

Chapter 6 – Evaluation and Preferred Plan

As noted in previous sections of this report, nine options were identified as potential development projects to help meet future water needs in Park City and Snyderville Basin. Each of the nine was studied in detail to determine viability. Results of this analysis are presented in Chapter 5.

Of the nine Options originally identified, six were considered viable for further evaluation and ranking. The Options eliminated include: Additional Surface Water Storage (Option 1), Conjunctive Management of Surface and Groundwater (Option 2), and Weber River Importation via Brown’s Canyon (Option 6).

The Options considered viable for further evaluation include: Option 3 - **Water Reuse**, Option 4 - **Provo River - JSSD** (Importation), Option 5 - **East Canyon Pipeline** (Importation), Option 7 - **Lost Creek Canyon Pipeline** (Weber River Importation), Option 8 - **Weber River via Weber-Provo Canal** (Importation), and Option 9 - **Lost Creek Canyon and Weber-Provo Canal** (Importation). This chapter identifies evaluation criteria and procedures used in evaluating and rating the remaining six options. It also explains the rationale used in formulating the preferred plan.

6.1 Evaluation Criteria

Option evaluation criteria were used by Reclamation to evaluate the six viable options identified in Chapter 5. The evaluation criteria were developed by Reclamation with input from stakeholders and the public. These criteria include economic, environmental, social, institutional, and system reliability.

6.2 Option Evaluation

Available data associated with the evaluation criteria was gathered by Reclamation and other contributors to the study. This data was organized and used in evaluating the options. The study team divided the evaluation into two separate parts: Economic Factors Evaluation, and Non-Economic Factors Evaluation.

6.2.1 Economic Factors Evaluation

Economic factors are based on capital costs and present-value life cycle costs (some of which have already been discussed in Chapter 5). The capital costs are the estimated costs to construct the facilities. The purpose of evaluating the capital costs is to determine the magnitude of funding required to construct a given Option.

Life cycle costs represent the total discounted present value of capital costs (deferred construction costs discounted to present value), operation, maintenance and replacement costs (OM&R), and the cost of water. The cost per acre-foot delivered is calculated by dividing the life cycle cost by the projected total quantity of water delivered over the 50-year life of the

project. Results of the economic factors evaluation are shown in Table 6-1. A more detailed description of costs is included in the Appendix.

Table 6-1 shows two costs for Option 5 – East Canyon Pipeline. The first cost is based upon a capacity and water supply of 8,750 acre feet per year, and the second cost is based upon a capacity and water supply of 12,500 acre-feet per year. The purpose for showing both versions of Option 5 is to identify a cost range for the option. If the full 12,500 acre-feet water supply is developed, as discussed in Section 5.7.2, costs would be as shown for the 12,500 acre-feet option.

**TABLE 6-1
Economic Factors Evaluation Summary**

Economic Factors	Option 3	Option 4	Option 5¹	Option 7¹	Option 8	Option 9
Capital Costs (new) ² (Units 1,000)	\$19,100	\$2,700	\$53,700 - \$67,300	\$25,500	\$7,200	\$14,400
Capital Costs (total) (Units: 1,000)	\$19,850	\$2,700	\$69,300 - \$82,900	\$37,800	\$7,200	\$24,300
Capital Costs per acre-foot capacity ³	\$5,510	\$5,400	\$7,920 - \$6,630	\$7,560	\$1,440	\$2,880
Present Annual O&M Costs per acre-foot at full Capacity ⁴	n/a	n/a	\$470 - \$447	\$455	n/a	n/a
Life Cycle Costs per acre-foot delivered	\$179	\$744	\$418 - \$376	\$369	\$460	\$426

¹ Option 5 costs are shown as a range, consistent with a capacity between 8,750 acre-feet per year and 12,500 acre feet per year, as explained in Sections 5.7.2 and 6.3.2. Also, costs for Options 5 and 7 are based on cost estimate Method 3 (see Table 6-3).

² Capital costs of new facilities only

³ Based on capital costs (total) rather than capital costs (new).

⁴ Includes O&M, treatment and cost of water.

6.2.2 Non-Economic Factors Evaluation

The non-economic factors category includes the environmental, social, institutional, and system reliability factors. The study team applied these non-economic criteria to each of the options. The following basic assumptions were made to make the comparisons between options more logical and directly comparable:

1. Each option was evaluated on a per acre-foot basis generally, rather than for the total water supply.
2. In the future all the existing reservoir water rights will be fully used to meet the growing water demands. Consequently, the reservoirs will experience the same draw down whether the water is imported into the Snyderville Basin or used down stream.

3. All import water, regardless of which option, would be delivered to the same specific area (such as a specific subdivision), and would consequently result in the same impacts (per acre-foot supplied) on return flows, instream flows, and water quality. (They would have essentially the same return flow volume and quality since the wastewater would be treated to the same level, and meet applicable water quality standards.)

Potential impacts (both positive and negative) were identified during the initial evaluation, however none were considered sufficiently significant to prevent or limit development of any of the six Options. A discussion of some of the more significant non-economic factors which have the greatest potential for differing impacts among the options is presented below.

6.2.2.1 Environmental – Environmental factors considered include: environmental compliance, cultural resources, visual resources, fish and wildlife, threatened and endangered species, water quality, and instream flows. Environmental compliance and water quality were identified as the two environmental factors with the most potential for differing impacts among the options. The study team found no significant differences among the six Options for the other environmental factors. Consequently, they are not discussed in the following paragraphs.

Environmental Compliance. Any of the six options would require National Environmental Protection Act (NEPA) compliance prior to construction, assuming that all would involve some type of Federal action. NEPA requires analysis and documentation of potential impacts to the human environment, and also requires consideration of alternatives to a proposed action. Public notification of the proposed action, and the opportunity for public involvement in the decision making process are required to varying degrees, depending on the type of documentation required. If an action is minor or routine in nature, and defined as such within an agency's NEPA regulations, it may be categorically excluded from NEPA analysis and documentation. If not categorically excluded, then an action must be analyzed in an Environmental Assessment or an Environmental Impact Statement. Based on available information, it is anticipated that any of the viable options which are selected as preferred options would require at least the preparation of an Environmental Assessment to determine whether there would be significant impacts to the human environment. If no significant impacts to the human environment are found, a Finding of No Significant Impact could be issued at the conclusion of the Environmental Assessment preparation and review process (which includes opportunity for public comment on the draft Environmental Assessment). If significant impacts were found, the preparation of an Environmental Impact Statement would be required. Compliance with NEPA would normally take about one year for the completion of an Environmental Assessment and Finding of No Significant Impact, and two to four years for the completion of an Environmental Impact Statement and Record of Decision.

Compliance with other environmental and cultural resource laws, including the Clean Water Act (CWA), the Endangered Species Act (ESA), the Fish and Wildlife Coordination Act, the National Historic Preservation Act (NHPA) and others, would also be needed and would occur concurrent with the NEPA process.

Based upon existing information presented in Chapter 5, including preliminary analyses by Reclamation staff, there does not appear to be significant environmental or cultural resource obstacles that would prevent implementation of any of the six options. There would, however, be differences in the complexity of the analysis and documentation, and therefore the time required to complete them, depending on the level of impact, and controversy associated with development.

Without a more detailed analysis, which would be performed during a formal NEPA process prior to construction, Reclamation anticipates that environmental compliance to meet NEPA, CWA, ESA, and NHPA, would be more difficult for the East Canyon Pipeline Option than for the Lost Creek Canyon Pipeline Option. This conclusion acknowledges the level of environmental analysis completed to date for both projects. This determination is premised on the facts that the majority of Option 7 alignment has already been disturbed (construction of the existing pipeline), there appears to be greater local opposition to Option 5 than Option 7 creating greater controversy, permitting appears to be more challenging for Option 5 than for Option 7, and the size difference of the projects (longer and larger pipeline transporting more water, therefore perceived greater impacts) would require longer time to identify and analyze potential impacts.

Water Quality. Water quality is an issue in East Canyon Reservoir, Echo Reservoir, East Canyon Creek, and Silver Creek. The State of Utah Department of Environmental Quality has determined that each of the four streams and reservoirs need a Total Maximum Daily Load (TMDL) Analysis. TMDL Projects and Reports have been completed for East Canyon Reservoir, East Canyon Creek, and Silver Creek. A TMDL Analysis is under way for Echo Reservoir. The parameters of concern for East Canyon Reservoir, East Canyon Creek, and Echo Reservoir, are total phosphorus and dissolved oxygen. The parameters of concern for Silver Creek are Cadmium and Zinc. The completed reports can be found on the State of Utah's Web site.

Since it was identified as a potential problem in the late 1990's, significant progress has been made in the Park City/Snyderville area to reduce phosphorus loading into East Canyon Creek and East Canyon Reservoir. Since the geologic formations in the area are rich in phosphorus (Phosphoria Formation), erosion control with future development is a major issue. It is generally understood that further phosphorus reductions will have to be implemented in the East Canyon Creek watershed, and possibly Silver Creek watershed, to improve water quality in East Canyon Reservoir and Echo Reservoir, and to offset any new phosphorus loading from future development.

There do not appear to be significant water quality differences within the Snyderville Basin for any of the six options. This conclusion is based on the assumptions that, (1) the water, whether from East Canyon Reservoir or Rockport Reservoir area, would be delivered to the same location (subdivision, city, etc.) which would result in the return flows being the same (per acre foot delivered) to East Canyon Creek or Silver Creek, regardless of where the water comes from, and (2) that the water, regardless of where it comes from, would be treated to the same standard. The treatment costs for the culinary water supply, as well as for the treated wastewater effluent,

would be approximately the same for either the East Canyon Reservoir water supply or the Rockport Reservoir area supply.

Therefore, based on these assumptions, all import options would have similar water quality impacts on East Canyon Creek, East Canyon Reservoir, Silver Creek, and Echo Reservoir. For purposes of this study, all options are rated equal with regard to water quality.

6.2.2.2 Social – Social factors considered include private land, conservation easements, public acceptability, recreation, environmental justice, and Indian trust assets. Potentially significant social impact differences among the options include impacts on private lands and impacts within established conservation easements. The study team found no significant differences among the six Options for the other social factors, and has not discussed them in this section.

Private Land. As discussed in Chapter 5, Option 5 would require more land use permits and right-of-way easements across private lands, than would any of the other options. Option 7 would have the least impact, followed by Options 4, 8, 9 and 5. This ranking is based primarily on the length of private land right-of-way needed and the difficulty with which it can be acquired. East Canyon Resort has expressed strong opposition to Option 5's proposed alignment across their property.

Conservation Easements. Recently a 7,200 acre Ranch (Clayton Macfarlane Company) sold a conservation easement that covers a portion of the county road along East Canyon Creek in Summit and Morgan counties. Right-of-way along this road for the East Canyon Pipeline (Option 5), which is within the conservation easement, would have to be negotiated. The State Division of Forestry, Fire and State Lands (owner of the easement) has indicated this could probably be accomplished, but would likely take additional time for negotiation and legal work.

6.2.2.3 Institutional – Institutional factors considered include funding capability, ability to meet time constraints, water rights and agreements, hydrologic efficiency, compatibility with growth needs in other areas, and development risk. Potentially significant institutional impact differences among the options include: funding capability, ability to meet time constraints, and water rights and agreements. The study team found no significant differences among the six Options for the other institutional factors, and has not discussed them in this section.

Funding Capability – Several factors influence capability and timing of funding - size of the project, government vs. private, Federal vs. local Government, etc. Since the method of funding has not yet been determined, all are considered equal with regard to the ability to get the funds in a timely manner. However, looking at size alone when considering the ability to add the next increment of water, it is easier to fund and implement a smaller less expensive project than a larger one. Therefore the options are ranked in order of their total capital cost.

Ability to Meet Time Constraints – Permitting and meeting time constraints would be a challenge for any of the options. All options must get appropriate local, state, and Federal approvals and permits. Options 8 and 9 would also require agreements with Reclamation and water entities in the Provo River Drainage to allow transport of water into the Provo River drainage and through Federal water facilities (Provo Reservoir Canal and Jordanelle Reservoir).

Summit County permits for constructing Option 5 have been obtained, but others with Morgan County or other agencies have not been obtained or have expired. Option 7 would also require additional permits. It is anticipated that obtaining the needed permits to construct Options 8 or 9 would be the most difficult, with Option 5 being next most difficult due primarily to the size of the project and controversy involved, followed by Option 7.

Water Rights and Agreements - Water rights for Option 3 still need to be approved by the State Engineer's Office, although approval would seem likely. Option 4 would require an agreement with the Jordanelle Special Service District, which should not be a major obstacle.

Options 7, 8 and 9 all depend on the same 5,000 acre-feet per year water supply provided by WBWCD at Rockport Reservoir. A change in point of diversion for this right would need to be filed and approved by the State Engineer, although approval would seem likely. This water supply consists of existing unsubscribed WBWCD water that has not yet been put to beneficial use. An agreement was executed on November 18, 1996, (and re-negotiated in May 2004) between WBWCD, Park City, and MRWSSD, making this water available from WBWCD's sources for distribution within the service areas of Park City and MRWSSD.

The water supply for Option 5 has several potential concerns, as identified in Chapter 5, Section 5.7.2. These issues include obtaining necessary water right approvals by the State Engineer and executing the necessary water supply contracts with D&WCCC. It is presumed that these issues would be resolved before proceeding with development of the East Canyon Pipeline Option. The study team concludes that securing the necessary water rights and agreements to proceed with Option 5 could be more difficult and time consuming than for any of the other options.

Summary - Based on the information presented in the preceding paragraphs of this section, Reclamation concludes that Option 7 has a greater likelihood of meeting the critical time constraints imposed by the rapid growth of the area than any of the other options, followed by Option 5, then Options 8 and 9.

6.2.2.4 System Reliability - System reliability is rated based on facility integrity and system redundancy. All six projects are rated equal on facility integrity and reliability, as all are anticipated to be designed and constructed to the same standard. System redundancy would be enhanced by constructing multiple sources of water to meet needs, as opposed to only one source or pipeline.

6.3 Selection of Preferred Plan

The six options that were determined viable in Chapter 5, and therefore included in the evaluation process, are shown in Table 6-2. This section explains the process and rationale used in selecting the preferred plan from among these six Options.

TABLE 6-2
Development Options Summary
Units: Acre-Feet per Year Capacity

Development Options	2001	2030	2050
In-Basin Development			
3 – Water Reuse	0	2,000	3,600
Importation			
4 – Provo River – JSSD	0	500	500
5 – East Canyon Pipeline	0	12,500 ¹	12,500 ¹
7 – Lost Creek Canyon Pipeline	0	5,000 ²	5,000 ²
8 – Weber River via Weber Provo Canal	0	5,000 ²	5,000 ²
9 – Lost Creek Canyon and Weber Provo Canal	0	5,000 ²	5,000 ²
Total Potential Development	0	20,000	21,600

¹ Additional water right approvals and potential acquisitions may be needed to yield the full supply.

² These options are dependent upon the same 5,000 acre-feet water supply – hence only one of the three can be developed.

6.3.1 Preferred Options

Of the six viable Options, only Options 5 and 7 are selected to be included in the preferred plan (refer to relative costs in Table 6-1, and the non-economic factors). Both are needed to meet the projected water needs of Park City and Snyderville Basin. Option 3 is not included because it is an in-Basin Option that, due to its economic attractiveness, would likely be developed by local entities. The associated Option 3 development potential of 2,000 acre-feet per year in 2030 and 3,600 acre-feet per year in 2050 is assumed to be developed, and therefore subtracted from the projected Basin demand that would otherwise need to be developed, similar to subtracting the estimated quantities of groundwater and agricultural conversion water as explained in Chapter 5. Options 8 and 9 are eliminated because Option 7 is the highest ranking of the three and therefore becomes the preferred method for importing WBWCD water from the Rockport Reservoir area to the Snyderville Basin. Option 4 is eliminated because of high cost relative to the other options.

As the options have now been narrowed to two, a more detailed comparison of the two was conducted in order to rank the options and make recommendations with regard to construction priority. This comparative evaluation considered factors in both evaluation categories – economic and non-economic.

6.3.2 Economic Comparisons

Four different cost estimates shown in Table 6-3, were prepared for Option 5, the East Canyon Pipeline Option, and for Option 7, the Lost Creek Canyon Pipeline Option. Costs are for comparative purposes only and include similar unit-costs and assumptions. Cost estimate “Method 1” includes all costs necessary to complete each independent Option. This method ignores “sunk” costs for facilities already constructed. Method 2 includes costs for all facilities (new and existing) as if none have been constructed. Method 3 includes costs for all facilities by adding actual sunk costs for existing facilities to Method 1’s estimated costs for new facilities.

Method 4 is the same as Method 1’s estimated costs for new facilities, which includes 10 percent for unlisted items, but does not include 20 percent for contingencies or 12 percent for engineering, design, and construction oversight. It represents a “contract” cost only. Table 6-3 shows the estimated costs of each Option for the four methods. A more detailed presentation of the cost estimates is included in the Appendix.

Table 6-3 shows costs for Option 5 – East Canyon Pipeline (8,750 acre-feet per year capacity and water supply), Option 5 – East Canyon Pipeline (12,500 acre-feet per year capacity and water supply), and Option 7 – Lost Creek Canyon Pipeline (5,000 acre-feet per year additional capacity and water supply). As explained above for Table 6-1, the purpose for showing both versions of Option 5 is to identify a cost range for two stages for the option.

**TABLE 6-3
Option Cost Estimate Summary by Method**

Options	Method 1¹ New Facilities Only	Method 2² All Facilities (USBR)	Method 3³ All Facilities (Includes Sunk Costs)	Method 4⁴ (New Facilities Contract Cost Only)
<u>Option 5 - East Canyon Pipeline</u> (8,750 AF capacity and water supply)				
Capital Costs				
Capital Cost (Units: 1,000)	\$53,700	\$76,000	\$69,300	\$39,900
Capital Cost per AF Capacity	\$6,140	\$8,690	\$7,920	\$4,560
<u>Option 5 - East Canyon Pipeline</u> (12,500 AF capacity and water supply)				
Capital Costs				
Capital Cost (Units: 1,000)	\$67,300	\$89,600	\$82,900	\$51,400
Capital Cost per AF Capacity	\$5,380	\$7,170	\$6,630	\$4,110
<u>Option 7 - Lost Creek Canyon Pipeline</u> (5,000 AF capacity and water supply)				
Capital Costs				
Capital Cost (Units: 1,000)	\$25,500	\$40,300	\$37,800	\$19,000
Capital Cost per AF Capacity	\$5,100	\$8,060	\$7,560	\$3,800

¹ Method 1 – Costs for new facilities only. Cost of existing facilities excluded (no sunk costs). Costs include 10% for unlisted contract items, 20% for contingencies, and 12% for engineering, design, and construction oversight.

² Method 2 – Cost of all facilities (new and existing) as if none have been constructed. Costs include 10% for unlisted items, 20% for contingencies, and 12% for engineering, design, and construction oversight.

³ Method 3 – Cost of all facilities (new and existing). Existing facility sunk costs are added to cost of new facilities. Costs include 10% for unlisted items, 20% for contingencies, and 12% for engineering, design, and construction oversight.

⁴ Method 4 – Method 1 (new facilities only) - contract of “field” costs only – which includes 10% for unlisted items but does not include 20% for contingencies, or 12% for engineering, design, and construction oversight.

As shown in Table 6-3, the capital cost for Option 7 is much lower than the capital cost for Option 5. Also, Option 7 capital cost per acre-foot capacity for Methods 1 and 4 is less than costs for Option 5. However, Option 7 capital cost per acre-foot capacity for Methods 2 and 3 is inside the range of costs for Option 5. Cost per acre-foot differences between the two options are considered to be within the margin of error of the analysis, and therefore, do not indicate a conclusive preference of one over the other.

6.3.3 Non-Economic Comparisons

As mentioned in Section 6.2.2, no potential impact has been identified that would prevent or limit development of either Option 5 or Option 7. However, some could have significant impact on the timing of development.

Park City and other areas within the Snyderville Basin have an immediate need for additional water supplies, making timing of permanent water deliveries critically important. The available supplies are already behind the projected demand curve (Figures 4.1 and 6.1). Based on the information presented in Chapter 5 and the analysis presented in Section 6.2.2, the non-economic factors comparison ranks Option 7 ahead of Option 5, primarily due to the potential impacts of timing.

6.3.4 Preferred Plan

As stated above, the preferred plan includes both the Lost Creek Canyon Pipeline Option (Option 7) and the East Canyon Pipeline Option (Option 5), as both are needed to meet future water needs in the Park City and Snyderville Basin area. Furthermore, the study team sees benefits of having two future water sources in the basin, as opposed to only one. With both projects operational, fewer interconnects are needed, and greater overall system reliability can be maintained during emergency situations (more than one source and one pipeline). The preferred plan, therefore, calls for development of both Options. The Lost Creek Canyon Pipeline (Option 7) is ranked higher in priority than the East Canyon Pipeline (Option 5) and should be implemented first for the following reasons:

- A primary reason for the congressional legislation was to find a permanent solution to Park City's immediate and critical need for 2,500 acre feet of water per year. Option 7 is the least costly, would require only 2½ miles of additional pipeline, and would require the shortest time to implement for Park City's need.
- Option 7 is a smaller project and has a lower new facility project capital cost, i.e. \$25,500,000 instead of \$67,300,000, which makes obtaining funding easier and faster.
- Option 7 can be implemented in less time and with less risk.
- Option 7 has fewer easements, water rights, and land use permit issues to resolve.
- Option 7 has water delivery agreements in place.
- A majority of the infrastructure for Option 7 is already constructed.
- Environmental compliance is expected to take less time because Option 7 is a smaller project with fewer expected adverse impacts.
- Option 7 has a lower capital contract cost per acre-foot capacity, although both projects are relatively close and are considered within the margin of error of the cost estimates.

The East Canyon Pipeline Option, however, is also needed and should move forward immediately and as expeditiously as possible to meet the future, rapidly growing, water needs in other areas of the Snyderville Basin.

Table 6-4 shows the priority ranking and the quantities of water recommended for development under each option.

TABLE 6-4
Preferred Plan
Development Option Priority and Needs
Units: Acre-Feet per Year

		2030	2050
Priority	Development Option		
1	Option 7 - Lost Creek Canyon Pipeline	5,000	5,000
2	Option 5 - East Canyon Pipeline	8,400	12,100
Total Developed		13,400	17,100

6.4 Summary and Recommendations

Both the Lost Creek Canyon Pipeline and the East Canyon Pipeline Options are needed to meet the Basin’s long-term needs through the year 2050. There are no major environmental or other significant adverse impacts for either option which would preclude their eventual development.

Reclamation recognizes that Park City and the other areas within the Snyderville Basin have an immediate need for permanent water supplies, making timing of water deliveries critically important. The available supplies are already behind the projected demand curve (Figures 4.1 and 6.1). Park City, MRWSSC and WBWCD have an agreement in place for delivering 5,000 acre-feet per year, of which 2,500 acre-feet per year is required by Park City. MRWSSD currently has excess capacity in the existing Lost Creek Canyon Pipeline, which could, with relatively low cost, be used to deliver a portion of this contracted water to Park City prior to the construction of Option 7. This study concludes that the Lost Creek Canyon Pipeline Option can provide a permanent supply of imported water to Park City more quickly, at a lower capital cost, and with less risk, than can the East Canyon Pipeline Option. Reclamation, therefore, recommends that the Lost Creek Canyon Pipeline Option be implemented first to meet the immediate Park City need, and a portion of the future needs of the Snyderville Basin area. Reclamation recommends that final design and construction of the Lost Creek Canyon Pipeline Option begin immediately.

Reclamation acknowledges the continuing rapid growth within the Snyderville Basin and the need for additional water supplies beyond that provided by the Lost Creek Canyon Pipeline Option. The East Canyon Pipeline Option should be constructed while the water rights are

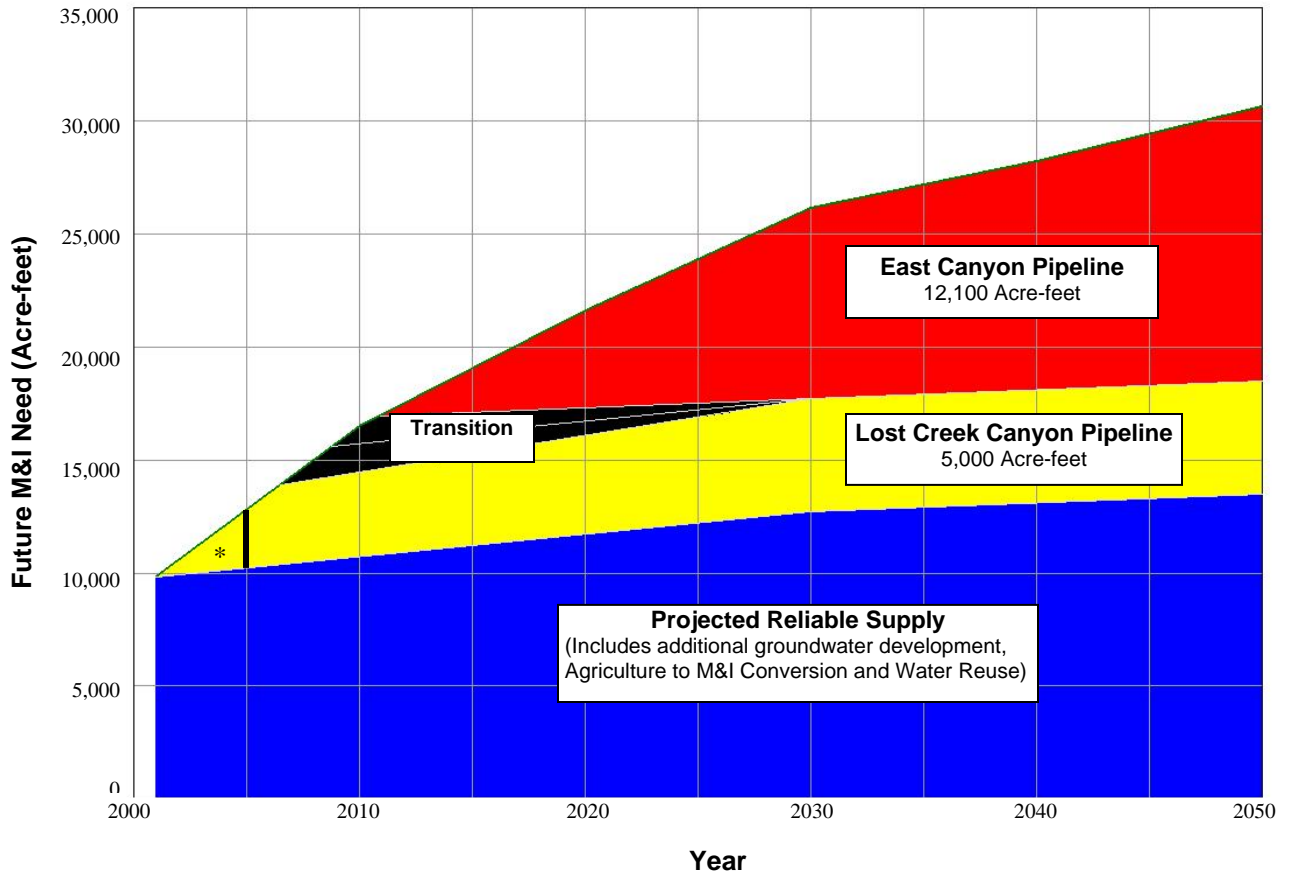
available and committed for use in the Snyderville Basin. Since the East Canyon Pipeline Option is determined to be a viable project and is critically needed to meet future demands, Reclamation recommends that efforts begin immediately to move the East Canyon Pipeline Option forward in order to ensure that the necessary water rights, land use permits, water supply agreements, environmental clearances, and funding, are in place to allow timely design and construction of this Option.

Reclamation further recommends that Park City, Summit County, MRWSSD, SWDC, WBWCD, and other stakeholders cooperate together with water development in the Snyderville Basin. The next step should be a coordinated effort to develop a Master Plan for the Snyderville Basin, including all water suppliers and local government entities in the Basin. As both the Lost Creek Canyon and the East Canyon Pipeline projects are needed, good communication and cooperation are essential in developing the plans and infrastructure needed to maximize benefits to the residents of Park City and Snyderville Basin. Reclamation therefore recommends that efforts be conscientiously implemented to build relationships of cooperation and understanding among all stakeholder entities. Improved cooperation will greatly enhance the ability to meet the future water needs of the Snyderville Basin.

Figure 6-1 shows a recommended timeline for implementing the preferred plan. As shown, the Lost Creek Canyon Pipeline Option would meet M&I needs in the immediate and near future with the East Canyon Pipeline Option meeting later needs. The figure also shows a “transition” or “over-lap” period where both projects would meet growth needs in the basin at the same time. This would likely occur as the Lost Creek Canyon Pipeline Option water is near full utilization and the East Canyon Pipeline Option has been constructed and is operational. Factors which could govern the size of the over-lap would include how quickly the East Canyon Pipeline Option can be constructed, the location of need within the Basin, and which water supply is the most marketable in terms of cost of water, proximity to growth areas, customer service, etc.

Table 6-5 is a study summary which shows existing and projected needs, current water supply, and the preferred plan for meeting those projected needs.

Figure 6-1
Preferred Plan Implementation



*Area to the left of the vertical line (2005) indicates M&I demands in excess of projected reliable supply. In order to meet the M&I demands, reserve capacity is being used.

Park City and Snyderville Basin Water Supply Study Special Report

TABLE 6-5
Study Summary
Units: Acre-Feet per Year

Existing and Projected Needs	2001	2030	2050
Population	23,900	64,300	86,300
Calculated M&I Demand	9,800	25,300	32,000
Water conservation	<u>0</u>	<u>(2,300)</u>	<u>(5,000)</u>
Adjusted M&I Demand	9,800	23,000	27,000
Min instream flow and wastewater dilution requirement	0	1,100	1,600
Mine tunnel concerns – mine collapse, water quality	<u>0</u>	<u>2,000</u>	<u>2,000</u>
Projected M&I Demand	9,800	26,100	30,600
Estimated Current Production Capacity	14,000	14,000	14,000
Lost Creek Canyon Project	na	1,600	1,600
Jordanelle Special Service District imports	na	1,000	1,000
Increased groundwater development	na	200	300
Future agricultural conversions	na	400	500
Reserve Capacity	<u>(4,200)</u>	<u>(6,500)</u>	<u>(7,500)</u>
Projected Reliable Supply	9,800	10,700	9,900
Projected Future M&I Needs (Future Development)	0	15,400	20,700
Future Water Reuse (Developed by Others)	0	<u>2,000</u>	<u>3,600</u>
Projected Additional M&I Needs (Preferred Plan)	0	13,400	17,100
Preferred Plan			
Lost Creek Canyon Pipeline	--	5,000	5,000
East Canyon Pipeline	--	8,400	12,100
Total Future Development	--	13,400	17,100