View to Phase 2 site looking west from Calamity Court and Ledger Way

edger Wa

View looking south from Ledger Way and Richardson Flat Road

Packet Pg. 201





View looking east from Richardson Flat Road at SH 248

Packet Pg. 204

EXHIBIT J - LINK TO DESIGN GUIDELINES



COMMUNITY DEVELOPMENT

January 31, 2017

Christopher P. Gamvroulas Ivory Development 978 Woodoak Lane Salt Lake City, UT 84117

NOTICE OF HOUSING AUTHORITY APPROVAL

Description:Updated/Amended Affordable Housing Mitigation PlanProject Title:Park City Heights Master Planned DevelopmentDate of Action:December 15, 2016

Summary of Housing Authority Action

On December 15, 2016 Park City Housing Authority approved an amended Housing Mitigation Plan for the phased completion and sale of 79 deed restricted units in fulfillment of the affordable housing obligation at Park City Heights Master Planned Development. Completed units will include 28 Park Town Homes (7 four-plex buildings), 35 Park Homes and 16 larger Cottage Homes.

The First Amendment to the original Housing Mitigation Plan ("Plan") is attached as Exhibit B. The Plan was approved with the following conditions of approval:

Conditions of Approval:

- Ivory Homes will return to the Housing Authority by December of each year with a status report that includes: number of units built, sale prices, balance remaining, projections for the next year including number of units in each type and pricing for the next year, and any requested adjustments to the Housing Mitigation Plan.
- Any changes to the unit pricing, bedroom count or completion schedule included in the Amended Housing Mitigation Plan in Exhibit B will require approval by the Housing Authority.

Attached are Exhibits as follows:

Exhibit A = Original Housing Mitigation Plan approved on July 17, 2014

445 Marsac Avenue • PO Box 1480 • Park City, Utah 84060 435-615-5152 • 435-658-9019 (fax) Exhibit B = Amended Housing Mitigation Plan approved on December 15, 2016. Exhibit C = First Amendment to the Deed Restriction recorded on January 19, 2017 applicable to the sale of 14 houses.

If you have any questions about this Housing Mitigation Plan letter of approval, please contact me. I can be reached at 435-615-5152 or via email at <u>rhoda.stauffer@parkcity.org</u>.

Sincerely,

Rhoda J. Stauffer

Affordable Housing Program Manager

July 1, 2014

Park City Housing Authority PO Box 1480 Park City, UT 84060

Park City Heights - Housing Mitigation Plan

Project:Park City Heights Master Planned DevelopmentDeveloper:Ivory Homes

General:

On May 11, 2011 the Master Planned Development (MPD) for Park City Heights was approved for a mixed residential development consisting of 160 market rate units and 79 affordable/attainable units on 239 acres. An amendment to the MPD was approved on November 6, 2013, this addressed relocation and configuration of lots and streets. As part of the approval the Developer is required to satisfy an affordable/attainable housing requirement with forty-four (44) units approved under the 17-99 Housing Resolution and thirty-five (35) units approved under the 20-07 Housing Resolution.

The units will be large enough to capture all of the square footage necessary under the AUE obligations. All affordable/attainable units are to be for sale units. None of the units are intended to be rented by the Developer or future owners. Restrictions and priorities may include qualification options, sales price limits/range, rental restrictions and affordability terms.

Phasing Schedule:

The Project may be platted and in phases in accordance with the approved phasing plan. The following schedule is provided to indicate the required AUE's to be built in each phase. However, each primary phase may include sub-phases as market conditions dictate and the phases may be adjusted.

Phase 1-103 Units

- 68 Affordable/Attainable

- 35 Market Rate Units

Phase 2-47 Units

- 5 Affordable/Attainable
- 42 Market Rate Units

Phase 3 - 34 Units

- 2 Affordable/Attainable
- 32 Market Rate Units

Phase 4 - 29 Units

- 4 Affordable/Attainable
- 25 Market Rate Units

Phase 5 – 15 Units

- 15 Market Rate Units

EXHIBIT A

Phase 6 – 11 Units

- 11 Market Rate Units

All Phases

res 79 Affordable/Attainable Units (or equivalent AUE's) <u>160 Market Rate Units</u> Total: 239 Units

Construction Timing:

The general layout and concept plan for Park City Heights dictates that the infrastructure is built from the lowest point of the slope (north) or entrance of the project to the highest point on the mountain (south). Because construction dictates this development pattern and the majority of affordable units are lower on the hill, the affordable units will be constructed at a different rate than market rate units. All of the affordable/attainable units will receive a certificate of occupancy prior to issuance of building permits for the last ten (10) percent of the market rate units. Project and housing requirements dictate that the affordable/attainable units are built in conjunction with the market rate units. The developer is front loading as many affordable/attainable units as possible to ensure that the requirements are satisfied. All of the affordable/attainable units are in the first 4 Phases.

Phase 1 construction will begin in early fall of 2014 for a total of sixty-eight (68) affordable/attainable units. The first Certificates of Occupancy are anticipated to be completed in late 2014/early 2015. The first affordable/attainable unit will be ready for occupancy prior to the first market rate unit. The majority of the affordable/attainable units are clustered at the entrance to the Subdivision and the Developer will ensure that the units are built with high quality building materials and well maintained. Projected absorption rate is 8-12 units per year as dictated by the market.

TYPĖ OF UNIT	NUMBER OF UNITS	NUMBER OF BEDROOMS	SQUARE FEET PER UNIT
Park Home – Single Family	6	3	1,600 – 2,100
Patk Home – Townhome	4	2-3	1,000 – 1,400

<u>Phase 1 – Year 1 Projection = 10 Total Units</u>

Product Pricing:

The intent is to offer a wide range of both product type and product pricing. Pricing in the first building of the Attached Park Home Townhomes product in Phase 1 will begin in the \$240,000 range and go upwards of \$400,000 for the Single Family Detached Park Homes, depending on unit type, bedroom counts, square footage, and construction finishes. Developer will work with Park City Municipal Corp to determine final sales pricing as well as product type and size. It is anticipated that attached units will be priced lower and single family detached units will be closer to the maximum price range, thus having a greater range of diversity.

Marketing Plan:

Developer agrees to give priority to those full-time employees who work within the area of the Park City School District boundaries, particularly essential workers. This area includes but is not limited to Intermountain Healthcare Park City Medical Campus, USSA Headquarters and Training Annexation.

Developer will hold information seminars with these target groups to discuss the qualifications for purchasing deed restricted affordable/attainable housing units. Developer will also provide Credit Repair Services for all of those in need of such services.

Methodology of Affordability:

Affordability Defined

Affordability is defined such that the total amount of the mortgage, basic utilities, taxes, insurance and HOA payments may not account for more than 30% of household income. The median wage of the core Park City workforce is determined annually by the City Council.

Affordable Unit Equivalent

There are two resolutions that govern the affordable/attainable units in Park City Heights. Resolution 17-99 dictates that a two-bedroom unit with 800 square feet of Net Livable Space is considered one Affordable Unit Equivalent; and Resolution 20-07, dictates that a two-bedroom unit with 900 square feet of Net Livable Space is considered one Affordable Unit Equivalent.

Average of Affordability

The intent is to maintain an average rate of affordability. Flexibility must be given in the Housing Mitigation Plan in an attempt to maximize a level of affordability. There may be some single-family units that fall outside of the affordable range, alternatively, providing attached units could keep the average rate of affordability lower delivering a lower average price.

Compliance Standards

It is anticipated that there will be a mix of unit types and standards as outlined below:

- All affordable units will be built to a minimum LEED Certified <u>OR</u> NAHB Green level and appliances & light bulbs shall be Energy Star qualified products.
- Size differentials of the exterior appearance of the cottage home affordable units will be compatible with cottage home market rate units and will use similar exterior materials and guidelines.
- Standard construction practices will be the same for the affordable/attainable and market units and incorporate the same general construction materials in the following areas: insulation, windows, heating systems, and other components related to energy efficiency including landscaping.
- All affordable/attainable units will be constructed in accordance and consistent with the MPD approved Park City Heights Neighborhood Design Guide.
- All affordable/attainable units will be constructed on Park City Heights property (MPD site). This includes the transfer of the IHC units from the Park City Medical Center site to Park City Heights.

Product type/Unit descriptions

Product type in all phases will be determined based on market conditions, lot size, topography, number of stories, adjacent homes, and other factors. Flexibility will be required and a necessity in order to provide the right product at the right price to maintain affordability. Units will be configured in two, three and four bedroom layouts. A minimum of seven (7) – two bedroom units will be provided in the Attached Park Home Townhomes.

Average Median Income/Workforce Housing Wage (Guideline)

Housing Resolution 17-99 uses an Average Median Income (AMI) in Summit County and Housing Resolution 20-07 uses the Workforce Housing Wage (WHW) in Park City. The first ten (10) units will be split with four (4) of the units under HR 17-99 and six (6) under HR 20-07. December 15, 2016

Park City Housing Authority PO Box 1480 Park City, UT 84060

Park City Heights - Amended Housing Mitigation Plan

Project:Park City Heights Master Planned DevelopmentDeveloper:Ivory Homes

<u>General:</u>

On May 11, 2011 the Master Planned Development (MPD) for Park City Heights was approved for a mixed residential development consisting of 160 market rate units and 79 affordable/attainable units on 239 acres. An amendment to the MPD was approved on November 6, 2013, this addressed relocation and configuration of lots and streets. As part of the approval the Developer is required to satisfy an affordable/attainable housing requirement with forty-four (44) units approved under the 17-99 Housing Resolution and thirty-five (35) units approved under the 20-07 Housing Resolution.

The units will be large enough to capture all of the square footage necessary under the AUE obligations. All affordable/attainable units are to be for sale units. None of the units are intended to be rented by the Developer or future owners. Restrictions and priorities may include qualification options, sales price limits/range, rental restrictions and affordability terms.

Phasing Schedule:

The Project may be platted in phases in accordance with the approved phasing plan. The following schedule is provided to indicate the required AUE's to be built in each phase. However, each primary phase may include sub-phases as market conditions dictate and the phases may be adjusted.

Phase 1 - 103 Units

- 68 Affordable/Attainable

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Phase 5 - 15 Units

- 15 Market Rate Units

Phase 6 – 11 Units

- 11 Market Rate Units

All Phases 79 Affordable/Attainable Units (or equivalent AUE's) 160 Market Rate Units Total: 239 Units

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Phase 1 construction began in 2016 for a total of sixty-eight (68) affordable/attainable units. The first Certificates of Occupancy were issued completed in the fall of 2016. The first affordable/attainable unit will be ready for occupancy prior to the first market rate unit. The majority of the affordable/attainable units are clustered at the entrance to the Subdivision and the Developer will ensure that the units are built with high quality building materials and well maintained. Projected absorption rate is 8-12 units per year as dictated by the market.

TYPE OF UNIT	NUMBER OF UNITS	NUMBER OF BEDROOMS	SQUARE FEET PER UNIT
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<u>Phase 1 – Year 1 Projection = 10 Total Units</u>

Product Pricing:

The intent is to offer a wide range of both product type and product pricing. Pricing in the first building of the Attached Park Home townhomes product in Phase 1 will begin in the \$240,000 range and go upwards of \$400,000 for the Single Family Detached Park Homes, depending on unit type, bedroom counts, square footage, and construction finishes. Developer will work with Park City Municipal Corporation to determine final sales pricing as well as product type and size. It is anticipated that attached units will be priced lower and single family detached units will be closer to the maximum price range, thus having a greater range of diversity. Pricing for the first ten (10) units is now set as shown in the attached spreadsheet (Exhibit B) for the Park Home Townhomes units T25, T26, T27, T28 and Park Homes Single Family Detached Units 1,2,3,10,11, and 12. Any changes to the unit pricing, bedroom county or completion schedule included in Exhibit B will require approval by the Housing Authority.

Marketing Plan:

Developer agrees to give priority to those full-time employees who work within the area of the Park City School District boundaries, particularly essential workers. This area includes but is not limited to Intermountain Healthcare Park City Medical Campus, USSA Headquarters and Training Annexation.

Developer will hold information seminars with these target groups to discuss the qualifications for purchasing deed restricted affordable/attainable housing units. Developer will also provide Credit Repair Services for all of those in need of such services.

Methodology of Affordability:

Affordability Defined

Affordability is defined such that the total amount of the mortgage, basic utilities, taxes, insurance and HOA payments may not account for more than 30% of household income. The median wage of the core Park City workforce is determined annually by the City Council.

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Compliance Standards

It is anticipated that there will be a mix of unit types and standards as outlined below:

- All affordable units will be built to a minimum LEED Certified <u>OR</u> NAHB Green level and appliances (Refrigerator and dishwasher) and light bulbs shall be Energy Star qualified products.
- Size differentials of the exterior appearance of the cottage home affordable units will be compatible with cottage home market rate units and will use similar exterior materials and guidelines.
- Standard construction practices will be the same for the affordable/attainable and market units and incorporate the same general construction materials in the following areas: insulation, windows, heating systems, and other components related to energy efficiency including landscaping.
- All affordable/attainable units will be constructed in accordance and consistent with the MPD approved Park City Heights Neighborhood Design Guide.
- All affordable/attainable units will be constructed on Park City Heights property (MPD site). This includes the transfer of the IHC units from the Park City Medical Center site to Park City Heights.

<u>Product type/Unit descriptions</u>

Product type in all phases will be determined based on market conditions, lot size, topography, number of stories, adjacent homes, and other factors. Flexibility will be required and a necessity in order to provide the right product at

the right price to maintain affordability. Units will be configured in two, three and four bedroom layouts. A minimum of seven (7) – two bedroom units will be provided in the Attached Park Home Townhomes.

Average Median Income/Workforce Housing Wage (Guideline)

Housing Resolution 17-99 uses an Average Median Income (AMI) in Summit County and Housing Resolution 20-07 uses the Workforce Housing Wage (WHW) in Park City.

Exhibit B Park City Heights Proposed Pricing by Unit Type

	ſ	October 24,			
		2016			
		Proposed		Housing	
		Pricing from	# of Bed-	Resolution	Negotiated
Town Homes		Ivory Homes	rooms	Pricing Limit	Pricing
T25		319,900	3	409,501	319,900
T26	ľ	249,900	2	365,759	249,900
T27	F	297,900	3	409,501	297,900
T28	-	329,900	3	409,501	329,900
Т9	-	326,298	3	409,501	349,900
T10	-	254,898	2	365,759	299,900
T11		303,858	3	409,501	329,90
T12		336,498	3	409,501	359,90
T21		332,823	3	409,501	349,90
T22		259,995	2	365,759	299,90
T23		309,935	3	409,501	329,90
T24		343,227	3	409,501	359,90
T13		339,479	3	409,501	349,90
T14		265,194	2	365,759	299,90
T15		316,133	3	409,501	329,90
T16	Ē	350,091	3	409,501	359,90
T17		346,268	3	409,501	349,90
T18		270,497	2	365,759	299,90
T19		322,455	3	409,501	329,90
T20		357,092	3	409,501	359,90
Т5		353,193	3	409,501	349,90
Т6		275,906	2	365,759	299,90
Т7		328,904	3	409,501	329,90
Т8		364,233	3	409,501	359,90
T1	Ī	360,256	3	409,501	349,90
T2	Ī	281,424	2	365,759	299,90
Т3	Ī	335,482	3	409,501	329,90
T4	Ī	371,517	3	409,501	359,90
	sub-total	8,903,256		11,159,834	9,235,200

Bedroom Count Summary	
2 bedrooms	7
3 bedrooms	46
4 bedrooms	26

Numbers of Affordable Units Per Year		TH	PH	Cottages	total
	2016	4	6	0	10
	2017	4	6	0	10
	2018	4	6	1	11
	2019	4	6	3	13
	2020	4	6	3	13
	2021	4	5	3	12
	2022	4	0	3	7
	2023	0	0	3	3
	total	28	35	16	79

(1,924,634) amount below max allowed pricing

	October 24,				l
	2016				
	Proposed				
	Pricing from	# of Bed-		Proposed	
Park Homes	Ivory Homes	rooms	Limit	Scenario	
1	\$408,900	3	\$375,179	\$375,179	1
2	\$374,900	3	\$375,179	\$375,179	1
3	\$408,900	3	\$375,179	\$375,179	1
10	\$408,900	3	\$375,179	\$375,179	1
11	\$374,900	3	\$375,179	\$375,179	1
12	\$408,900	3	\$375,179	\$375,179	1
4	\$477,900	4	\$445,463	\$465,900	1.05
5	\$384,272	3	\$375,179	\$438,500	1.17
6	\$419,272	3	\$375,179	\$438,500	1.17
7	\$477,900	4	\$445,463	\$465,900	1.05
8	\$384,272	3	\$375,179	\$438,500	1.17
9	\$419,122	3	\$375,179	\$438,500	1.17
13	\$489,878	4	\$445,463	\$465,900	1.05
14	\$393,878	3	\$375,179	\$438,500	1.17
15	\$429,600	3	\$375,179	\$438,500	1.17
22	\$489,878	4	\$445,463	\$465,900	1.05
23	\$393,878	3	\$375,179	\$438,500	1.17
24	\$429,600	3	\$375,179	\$438,500	1.17
16	\$502,095	4	\$445,463	\$465,900	1.05
17	\$403,772	3	\$375,179	\$438,500	1.17
18	\$440,340	3	\$375,179	\$438,500	1.17
19	\$502,095	4	\$445,463	\$465,900	1.05
20	\$440,300	3	\$375,179	\$438,500	1.17
21	\$440,300	3	\$375,179	\$438,500	1.17
28	\$514,648	4	\$445,463	\$465,900	1.05
29	\$451,348	3	\$375,179	\$438,500	1.17
30	\$451,348	3	\$375,179	\$438,500	1.17
31	\$514,648	4	\$445,463	\$465,900	1.05
32	\$451,348	3	\$375,179	\$438,500	1.17
33	\$451,348	3	\$375,179	\$438,500	1.17
25	\$527,515	4	\$445,463	\$465,900	1.05
26	\$462,631	3	\$375,179	\$438,500	1.17
27	\$462,631	3	\$375,179	\$438,500	1.17
34	\$527,515	4	\$445,463	\$465,900	1.05
35	\$462,631	3	\$375,179	\$438,500	1.17
	\$15,581,363		\$13,834,105	15,241,574	

\$1,407,469 amount above max allowed pricing

	2010			
	Proposed			
	Pricing from	# of Bed-		Proposed
Cottages	Ivory Homes	rooms	Limit	Scenario
1	499,900	4	506,008	506,008
2	514,897	4	506,008	506,008
3	514,897	4	506,008	506,008
4	514,897	4	506,008	506,008
5	530,343	4	506,008	506,008
6	530,343	4	506,008	506,008
7	530,343	4	506,008	506,008
8	546,253	4	506,008	506,008
9	546,253	4	506,008	506,008
10	546,253	4	506,008	506,008
11	562,640	4	506,008	506,008
12	562,640	4	506,008	506,008
13	562,640	4	506,008	506,008
14	579,519	4	506,008	506,008
15	579,519	4	506,008	506,008
16	579,519	4	506,008	506,008
	8,700,856		8,096,128	8,096,128

October 24, 2016

Total Revenue Initial Ivory Pricing Revenue \$ 33,185,475		
Total Revenue Resolution Limits	\$ 33,090,067	
Total Negotiated Pricing Revenue	\$ 32,572,902	\$ (517,165) amount negotiated pricing is below max allowed pricing

FEE EXEMPT UTAH CODE ANNOTATED § 11-13-102

WHEN RECORDED, RETURN TO:

Park City Municipal Corporation Attention: City Recorder P.O. Box 1480 Park City, UT 84060 ENIRY NO. 01062065 01/19/2017 04:21:36 PM B: 2393 P: 1528 Amendment PACE 1/5 MARY ANN TRUSSELL SUMMIT COUNTY RECORDER FEE 0.00 BY PARK CITY MUNICIPAL CORPORATION

AMENDMENT NO. 1 TO THE DEED RESTRICTIONS PROTECTING THE AFFORDABILITY AND SUSTAINABILITY OF AFFORDABLE HOMES AT PARK CITY HEIGHTS

This Amendment No. 1 to Deed Restrictions Protecting the Affordability and Sustainability of Affordable Homes at Park City Heights (the "<u>Amendment</u>") is made and entered into as of the <u>19</u>th day of January _____, 2017 (the "<u>Effective Date</u>"), by and between Ivory Homes, a Utah Corporation ("<u>Owner</u>"), and Park City Municipal Corporation, a municipal corporation of the State of Utah ("<u>City</u>").

RECITALS

A. Owner and the City are parties to that certain Deed Restrictions Protecting the Affordability and sustainability of Affordable Homes at Park City Heights (the "Agreement") dated as of January 29, 2015, which Agreement was recorded in the Office of the Recorder of Summit County, Utah on February 2, 2015 as Entry No. 01012050 in Book 2277, beginning at Page 1536. The Agreement pertains to seventy nine (79) affordable housing residential units located at Park City Heights, as more particularly described in Exhibit "A" attached hereto and incorporated herein by this reference (the "Units").

B. Pursuant to Section 3 of the Agreement, the initial pricing is now established for fourteen (14) Units described as "Park Town Homes T25, T26, T27, T28, T9, T10, T11, and T12" which are governed by Housing Resolution 17-99 and "Park Homes (single family) 1, 2, 3, 10, 11 and 12" which are governed by Housing Resolution 20-07.

C. Owner, the City and the Park City Housing Authority determined after at a public hearing before the Park City Housing Authority on December 15, 2016 that effective as of December 16, 2016 the Housing Mitigation Plan approved by the Park City Housing Authority on July 17, 2014 should be amended ("Amended Plan") in order to establish initial pricing of the Unit. That Amended Plan established the initial sale prices for the above identified units. Consequently, Owner and the City desire to amend the Agreement as hereinafter set forth.

AMENDMENT TO THE AGREEMENT

NOW THEREFORE, in consideration of the foregoing Recitals and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Owner and the City hereby agree as follows:

1. <u>INITIAL SALES PRICE</u>. The initial sales price for each Owner Occupied Unit listed below shall be as follows:

UNIT NUMBER	INITIAL SALES PRICE	UNIT NUMBER	INITIAL SALES PRICE
Park To	Park Town Homes		es – Single Family
T25	\$319,900	1	\$375,179
T26	\$249,900	2	\$375,179
T27	\$297,900	3	\$375,179
T28	\$329,900	10	\$375,179
T9	\$329,900	11	\$375,179
T10	\$359,900	12	\$375,179
TII	\$349,900		
T12	\$299,900		

- 2. <u>CAPITALIZED TERMS</u>. Any capitalized terms not defined in this Amendment shall have the same meaning as set forth in the Agreement.
- 3. <u>NO OTHER CHANGES</u>. Except as specifically provided in this Amendment, all of the terms, conditions, agreements and provisions set forth in the Agreement remain unaffected, and they are hereby reaffirmed, ratified and approved in their entirety and shall remain in full force and effect.

2

4827-7462-7090.2

01062065 Page 2 of 5 Summit County

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the Effective Date.

OWNER:

Ivory Development, LLC a Utah Corporation By: Christopher P. Gamyroulas Title: President

CITY:

3

PARK CITY MUNICIPAL CORPORATION, a municipal corporation of the State of Utah

By: Name: Title:

Attest:

City Recorder

Approved as to Form; Attorn

01062065 Page 3 of 5 Summit County

ACKNOWLEDGMENTS



STATE OF _____) : \$5. COUNTY OF Salt Jake)

The foregoing instrument was acknowledged before me this 18^{44} day of <u>January</u>, 20<u>14</u>, by Christopher P. Gamvroulas, in his capacity as the President of Ivory Development, L.L.C., a Utah limited liability company.

Broche Juddeway NOTARY PUBLIC

My Commission Expires: 12-20-17

Residing at: 5. L. Com

STATE OF UTAH

COUNTY OF SUMMIT

My Commission Expires:

The foregoing instrument was acknowledged before me this <u>19</u> day of <u>January</u> 20<u>17</u> by Jack Thomas, in such person's capacity as the <u>Mayor of Park City Municipal</u> Corporation.

: SS.

)

y PUBLIC

Residing at:

5-19-2019

Park City Municipal



4

4827-7462-7090.2

01062065 Page 4 of 5 Summit County

EXHIBIT A

Legal Description of the Units

The Park City Heights deed restricted units will total to 79 affordable units and will be built in four phases. This Amendment #1 to the DEED ESTRICTIONS PROTECTING THE AFFORDABILITY AND SUSTAINABILITY OF AFFORDABLE HOMES AT PARK CITY HEIGHTS pertains to Park Town Homes T25, T26, T27, T28, T9, T10, T11, T12 and Park Homes (single family) 1, 2, 3, 10, 11 and 12

This Amendment pertains to Parcel Numbers PCH-1-T25, PCH-1-T26, PCH-1-T27, PCH-1-T28, PCH-1-T9, PCH-1-T10, PCH-1-T11, PCH-1-T12, PCH-1-1, PCH-1-2, PCH-1-3, PCH-1-10, PCH-1-11, PCH-1-12,

4827-7462-7090.2

A-1 01062065 Page 5 of 5 Summit County