Council Study Session

July 15, 2019

Agenda Item	Ashland Canal Piping Project Alternatives	
From	Paula Brown, PE Kevin Caldwell Julie Smitherman	Public Works Director Senior Project Manager Water Conservation Specialist
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Item Type	Requested by Council ☒ Update ☒ Request for Direction ☒ Presentation ☒	

SUMMARY

Before the Council is a final review of the Ashland Canal Piping Project before staff brings this forward for a decision. Included in this report are 14 issue papers that delve deeper into the concerns raised by our community as well as the summary (Issue Paper #3) and complete survey results (see attached item 18) from the community survey that was available in June. This staff report reviews the alternatives that have been developed from the last 16 months of work. Staff has also reviewed and responded to "Option #5" (see also Issue Paper #13).

Staff has worked closely with a team of very capable engineers, surveyors, and technical experts to analyze the complexities of this project. Staff relied on the Ashland Canal Advisory Group to assist throughout the process and received their formal recommendation (see attachment 17). In addition, staff presented the project to the Ashland Water Advisory Committee and the Ashland Conservation Commission to receive their counsel and recommendations (attached items 15 and 16).

Staff will review a short presentation (see attachment 19) of the project goals and touch on the vital community concerns, review the costs over a 60-year life cycle, shown as net present value (NPV) below. The pros and cons for each of the alternatives is included from the past presentation and staff will respond to questions or concerns related to each alternative.

Staff is proposing only three alternatives that will fully meet the project goals; they include:

Alt 1	Replace the entire canal with all new 24" HDPE pipe	NPV cost: $3,472,529
Alt 2	Replace open sections of canal with new 24" and 30" HDPE pipe and line existing piped sections	NPV cost: $4,339,897
Alt 3	Replace open sections of canal with urethane under-liner and new concrete channel, line existing piped sections: canal remains open	NVP cost: $4,334,379

PROJECT GOALS

The goals of the canal piping project are to:

1) conserve a significant amount of water currently lost primarily through seepage, and
2) reduce the amount of contaminates that enter the City owned section of the canal.

By replacing 10,700 feet (approximately 2 miles) of the existing mostly open channel canal with a below ground pipe, the City will be able to better protect a vital water source, better realize water conservation and efficiency goals, replace a vital piece of water infrastructure that delivers an alternate raw water supply to the City's water treatment plant and remove a source of contamination from entering this water body.

CITY OF ASHLAND

POLICIES, PLANS & GOALS SUPPORTED

City Council Goals (supported by this project):

Goal 1: Develop current and long-term budgetary resilience -- Evaluate revenue streams

Goal 2: Analyze City departments/programs to gain efficiencies, reduce costs and improve services

Goal 3: Enhance and improve transparency and communication

- Develop a robust program to engage with Ashland citizens about City priorities and our progress on those priorities...

Maintain ***Essential*** Services - water

Continue to leverage resources to develop and/or enhance ***Value Services*** **–** conservation and climate change

Department Goals:

- Maintain existing infrastructure to meet regulatory requirements and minimize life-cycle costs
- Deliver timely life cycle capital improvement projects
- Maintain and improve infrastructure that enhances the economic vitality of the community
- Evaluate all city infrastructure regarding planning management and financial resources

BACKGROUND AND ADDITIONAL INFORMATION

The City of Ashland is fortunate to have three sources of water. As we continue to preserve this water for generations to come, we will be glad that we have taken steps to protect these water sources.

The City places priority on improving water quality and efficient water management. As identified in the City's adopted 2012 Comprehensive Water Master Plan, piping the front section of the Ashland Canal (approximately 10,700 lineal feet) from Starlite Place to Terrace Street is intended to meet the goal of improving overall water quantity and efficiency as well as improve water quality in Ashland Creek. In years when water supplies are limited, the Ashland Canal is used to transport Talent Irrigation District (TID) water as a supplemental raw water source. The raw water is treated to drinking water standards at the City's Water Treatment Plant (WTP). Water in an open canal is vulnerable to contamination from a variety of sources. These contaminants reduce the water quality of Ashland Creek as the open ditch releases tail waters from the canal into the creek. Ashland Creek routinely exceeds the State's maximums for E. coli bacteria in the summer months. Additionally, open canals are susceptible to water losses through seepage and evaporation. Water losses in the Ashland Canal are approximately 23% (91% of the loss is from seepage and 9% from evaporation).

At the August 1, 2017 business meeting, Council authorized a DEQ Clean Water State Revolving Fund (CWSRF) loan of $1.3 million to complete the Ashland Canal Piping project. At the January 16, 2018, business meeting, staff received Council approval to award a professional services contract to Adkins Consulting Engineering, LLP ($192,257). In addition, staff entered into a contract with StingRay Communications ($31,000) to assist with strategic communications and public outreach, and with Siskiyou BioSurvey for a vegetation and tree assessment ($14,790). The Southern Oregon University assisted with a wildlife survey. To date, the preliminary engineering and miscellaneous project expenses total $295,564.41.

PROJECT BACKGROUND

The City owns and operates a gravity fed concrete lined canal constructed in the early 1900s, which was originally intended for irrigation purposes. The Ashland Canal receives water from the Talent Irrigation District (TID). This water originates at Hyatt and Howard Prairie Reservoirs. The City has a contract to receive up to 1,369 acre-feet of water from the TID. Currently, the City purchases this water from TID for $51.17 per acre foot ($0.20/1000 gallons) of water delivered to the City's point of delivery at Starlight Terrace. The cost of this water once pumped, treated and delivered to City residents is $0.40/1000 gallons.

By comparison, the City also can use treated water from the Medford Water Commission through the City's TAP (Talent Ashland Phoenix) pipeline at a cost of $1.15/1000 gallons.

The City's section of the canal is located primarily within easements on private property. The majority of the easements describe a tract of land that is 10 feet on either side of the canal centerline for a total width of 20 feet. These easements allow for the construction, maintenance and operation of the canal across private property, and only grants the City access to the property. The City's canal section within the project area is approximately 2 miles in length beginning near Starlite Terrace and terminating at the wet well at the Terrace Street Pump Station. The existing concrete liner varies in condition from fair to poor with isolated sections of cracking mostly caused by tree roots or failing subgrade. Currently there are some sections of the canal that are piped under roads or driveways, they consist of several segments totaling 3,350 linear feet. In addition to the City's public utility easement, portions of the Ashland Canal also have recreational trail easements granted to the Ashland Parks and Recreation District from property owners. However, there are large sections of the Canal without trail easements.

The Canal is in operation seasonally from April through October in most years and is based on TID's water availability. Typically, the season includes 169 water days. When the Canal is in operation there is continuous flow into Ashland Creek from the Terrace Street Pump Station, which is necessary to account for the fluctuating canal flows into our wet well, as well as fluctuations in the demand for water from the irrigation customers along the canal. If the canal system were a closed system and demand did not fluctuate, the amount of tail waters would be minimal.

It is a common misunderstanding that some adjacent property owners believe they have "water rights" to the Canal water. The City and Southern Oregon University (SOU) have water rights, whereas, the residents who receive water from the Ashland Canal are purchasing the municipal irrigation water from the City, but do not have actual water rights. The City has both a domestic and municipal water right with TID. As such, the City can supplement the raw water supplied to the City's WTP with canal water to help offset the use of Reeder Reservoir (Ashland Creek water) and treated water purchased from Medford Water Commission though the Talent Ashland Phoenix (TAP) pipeline. All raw water is treated through the City's Water Treatment Plant. In recent years, the TID canal water has been pumped to the WTP in 2009, 2013, 2014, 2015 and 2018.

This project has produced a significant amount of research and information, all of which is available on the City web site (https://www.ashland.or.us/ashlandcanal). Detailed staff project summaries were presented at the February 4th and April 1st council study sessions. Links are available to all reports on the engineering options, ecological analysis of the trees, wildlife impacts, ACAG meeting presentation and meeting summary notes, answers to frequently asked questions, the project map and current trail easements locations.

Staff and council have heard from many constituents that are not in favor of piping the canal. Reasons for not wanting to pipe the canal range from cost to potential tree loss within the easement to perceived loss in property values to the visual and aesthetic values of seeing water in the canal during irrigation season. Some dispute the data collected by staff and our consultants. Many just don't want to have the canal piped. One persistent misconception is that the trail will be turned into a "20-foot logging road" denuded of all vegetation – that is simply not the case; it will remain a trail.

Staff has been asked several times about other municipalities or agencies that are completing irrigation piping projects. TID completed piping a 2,700-foot section of 60-inch HDPE pipe for $1,000,000 along the Hardesty property (now City property) for the Bureau of Reclamation to help with fish concerns. The April 1st staff report showed locations in Oregon for several rural irrigation piping projects. Piping of irrigation ditches and canals is a commonly preferred, yet costly solution for failing canal infrastructure and water loss.

FISCAL IMPACTS

The original budget estimate in 2012 was $1.3 million to pipe the canal. Current project estimates; including design, permitting, and construction, have grown to a range between $2.4 to $3.9 million depending upon the alternative. This range identifies the cost differences for the three final project alternatives including full pipe replacement, piping and partial pipe lining for the existing piped sections, or full canal lining and partial pipe lining for the existing piped sections. Staff is not recommending the 4th alternative which was to aggressively maintain and shotcrete/gunite the canal because this will only temporarily improve the conditions and leave the City in a worse financial position in the future.

When the project was first put into the master plan in 2012, there was no scoping, it was costed as a standard piping project. As staff completed preliminary engineering, the project costs have increased largely due to a very constricted easement area of only 20 feet in width along with tree removal and property protection. Costs will be refined during final engineering as the engineering team can get a better and more complete picture of the specific impacts for each property owner along the canal during the construction phase. The following summary defines the capital costs, annual operation and maintenance cost the projected life of each construction option, salvage value (remaining life at the end of 60 years) and the resulting net present value (NPV).

	Alternative #1	Alternative #2	Alternative #3
Method	All new 24" pipeline	30" & 24" Pipeline	Replace Canal Liner
Pipe Material	Corrugated HDPE	Corrugated HDPE	Concrete & Urethane
Capital Costs	$3,095,000	$3,950,000	$2,429,000
Annualized OM&R	$12,500	$12,500	$39,000
Life of Option	60 - 100 years	60 - 100 years	40 - 60 years
Salvage Value	$354,280	$335,560	0
Net Present Value *	**$3,472,579**	**$4,339,897**	**$4,334,379**

* Life Cycle Cost / NPV from Adkins Final Report p. 49; based on a 60 year life cycle; 2018 dollars

As a piping project, it is 100% SDC eligible. The 2019-21 Biennium Water Fund Capital Improvement Project (CIP) budget includes $2,000,000 with an additional $1,500,000 in FY22 for this project (total in the CIP is $3,800,000 which includes $300,000 in prior years). Expenses for this project are intended to be reimbursed through a low interest (1%) Department of Environmental Quality (DEQ) Clean Water State Revolving Fund loan of $1.3 million authorized by Council at the August 1, 2017, business meeting. As noted above, the preliminary engineering and miscellaneous project expenses to date total $295,564.41. Additional sources of funding are available for piping alternatives. Staff's preliminary research indicates probable loans and possible grant funding from Oregon Water Resources, Bureau of Reclamation and potentially IFA.

DISCUSSION QUESTIONS

Staff anticipates Council discussions will likely surround the project cost and cost benefit (see also Issue Paper #1 - Costs), pros and cons of water quality (see also Issue Paper #2 – E. coli), water conservation benefits, and the need to remove a significant number of trees regardless of the alternative selected.

As noted on the presentation, there are several common concerns with each of the alternatives, including:

- **Tree loss** within the existing canal in construction zones. Of the 287 trees originally identified to be at risk, less than 100 trees will need to be removed for construction. The exact number and location

of those trees to be removed will be included on final engineering plans and will depend upon the selected alternative. See also Issue Paper #4 – Trees.

- The ability to fully improve **public access** and trail connectivity throughout the canal sections is up to each property owner. See also Issue Paper #5 - Trails.
- Questions have come up regarding the **aesthetic quality of water**, and the fact that people like to see the water. Piping the canal takes that away. See also Issue Paper #6 – Aesthetics.
- The true impact to **property values** is unknown and although an understandable concern to each homeowner, is somewhat speculative. See also Issue Paper #7 – Property Values.
- Many have asked why not **just patch** or shotcrete the existing canal. Staff does not consider this a viable option in meeting the future needs of Ashland. See also Issue Paper #8 – Just Patch and Issue Paper #13 – response to Community Option 5.
- The canal is of **historic value** and although it is not specifically listed on the historic register, there may be a way to adequately memorialize the canal to preserve the importance. These details will be determined through the permitting stages.
- **Hillside drainage** issues were raised by the community as a concern and have been addressed in Adkins report. See also Issue Paper #9 – Drainage.
- Community concerns have been raised about the **construction impacts**. There will be short term impacts for two winter seasons along the canal for those that live and use the canal. See also Issue Paper #10 – Construction.
- The full impact to **wildlife** is unknown. Although this is not considered a "wildlife corridor," wildlife frequents the open canal during irrigation season. If the canal is piped, animals will need to find alternate water sources, as they must do now during the months when the canal carries no water. See also Issue Paper #11 – Wildlife.
- **Water rights** and any final adjudication to the Klamath challenge is unknown for the basin as irrigation water rights challenges began in the basin in 1975 and litigation continue today. Ashland receives TID water through a water right from the Bureau of Reclamation (BOR). The Klamath adjudication is not a simple solution and the City will rely on OWRD and the BOR to determine flows and allocations. See Issue Paper #12 – Water Rights.
- A few members formed a group to evaluate **"Option #5"**. The interest in an alternate solution and the level of effort to identify a potential solution is appreciated. Staff has responded to "Option #5" in Issue Paper #13.

Staff and consultant representatives will be available to discuss the project in detail and to respond to Council's questions prior to deliberations toward a solution on August 6th. Thank you for the opportunity to share so much information in a relatively short amount of time.

SUGGESTED NEXT STEPS

Staff anticipates bringing this item to Council for a decision to move to the next phase for final engineering on August 6, 2019. Staff appreciates the considerations Council must weigh and realizes this is not an easy or simple decision. The effects of possible canal piping on the property values, aesthetics of seasonal water flowing in an open canal, and temporary construction impacts of adjacent landowners should be balanced with the community-wide values such as long-term cost savings, reduced potential liability, water reliability and water conservation that would be realized with the piping.

Once the preferred alternative is identified, final engineering will be completed with more detailed drawings, impacts and any additional right-of-way identified, and a final cost estimate will be prepared. Staff will identify specific additional revenue options prior to returning to council for approval on construction.

ATTACHMENTS (new)

Attachment 1: Issue Paper #1 – Costs
Attachment 2: Issue Paper #2 – E. coli
Attachment 3: Issue Paper #3 – Survey Summary
Attachment 4: Issue Paper #4 – Trees
Attachment 5: Issue Paper #5 – Trails
Attachment 6: Issue Paper #6 – Aesthetics
Attachment 7: Issue Paper #7 – Property Values
Attachment 8: Issue Paper #8 – Just Patch
Attachment 9: Issue Paper #9 – Drainage
Attachment 10: Issue Paper #10 – Construction
Attachment 11: Issue Paper #11 – Wildlife
Attachment 12: Issue Paper #12 – Water Right
Attachment 13: Issue Paper #13 – Response to Option #5
Attachment 14: Issue Paper #14 – GHG: CO2
Attachment 15: Letter of Support – Ashland Water Advisory Committee
Attachment 16: Letter of Support – Ashland Conservation Commission
Attachment 17: Final minutes and recommendation – Ad Hoc Ashland Canal Advisory Group
Attachment 18: Complete Survey Results
Attachment 19: Presentation for July 15, 2019 study session

REFERENCES

February 4, 2019 Council Study Session staff report and minutes
April 1, 2019 Council Study Session staff report, presentation and minutes
2012 Comprehensive Water Master Plan, Carollo (see page 7-7)
Atkins Engineering executive summary (Full reports available at www.ashland.or.us/ashlandcanal)
Siskiyou BioSurvey executive summary
SOU Letter (Wildlife)
ACAG presentation and ACAG meeting notes
FAQs
Project Map
Trail Easement Map

CITY OF ASHLAND

Ashland Canal Issue Paper #1 – Cost

Date: July 15, 2019

Issue: The Canal Piping Project is too Expensive

Facts:
1. The Ashland Canal flows during irrigation season from mid-April to September (staff estimates 169 days as the average irrigation season).
2. The use of the water is for domestic, municipal and irrigation use.
3. The water comes from the Talent Irrigation District stored in both Hyatt Reservoir and Howard Prairie Reservoir delivered through the Howard Prairie Canal and Emigrant Creek.
4. The Ashland Canal moves approximately 2 to 2.3 million gallons of water a day during the irrigation season.
5. There are 86 property owners along this 2-mile stretch of the Ashland Canal.
6. Many Ashland citizens use portions of the Ashland Canal for recreational purposes.
7. Recreation was not one of the beneficial uses cited as justification for the original federal funding for the Talent Irrigation Project or for the City's purchase of the Ashland Canal portion of that project.

The goals of the canal piping project are to:

1) conserve a significant amount of water currently lost primarily through seepage, and
2) reduce the amount of contaminates that enter the City owned section of the canal.

By replacing 10,700 feet (approximately 2 miles) of the existing mostly open canal with a below ground pipe, the City would be able to better protect a vital water source, better realize water conservation and efficiency goals, replace a component of essential water infrastructure that delivers an alternate raw water supply to the City's water treatment plant and remove a source of contamination from entering this water body.

Some have said that the cost to pipe is just too great; others that the cost to replace the canal with a new concrete liner is too expensive; and others that the City should have maintained the Ashland Canal better in prior years. Staff agrees that looking back, the canal could have been repaired/replaced more aggressively over the past 20 years. Bit critiquing past decisions and budget approvals is not a solution; the City must now move forward with a prudent long-term response for meeting the needs of future residents as well as residents able to benefit from the canal today.

The City pays the Talent Irrigation District (TID) for all water that crosses the weir at the Starlight Place monitoring station. Through the seepage analysis performed by Adkins Engineering, it was determined that in one irrigation season the City loses 62 million gallons of water; water that has already been paid for by the City. Calculating that one-year cost at

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$0.20/1000 cubic foot is $12,400 which is not a lot but calculated over 60 years is $744,000 – of water for which the City will have paid and received no direct benefit.
In water short years, that loss could also translate to a loss in revenue. If the City was able to sell that water to metered irrigation customers at $0.33/1000 that revenue would be an additional $20,460 annually (or potentially $1,227,600 in lost revenue if repeated over 60 years).

If, in drought years, the City had to purchase TAP water to replace the 62 million lost to seepage at a cost of $1.15/1000, the City would pay $71,300 annually or $4,278,000 if repeated over 60 years. This calculation does not take into consideration likely escalating cost for water over the next 60 years.

The table below does not consider the potential drought-related loss of revenue and increased water replacement costs described in the two paragraphs above. The table shows just comparative capital and O&M costs.

	Alternative #1	Alternative #2	Alternative #3	Alternative #5
Method	All new 24" pipeline	30" & 24" Pipeline	Replace Canal Liner	Community Alt
Pipe Material	Corrugated HDPE	Corrugated HDPE	Concrete & Urethane	Shotcrete and curb
Capital Costs	$3,095,000	$3,950,000	$2,429,000	$1,500,000 **
Annualized OM&R	$12,500	$12,500	$39,000	$35,000
pressure treat grout at year 25 and 50 - Alt 5 only				$100,000
Life of Option	60 - 100 years	60 - 100 years	40 - 60 years	40 - 60 years
Salvage Value	$354,280	$335,560	0	0
Net Present Value *	**$3,472,579**	**$4,339,897**	**$4,334,379**	**$3,470,740**

* Life Cycle Cost / NPV from Adkins Final Report p. 49; based on a 60 year life cycle; 2018 dollars
** Staff estimates are higher for BOLI wages, two mobilizations and backyard impacts. See Issue Paper #13

Given these offsetting costs, and potential revenue income the return on investment in today's dollars, the City's recommended Alternative #1 makes pretty good sense, much less expensive than purchasing the lost water amount from the TAP/Medford Water Commission.

Resolution: The piping project is undeniably costly. There are likely grants and loans to fund the entire project so that water rate increases can remain flat and not fluctuate. This project is one of several water fund Capital Improvements Plan (CIP) projects; it has been in the CIP since the project was approved in the 2012 Water Master Plan. The only solution that will meet both project goals is to pipe the canal. As such, staff recommends the lower cost option of replacing all pipe for a $3,095,000 capital cost.

The pay-back for the capital costs of piping the canal, including both the cost of water paid to TID and the cost to purchase TAP water is 37 years (41.5 years with fully burdened costs) – well within the 60- to 100-year lifetime of the pipe.

Should Council opt to leave the canal open, the only plausible alternative is to replace the existing structural material with new concrete canal and liner (alternative 3). The pay-back for the capital costs of this option, including both the cost of water paid to TID and the cost to purchase TAP water is 29 years – which is within the 60-year lifetime (51.8 years with fully burdened costs). But the need to re-do the canal again would arise 20 to 40 years sooner if this alternative is chosen rather than the staff-recommended solution.

Future Implications: The current condition of the Ashland Canal is poor. The City must invest in the long-term water needs for future generations. The canal should be piped and maintained.

CITY OF ASHLAND

Ashland Canal Issue Paper #2 – E. coli

Date: July 15, 2019

Issue: Piping the canal will have little effect on reducing E. coli bacteria

Facts:

1. The Ashland Canal flows during irrigation season from mid-April to September.
2. The Canal primarily lies within heavily forested residential neighborhoods.
3. Raw water in an open canal is vulnerable to contamination from a variety of sources.
4. Water from the Ashland Canal flows into Ashland Creek.
5. Ashland Creek routinely exceeds the State's maximums for E. coli bacteria in the summer months.
6. E. coli is a species of coliform bacteria that is directly linked to fecal contamination by the wastes of warm-blooded animals, including humans.
7. Organisms commonly associated with fecal sources may not exceed the following criteria (OAR 340-041-0009):
    - A 90-day geometric mean of 126 E. coli organisms per 100 mL;
    - No single sample may exceed 406 E. coli organisms per 100 mL
8. The Parks Department has had to post public health notices along Ashland Creek most summers alerting tourists and locals that the water is unsafe for swimming/contact.

This Ashland canal piping project was originally recommended to improve water quantity and water quality based on the Ashland Creek E. coli Bacteria Study (Rogue Riverkeeper, 2011). The study showed that E. coli concentrations increase from Tolman Creek Road to the Canal outfall into Ashland Creek, indicating that the Ashland Canal is a major contributor of E. coli into Ashland Creek. The study further suggested that pet and/or animal waste adjacent to the Canal may be contributing the higher than normal levels of bacteria in the Canal which is then conveyed to Ashland Creek.

Staff contracted with RVCOG in 2018 to complete weekly E. coli sampling at the beginning of the project and the outfall into Ashland Creek (15 samples per location) to better understand the current E. coli concentrations. As the map on the next page illustrates, there is still E. coli present but there are lower concentrations entering Ashland Creek compared to the 2011 study. Recent testing does show that the concentrations continue to increase as the canal travels through the City, as the 2011 study reported.

The City regularly samples Ashland Creek for bacteria and posts public health notices along the creek when Oregon Health Standards are exceeded. Unfortunately, Ashland Creek routinely exceeds the State's maximums for E. coli bacteria in the summer months. The state considers waterways to be hazardous to public health when E. coli levels are above 406 MPN/100ml. Since

2013, the City has posted the swimming area of the playground in Lithia Park "unsafe to enter" 18 times. This swimming area is below the Ashland Canal outfall into Ashland Creek.

The 2011 Ashland Creek E. coli Bacteria Study, available on the City's project website at www.ashland.or.us/ashlandcanal, goes into more detail regarding E. coli. In summary, the average E. coli concentrations in Ashland Creek just above the TID outfall are 16.5 MPN/100ml. The average E. coli concentrations just below the TID outfall are 40.6 MPN/100ml. The E. coli directly from the TID outfall averaged 163.7 MPN/100ml.

Staff has heard community comments that the amount of E. coli in the water is not enough to validate piping. Further comments suggest that the canal piping project will not reduce the amount of E. coli in this section of the canal or in Ashland Creek. Additional community comments are stated below;

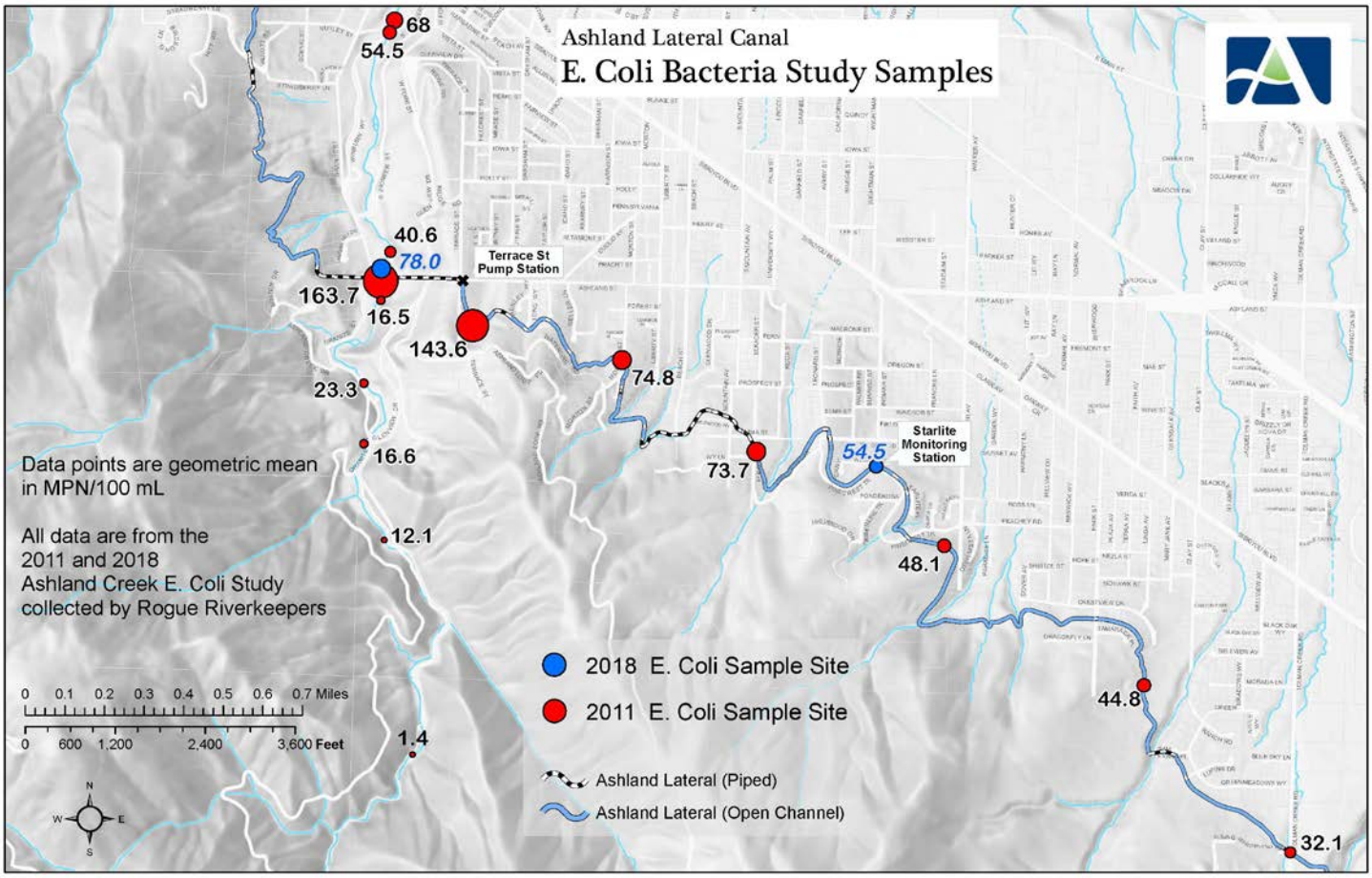
- The E. coli data being collected is not accurate and the original study is not credible.
- The levels of E. coli bacteria are not as high as they were in 2011.
- E. coli in the canal is not the cause of the poor water quality in Ashland Creek during the summer months.
- There is approximately 18 miles of canal before it reaches Ashland; this must be the cause of the E. coli in the canal.
- The TID is not piping their section, so how would piping our section make a difference?
- The pig farm will increase E. coli levels.
- If we cannot clean up the E. coli 100% then why worry about our section?

Resolution: Piping this section of canal will help ensure that the City is doing its part to protect our waterways and our secondary drinking water source from contamination. While the City can't control everything that enters Ashland Creek, it's obvious that minimizing the E. coli that is contributed by the Canal will go a long way towards making Ashland Creek safe for the public. Improving water quality in Ashland Creek should be a significant component of this project and a benefit to the community. Studies have shown that the majority of contamination in the canal happens within City limits, not the upstream areas everyone is concerned about. Not piping the canal does little to address the water quality of the canal or Ashland Creek. It seems many people still don't understand that the canal is a tributary to Ashland Creek and that any contaminates entering the canal end up in Ashland Creek, the jewel of Lithia Park. Posting Ashland creek as not safe to wade should be embarrassing to a City that prides itself on the natural environment and the magnificent Lithia Park. Eliminating natural contaminates and E.coli from a 2-mile section should be the beginning of the City's efforts to improving Ashland Creek for all residents and tourists.

Future Implications: We cannot control what happens upstream from our system; however, by completing this project, it could help to encourage piping along more sections of the open canal upstream from the City of Ashland as well as other open channel irrigation conveyance ditches throughout the valley.

Sources:
https://secure.sos.state.or.us/oard/viewSingleRule.action;JSESSIONID_OARD=SHyPKO2zsjPvQukHQV1H3im1s1jFT_sskem_RQXmgCD4fq0jAiSF!443389131?ruleVrsnRsn=68695

http://www.ashland.or.us/Files/Ashland_Creek_E._coli_Bacteria_Study.pdfhttps://secure.sos.state.or.us/oard/viewSingleRule.action;JSESSIONID_OARD=hLyxL27H_KJTgvsvIsgNenundKoLVMPNPcb9vEoaUvburi3842cp!-924259904?ruleVrsnRsn=68695



Starlite Place
Monitoring Station

Ashland Creek
Ashland Canal Outfall

CITY OF ASHLAND

Ashland Canal Issue Paper #3 – Survey Summary

Date: July 15, 2019

Issue: Survey Summary

After the City Council study session held on April 1, 2019, staff was asked to create a survey about the Ashland Canal piping project in order to gain a better understanding of the community's perception about the project and what our residents value most about the canal system. The survey was sent out in a press release and was open for two weeks beginning June 4th and ending June 18th. There were 88 visitors and 54 responses to the survey questions. Below is a brief summary of the results.

- When asked about water related priorities within our community, 22.6% of respondents said that ensuring an adequate and sustainable drinking water supply was their highest priority, second was upgrading aging water infrastructure at 19.8%, third was preparing for the effects of climate change at 13.6%. These were followed by 13.5% for ensuring clean water for Ashland Creek and other Ashland streams, 13.5% keeping the aesthetics of flowing water in the Ashland Canal during summer and 10.1% for providing easy trail access near water for recreation.
- When asked about what people most value about the Ashland Canal, 24.7% responded that they value that the Canal can be used as a back-up drinking water supply, 22.3% responded that they value that the Ashland Canal provides irrigation water to residents in the community and 19.1% value the walking trail along the Ashland Canal. These were followed by 11.1% for the trees and vegetation along the canal and 4.4% value viewing wildlife that are attracted to the canal.
- The majority of respondents indicated that they do not use water from the Ashland Canal for irrigation at 77.8%.
- A majority of the respondents indicate that they use the trail along the Ashland Canal to walk, run, exercise their dogs, or ride their bikes. 10 respondents said they do not use the trail along this section of the Ashland Canal.
- Only 2 respondents live along the canal.
- Most people use the canal during the spring, summer and fall with a slightly lower rate of use in the winter months. 31.5% use the trail 5 or more times a month, followed by 25.9% who use it 1-2 times a month and 16.7% who use the trail 3-4 times a month.
- When asked what the City should do about the loss of 62 million gallons per summer as well as the E. coli entering the canal, out of 54 responses, 23 people indicated that it should be patched up in phases over the next five years and then repeated, 19 people said the canal should be fully piped, and 13 people thought that the entire canal should be relined with concrete. There were also several "other" comments.

- When asked if the City were to receive grants to cover a large portion of costs would it change your preference on the previous question, 10 people indicated that they would consider changing their minds to piping the canal but would like more information.

- Most are **not** concerned about negative impacts to property values, construction impacts to homes along the canal, stormwater runoff, or irrigation water availability.

- More are concerned about trail impacts during construction, trail impacts long-term, tree loss and project costs.

- Wildlife impacts were equal between not concerned and very concerned.

The entire survey and summary are attached.

CITY OF ASHLAND

Ashland Canal Issue Paper #4 - Trees

Date: July 15, 2019

Issue: Piping the Canal Will Result in Tree Loss

Facts:
1. The Ashland Canal flows during irrigation season from mid-April to September.
2. The use of the water is for domestic, municipal and irrigation uses.
3. The Canal is losing an estimated 62 million gallons annually to seepage and evaporation.
4. The Canal primarily lies within heavily forested residential areas and tree root intrusion has caused significant damage to the existing Canal liner.
5. Some trees are in direct conflict with proposed construction processes.
6. The City has utility easements in place that allow for tree removal when necessary.
7. Not all trees within the Canal easement must be removed.
8. All piping alternatives are designed to provide a water-tight structure. Impacts to trees from lack of seepage are the same with all piping alternatives.

The City has a long history of proper environmental forest management with the help of the Forest Lands Commission and the Ashland Forest Resiliency Stewardship Project (AFRSP). Many of the same management principles from the AFRSP can be applied to the vegetation surrounding the Canal. The City values trees and the many benefits they provide our community, however the City must also act as land stewards for the greater community benefit. The City contracted with Siskiyou BioSurvey to better understand the potential impacts of the piping project. This report is available at: http://www.ashland.or.us/Files/Final_Ecological_Report.pdf

Adkins Consulting Engineering identified 278 trees within the Canal maintenance easement. Of these trees, staff and Siskiyou BioSurvey identified approximately 100 trees that will most likely require removal regardless of which piping alternative is selected. The 100 trees identified are directly impacting the Canal liner and/or are in direct conflict with the construction processes. The trees will be more specifically identified during final design and will be marked prior to construction. Staff is recommending that the City evaluate the remaining trees within the easement following the best practices of forest management and the AFRSP. Regardless of which piping alternative is selected, staff intends to collaborate with land owners and local experts in the final engineering phase of this project to evaluate the remaining trees following the recommendations in the report by Siskiyou BioSurvey.

It is estimated that “tree roots from the adjacent forest have completely permeated the moist zone surrounding the canal” (Siskiyou BioSurvey pg. 19). This a concern regarding tree health after construction, regardless of which piping alternative is selected as all alternatives are meant to provide a water-tight structure. Many of these trees may not survive significant root disturbance and should be evaluated for removal.

Some trees surrounding the Canal are likely benefitting from the Canal seepage and have become un-naturally large in size, larger than the surrounding ecosystem would naturally support. These trees may not survive after construction and should be evaluated closely. It is very difficult to determine how far upslope/downslope from the Canal that the seepage extends; "the water may quickly penetrate straight through the rooting zone, only providing summer water to trees that encircle the canal liner. The water may continue downward until it reaches a less porous layer of non-decomposed granite 20 feet deep and then follow that less permeable layer horizontally" (Siskiyou BioSurvey pg. 18). Regardless of which piping alternative is selected, Staff recommends that the City monitor the vegetation post-construction for impacts.

There are options available to the City and adjacent land owners to minimize tree removal. The City and/or land owners can consider irrigating adjacent vegetation. The City can choose to leave trees that are candidates for removal and monitor post-construction for health. The City and/or land owners can attempt to train trees over time to survive with less water. Siskiyou BioSurvey has many recommendations that should be implemented to minimize construction impacts to trees (Siskiyou BioSurvey pg. 17). However, due to the limited equipment access to the Canal, the City must be mindful of how we will be able to manage post-construction tree removal.

Resolution: It is estimated that approximately 100 trees will require removal regardless of which piping alternative is selected. Other trees within the Canal easement will be evaluated by professionals for removal following best management practices. The total number of trees for removal will be identified during the final engineering phase of this project. Regardless of which alternative is chosen, Staff will work closely with adjacent land owners and professionals to only remove the necessary trees.

Future Implications: Post-construction monitoring of tree health is recommended. The upslope/downslope tree impacts of Canal seepage is un-determined and may or may not contribute to additional tree mortality post-construction. Tree removal that is dependent on Canal seepage can shift the plant community to one that is more naturally sustainable.

CITY OF ASHLAND

Ashland Canal issue paper #5 - Trails

Date: July 15, 2019

Issue: Piping the Canal Will Have Trail Use Impacts

Facts:

1. The City's canal section within the project area is approximately 2 miles in length beginning near Starlite Terrace and ending at Terrace Street Pump Station.
2. The canal primarily lies within heavily forested residential neighborhoods.
3. The Parks Department works with homeowners living along the canal to establish trail easements for public access. These easements exist in perpetuity and cannot be blocked or closed off by the homeowner/property owners.
4. During construction, sections of the public access trail would be temporarily closed.

The City's section of the canal is located primarily within easements on private property. These easements allow for the construction, maintenance and operation of the canal across private property, and only grants the City access to the canal.

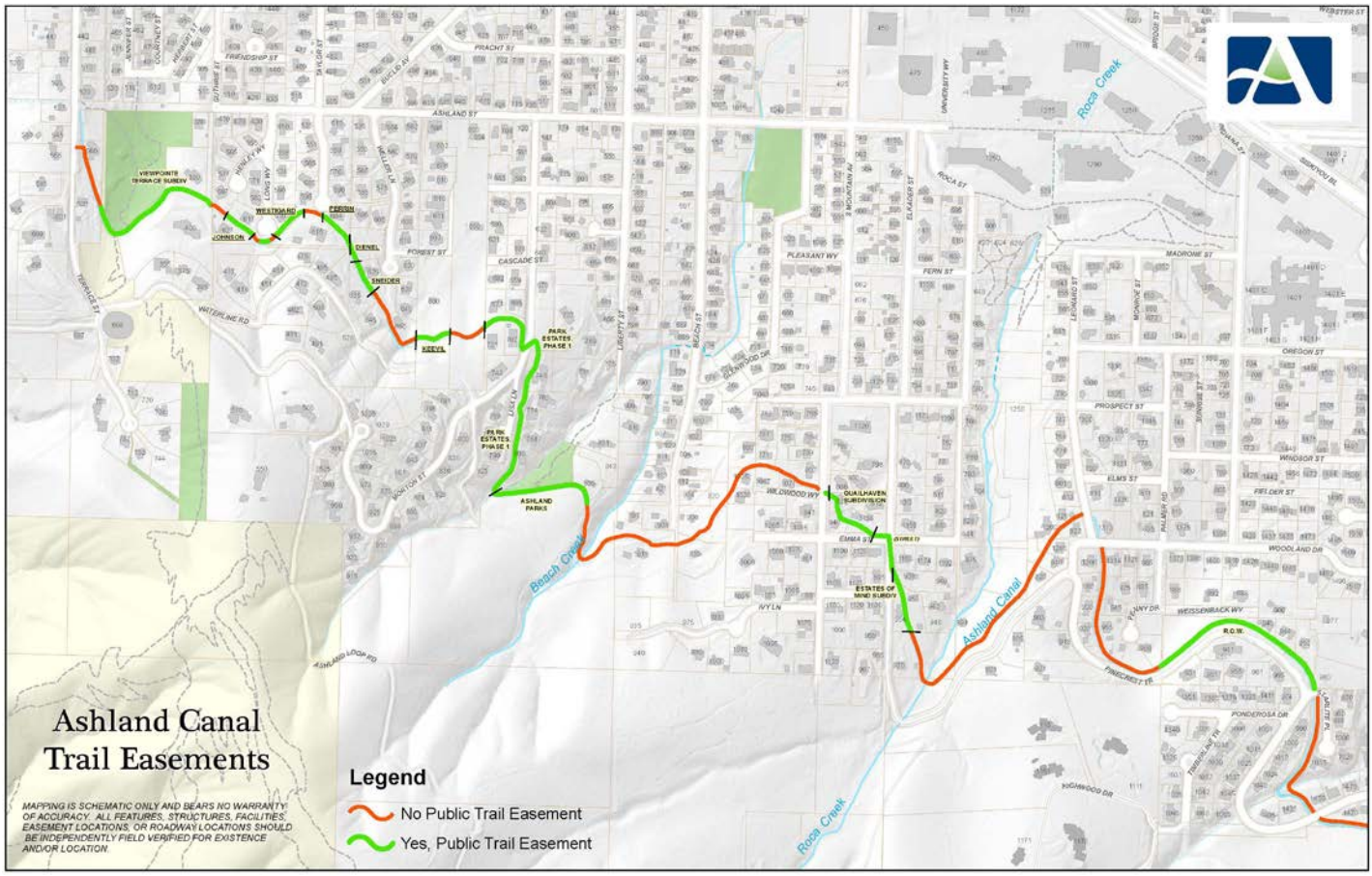
In addition to the City's public utility easement, portions of the Ashland Canal also have recreational trail easements granted to the Ashland Parks and Recreation Department by property owners. However, there are still large sections of the Canal without trail easements. There are approximately 30 properties representing 56% of the total canal length in the project section that have trail easements in place now (see the trail easement map below). The Parks Department works with homeowners along the canal to establish trail easements for public access as part of their Trails Master Plan goals. Additional public trail easements must be negotiated between the Parks Department and individual property owners.

There are three primary concerns about how the piping project will impact the trail system along this section of the Ashland Canal. The first is what the trail will look like after the project is complete. There are misconceptions that the trail will be turned into a "20-foot logging road" denuded of all

vegetation – that is simply not the case; it will remain a trail. The second concern is that homeowners will further "block" or close off sections of the trail that are currently open, such as what happens along portions of the TID owned section of canal. This cannot happen in the City's two-mile section as these homeowners have entered into an agreement with the Parks Department to grant a trail easement in perpetuity. And lastly, there are a few concerns about trail access during construction. Since the piping project will take place in sections, only the areas under construction will be temporarily closed and will reopen after the work in that area is complete.

Resolution: Use trail softening techniques as shown in the picture above to help the canal access road blend with the existing landscape. Communicate with the community during construction about when and where closures will be and direct trail users to use alternate routes. Ensure any temporary construction impacts to homeowners landscaping are alleviated.

Future Implications: While the Public Works Department has not specifically asked land owners to grant additional trail access, we believe there are some opportunities for the Parks Department and have worked in concert through this process. The canal trail is listed as a priority in the Ashland Parks and Recreation Department's planning documents. Additional trail easements need to be negotiated with the property owners that do not have specific public access easements.



CITY OF ASHLAND

Ashland Canal Issue Paper #6 – Aesthetics

Date: July 15, 2019

Issue: Piping the Canal Eliminates the "Aesthetic Value" of the Water

Facts:

1. The Ashland Canal flows during irrigation season from mid-April to September (staff estimates 169 days as the average irrigation season).
2. The use of the water is for domestic, municipal and irrigation use.
3. The water comes from the Talent Irrigation District stored in both Hyatt Reservoir and Howard Prairie Reservoir delivered through the Howard Prairie Canal and Emigrant Creek.
4. The Ashland Canal moves approximately 2 to 2.3 million gallons of water a day during the irrigation season.
5. There are 86 property owners along this 2-mile stretch of the Ashland Canal.
6. Many community members use the trail alongside the canal because of the water.
7. Ashland has several options for water; Ashland Creek (Lithia Park, Bluebird Park and other areas), Bear Creek, Roca Creek to name a few.

Aesthetic Value of Water: There are very few people who would not acknowledge that water plays an important role in our appreciation of nature. Water is calming and tranquil and provides a special quality of peacefulness.

To place an actual economic "value" on the affects of the canal water is difficult. The "aesthetic value" cannot be determined by differences in market prices alone. Based upon research, economically valid estimates must be determined by methods that estimate a willingness to pay for aesthetic value. For most goods, a market readily exists where equilibrium prices signal the marginal value of the resource, e.g., farm land, high value commercial properties. However, for public goods such as the aesthetic value of lakes and rivers, there is no market transaction to measure value. However, economists can observe the premium that households are willing to pay for a home near a water resource with high aesthetic quality. This premium is the inferred value of aesthetic quality. This value would only apply to those homes directly affected by the canal in this case.

Resolution: None – the aesthetic value placed on water in the Ashland Canal is entirely subject to one's individual aesthetic scale. The water is available for 169 days or about half the year.

Future Implications: If the canal is piped, there would be 86 direct users that would no longer see the water as well as trail users that claim to use the trail only because of the water feature. It is expected the trail would continue to have significant use even without the direct "benefit" of the visibility of water as there are many other trails used that have no water feature. There are many other year-around water features available in Ashland to accommodate the "need" and desire for water. The aesthetic value of the canal to its users should be balanced with such community-wide values as long-term cost savings, reduced potential liability, and water conservation.

CITY OF ASHLAND

Ashland Canal Issue Paper #7 – Property Values

Date: July 15, 2019

Issue: Piping the Canal May Decrease Property Values

Facts:

1. The canal primarily lies within heavily forested residential neighborhoods.
2. Approximately 100 trees are proposed to be removed from the maintenance easement along the canal for construction activities.
3. Piping this section of canal will place currently visible water into a pipe underground.
4. The Ashland Canal flows during irrigation season from mid-April to September.
5. Construction would be done in phases over the course of two winter seasons.

Staff has heard homeowner concerns that the canal piping project will have negative impacts to property values related to the removal of trees along the canal easement, loss of open canal with flowing water and construction activity. Staff spoke with realtors in the area and researched a variety of reputable sources to understand more about any potential impacts to property values. In general, the consensus is that there are a number of factors that determine the value of a property; each site and situation will be different. As it relates to the characteristics described above, the value of these features are commonly subjective and whether it increases or decreases the value of a property is typically "in the eye of the beholder."

Trees:

Trees provide many benefits and the city is dedicated to preserving trees whenever possible. The number of trees proposed to be removed are spaced out over this two-mile section of canal and many are growing directly into the canal and canal embankments.

To place an actual economic "value" on each tree is not as easy as one might think. There are a number of factors that determine the value of a tree and whether it influences property values, these include, type of tree, size of tree, deciduous or conifer, proximity to a home and personal preference.

According to the National Tree Benefit Calculator, a tree's Leaf Surface Area (LSA) can be used to determine increases in property values. This means that a home with more trees (and more LSA) tends to have a higher value than one with fewer trees (and lower LSA). For example, a 24" Ponderosa Pine located near a home adds approximately $123 to the property value. Farther from the house, in an open area the value of that tree begins to decrease and the same 24" Ponderosa Pine adds $49 to the overall property value. Additionally, the type of tree on the property can affect the value. For instance, a 24" Douglas Fir located near a home adds approximately $87 to the property value, and farther from the house only $34 to the overall property value.

In the case of the trees located along the canal, some homes are closer to the canal than others meaning that the trees are also located closer to the home. However, many of the trees in question are located farther away from homes or are located on vacant lots so the LSA would not apply.

Flowing Water:

There are very few who would not acknowledge that water plays an important role in our appreciation of nature. Water is calming and tranquil and provides a special quality of peacefulness. If this were the only source of water in the area, it would be a significant loss.

To place an actual economic "value" on this beauty is a little more difficult. The aesthetic value cannot be determined by differences in market prices. Based upon research, economically valid estimates must be determined by methods that estimate a willingness to pay for aesthetic value. For most goods, a market readily exists where equilibrium prices signal the marginal value of the resource, e.g., farm land. However, for public goods such as the aesthetic value of lakes and rivers, there is no market transaction to measure value. However, economists can observe the premium that households are willing to pay for a home near a water resource with high aesthetic quality. This premium is the inferred value of aesthetic quality. This would only apply to those homes directly affected by the canal.

Construction:

Construction activity is temporary and will not affect property values long-term once construction is complete. Homes along the canal that are on the market during construction may see a decrease in interest; however, if the potential new home buyer was informed that the project would be short-term then it may not be an issue.

Resolution: None – Removing trees along the canal will minimally affect property values. The aesthetic value placed on water in Ashland Canal is subjective. Construction activity is temporary and will not affect property values long-term once construction is complete.

Future Implications: Staff will continue to work with neighbors to assess the health of the trees on their property and within the maintenance easement. The homeowner, seller, buyer, tax assessor and lender can observe the premium that households are willing to pay for a home near a water resource with high aesthetic quality. Construction activity is temporary and will not affect property values long-term. The effects of possible canal piping on the property values of adjacent landowners should be balanced with the community-wide benefits of the piping.

Sources:

1. http://www.treebenefits.com/calculator/index.cfm
2. https://homeguides.sfgate.com/definition-property-value-6890.html
3. https://www.forbes.com/sites/trulia/2016/09/27/8-surprising-factors-that-can-affect-your-homes-value/#650c3bb46b6a

CITY OF ASHLAND

Ashland Canal Issue Paper #8 – Just Patch

Date: July 15, 2019

Issue: Why Not Just Patch the Existing Concrete Canal Liner

Facts:

1. The Ashland Canal flows during irrigation season from mid-April to September.
2. The current open canal section varies with bottom widths between 3½ feet to 7 feet in width and depths between 1½ to 2½ feet.
3. The canal is primarily concrete lined and the condition ranges from 27% "good" to 23% "poor" with an average rating of "fair" at 50%.
4. Concrete liners without membranes will continue to seep.
5. Concrete and shotcrete both have a life of up to 50 years if adequately maintained.
6. Patching over time reduces the volume of water in the canal section.

Current Concrete Liner Condition

Historically, irrigation canals have been either earthen or concrete lined. Earthen canals, while relatively inexpensive to construct, lose 50 percent or more of the water they transport to seepage. They also are prone to erosion, vegetative growth and other problems that greatly

reduce their effectiveness over time. Concrete canals solve the problems of erosion and vegetative growth but are costlier to construct and prone to cracking over time, resulting in significant seepage losses. A concrete lined canal without a geomembrane or urethane liner may still lose up to 30 percent of water to seepage. As such, just patching the canal will not effectively reduce seepage which is one of the primary drivers of the Ashland Canal project.

The Bureau of Reclamation has an excellent guide for managing canals in the west; "Canal Operation and Maintenance: Concrete Lining and Structures" November 2017. Concrete failures occur from several different reasons including tree roots, cavitation for animal burrows, freeze/thaw cycles, underground water pockets, damage from equipment, etc. In many cases, the concrete should be replaced, not merely repaired, to receive the maximum benefits. New concrete with appropriate repairs can have a life of 50 years.

Resolution:
Using shotcrete or gunite techniques is a quick and relatively inexpensive process to encapsulate and cover up existing concrete flaws. However, if the underlying issue that caused the damage is not repaired, then the shotcrete will fail along the same lines and for the same concerns. Maintenance costs must include shotcrete repairs.

Future Implications:
Although shotcrete is a form of concrete and its life expectancy may reach 40 years, it requires additional maintenance and repairs to maintain that life. Shotcrete is placed with a thickness of 2-3 inches and will over time reduce the area of the canal. A full 3-inch shotcrete treatment on a simple 5-foot bottom with 1-foot slopes and 2 feet of water will lose almost 20% in cross-sectional area and reduce the amount of flow commensurately. As the flow reduces, so does the ability to use the maximum amount of water for general City use (pumping to the water treatment plant) and ensuring all irrigation users are able to draw water.

CITY OF ASHLAND

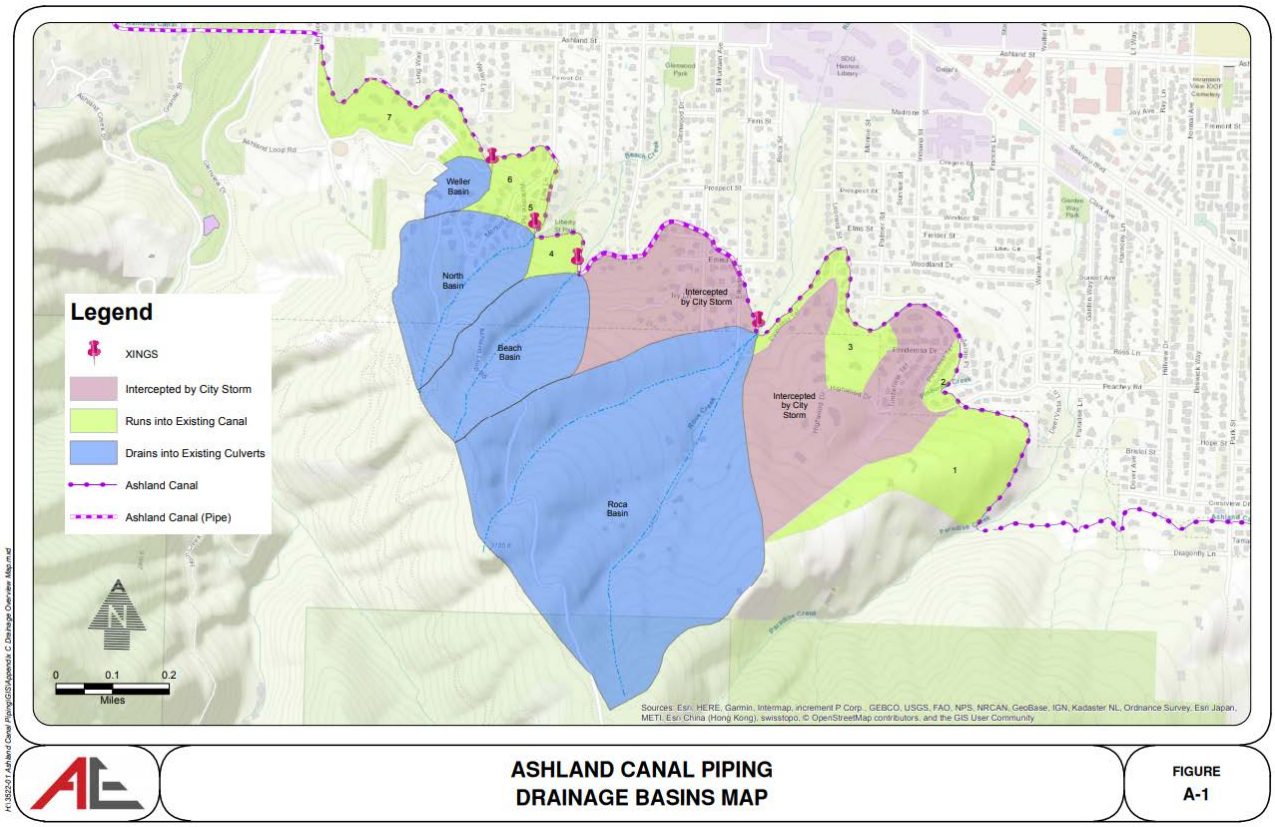
Ashland Canal Issue Paper #9 - Drainage

Date: July 15, 2019

Issue: The Canal Piping Project Does Not Address Drainage Concerns

Facts:

1. The Ashland Canal flows during irrigation season from mid-April to September
2. The current canal is open and subject to overland flows both during irrigation season and post season (late fall, winter and early spring).
3. There are four primary drainage basins (in blue on the map below); Weller Crossing Basin, North Basin, Beach Creek Basin and Roca Creek Basin.
4. The North Basin is the only basin that currently flows into the canal and appears to have a plugged culvert that will be assessed.
5. Weller Crossing Basin, Beach Creek Basin and Roca Creek Basin all collect their sub-basing flows into culverts that run below the canal.
6. There are seven minor surface flow areas (light green) that have direct overland flows into the canal; basin 1 is effectively upstream of the project but has the potential to flow into the canal.
7. There are two storm drain pipes (one clearly City and one not defined on City mapping) and several individual household yard/roof drains that flow into the canal.
8. The pink shaded areas drain to the City storm drain system.



ASHLAND CANAL PIPING
DRAINAGE BASINS MAP

FIGURE A-1

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Resolution: The Canal Piping Project has fully addressed drainage concerns. Although it has been common practice to co-mingle storm and irrigation flows, City staff has reiterated the desire to remove all storm flows from the canal. Once storm flows are released into the canal they arbitrarily introduce non-characteristic flows to an area that does not expect such flows. Drainage law anticipates receiving upstream flows but not necessarily cross stream flows. The overland flows in the seven smaller basins will naturally flow beyond the canal should it be piped and can be directed into City storm drains.

Basin 1 (in light green) is effectively upstream of the piping project yet has been included as traditionally overland flows are released into the canal. The pipe was sized to accommodate a maximum design flow of 7.2 cubic feet per second (cfs) with an additional 6 inches of freeboard (equating to a capacity of 7.9 cfs). TID delivers flows at just 6 cfs due to upstream constraints. Storm flows (50-year storm) have been calculated at 0.86 cfs that could have the potential to flow into the canal. The result is that storm flows into the canal are minimal.

Future Implications: Staff will continue to evaluate the North Basin as the Storm Water Master Plan is currently in development and will ensure there are capital projects identified to improve this North Basin with the larger Beach Creek Basin.

CITY OF ASHLAND

Ashland Canal Issue Paper #10 – Construction

Date: July 15, 2019

Issue: Construction Will Have Negative Impacts to Adjacent Property Owners.

Facts:

1. Canal construction will have unavoidable impacts to the community.
2. The Canal primarily lies within heavily forested residential areas.
3. The City has easements allowing the construction and maintenance of the Canal.
4. Regardless of which piping alternative is selected, construction will take place within existing easements on private property.
5. The majority of the construction will occur in the off-season when the Canal is empty (October – April), and is expected to last two winter periods.
6. Construction will not take place along the entire length of the project simultaneously, we expect the construction process to be very linear.

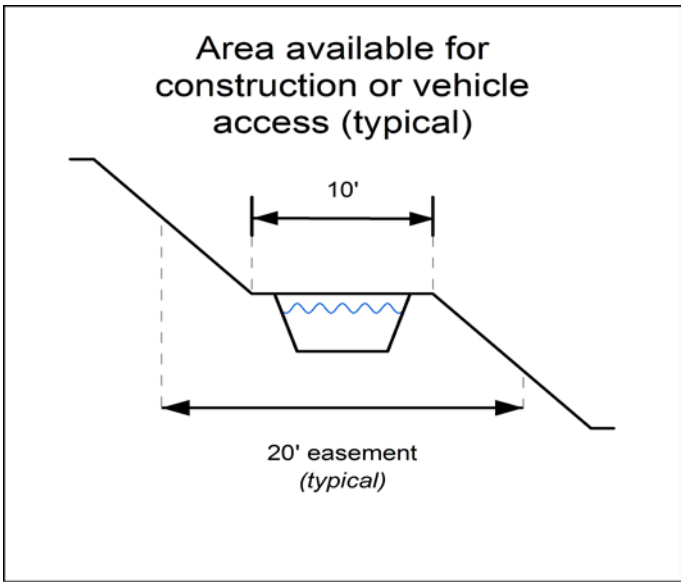
Staff has heard community concerns that the Canal construction processes may have negative impacts to adjacent property owners. The City is very receptive to these concerns and the Project Team is dedicated to working with our neighbor's and minimizing impacts to property owners as much as possible. Construction (while temporary) will have impacts to neighbors. Some unavoidable impacts include; noise, dust, congestion, temporary road closures/detours and people working within easements. A brief description of the construction process is included in the Preliminary Engineering Report (pg. 8-1)
http://www.ashland.or.us/Files/%28Final%29_Preliminary_Engineering_Report.pdf

Canal construction will be challenging for several reasons; limited access, proximity to private property, limited easement width, topography, vehicle/pedestrian access, winter weather and environmental concerns. Several steps will be taken to minimize these challenges, including;

- Open and frequent communication and coordination with the public.
- Pre-negotiated agreements regarding private structures and/or construction access.
- Clear and concise plans and specifications setting requirements for Contractors.
- Maintaining vehicle access to properties for residents and emergency vehicles.
- Having a dedicated, full-time Project Inspector/City Representative to communicate directly with neighbor's and to monitor the Contractors.
- Utilize the methods suggested by Siskiyou BioSurvey (pg. 17) to minimize environmental damage; http://www.ashland.or.us/Files/Final_Ecological_Report.pdf
- Regular coordination with the Parks Department and other City Departments regarding trail, road and utility impacts.
- Limit the days and hours of construction.

Equipment used for construction will not be the large bull-dozers or excavators you find in a road project. Our easement is generally 20 feet wide and much of it is located in areas with very steep slopes that simply will not support large equipment. Additionally, only about half of that

area is accessible for construction equipment (see drawing below). We anticipate the equipment used for construction will be similar in size to the equipment a person could rent from your local rental center.



Communication with our neighbor's and the community is a priority for the City and is critical for a successful project. A public communication strategy will be developed and will include;

- Full-time onsite project inspector/City representative for direct communication.
- Weekly project/schedule updates sent out via email; ashlandcanal@ashland.or.us.
- Regular updates to the project website; www.ashland.or.us/ashlandcanal.
- Press releases to local media sources as necessary.

Resolution: Construction, while temporary will still have unavoidable impacts to Canal neighbors. The project team will maintain frequent and open communication with neighbor's and the community. The project team is dedicated to minimizing impacts to the community and the environment by using best management practices.

Future Implications: If piped, the top surface will be relatively flat and perform very well as a hiking trail in areas with designated trail access. Modifications to private property or structures may be necessary within the Canal easement. These modifications will be pre-negotiated and documented in an agreement.

CITY OF ASHLAND

Ashland Canal Issue Paper #11 - Wildlife

Date: July 15, 2019

Issue: Piping the Canal May Harm Wildlife

Facts:

1. The Ashland Canal flows during irrigation season from mid-April to September.
2. The use of the water is for domestic, municipal and irrigation purposes.
3. The Canal primarily lies within heavily forested residential areas.
4. The Canal is not the only source of water for local wildlife.
5. Wildlife are often seen along the Ashland Canal.

Staff has heard community concerns that the Canal piping project will have negative impacts to wildlife. The City values wildlife and the many benefits they provide our community, however the City must also act as land stewards for the greater community benefit. The City contracted with Siskiyou BioSurvey (SBS) to better understand the potential impacts of the piping project to wildlife. In addition, staff received a memo from the Biology Department at Southern Oregon University (SOU) regarding impacts to wildlife. These documents are found at;
http://www.ashland.or.us/Files/Final_Ecological_Report.pdf
http://www.ashland.or.us/Files/Canal_piping_memo_Michael_Parker_SOU.pdf

Staff was initially concerned that the Canal may contain important wildlife habitat. However, after reviewing the Canal site conditions SBS and SOU both determined; "that the canal, which is largely devoid of riparian vegetation, does not represent important wildlife habitat" (Michael Parker, PhD). The Canal is located within heavily forested residential areas on the edge of town. There is much more suitable habitat (non-residential) upslope of the Canal and this habitat encompasses thousands of acres with minimal human intrusion; "The irrigation canal corridor provides limited beneficial use to wildlife beyond what the adjacent non-riparian (i.e. non-canal) habitat provides." (SBS pg. 13).

There are concerns that piping the Canal will eliminate a water source for local wildlife. SBS concluded that; "Large mammals and forest birds living in the areas adjacent to the canal use the canal opportunistically as a spring-summer water source. Since the canal doesn't run water from October through the end of March, the loss of the open water canal is expected to have a minimal effect on wildlife beyond a spring-summer water source." (SBS pg. 15).

Staff was also concerned that the Canal may be classified as a riparian or wetland area by regulatory agencies. However, our Consultants have concluded that the canal does not function as a riparian area and is lacking many riparian functions and vegetation; "In addition, the canal does not represent a resource for native aquatic species, but instead harbors a number of undesirable non-native species, like the invasive ringed crayfish, Himalayan blackberry and English ivy." (Michael Parker, PhD). A wetland determination was completed by Anderson Perry and Associates and found no wetlands present using the procedures outlined in the US

Army Corps of Engineers Wetlands Delineation Manual. This information is available in the preliminary engineering report, Appendix E found at:
http://www.ashland.or.us/Files/%28Final%29_Preliminary_Engineering_Report.pdf

During the final design phase of the project additional review of wildlife and wetland impacts will be completed per the Environmental Review requirements of our loan with Oregon DEQ.

Resolution: The Ashland Canal provides an opportunistic summer water source for wildlife but does not provide important wildlife habitat for terrestrial or aquatic species. Wildlife has access to alternate near-by water sources including; Roca, Beach, Clay, Tolman and Ashland Creeks. The Canal does not function as a riparian area and is not classified as wetlands. There is much more suitable wildlife habitat upslope of the Canal, devoid of houses and human intrusion.

Future Implications: Wildlife using the Canal as a water source will find water from other sources. Piping the canal (specifically the loss of seepage) will reduce the amount of invasive species present including; ringed crayfish, Himalayan blackberry and English ivy.

CITY OF ASHLAND

Ashland Canal Issue Paper #12 – Water Rights

Date: July 15, 2019

Issue: Water Rights Summary

There have been several questions regarding water rights.
The attached technical memorandum explains the City's position with regard to water rights and the potential risk from Klamath adjudication issues.

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Technical Memorandum

To: Paula Brown, City of Ashland – Public Works Director
From: Daniel Scalas, PE & CWRE
Date: June 28, 2019
Re: Ashland Canal Piping Project Cursory Review of Water Rights

Executive Summary

The purpose of this memorandum is to provide a cursory review of the water rights that supply the Ashland Canal for the City of Ashland, and potential impacts that senior water right holders may have on the City's water supply to the Ashland Canal. Only a cursory review was performed, therefore only a relatively low certainty of outcome should be expected from this review. If the City wishes a high level of certainty to the information contain herein, then a more in depth analysis should be completed.

The Ashland Canal receives water from two different water rights in the name of Talent Irrigation District and the Bureau of Reclamation, both delivered to the City by Talent Irrigation District. Based on discussions with Talent Irrigation District Certificate 79212 for domestic use up to 769 acre-feet is delivered first to the City, followed by Certificate 94272 for municipal use up to 600 acre-feet. Certificate 79212 has the more senior priority date of 1920 for Domestic use. It is highly unlikely that Certificate 79212 will be impacted by water right regulation, because it has a very early priority date in the Jenny Creek Basin and the storage right can divert water year round. Certificate 94272 has a fairly recent priority date of 1978 for municipal use and there are numerous water rights with more senior priority dates in the Jenny Creek Basin. Although, it is still unlikely that these senior water rights will impact Certificated 94272, because Certificate 94272 can use water that has been stored year round. Furthermore, of the senior water rights that have the potential to impact Certificate 94272, the diversion amounts are small enough that the potential impact becomes almost a nonexistent concern. Therefore, it is our opinion that regulation of the Ashland Canal water rights from the Jenny Creek Basin is unlikely. The following evaluation presents our findings.

Current Ashland Canal Water Rights

Technical Memorandum 12 produced by GSI Water Solutions, Inc. in September of 2010 and *Technical Memorandum 10* Produced by Carollo in October of 2010 are a good starting point to review all water rights that supply the City. Item 3B from TM-12 and Section 2 from TM-10 discus the two water supplies for the Ashland Canal that are the subject of this memo. These water supplies being 769 acre-feet (Certificate 79212) of stored water for domestic purposes from Emigrant Reservoir, and 600 acre-feet (Certificate 94272) from Howard Prairie Reservoir for municipal purposes.

When Oregon water users have water rights that utilize stored water, as is the case with the Ashland Canal, two different water rights are needed; a water right to store the water and a water right to use the water . Both water rights must be researched in order to fully understand the limitations of the rights. The following describes the research conducted for the two water rights that supply water to the Ashland Canal.

> ***Certificate 79212:*** Certificate 79212 has a priority date of January 27, 1920, appropriated from storage certificate 79214 with sources including Keene Creek and Emigrant Creek with the ability to store water year round from these sources. Keene Creek is tributary to Jenny Creek located in the Klamath River Basin and Emigrant Creek is tributary to Bear Creek located in the Rogue River Basin. The Keene Creek water source should be noted here, as it is tributary to a basin (Klamath Basin) that is currently proceeding through the Adjudication process, which prompted the

development of this memo. This water right is held in the name of Talent Irrigation District with the provision of Domestic water use for the City of Ashland.

Certificate 94272: Certificate 94272 has a priority date of August 24, 1978, appropriated from storage certificate 80461 with sources South Fork Little Butte Creek, Conde Creek, Dead Indian Creek, Daley Creek, Beaver Dam Creek, Pole Bridge Creek, Deadwood Creek, and Grizzly Creek with the ability to store water year round. All sources are tributary to the Rogue River Basin with the exception of Grizzly Creek which is tributary to the Klamath River Basin. Again, it should be noted that only Grizzly Creek is tributary to the Klamath River Basin. This water right is held in the name of the Bureau of Reclamation with the provision of Municipal use for the City of Ashland.

Potential Impact of Senior Water Right Holders

This section summarizes the potential impact that senior water right holders may have on the water rights that service the Ashland Canal. Oregon State water law gives priority to those water right holders with the most senior water rights (oldest priority date). Therefore, only those water rights with a priority date older than the two aforementioned City water rights have the potential to impact the Ashland Canal water source. It's also important to note that the Ashland Canal water rights are sourced from storage water rights, not live stream flows. This is important, because the Ashland Canal water source is stored year round, then released during irrigation season, not live flow. Whereas live flow water rights can only be used during the season of use when the water is available.

Certificate 79212: In regards to Certificate 79212, no other storage water right in the Jenny Creek basin has an earlier priority date than Certificate 79212. One stored water Klamath Adjudication Claim (KA 218) for power development, owned by PacifiCorp has an earlier priority date located in the Jenny Creek Basin, but it is located on a tributary to Jenny Creek, therefore this water right will not Impact Certificate 79212.

Since there are no other storage rights that could affect Certificate 79212, live flows become the next level of concern. There are ten live flow water rights that have priority dates earlier than the City's portion of Certificate 79212, three of which are Klamath Adjudicated Claims. Seven of these water rights have a season of use that aligns with the irrigation season, starting in April or May of each year and extending to October or November of the same year. Six of these rights are also owned by the Bureau of Reclamation for other portions of the live flows for the Rogue Project as delivered by Talent Irrigation District, three of which include a season of use outside irrigation season. In summary, there are five water rights not owned by the Bureau of Reclamation with a season of use that aligns with the irrigation season, although each of these rights are located either on a tributary to Jenny Creek or upstream of Emigrant Reservoir and therefore cannot regulate Certificate 79212. It should also be noted that Certificate 79212 will store the majority of its water during the non-irrigation season when flows are highest in the creeks tributary to Emigrant Reservoir. Therefore, it is unlikely that Certificate 79212 will be regulated by a senior water right holder.

Certificate 94272: In regards to Certificate 94272, there are twenty two storage water rights with an earlier priority date than Certificate 94272 in the Jenny Creek Basin. Five of these rights are owned by the Bureau of Reclamation for portions of the Rogue Project and delivered by Talent Irrigation District. Fourteen of these twenty two rights are Bureau of Land Management and are used for small livestock ponds. Five of these twenty two rights are privately owned water rights with the ability to store water year round. Of the five privately owned water rights, three are located on tributaries to Jenny Creek and therefore do not impact Certificate 94272, the remaining two storage rights are upstream of the Howard Prairie Reservoir and therefore do not affect the priority date of Certificate

94272. Therefore, it is unlikely that Certificate 94272 will be regulated by a senior water rights holder of a storage right.

There are over one hundred live flow surface water rights that have a senior priority date to Certificate 94272. Out of the one hundred plus water rights, six have the potential to impact Certificate 94272. These Six water rights are located downstream of Certificate 94272 and have a priority date senior to Certificate 94272. Of these six, three water rights have a season of use consistent with the irrigation season, and therefore are unlikely to impact Certificate 94272. The remaining three have a year round season of use. These three water rights amount to 1.8 CFS. Therefore, there is a small chance that the three remaining water rights could impact Certificate 94272, but the cumulative flows are so minimal that it is unlikely that regulation will occur.

Summary

The Ashland Canal receives water from two different water rights in the name of Talent Irrigation District and the Bureau of Reclamation, both delivered to the City by Talent Irrigation District. Based on discussions with Talent Irrigation District Certificate 79212 for domestic use up to 769 acre-feet is delivered first to the City, followed by Certificate 94272 for municipal use up to 600 acre-feet. Certificate 79212 has the more senior priority date of 1920 for Domestic use. It is highly unlikely that Certificate 79212 will be impacted by water right regulation, because it has a very early priority date in the Jenny Creek Basin and the storage right can divert water year round. Certificate 94272 has a fairly recent priority date of 1978 for municipal use and there are numerous water rights with more senior priority dates in the Jenny Creek Basin. Although, there are only six water rights more senior to Certificate 94272 that have the potential to impact this certificate. Three of these water rights have a limited season of use and three have a year round season of use. The three water rights with a limited season of use are highly unlikely to impact Certificate 94272, because Certificate 94272 can store water year round. The remaining three water rights do have the potential to impact Certificate 94272 if flows became diminished enough that regulation would occur. Although, these rights only amount to 1.8 CFS, therefore, it is unlikely that Certificate 94272 will be impacted by significant water right regulation in the Jenny Creek Basin.

Please feel free to contact us if you have any questions, comments, or concerns about what has been presented in this memo.

Sincerely,

Daniel Scalas, PE & CWRE

REGISTERED PROFESSIONAL ENGINEER
88332PE
OREGON
DECEMBER 9, 2013
DANIEL B. SCALAS

EXPIRES 6/30/20

CITY OF ASHLAND

Ashland Canal Issue Paper #13 – "Option 5"

Date: July 15, 2019

Issue: Staff Response to "Option #5"

Council was provided the following through email:

<u>COMMUNITY ALTERNATIVES OPTION #5 RESIDENTS (KEEP THE CANAL GROUP):</u>

TO: Ashland City Council, Mayor and Public Works Department

FROM: Residents KEEP THE CANAL Committee

PROJECT GOALS

1. *Conserve water by repairing neglected concrete liner in the 7,160 feet of open canal.*
2. *Eliminate additional E.coli contamination from ground water with an erosion curb.*
3. *Ensure the efficient use of CIP funding and recognize canal as a current City asset.*
4. *Repair approach will cause the least amount of damage to trees and keep the aesthetic ambiance of the canal intact. (No trees were removed during April 2019 repair of 400 foot section of open canal.)*

Our Alternative #5

Repair the existing canal beginning with the sections rated "poor" using "shotcrete" or reinforced concrete. Entire canal could be repaired in one 4-month period or in phases. Include reinforcing steel in canal bottom where the concrete liner is significantly damaged or missing. Include PVC weep lines on the uphill side of the canal in order to allow for ground water seepage and install an erosion curb which will handle storm water run-off and significantly reduce additional E.coli contamination.

+ Leaving the canal open gives visibility to problems while a pipe keeps them hidden. A recent City inspection could not be completed because the remote camera could not navigate bends in the piped areas. Any repair required in currently piped sections must be assessed separately. Materials shotcrete (Polyurethane Fiber Shotcrete that is wildlife friendly)

Capital costs $843,310 based on the April 2019 repair of 400 feet of open canal. (cost $49,900) plus optional $100K curb cost

Annual O & M $12,500 (newly lined canal will have same O&M as a pipe) with pressure grout treatment at year 40 approx. cost $100,000

Life of Option 50-100 years (100 years with pressure grout treatment at year 40)

Tree Loss Local arborist to estimate removing "actively disruptive trees" at a minimal $$ expense

City Staff Response

1. One of the goals of "Option 5" is to *conserve water by repairing neglected concrete liner in the 7,160 feet of open canal.*

   This is true and in the short term, the shotcrete will have a positive impact and will reduce canal seepage. However, shotcrete is concrete and will crack especially when placed over degraded and cracked liner sections. In the opinion staff and the City's consultants, shotcrete is not a long-term solution.

   a. Yes, there are crystalline additives available to help make shotcrete essentially waterproof. [Hydrophilic crystalline concrete admixture to provide permanently waterproof concrete. The admixture reacts chemically with water to form insoluble microscopic crystals that fill capillary pores and self-seal micro-cracks in the concrete and block the pathways for water and waterborne contaminants. The admixture significantly lowers the permeability of concrete, adds durability and longevity to concrete by protecting against chemical attack and corrosion of reinforcing steel and is used as a more reliable and long-term waterproofing solution compared to surface applied waterproofing membranes and coatings.]

   b. Due to the composition and application of shotcrete it will never be as strong or provide the life expectancy as reinforced concrete. The shorter lifespan of shotcrete is evident in the community proposal as a pressure grout treatment was included to help maintain the shotcrete. In addition, necessary maintenance involving shotcrete means adding thickness to canal lining so as to reduce overall carrying capacity, thereby reducing the amount of water that can flow in the canal.

   c. Concrete includes roller-compacted concrete (typically used in paving), shotcrete, and grout-filled mattresses (typically used for erosion control protection). When new, concrete is initially quite watertight, although concrete does have a measurable permeability. However, within the first couple of years, concrete starts to develop cracks because of shrinkage during curing, and thermal movement (temperature differences between day and night and summer and winter). Concrete often continues to crack over time because of sub grade movement or vegetation intrusion. Concrete also degrades because of freezing and thawing. With an open canal that is drained over the winter, yet not completely devoid of water, the freeze/thaw cycle is exacerbated. All of these degradation modes lead to a predicted service life, with proper maintenance, of 40 to 60 years (USBR, "Canal-Lining Demonstration Project Year 10 Final Report" November 2002).

   d. Shotcrete thickness is difficult to control in the field, and holes routinely develop where original shotcrete thickness was less than 1 inch.

   e. Due to the multiple areas of failed and/or compromised subgrade and soils that are highly susceptible to erosion, shotcrete should not be considered as a permanent repair.

2. "Option 5" includes *reinforcing steel in the canal bottom where the concrete liner is significantly damaged or missing yet there are no details, quantities or costs associated with this application.*

   Staff agrees that should this option be considered, there are significant areas of pre-repair work required to remove and replace structurally deficient sections of existing canal liner. It does not appear that the community solution included the costs for these repairs.

3. "Option 5" proposes *to eliminate additional E.coli contamination from ground water with an erosion curb which will also handle storm water run-off and significantly reduce additional E.coli contamination.*

   A curb would have absolutely no impact on reducing groundwater E.coli contamination as proposed. An "erosion curb" on the down slope side to discourage contaminates from the trail entering the canal though rainwater wash and storm flows might be an interesting addition but would require detailed design so as to not topple and would require routine maintenance for full functionality after any soil build up on the curbing. None of these factors are included in the "Option 5" cost estimate of $100,000 for the curb.

   Staff agrees that storm and surface flows should be removed from the canal to help address water movements to other reaches and reduce water quality impacts.

4. "Option 5" includes *installing PVC weep lines on the uphill side of the canal to allow for ground water seepage.*

   Weep holes for retaining walls to allow the build up of ground water a means to escape and not build up pressure are typically included. Staff is concerned with this proposal as it appears to suggest adding groundwater to the irrigation canal which is not the function of the canal. It is more appropriate to allow ground water to drain naturally (and perhaps return waters to the surrounding trees and landscape). Ground water and stormwater is better diverted to the natural drainages whenever possible. Staff will evaluate the need for diversion of ground water around the pipe and/or concrete channel. This can only logically be done with the addition of drain rock in a new construction (piping or new concrete channel).

5. Residents and community members have routinely focused attention on the fact *that much of this area has extremely steep slopes on the uphill side, some near vertical*.

   Staff would agree that this poses a potential debris slide risk that could block and overflow the canal as targeted areas and could have downslope impacts to private property. This risk is eliminated by piping the canal.

6. "Option 5" is basing costs on the costs of the City's repair project, which cannot be extrapolated to the whole canal: the stated costs are --*Capital costs $843,310 based on the April 2019 repair of 400 feet of open canal which cost the City $49,900*.

   The City's short repair project was purposely kept under the threshold for BOLI wages to keep it within budget and to see the results of a shotcrete section. BOLI wages will have a significant impact to the total project. In addition, the section that was repaired in April was easily accessible which is not the norm and accessibility/staging challenges will drive up costs for the whole project.

   The April repair project did not include areas that will require reinforcement or removal of the existing concrete liner. For this quick repair, the contractor (Robinson Concrete Pumping) simply pumped shotcrete over top of the existing surface filling in the small holes that were found. The larger 2 miles of canal will include many areas where the lining is missing and in need of substantial repair before shotcrete should be applied which will also increase costs.

7. Residents and community members mention that the *City did not remove any trees with the 400-foot repair project.* This is true as the notification by the property owner of the leakage and the time until the canal was to be reactivated was very tight. Staff focused on just the

repair, not the underlying tree root damage. The plan is to go back this winter and remove the necessary trees within the project area, none of which are very large.

8. "Option 5" stated that *a recent City inspection* [CCTV] *could not be completed because the remote camera could not navigate bends in the piped areas.*

   The remote camera was not able to complete the camera images in the existing piped sections; but the real issue was the long distance between access points and the amount of cable the camera had to drag. These issues can easily be addressed in final design with appropriate access points. The City has significant experience in CCTV applications: City crews televise miles of piped sewer and storm drain lines each year. The cost and staff expertise is readily available and not "unknown" as some have suggested.

9. "Option 5" relies upon *the "expert" testimony of Robinson Concrete Pumping out of Roseburg to obtain an estimate of $843,310 (extrapolated from the costs the City paid for the 400-foot repair section in April 2019.* Robinson Concrete Pumping testified at the Council listening session on June 17th that the cost would be "$500,000 for a mile" and that Robinson Concrete Pumping would provide a "lifetime guarantee" of the product to be free from leaking.

   Robinson Concrete pumping did a good job with the City's shotcrete repair. This is not a permanent solution and was a repair intended to provide a short-term band aide fix to a section that has significant leaking. Staff is concerned with the "lifetime guarantee" and would like to understand the full implication behind that statement.

10. Without completing an evaluation of the repair work and obtaining an estimate, staff estimates the costs for a shotcrete repair to be $1.5M depending on timing for one or two mobilizations and the cost of any add-mixtures.

    Due to the tight construction zone in all options, the initial capital costs are higher. Staff is concerned that this was not taken into account for "Option 5".

11. "Option 5" further *estimates annual operations and maintenance cost (O&M) to be just $12,500 (stating that the newly lined canal will have same O&M as a pipe) with pressure grout treatment at year 40 with an approximate cost of $100,000.*

    Staff respectfully disagrees and anticipates a more accurate present value for annual operations, maintenance and replacement (OM&R) a little higher at $35,000 a year plus the $100,000 at year 20-25 and again in year 50. And just to put all of this into perspective, the net present value of "Option 5" assuming all the work is done at once and with their $12,500 annual present value OM&R is $1,686,200. Using the staff estimate of $1,500,000 for the initial capital outlay and $35,000 annual present value OM&R is $3,470,740.

12. One of the "Option 5" statements is that this option *will cause the least amount of damage to trees and keep the aesthetic ambiance of the canal intact. It was further stated that the community option consulted with a local arborist to estimate removing "actively disruptive trees" at a minimal $$ expense.*

    This is great news if accurate. In any option, there will be a need for tree removal. Staff has estimated that less than 100 of the identified 286 trees will need to be removed. It has been suggested that staff wants to remove trees. Not so. Staff is extremely cognizant of the positive impact trees have on our community. Only trees that must be removed will be removed.

13. As far as keeping the aesthetic ambiance of the canal intact, another community member identified an interesting fact that the aesthetic value of the water is not considered a beneficial use of water. However beautiful and enticingly aesthetic the irrigation water is for the 169 days of irrigation season; the City's water right is for domestic, municipal and irrigation uses only. It is not a seasonal creek.

14. Additional Staff Comments

    a. "Option 5" is relatively silent on improving water quality in Ashland Creek, and in some cases, members have actually stated that improving only the 2-mile section in the City's control is not worth the effort. Improving water quality in Ashland Creek should be a significant component of this project and a benefit to the community. Studies have shown that the majority of contamination in the canal happens within City limits, not the upstream areas everyone is concerned about. Not piping the canal does little to address the water quality of the canal or Ashland Creek. It seems many people still don't understand that the canal is a tributary to Ashland Creek and that any contaminates entering the canal end up in Ashland Creek, the jewel of Lithia Park. Posting Ashland creek as not safe to wade is at odds with a City that prides itself on its natural environment and the unique value of Lithia Park. Eliminating natural contaminates and E.coli from a 2-mile section should be the beginning of the City's efforts to improving Ashland Creek for all residents and tourists.

    b. An interesting read is "*Where Living Water's Flow*" by Kay Atwood (1998). This booklet details the history along with early interest and concerns with the City's water system, many of which we continue to wrestle with today.

    c. The biggest concern that is not addressed and does not appear to be a concern in "Option 5" is the common good of protecting our secondary drinking water source. In the era of "climate change" a moderate investment now to harden and protect our drinking water supplies for 100+ years seems like an important community-wide value to be balanced against the undeniable aesthetic qualities of a man-made irrigation canal that was intended solely for municipal purposes and that benefits a limited segment of residents.

    d. If the City chooses to leave the canal open, reinforced concrete with an under-liner is the only fiscally responsible long-term choice for the reasons stated above and would provide a much better product than what is currently in place. This option would have minimal, if any, impact on improving water quality.

CITY OF ASHLAND

Ashland Canal Issue Paper #14 – GHG: CO_2

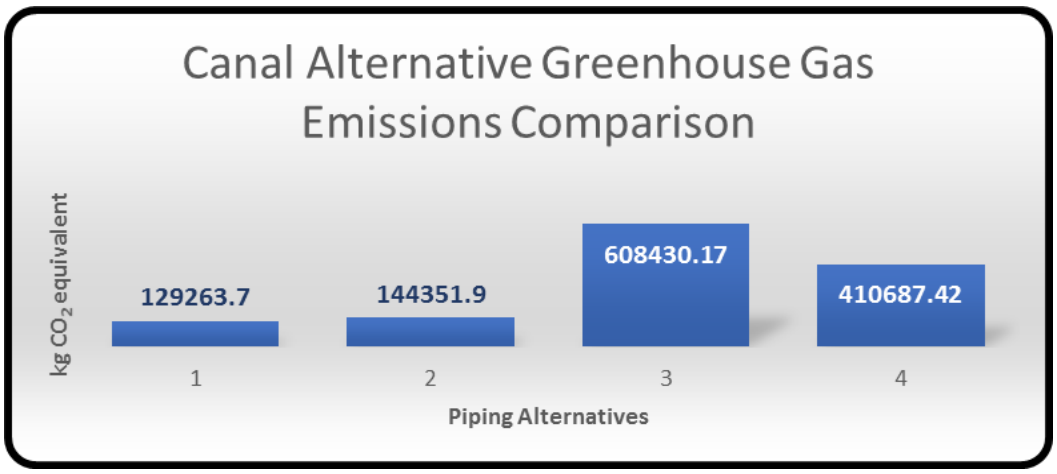
Date: July 15, 2019

Issue: Greenhouse Gas Emissions: Carbon Dioxide Comparison

Facts:

1. Earth's natural greenhouse effect is critical to supporting life.
2. The primary greenhouse gases in Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide and ozone.
3. Human activities, mainly the burning of fossil fuels and clearing of forests, have strengthened the greenhouse effect and is a contributing cause of global warming.
4. Human activities since the beginning of the Industrial Revolution (~ 1750) have produced a 45% increase in the atmospheric concentration of carbon dioxide (CO_2), from 280 ppm in 1750 to 406 ppm in early 2017.
5. Some greenhouse gases remain in the atmosphere for decades or even centuries, and therefore can affect Earth's energy balance over a long period.
6. The commercial and residential building sector accounts for 39% of CO_2 emissions in the United States per year, more than any other sector.

Staff was tasked with assessing the GHG emissions from the Canal project. For a simple comparison, staff assessed the difference in material type for the project only with the following comparisons. Note that this is not the GHG or CO_2 produced for the entire project but only a comparison of the primary construction material.



Resolution: Using pipe has a significantly lower amount of CO_2 emissions than concrete or shotcrete.

Future Implications: This is only the global warming potential of the primary construction material, not demolition, transportation or installation which would be the same for all but the

shotcrete alternative. The shotcrete option would likely have less trucking even with the repeated applications.

Calculations:
Ashland Canal GHG Comparison
June 2019

	Concrete	Shotcrete	24 in HDPE	30 in HDPE
Weight	150 lbs/ft3	135 lbs/ft3	10.47 lbs/ft	14.88 lbs/ft
Kg CO_2(e)/kg material	.192	.192	2.52	2.52

1 lb = .453592 kg

Alternative #1; Replace existing with 24" HDPE
10,801 LF of 24" HDPE
113,086 lbs of HDPE or 51,295.1 kg
129,263.7 kg CO_2 equivalent total

Alternative #2; Replace open portions with 30" pipe and reline the currently piped sections
8,100 LF of 30" HDPE pipe 550 LF of 24" HDPE pipe
120,528 lbs of HDPE or 54,670.5 kg 5,758.5 lbs of HDPE or 2,612 kg
144,351.9 kg CO_2 equivalent total

Alternative #3; Replace the existing with new concrete
46,575 cubic/feet of concrete
6,986,250 lbs of concrete or 3,168,907.11 kg
608,430.17 kg CO_2 equivalent total

Alternative #4; Reline the existing canal with shotcrete
34,931 cubic/feet of shotcrete
4,715,685 lbs of shotcrete or 2,138,997 kg
410,687.42 kg CO_2 equivalent total

CITY OF
ASHLAND

March 29, 2019

Mayor Stromberg and Ashland City Council
20 E Main St
Ashland, OR 97520

RE: Ashland Canal Piping Project

The Ashland Water Advisory Committee (AWAC) is sending this letter of support for the Ashland Canal Piping project. Members of AWAC have been engaged in protecting Ashland water since the group was formed in 2010. Many of the members have been involved with prior water studies and recommendations.

Members of AWAC were a part of the discussion and final approvals of the 2012 Water Master Plan (Carollo) and related capital projects. One of several projects in the plan *"recommended that the City convert the Talent Irrigation District (TID) canal to a piped system from the Starlite Monitoring Station to the Terrace Street Pump Station. This project reduces water losses from evaporation and infiltration, prevents contamination of the TID water along that reach of the canal, and ceases overflows to Ashland Creek... This project is recommended for the Short Term."* [page 7-7].

AWAC met on March 26, 2019; a quorum of members was present. The Committee Members of reviewed and discussed the information provided by public works staff and make the following recommendations to Council:

1. AWAC does not support, and further, recommends that the City Council remove Alternative 4 from consideration. This alternative is a band-aid that will require significant investment of staff time and operating funds, reduce water volume in the canal and will require this same discussion in 20-30 years. It does not solve the problem and only pushes the decision to future generations.
2. AWAC recommends that the City Council approve staff's recommendation for Alternative 1 – pipe the entire section with a new 24" HDPE pipe. This alternative meets the initial justification of the project's purpose to conserve lost water from seepage and evaporation and improve water quality along this stretch of canal. This project will add approximately 62 million gallons of water annually to the City's supply, an amount equal to over 20% of the City's allocation of TID water.

With climate change concerns and water conservation actions, the canal project should be a priority for the City. Alternative 1 is fiscally responsible and when comparing life cycle costs on a 60-year net present value of all alternatives, is the most prudent option.

Please accept our formal recommendation of Alternative 1 to fully pipe the Ashland Canal from Starlite Monitoring Station to the Terrace Street Pump Station. This project protects the quality and quantity of the city's drinking water supply.

Joseph Graf
Vice Chair, AWAC
On behalf of AWAC

Public Works
20 East Main Street
Ashland, Oregon 97520
www.ashland.or.us

Tel: 541-488-5587
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Memo

CITY OF ASHLAND

TO:	Ashland City Council
FROM:	Conservation Commission
DATE:	April 24, 2019
RE:	Ashland Canal Project

Part of the Ashland Municipal Code's stated powers and duties of the Conservation Commission includes making recommendations to Council on issues pertaining to water conservation in Ashland. We recognize that City Staff have spent many hours investigating, developing and recommending a best course of action with regards to the loss of water and bacteria mitigation in the two-mile length of the Ashland Canal. To that end, The Commission has reviewed the City Staff materials and submits the following recommendations.

A. We support Alternative #1: Replace the entire canal with a new 24" pipe.

B. We recommend that the Ashland Canal project look at additional project cost recovery alternatives including pursuing grants to help fund the project with the goal of reducing the financial burden to citizens.

C. We recommend that the City monitors and in the future removes trees that have been negatively impacted.

There are several positive impacts that we see the proposed piping of the Ashland canal will offer.

1. Climate change is resulting in rising temperatures and reduced mid and late summer water availability due to existing storage constraints. The Canal Project is in support of water conservation actions identified in the Ashland Climate and Energy Action Plan (CEAP) that will result in increasing the overall canal water supplies and availability during summer months.
2. The two-mile long Ashland Canal project area currently loses 62 million gallons of water per year primarily due to seepage, with a small loss due to evapotranspiration. A net gain in available water could be used for additional irrigation allocations, be treated for drinking water, and/or for additional water discharge into Ashland creek. Every gallon of water saved could result in an equal reduction of treated water that is currently used to irrigate properties that switch to irrigation.
3. Piping the canal will result in the reduction of sources of bacteria that are discharged into Ashland Creek.
4. Preventing canal water loss provides the opportunity for Ashland to take a lead role in reducing irrigation water loss as identified in the "Water for Irrigation, Streams and Economy Project" (WISE), which includes an alternative of the piping of irrigation canals in Jackson County.

While concerns from some Ashland residents are valid, such as the greater cost of the piping project over re-furbishing the existing canal, water loss to trees adjacent to the canal, and the overall feel good nature of open water for canal users, the Commission has concluded that piping the canal is prudent.

The Ashland Conservation Commission

Ashland Canal Piping Project

Ashland Canal Advisory Group Meeting

December 20, 2018

Opening 5:35pm

Purpose: seeking feedback and input. Displaying alternatives and seeking recommendations for Council in February.

Staff clarifies that feedback will be used in final proposal and recommendations of meeting attendees is for City staff information not a vote of final project proposal.

Introductions

Presentation begins.

Purpose: Improve water quality and conservations. Piping as priority.

Explanation of concerns: Next steps come from concerns.

Project work completed: Analysis of impacts.

- **Natural Resources:** Impacts on our natural resources. Seepage has created unnatural environment. Smaller trees, different species would be present.
    - SOU: Evaluation of wildlife impact. Canal does not function as a riparian corridor for wildlife. Half the season the canal is empty, and wildlife has found alternative water sources.
    - Fire: Piped line can be used as an improved fire break and allows better access to water if there were a fire in the area. Impact of piping minimal.

Pipeline could possibly have taps for watering of trees, would be in final design proposal.

Clarification from staff that the 300 trees are only in the immediate area. (10ft on either side of the canal) additional trees in surrounding area could be affected. Some variety of trees are more susceptible to die off, and those trees should be targeted for fire resilience.

Many trees are overly large due to canal which is an unnatural water source.

Additional trees can be expected to die due to a lack of water seepage past the easement.

It is difficult to be exact on the number of trees impacted.

Attendee question. How do trees in without water sources in the area survive?

- Generally due to natural water cycles. They don’t grow bigger because they don’t get the amount of water naturally that is supplied by the canal, so they do not go into crisis when the water is taken away.

Staff interjects that we have to remove the 285 trees because the root system extends under the canal construction will damage root systems causing the trees to die.

Attendee mentions a possible recommendation to property owners along the canal to assess of die off, ultimately it is the land owner's decision on what they want to do for trees outside of the corridor that may be impacted by a cessation of water seepage.

Attendees would like to know if the proposed assessment will be a cost of the city or the home owner. The City has yet to decide but agree homeowners should be informed.

Currently City is nourishing trees without obligation, should that continue? No clear answer.

Water Quality: The water quality testing showed less E.coli, Have not determined where the E.coli dump is coming from. Original report started at Tolman creek.

Current State: Dan

Performed ranking of current liner. Ranking, Good medium and bad.

Water Loss/Seepage study: Performed using ponding method. Done in 48 hours, three different locations. Test sections length 100ft long. Aligned with high water mark 2.5cfs. 23% total water loss seepage over a season. Evaporation vs Seepage. Different methods for loss study, pond method, input output method.

With ponding it's difficult to determine the amount of water lost to the trees along corridor. Potentially there could be a larger amount of loss because of trees. Up to 30% total for water loss. Some canals can range from 15 to 48%. Around 2% of the water loss is from evaporation. 22% loss could be possibly negated by lining. Estimates are that we are losing enough water to fill immigrant reservoir from the whole system. Ponding is a lower estimate numerically.

(Pumping 47.54)

When drought and water loss occur trees have been assessed and culled to prevent die off.

Alternative Criteria: Flow rates, looking at historical flows, discussions with TID. 6 cfs is the maximum TID can deliver to the city. 1-3 alternatives require additional funding. Three alternatives:

1) Replace entire canal with pipe of one size, including currently piped sections, reduce E.coli (If shaded and cooled E.coli can't propagate), requires more excavation, and remove pollutants. (Smallest amount of material, excluding liner).
2) Replace open canal with pipe and rehab existing pipes (requiring new pipes to be larger). Reduce E.coli, max resources, more expensive, requires a little less tree removal. (damages landscape, possible structural impact, and all associate landscapes with it.
3) Rehab Existing concrete liner with similar and add membrane to existing piped sections, won't last as long as other options, will need to be replaced, it does not address water quality, will help seepage and tree removal as previous. Plastic liner, unreinforced. Currently unproven in industry. 60 year estimated life span for concrete. (possibly least intrusive to people who have preexisting pipe but not for people who do not currently have piping.)

4) Do nothing. Still E.coli, water loss remains the same. Tree maintenance, trees will continue to get bigger, roots will expand and continue to deteriorate the current system and will make loss greater over time.

Total project costs include fences, driveways and any repairs.

Sediment is handled in the pipe, the flow is high and keeps pipe flushed, with sumps for manual cleaning close to streets. Hard to say how often, depending on the sediment level. Less sediment entering the creek and in the canal in general. Syphons can also be used (a low spot in the canal) to catch sediment.

Staff explains that if we curtail the 23% seepage, continuing to pay TID water, with lack of seepage we will recoup cost and apply throughout the city, making more available to get TID water, less water going through the treatment plant. Theoretically, traveling bar screen.

Grant Opportunities: Natural Resources Conservation Service

Oregon Watershed Enhanced

Motion for Support of Option and Seconded

Haven't talked about public access, people using the canal as is, public currently doesn't not have access for most. Usable space, would need to be regulated and easement upheld. Typical easement states no trees. The City has currently not keep up on maintaining easement.

This project will create opportunities for additional easements.

Priority ranking. Each person gets three stickers, for ranking on priorities.

Reactions to Priority list: Efficiency is #1 and Quality is #2.

Addition to 1, additional information to homeowners to help them take care of the trees when seepage is gone. A strategy and plan for homeowners. Without the city taking responsibility for trees on private property. Education to homeowners rather than the City taking responsibility.

Quite a lot of cost associated with felling and clearing dead trees. Including property value loss. Suggestion that it is named and recognized.

City could be involved via setting up a fund to help property owners whose trees are affected.

Three things during process of construction

1) Professional consultation, each property the land owners a pointed out what trees are most at risk.
2) Help after piping.
3) Measures to prevent tree death.
4) During initial construction process, City could remove at risk trees on private property.

Trees could be weaned of the water source gradually.

Final recommendation Vote.

Alternative 1) 7 for 1st choice. 2 for 2nd choice

Alternative 2) 4 for 2nd Choice

Alternative 3) 1 2nd Choice

Alternative 4) 3 1st Choice.

ACAG Priorities: Each of the 8 ACAG members ranked their 1st, 2nd and 3rd priorities

Priority	1st	2nd	3rd
Water Quality	1	4	2
Water Efficiency	5	1	0
Trails	1	0	2
Trees	0	0	3
Wildlife	0	0	0
Costs	1	1	1
Aesthetics	0	2	0

Notes taken by:

Shannon Burruss

Public Works Permit Technician

Ashland Canal Piping: A Water Efficiency / Water Quality Project

How do you use the Ashland Canal and what would you like the City to know?

Summary Of Responses

As of June 27, 2019, 1:16 PM, this forum had:		Topic Start	Topic End
Attendees:	88	June 4, 2019, 2:59 PM	June 20, 2019, 4:03 PM
Responses:	54		
Hours of Public Comment:	2.7		

QUESTION 1

There are many important ongoing priorities within our community. The following are just some relating to water. You have 15 dots to 'spend'. How would you spend them on each of the following community priorities?

	%	Count
Upgrading aging water infrastructure	19.8%	160
Preparing for the effects of climate change	13.6%	110
Ensuring an adequate and sustainable drinking water supply	22.6%	183
Ensuring clean water for Ashland Creek and other Ashland streams	13.5%	109
Keeping the aesthetic of flowing water in the Ashland Canal during summer	13.5%	109
Providing easy trail access near water for recreation	10.1%	82
Other	2.2%	18

QUESTION 2

What do you value most about the Ashland Canal? You have 15 dots to 'spend'. How would you spend them on the following canal characteristics?

	%	Count
The Ashland Canal provides irrigation water to residents in the community	22.3%	181

Ashland Canal Piping: A Water Efficiency / Water Quality Project

How do you use the Ashland Canal and what would you like the City to know?

	%	Count
The Ashland Canal can be used as a back-up drinking water supply	24.7%	200
The aesthetic of flowing water in the Ashland Canal (May - September)	12.5%	101
The walking trail along the Ashland Canal	19.1%	155
The trees and vegetation growing along the Ashland Canal	11.1%	90
Viewing wildlife attracted to the Ashland Canal	4.4%	36
Other	1.7%	14

QUESTION 3

Please look at the map of the project area above and select all that apply.

	%	Count
This section of the Ashland Canal goes through my property	3.7%	2
I live near this section of the Ashland Canal	46.3%	25
I don't live near this section of the Ashland Canal	48.1%	26
I use the trail along this section of the Ashland Canal	63.0%	34
I don't directly use this section of the Ashland Canal	14.8%	8

QUESTION 4

If you use water from the canal for irrigation, who do you pay for that water?

	%	Count
I pay the City of Ashland for irrigation water from the Ashland Canal	9.3%	5

	%	Count
I pay the Talent Irrigation District for irrigation water	11.1%	6
I do not use irrigation water from the canal	77.8%	42
I don't know if I use irrigation water from the canal	1.9%	1

QUESTION 5

There are some public access trails along this section of the Ashland Canal. Use the map above for reference. Do you use these trails? If so, how? Please select all that apply.

	%	Count
I walk or exercise my dog on the trail along this section of the Ashland Canal	64.8%	35
I run or bike on the trail along this section of the Ashland Canal	31.5%	17
I use parts of the trail to commute through town	13.0%	7
I don't use the trail along this section of the Ashland Canal	18.5%	10
Other	7.4%	4

QUESTION 6

What time of year do you use the trail along the Ashland Canal? Please select all that apply.

	%	Count
Winter Months (December - February)	55.6%	30
Spring Months (March - May)	75.9%	41
Summer Months (June - August)	74.1%	40
Fall Months (September - November)	72.2%	39

	%	Count
I rarely use the trail along this section of the Ashland Canal	9.3%	5
I never use the trail along this section of the Ashland Canal	13.0%	7

QUESTION 7

How often do you use the trail on this section of the Ashland canal?

	%	Count
1-2 times a month	25.9%	14
3-4 times a month	16.7%	9
5 or more times a month	31.5%	17
I rarely use the trail along this section of the Ashland Canal	13.0%	7
I never use the trail along this section of the Ashland Canal	13.0%	7

QUESTION 8

The two-mile section of the Ashland Canal is estimated to be losing 62 million gallons of water mostly from seepage and some from evaporation during the summer months. In addition, E. coli levels increase as this section flows through town and into Ashland Creek. What should the City do about this?

	%	Count
Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels	35.2%	19
Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)	24.1%	13
Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)	42.6%	23

	%	Count
Other	22.2%	12

QUESTION 9

If the City were to secure state grants, that do not need repayment, for the remaining expenses to pipe this section of the canal, would that change your answer to the previous question?

	%	Count
Yes	3.7%	2
No	81.5%	44
Perhaps, but I need more information	14.8%	8

QUESTION 10

After reading through some of the project details in the introduction, what concerns do you have about the Ashland Canal piping project?
(1=not concerned, 5=very concerned)

Negative impact to property values

	%	Count
1	44.4%	24
2	24.1%	13
3	7.4%	4
4	11.1%	6
5	14.8%	8

Limited access to home during construction

Ashland Canal Piping: A Water Efficiency / Water Quality Project

How do you use the Ashland Canal and what would you like the City to know?

	%	Count
1	68.5%	37
2	14.8%	8
3	13.0%	7
4	1.9%	1
5	1.9%	1

Limited access to trails during construction

	%	Count
1	37.0%	20
2	13.0%	7
3	11.1%	6
4	14.8%	8
5	25.9%	14

Wildlife impacts

	%	Count
1	33.3%	18
2	14.8%	8
3	7.4%	4
4	13.0%	7
5	31.5%	17

Tree loss

Ashland Canal Piping: A Water Efficiency / Water Quality Project

How do you use the Ashland Canal and what would you like the City to know?

	%	Count
1	29.6%	16
2	5.6%	3
3	11.1%	6
4	9.3%	5
5	44.4%	24

Trail access impacted long term

	%	Count
1	22.2%	12
2	9.3%	5
3	11.1%	6
4	3.7%	2
5	55.6%	30

Project costs are too high

	%	Count
1	20.4%	11
2	14.8%	8
3	7.4%	4
4	3.7%	2
5	53.7%	29

Stormwater runoff may be worse

Ashland Canal Piping: A Water Efficiency / Water Quality Project

How do you use the Ashland Canal and what would you like the City to know?

	%	Count
1	35.2%	19
2	20.4%	11
3	20.4%	11
4	13.0%	7
5	11.1%	6

Future irrigation water availability

	%	Count
1	35.2%	19
2	16.7%	9
3	20.4%	11
4	7.4%	4
5	20.4%	11

QUESTION 11

Do you think the Ashland Canal piping project has the potential to:

	%	Count
Improve water quality in Ashland Creek	38.9%	21
Reduce seepage and increase water availability	61.1%	33
Other	40.7%	22

Ashland Canal Piping: A Water Efficiency / Water Quality Project

How do you use the Ashland Canal and what would you like the City to know?

QUESTION 12

What else would you like the City to know in regard to the Ashland Canal piping project?

Answered	32
Skipped	22

Survey Questions

QUESTION 1

There are many important ongoing priorities within our community. The following are just some relating to water. You have 15 dots to 'spend'. How would you spend them on each of the following community priorities?

- Upgrading aging water infrastructure
- Preparing for the effects of climate change
- Ensuring an adequate and sustainable drinking water supply
- Ensuring clean water for Ashland Creek and other Ashland streams
- Keeping the aesthetic of flowing water in the Ashland Canal during summer
- Providing easy trail access near water for recreation
- Other

QUESTION 2

What do you value most about the Ashland Canal? You have 15 dots to 'spend'. How would you spend them on the following canal characteristics?

- The Ashland Canal provides irrigation water to residents in the community
- The Ashland Canal can be used as a back-up drinking water supply
- The aesthetic of flowing water in the Ashland Canal (May - September)
- The walking trail along the Ashland Canal
- The trees and vegetation growing along the Ashland Canal
- Viewing wildlife attracted to the Ashland Canal
- Other

QUESTION 3

Please look at the map of the project area above and select all that apply.

- This section of the Ashland Canal goes through my property
- I live near this section of the Ashland Canal
- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal
- I don't directly use this section of the Ashland Canal
- I wasn't aware there was an Ashland Canal

QUESTION 4

If you use water from the canal for irrigation, who do you pay for that water?

- I pay the City of Ashland for irrigation water from the Ashland Canal
- I pay the Talent Irrigation District for irrigation water
- I use water from the canal for irrigation, but I don't know who I pay
- I do not use irrigation water from the canal
- I don't know if I use irrigation water from the canal

QUESTION 5

There are some public access trails along this section of the Ashland Canal. Use the map above for reference. Do you use these trails? If so, how? Please select all that apply.

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal
- I use parts of the trail to commute through town
- I don't use the trail along this section of the Ashland Canal
- I was not aware there is an Ashland Canal
- Other

QUESTION 6

What time of year do you use the trail along the Ashland Canal? Please select all that apply.

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)
- I rarely use the trail along this section of the Ashland Canal
- I never use the trail along this section of the Ashland Canal

QUESTION 7

How often do you use the trail on this section of the Ashland canal?

- 1-2 times a month
- 3-4 times a month
- 5 or more times a month
- I rarely use the trail along this section of the Ashland Canal
- I never use the trail along this section of the Ashland Canal

QUESTION 8

The two-mile section of the Ashland Canal is estimated to be losing

62 million gallons of water mostly from seepage and some from evaporation during the summer months. In addition, E. coli levels increase as this section flows through town and into Ashland Creek. What should the City do about this?

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels
- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)
- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)
- Other

QUESTION 9

If the City were to secure state grants, that do not need repayment, for the remaining expenses to pipe this section of the canal, would that change your answer to the previous question?

- Yes
- No
- Perhaps, but I need more information

QUESTION 10

After reading through some of the project details in the introduction, what concerns do you have about the Ashland Canal piping project?

(1=not concerned, 5=very concerned)

Row choices

- Negative impact to property values
- Limited access to home during construction
- Limited access to trails during construction
- Wildlife impacts
- Tree loss
- Trail access impacted long term
- Project costs are too high
- Stormwater runoff may be worse
- Future irrigation water availability

Column choices

- 1
- 2
- 3
- 4
- 5

QUESTION 11

Do you think the Ashland Canal piping project has the potential to:

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability
- Other

QUESTION 12

What else would you like the City to know in regard to the Ashland Canal piping project?

Individual Responses

Name not available
June 4, 2019, 5:11 PM

Question 1

- Upgrading aging water infrastructure (2)
- Preparing for the effects of climate change (2)
- Ensuring an adequate and sustainable drinking water supply (3)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (3)
- Providing easy trail access near water for recreation (5)

Question 2

- The Ashland Canal can be used as a back-up drinking water supply (3)
- The aesthetic of flowing water in the Ashland Canal (May - September) (2)
- The walking trail along the Ashland Canal (6)
- The trees and vegetation growing along the Ashland Canal (4)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal
- Other - I enjoy walking with my child without fear of traffic along the trail.

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)

Question 9

- No

Question 10

Negative impact to property values: 2
Limited access to home during construction: 2
Limited access to trails during construction: 5
Wildlife impacts: 4
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 4
Stormwater runoff may be worse: 4
Future irrigation water availability: 2

Question 11

- Reduce seepage and increase water availability

Question 12

No response

Name not available
inside Ashland
June 4, 2019, 6:25 PM

Question 1

- Upgrading aging water infrastructure (8)
- Ensuring an adequate and sustainable drinking water supply (7)

Question 2

- The Ashland Canal can be used as a back-up drinking water supply (9)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- Other - very seldom use trail for hiking

Question 6

- I rarely use the trail along this section of the Ashland Canal

Question 7

- I rarely use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 1
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Reduce seepage and increase water availability

Question 12

No response

Name not shown
inside Ashland
June 4, 2019, 7:00 PM

Question 1

- Upgrading aging water infrastructure (2)
- Preparing for the effects of climate change (5)
- Ensuring an adequate and sustainable drinking water supply (5)
- Ensuring clean water for Ashland Creek and other Ashland streams (1)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (1)
- Providing easy trail access near water for recreation (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (2)
- The Ashland Canal can be used as a back-up drinking water supply (4)
- The aesthetic of flowing water in the Ashland Canal (May - September) (1)
- The walking trail along the Ashland Canal (2)
- The trees and vegetation growing along the Ashland Canal (4)
- Viewing wildlife attracted to the Ashland Canal (1)
- Other - Other financial priorities in Ashland in regard to infrastructure at this time. The very most crucial is the probability of forest fires in the watershed. If the town burns down, the canal renovation/improvements will be of little concern. time. (1)

Question 3

- I live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 3
Limited access to home during construction: 1
Limited access to trails during construction: 4, 5
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 5
Future irrigation water availability: 3

Question 11

- Reduce seepage and increase water availability

Question 12

No response

Larry Cooper
inside Ashland
June 4, 2019, 7:13 PM

Question 1

- Upgrading aging water infrastructure (10)
- Preparing for the effects of climate change (2)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (3)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (3)
- The Ashland Canal can be used as a back-up drinking water supply (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (5)
- The walking trail along the Ashland Canal (3)
- Other - The sound of the water in canal (3)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)
- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)
- Other - Buy additional water rights from Lost Cr Resevoir

Question 9

- Perhaps, but I need more information

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 3
Wildlife impacts: 1
Tree loss: 3
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 4
Future irrigation water availability: 2

Question 11

- Other - Waste resources that could be better used elsewhere

Question 12

This is low priority compared to needs for street repairs, replacement of old water lines, etc. The potential water savings from piping could easily be achieved by making existing water distribution system tighter and providing more incentives for water conservation. This would be a better long term use of resources. Also, the City of Ashland should clarify the options to obtain additional water rights to Lost Creek Reservoir which could provide us additional water to be used in already existing pipes.

Name not available
June 4, 2019, 9:12 PM

Question 1

- Upgrading aging water infrastructure (1)
- Preparing for the effects of climate change (2)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (4)
- Providing easy trail access near water for recreation (8)

Question 2

- The aesthetic of flowing water in the Ashland Canal (May - September) (2)
- The walking trail along the Ashland Canal (8)
- The trees and vegetation growing along the Ashland Canal (5)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 3
Limited access to home during construction: 1
Limited access to trails during construction: 4
Wildlife impacts: 4
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 4
Future irrigation water availability: 1

Question 11

- Other - Of course it has those "potentials", but I don't think it's necessary

Question 12

It seems like a solution in search of a problem. With all of Ashland's money issues, I'd say spend a minimal amount on maintenance/repair and leave the ditch as it is.

Name not shown
inside Ashland
June 4, 2019, 11:00 PM

Question 1

- Upgrading aging water infrastructure (3)
- Preparing for the effects of climate change (7)
- Ensuring an adequate and sustainable drinking water supply (2)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (2)

- Providing easy trail access near water for recreation (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (3)
- The Ashland Canal can be used as a back-up drinking water supply (5)
- The aesthetic of flowing water in the Ashland Canal (May - September) (2)
- The walking trail along the Ashland Canal (3)
- The trees and vegetation growing along the Ashland Canal (2)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I pay the Talent Irrigation District for irrigation water

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 4
Wildlife impacts: 3
Tree loss: 4
Trail access impacted long term: 4
Project costs are too high: 5
Stormwater runoff may be worse: 2
Future irrigation water availability: 2

Question 11

- Other - I don't think piping will improve anything

Question 12

The city does not have the money for this scale of project. The maintenance of the canal was neglected for years. E. coli comes in the water to Ashland and two miles of partly open (not shaded) water does not rectify the cost of piping.

Name not available

inside Ashland
June 4, 2019, 11:19 PM

Question 1

- Upgrading aging water infrastructure (2)
- Preparing for the effects of climate change (2)
- Ensuring an adequate and sustainable drinking water supply (6)
- Ensuring clean water for Ashland Creek and other Ashland streams (3)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (1)
- Providing easy trail access near water for recreation (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (7)
- The Ashland Canal can be used as a back-up drinking water supply (3)
- The aesthetic of flowing water in the Ashland Canal (May - September) (1)
- The walking trail along the Ashland Canal (1)
- The trees and vegetation growing along the Ashland Canal (2)
- Viewing wildlife attracted to the Ashland Canal (1)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- Perhaps, but I need more information

Question 10

Negative impact to property values: 4
Limited access to home during construction: 3
Limited access to trails during construction: 4
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 3
Future irrigation water availability: 5

Question 11

- Reduce seepage and increase water availability

Question 12

No response

Name not available

inside Ashland
June 5, 2019, 9:40 AM

Question 1

- Upgrading aging water infrastructure (4)
- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (1)
- Ensuring clean water for Ashland Creek and other Ashland streams (1)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (3)
- Providing easy trail access near water for recreation (2)
- Other - repair and maintain the existing canal (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (4)
- The Ashland Canal can be used as a back-up drinking water supply (3)
- The aesthetic of flowing water in the Ashland Canal (May - September) (4)
- The walking trail along the Ashland Canal (2)
- The trees and vegetation growing along the Ashland Canal (1)
- Viewing wildlife attracted to the Ashland Canal (1)

Question 3

- I don't live near this section of the Ashland Canal
- I don't directly use this section of the Ashland Canal

Question 4

- I pay the Talent Irrigation District for irrigation water

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 3-4 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 4
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 5
Future irrigation water availability: 5

Question 11

- Reduce seepage and increase water availability

Question 12

do your job in repairing and maintaining the canal at regular intervals

---

Name not available
June 5, 2019, 10:39 AM

Question 1

- Upgrading aging water infrastructure (5)
- Ensuring an adequate and sustainable drinking water supply (5)
- Ensuring clean water for Ashland Creek and other Ashland streams (5)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (6)
- The Ashland Canal can be used as a back-up drinking water supply (9)

Question 3

- I don't live near this section of the Ashland Canal
- I don't directly use this section of the Ashland Canal

Question 4

- I don't know if I use irrigation water from the canal

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- I never use the trail along this section of the Ashland Canal

Question 7

- I never use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 1
Stormwater runoff may be worse: 1
Future irrigation water availability: 5

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Name not available
June 5, 2019, 10:40 AM

Question 1

- Upgrading aging water infrastructure (4)
- Preparing for the effects of climate change (4)
- Ensuring an adequate and sustainable drinking water supply (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (3)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (1)
- The Ashland Canal can be used as a back-up drinking water supply (13)
- The trees and vegetation growing along the Ashland Canal (1)

Question 3

- I don't live near this section of the Ashland Canal
- I don't directly use this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I run or bike on the trail along this section of the Ashland Canal

Question 6

- I rarely use the trail along this section of the Ashland Canal

Question 7

- I rarely use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 2
Tree loss: 4
Trail access impacted long term: 1
Project costs are too high: 1
Stormwater runoff may be worse: 2
Future irrigation water availability: 3

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Name not shown

inside Ashland
June 5, 2019, 11:36 AM

Question 1

- Upgrading aging water infrastructure (4)
- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (4)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (5)
- The Ashland Canal can be used as a back-up drinking water supply (10)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- I never use the trail along this section of the Ashland Canal

Question 7

- I never use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 1
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

The section with the question "The two-mile section of the Ashland Canal is estimated to be losing 62 million gallons of water..." doesn't inform the user that some of these options are limited in efficacy as they don't last as long and cost more. I still want to know how much $$ we lose when with the 62 mg of water.

Name not available

inside Ashland
June 5, 2019, 2:10 PM

Question 1

- Upgrading aging water infrastructure (3)
- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (5)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (3)
- The Ashland Canal can be used as a back-up drinking water supply (10)
- The walking trail along the Ashland Canal (2)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 2
Project costs are too high: 1
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

Piping this stretch of the Ashland Canal is clearly something the City needs to do, for over a dozen valid reasons. Anecdotally, having spoken to several owners near the Canal, and people who run on the Canal daily, they simply want to keep the water aesthetic, which is a TERRIBLE reason upon which to base a community decision affecting the drinking water for 25K people, and the Lithia Park aesthetic for over 100K people. If Council succumbs to pressure from the vocal minority who resist all change, it will do a huge disservice for all of Ashland and our community will be all the worse for it. You can't please everybody with every decision, but you NEED to make decisions based on what's best for the entire community.

Name not available
inside Ashland
June 6, 2019, 12:05 PM

Question 1

- Ensuring an adequate and sustainable drinking water supply (15)

Question 2

- The walking trail along the Ashland Canal (15)

Question 3

- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- Perhaps, but I need more information

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 3
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 3
Future irrigation water availability: 1

Question 11

- Reduce seepage and increase water availability

Question 12

Unfortunately the city apparently has and does undercharge for the water since they neglected to have a self supporting system, and now want all the residents to bail them out for a third source of 'drinking' water we don't need.

Rob Cain
inside Ashland
June 6, 2019, 4:45 PM

Question 1

- Upgrading aging water infrastructure (8)
- Preparing for the effects of climate change (4)
- Ensuring an adequate and sustainable drinking water supply (3)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (3)

- The trees and vegetation growing along the Ashland Canal (3)
- Other - Since the canal is actually a tertiary supply, behind Reeder and Tap, this question should be reworded. (4)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 3-4 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)
- Other - There is E. Coil present before the proposed pipe section. Piping will not reduce this amount. The value of the lost water is insignificant at the current time. This is not a project that needs to be done anytime soon.

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 3
Limited access to trails during construction: 3
Wildlife impacts: 3
Tree loss: 3
Trail access impacted long term: 3
Project costs are too high: 5
Stormwater runoff may be worse: 3
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability
- Other - Sure, it can do those things but the cost is too high. Put this on a wish list for future years after we have built and paid for all the other Public Works projects that are on the table.

Question 12

Where would this project line up on a priority listing for all the CapEx projects the City is considering. There are many, some quite expensive, yet I have not seen a priority list based on some (unknown) strategy. Strategy current looks like let's do it all, now.

Name not available
June 8, 2019, 6:04 PM

Question 1

- Upgrading aging water infrastructure (8)
- Ensuring an adequate and sustainable drinking water supply (7)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (15)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal
- I don't directly use this section of the Ashland Canal

Question 4

- I pay the Talent Irrigation District for irrigation water

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)

Question 7

- 1-2 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- Perhaps, but I need more information

Question 10

Negative impact to property values: 2
Limited access to home during construction: 3
Limited access to trails during construction: 2
Wildlife impacts: 3
Tree loss: 3
Trail access impacted long term: 3
Project costs are too high: 5
Stormwater runoff may be worse: 2
Future irrigation water availability: 5

Question 11

- Other - Bang for the buck is nominal. This is a feel good project. We're wasting financial resources better suited for critical projects.

Question 12

No response

Name not available
June 8, 2019, 9:51 PM

Question 1

- Upgrading aging water infrastructure (2)
- Preparing for the effects of climate change (2)
- Ensuring an adequate and sustainable drinking water supply (6)
- Ensuring clean water for Ashland Creek and other Ashland streams (1)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (2)
- Providing easy trail access near water for recreation (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (2)
- The aesthetic of flowing water in the Ashland Canal (May - September) (2)
- The walking trail along the Ashland Canal (2)
- The trees and vegetation growing along the Ashland Canal (2)
- Viewing wildlife attracted to the Ashland Canal (2)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)
- Other - Five years for two miles ??

Question 9

- Perhaps, but I need more information

Question 10

Negative impact to property values: 3
Limited access to home during construction: 3
Limited access to trails during construction: 5
Wildlife impacts: 4
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 5

Future irrigation water availability: 3

Question 11

- Other - No

Question 12

No response

Name not available
inside Ashland
June 8, 2019, 11:14 PM

Question 1

- Upgrading aging water infrastructure (1)
- Preparing for the effects of climate change (1)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (5)
- Providing easy trail access near water for recreation (7)
- Other - The TAP system "Ensures" a lot of water security and your exclusion of that information really obviates these statistics. (1)

Question 2

- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (5)
- The trees and vegetation growing along the Ashland Canal (5)
- Viewing wildlife attracted to the Ashland Canal (2)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 3-4 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)
- Other - You phrase this question like someone getting paid to pipe this section... honestly.

Question 9

- No

Question 10

Negative impact to property values: 5
Limited access to home during construction: 5
Limited access to trails during construction: 5
Wildlife impacts: 2
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 3
Future irrigation water availability: 1

Question 11

- Other - Just maintain it like TID does. It isn't rocket science.

Question 12

Why. The impact on the hillside is not comparable to ANY PROJECT IN OREGON! All other "comparables" are not comparable! Look at photos of all other piping projects. They are all in open areas - flat areas. Take your ego away from this project and do other things for chrissakes!

Name not available
June 10, 2019, 7:22 AM

Question 1

- Ensuring an adequate and sustainable drinking water supply (7)

- Other - Core city services (police, fire, infrastructure) (8)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (7)
- The Ashland Canal can be used as a back-up drinking water supply (8)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- Yes

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 2
Project costs are too high: 5
Stormwater runoff may be worse: 4
Future irrigation water availability: 5

Question 11

- Reduce seepage and increase water availability

Question 12

Why wasn't this brought up during budget discussions last month?

Name not shown

inside Ashland
June 10, 2019, 7:40 AM

Question 1

- Upgrading aging water infrastructure (4)
- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (4)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (4)
- The Ashland Canal can be used as a back-up drinking water supply (9)
- The aesthetic of flowing water in the Ashland Canal (May - September) (2)

Question 3

- I don't live near this section of the Ashland Canal
- I don't directly use this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- I never use the trail along this section of the Ashland Canal

Question 7

- I never use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 2
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 2
Stormwater runoff may be worse: 2
Future irrigation water availability: 5

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

Saving water also helps us be better prepared for wildfire!

Name not available
June 10, 2019, 8:04 AM

Question 1

- Upgrading aging water infrastructure (4)
- Preparing for the effects of climate change (4)
- Ensuring an adequate and sustainable drinking water supply (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (3)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (5)
- The Ashland Canal can be used as a back-up drinking water supply (5)
- The walking trail along the Ashland Canal (5)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I use parts of the trail to commute through town

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 2
Tree loss: 2
Trail access impacted long term: 2, 5
Project costs are too high: 2
Stormwater runoff may be worse: 2
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

It makes sense! I'm in favor of the Ashland Canal piping project. Wildlife will adjust. I welcome a wider trail so that there's actually passing room when you meet someone else. The property owners along the trail, I feel,

are being selfish and short-sighted.

Name not available
June 10, 2019, 8:31 AM

Question 1

- Upgrading aging water infrastructure (4)
- Preparing for the effects of climate change (4)
- Ensuring an adequate and sustainable drinking water supply (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (3)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (4)
- The Ashland Canal can be used as a back-up drinking water supply (7)
- The walking trail along the Ashland Canal (3)
- The trees and vegetation growing along the Ashland Canal (1)

Question 3

- I don't live near this section of the Ashland Canal
- I don't directly use this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- I rarely use the trail along this section of the Ashland Canal

Question 7

- I rarely use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 2
Tree loss: 2
Trail access impacted long term: 5
Project costs are too high: 2
Stormwater runoff may be worse: 2
Future irrigation water availability: 4

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Name not available
inside Ashland
June 10, 2019, 8:57 AM

Question 1

- Upgrading aging water infrastructure (3)
- Preparing for the effects of climate change (2)
- Ensuring an adequate and sustainable drinking water supply (5)
- Ensuring clean water for Ashland Creek and other Ashland streams (2)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (2)
- Providing easy trail access near water for recreation (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (2)
- The Ashland Canal can be used as a back-up drinking water supply (2)
- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (4)
- The trees and vegetation growing along the Ashland Canal (3)
- Viewing wildlife attracted to the Ashland Canal (1)

Question 3

- I live near this section of the Ashland Canal

- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 3-4 times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)
- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- Perhaps, but I need more information

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 2
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 3
Future irrigation water availability: 4

Question 11

- Reduce seepage and increase water availability

Question 12

No response

Claudia Little
inside Ashland
June 10, 2019, 9:06 AM

Question 1

- Keeping the aesthetic of flowing water in the Ashland Canal during summer (1)
- Providing easy trail access near water for recreation (1)

Question 2

- The aesthetic of flowing water in the Ashland Canal (May - September) (1)
- The walking trail along the Ashland Canal (1)
- The trees and vegetation growing along the Ashland Canal (1)
- Viewing wildlife attracted to the Ashland Canal (1)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I use parts of the trail to commute through town
- Other - Although I don't commute through town using this trail on a daily basis, when I go for longer walks, I do use this trail and will circle back to town on it. My husband and I take a longer walk several times a week and use this part of the system.

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 4
Limited access to home during construction: 2
Limited access to trails during construction: 5
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 3
Future irrigation water availability: 2

Question 11

- Other - Greatly reduce the recreation value of the canal trail system. Many people, including my husband and I are called to walk the trail due to its beauty. It is a vital part of our fitness program and keeps us, in our mid 70's, in good health. Don't cover it!

Question 12

I'm against it. The canal is much more than a water/irrigation supply for Ashland. It adds to our quality of life when so many of us can walk out of our doors and be in nature. The canal actually helps keep the citizenry in better health as everyone I know hikes the trail at least several times a week. As we age, the canal trail with the gurgling water, is safe and easy making daily exercise a pleasure. Please just repair the canal where needed. The canal was a major reason for our moving and buying a house in Ashland.

Name not available
June 10, 2019, 9:14 AM

Question 1

- Upgrading aging water infrastructure (1)
- Preparing for the effects of climate change (1)
- Ensuring an adequate and sustainable drinking water supply (1)
- Ensuring clean water for Ashland Creek and other Ashland streams (2)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (4)
- Providing easy trail access near water for recreation (4)
- Other - Not spending money the city doesn't have (2)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (1)
- The Ashland Canal can be used as a back-up drinking water supply (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (3)
- The trees and vegetation growing along the Ashland Canal (3)
- Viewing wildlife attracted to the Ashland Canal (3)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I use parts of the trail to commute through town

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 4
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 4
Future irrigation water availability: 2

Question 11

- Other - Reduce seepage and introduce more people to the TID trail

Question 12

Please listen to the citizens of Ashland. Do not rush to make a decision. Recent repairs of the canal show that simple patching and maintenance can resolve seepage while retaining the character of the canal. The council talks a lot about the character of Ashland; the canal typifies that. Keep the TID open.

Name not available

inside Ashland
June 10, 2019, 9:14 AM

Question 1

- Upgrading aging water infrastructure (3)
- Preparing for the effects of climate change (1)
- Ensuring an adequate and sustainable drinking water supply (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (2)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (3)
- Providing easy trail access near water for recreation (2)

Question 2

- The aesthetic of flowing water in the Ashland Canal (May - September) (5)
- The walking trail along the Ashland Canal (5)
- The trees and vegetation growing along the Ashland Canal (5)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I use parts of the trail to commute through town

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)

Question 9

- No

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 5
Wildlife impacts: 4
Tree loss: 4
Trail access impacted long term: 5
Project costs are too high: 2
Stormwater runoff may be worse: 2
Future irrigation water availability: 2

Question 11

- Reduce seepage and increase water availability

Question 12

The portions of the canal that have been piped eg: near Morton St, were poorly done, have been poorly maintained, and look terrible. The thin layer of soil and revegetation that was applied to the pipe has degraded and continues to do so. This pipe sits above level at a curve and is difficult to walk on. If this is the norm of what future canal piping will look like I am totally in opposition. The recreational opportunities of the canal trail are

highly valued by the people who use it. WE use it for exercise and commuting between places. Part of that "value" is the canal with water running at certain times of the year, but we use it other times of the year also. So, the best part of the canal trail is just having this wonderful flat pretty trail so accessible to a great number of people. If a piping project could be done at grade creating a flat usable trail that would also improve accessibility eg: open all portions of the canal now closed to public access to create a more lengthy cohesive trail system, as well as, be aesthetically pleasing but without the water (not the hideous look of that piped portion near Morton St) that would be a compromise for everyone I could live with. However, without those guarantees I cannot support enclosed piping. Of course, we all know the importance of water conservation, so I can support concrete lining of the now open portions. As you know maintenance of the canal lining has been nonexistent.

Name not available
inside Ashland
June 10, 2019, 10:04 AM

Question 1

- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (2)
- Ensuring clean water for Ashland Creek and other Ashland streams (4)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (5)
- Providing easy trail access near water for recreation (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (2)
- The Ashland Canal can be used as a back-up drinking water supply (2)
- The aesthetic of flowing water in the Ashland Canal (May - September) (4)
- The walking trail along the Ashland Canal (3)
- The trees and vegetation growing along the Ashland Canal (2)
- Viewing wildlife attracted to the Ashland Canal (2)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 5
Wildlife impacts: 4
Tree loss: 4
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 4
Future irrigation water availability: 2

Question 11

- Reduce seepage and increase water availability

Question 12

Too expensive and ruins the aesthetics of the area that not exist.

Name not available
outside Ashland
June 10, 2019, 10:34 AM

Question 1

- Upgrading aging water infrastructure (5)
- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (7)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (6)
- The Ashland Canal can be used as a back-up drinking water supply (9)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- I rarely use the trail along this section of the Ashland Canal

Question 7

- I rarely use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 3
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 3
Trail access impacted long term: 1
Project costs are too high: 3
Stormwater runoff may be worse: 1
Future irrigation water availability: 3

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Mary Lou Lo Preste

inside Ashland
June 10, 2019, 10:39 AM

Question 1

- Preparing for the effects of climate change (1)
- Ensuring an adequate and sustainable drinking water supply (1)
- Ensuring clean water for Ashland Creek and other Ashland streams (1)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (7)
- Providing easy trail access near water for recreation (5)

Question 2

- The aesthetic of flowing water in the Ashland Canal (May - September) (5)
- The walking trail along the Ashland Canal (7)
- The trees and vegetation growing along the Ashland Canal (3)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I pay the City of Ashland for irrigation water from the Ashland Canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)
- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 5
Limited access to home during construction: 1
Limited access to trails during construction: 5
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 1
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Other - None of the above. This is a frivolous project.

Question 12

The majority of residents at the meetings for this project do not want it. What are you not listening? We want the trees and fixing this small portion of canal will have little or negligible impact on water loss.

Avram Chetron
inside Ashland
June 10, 2019, 1:39 PM

Question 1

- Upgrading aging water infrastructure (3)
- Preparing for the effects of climate change (4)
- Ensuring an adequate and sustainable drinking water supply (3)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (4)
- Other - Apply the $ you'd use for piping toward balancing the city budget and perhaps save a city employee job or two. (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (1)
- The Ashland Canal can be used as a back-up drinking water supply (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (4)
- The walking trail along the Ashland Canal (4)
- The trees and vegetation growing along the Ashland Canal (3)
- Viewing wildlife attracted to the Ashland Canal (2)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 3-4 times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)
- Other - Prioritize maintenance of the canal so that it doesn't get as degraded in the future.

Question 9

- No

Question 10

Negative impact to property values: 5
Limited access to home during construction: 4
Limited access to trails during construction: 5
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 3
Future irrigation water availability: 3

Question 11

- Other - I think it has a likelihood of degrading the neighborhoods through which the canal passes. The loss of so many trees and the loss of a much loved neighborhood waterway will diminish the quality of life in my neighborhood.

Question 12

I'd like the city to to be proactive about maintaining its infrastructure. There's no excuse for allowing the deterioration of facilities like the Community Center and Pioneer Hall, and then posturing as if this is a surprise and couldn't have been helped. Maintenance of the TID within the city limits could have kept the seepage problem under control. When Ashland needs TID water to supplement the Reeder Reservoir for our domestic needs, it has to treat that water in any event, so the e-coli concern is no reason to undertake this needless expense that diminishes the loveliness of my neighborhood.

Name not available

inside Ashland
June 10, 2019, 2:40 PM

Question 1

- Upgrading aging water infrastructure (3)
- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (4)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (3)
- Providing easy trail access near water for recreation (2)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (3)
- The aesthetic of flowing water in the Ashland Canal (May - September) (5)
- The walking trail along the Ashland Canal (5)
- The trees and vegetation growing along the Ashland Canal (2)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)

Question 9

- No

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 2
Wildlife impacts: 2
Tree loss: 3
Trail access impacted long term: 2
Project costs are too high: 5
Stormwater runoff may be worse: 3
Future irrigation water availability: 3

Question 11

- Reduce seepage and increase water availability
- Other - if the canal is lined, not enclosed

Question 12

No response

Name not available
inside Ashland
June 10, 2019, 4:02 PM

Question 1

- Ensuring an adequate and sustainable drinking water supply (3)
- Ensuring clean water for Ashland Creek and other Ashland streams (3)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (5)
- Providing easy trail access near water for recreation (4)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (1)
- The Ashland Canal can be used as a back-up drinking water supply (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (3)
- The trees and vegetation growing along the Ashland Canal (4)
- Viewing wildlife attracted to the Ashland Canal (3)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)

Question 9

- No

Question 10

Negative impact to property values: 5
Limited access to home during construction: 1
Limited access to trails during construction: 5
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Other - Will make me very sad

Question 12

I walk my dog evety day along the TID and am always amazed at and enjoy walking in that lovely environment. I love watching the changes in the seasons and listening to the rippling water. There is always something new and wonderful to see. I would be heartbroken if it were taken away. I pay high property taxes and there are few places here where I can walk my dog so I wish to keep this one thing

Doug Shipley
inside Ashland
June 10, 2019, 4:10 PM

Question 1

- Upgrading aging water infrastructure (3)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (6)

- Providing easy trail access near water for recreation (6)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (3)
- The Ashland Canal can be used as a back-up drinking water supply (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (4)
- The walking trail along the Ashland Canal (4)
- The trees and vegetation growing along the Ashland Canal (1)
- Viewing wildlife attracted to the Ashland Canal (2)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I pay the City of Ashland for irrigation water from the Ashland Canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal
- I use parts of the trail to commute through town

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 4
Limited access to home during construction: 2
Limited access to trails during construction: 5
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 5
Future irrigation water availability: 5

Question 11

- Other - It's a shame that almost no maintenance has been done on the canal for the 30 years I've been using it. Negligence isn't ok.

Question 12

This project is too expensive and will not improve the esthetics of the area. This is like buying your teenager a new car after they ruined their old one. Patch the canal perform maintenance keep it open.

Name not available
June 10, 2019, 4:42 PM

Question 1

- Keeping the aesthetic of flowing water in the Ashland Canal during summer (10)
- Providing easy trail access near water for recreation (5)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (5)
- The aesthetic of flowing water in the Ashland Canal (May - September) (4)
- The walking trail along the Ashland Canal (4)
- The trees and vegetation growing along the Ashland Canal (2)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I pay the City of Ashland for irrigation water from the Ashland Canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 4
Limited access to home during construction: 1
Limited access to trails during construction: 4
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 4
Future irrigation water availability: 4

Question 11

- Other - Too much spent on just 2 miles of a 20 mile canal

Question 12

Lack of maintenance has created loss of water for a long time.

Timothy Warren
inside Ashland
June 10, 2019, 4:57 PM

Question 1

- Upgrading aging water infrastructure (5)
- Preparing for the effects of climate change (4)
- Ensuring an adequate and sustainable drinking water supply (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (2)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (10)
- The Ashland Canal can be used as a back-up drinking water supply (5)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- I rarely use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 2
Limited access to trails during construction: 2
Wildlife impacts: 1
Tree loss: 1

Trail access impacted long term: 2
Project costs are too high: 1
Stormwater runoff may be worse: 2
Future irrigation water availability: 5

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

The canal was designed for irrigation. Improve the canal by putting it pipes for better use in the future.

Name not available
inside Ashland
June 11, 2019, 7:18 AM

Question 1

- Preparing for the effects of climate change (15)

Question 2

- The Ashland Canal can be used as a back-up drinking water supply (15)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- I never use the trail along this section of the Ashland Canal

Question 7

- I never use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 5
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 1
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Name not shown
inside Ashland
June 11, 2019, 1:26 PM

Question 1

- Upgrading aging water infrastructure (3)
- Preparing for the effects of climate change (2)
- Ensuring an adequate and sustainable drinking water supply (6)
- Ensuring clean water for Ashland Creek and other Ashland streams (2)
- Providing easy trail access near water for recreation (2)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (4)
- The Ashland Canal can be used as a back-up drinking water supply (5)
- The aesthetic of flowing water in the Ashland Canal (May - September) (1)
- The walking trail along the Ashland Canal (3)
- The trees and vegetation growing along the Ashland Canal (2)

Question 3

- This section of the Ashland Canal goes through my property

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal
- I use parts of the trail to commute through town

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 4
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Name not available

inside Ashland
June 11, 2019, 11:19 PM

Question 1

- Upgrading aging water infrastructure (2)
- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (3)
- Ensuring clean water for Ashland Creek and other Ashland streams (2)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (3)
- Providing easy trail access near water for recreation (2)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (2)
- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (3)
- The trees and vegetation growing along the Ashland Canal (4)
- Viewing wildlife attracted to the Ashland Canal (3)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)

- Fall Months (September - November)

Question 7

- 3-4 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- No

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 3
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 2
Stormwater runoff may be worse: 2
Future irrigation water availability: 1

Question 11

- Reduce seepage and increase water availability

Question 12

No response

Name not available
June 12, 2019, 2:12 PM

Question 1

- Upgrading aging water infrastructure (4)
- Ensuring an adequate and sustainable drinking water supply (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (4)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (2)
- Providing easy trail access near water for recreation (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (1)
- The Ashland Canal can be used as a back-up drinking water supply (2)
- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (2)
- The trees and vegetation growing along the Ashland Canal (4)
- Viewing wildlife attracted to the Ashland Canal (3)

Question 3

- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Other - I have yet to see any definitive data linking this section of canal to increased bacterial load. E.coli source(s) HAVE NOT been determined. Try starting with reducing all the dog feces along trails - perhaps hefty fines to pet owners?

Question 9

- No

Question 10

Negative impact to property values: 4
Limited access to home during construction: 3
Limited access to trails during construction: 2
Wildlife impacts: 4
Tree loss: 5
Trail access impacted long term: 3

Project costs are too high: 5
Stormwater runoff may be worse: 5
Future irrigation water availability: 2

Question 11

- Other - I do not believe all the supporting information provided by the city is accurate or complete to support piping.

Question 12

No response

Name not available

inside Ashland
June 13, 2019, 4:29 PM

Question 1

- Upgrading aging water infrastructure (2)
- Preparing for the effects of climate change (1)
- Ensuring an adequate and sustainable drinking water supply (1)
- Ensuring clean water for Ashland Creek and other Ashland streams (1)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (3)
- Providing easy trail access near water for recreation (5)
- Other - Purchasing easements along TID to create a city walking/biking path (aka banning fences blocking the path) (2)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (3)
- The Ashland Canal can be used as a back-up drinking water supply (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (4)
- The walking trail along the Ashland Canal (6)
- The trees and vegetation growing along the Ashland Canal (1)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I pay the Talent Irrigation District for irrigation water

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- I rarely use the trail along this section of the Ashland Canal

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)
- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)
- Other - clean it regularly, find weak or leaky sections, and pour new concrete/patch it

Question 9

- Perhaps, but I need more information

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 3
Tree loss: 2
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 1
Future irrigation water availability: 3

Question 11

- Other - Cost too much and not address e.coli in the slightest since there are tens and tens of miles that are unpiped, including sections running past pig farms.

Question 12

If this 3-6 million dollar piping is covered almost entirely by outside grants, then maybe it has legs. I'd so much rather spend a million or 3

million on creating a walking path that all neighbors are on board with. It's truly one of the very biggest treasures in the town.
So it seems far more logical to stick with what we have, but maintain it and improve it. Piping a small section at the very end seems like an attempt to drink from the lake with a straw and hoping that it somehow reduces the nasty stuff that's already in there. Unless you're adding filtration, it seems pipes add complexity to the canal system (how would they react to seismic activity or other breaks?). Just patch and clean.

Name not available

inside Ashland
June 13, 2019, 4:36 PM

Question 1

- Ensuring an adequate and sustainable drinking water supply (2)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (9)
- Providing easy trail access near water for recreation (4)

Question 2

- The Ashland Canal can be used as a back-up drinking water supply (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (7)
- The walking trail along the Ashland Canal (4)
- The trees and vegetation growing along the Ashland Canal (2)
- Viewing wildlife attracted to the Ashland Canal (1)

Question 3

- This section of the Ashland Canal goes through my property
- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Other - Patch sections that are defined as poor (23%) to reduce seepage. Reduce flow to the minimum required for flushing, then treat the remainder at the water treatment plant to remove e-coli. Don't dump it into Creek. How much water is wasted down creek?

Question 9

- No

Question 10

Negative impact to property values: 5
Limited access to home during construction: 2
Limited access to trails during construction: 2
Wildlife impacts: 2
Tree loss: 4
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 3
Future irrigation water availability: 2

Question 11

- Other - There are alternatives (see above) that reduce seepage and improve water quality even more at less cost.

Question 12

There are inconsistencies in the presentations that determine whether my property is impacted. The city council presentation shows the piping beginning at the Starlite pumping station (consistent with previous public statements) however the final engineering report shows it starting upstream of Starlite. Since my property lies between Starlite and the pump station, it is not clear if I will be impacted. If the engineering report cannot even define the extent of the project correctly, I have little faith in the quality of the work.
While some might consider the seepage as "wasted" water, consider that the seepage is irrigating large trees along the trail. Is this really more "wasted" than using it to irrigate someone's lawn or flowerbed?
I understand that some flow is required to keep the canal flushed and the remaining water is flushed into Ashland Creek. How much is that and how does it compare to the seepage? I have been told that Ashland Creek is not being used as a conveyance to move that water to downstream users, but simply to keep flow moving through the canal. If you really want to

keep Ashland Creek clean, especially through Lithia Park, then don't dump the water into it. Even if you pipe the Ashland section of the canal, you will have e-coli from the many miles upstream of that section. Either clean the water or pipe it downstream from Lithia before dumping it in the creek.
My major concern is the loss of aesthetics of an open waterway and the subsequent loss of property values. The city has gone to the expense of creating an "artist's rendition" of what the trail will look like. One wonders why they didn't just take a picture of the currently piped sections? Could it be that they don't look anything like the "artistic version"? Is the city planning to finance landscaping and up-keep to make this the reality? (I don't see that in the budget numbers)
My impression of the public meetings that I have attended is that some in the city decided early on that piping was the thing to do and that the studies that they have conducted are aimed at "selling" the project rather an impartial cost-benefit analysis. I urge the city to reject the first three options and consider others.

Name not available
June 13, 2019, 4:54 PM

Question 1

- Keeping the aesthetic of flowing water in the Ashland Canal during summer (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (1)
- The walking trail along the Ashland Canal (6)
- The trees and vegetation growing along the Ashland Canal (4)
- Viewing wildlife attracted to the Ashland Canal (4)

Question 3

- I live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)

Question 9

- No

Question 10

Negative impact to property values: 4
Limited access to home during construction: 3
Limited access to trails during construction: 5
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 3
Stormwater runoff may be worse: 3
Future irrigation water availability: 3

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Name not available
inside Ashland
June 13, 2019, 5:08 PM

Question 1

- Preparing for the effects of climate change (5)
- Ensuring an adequate and sustainable drinking water supply (5)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (2)
- Providing easy trail access near water for recreation (3)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (2)
- The Ashland Canal can be used as a back-up drinking water supply (2)
- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (3)
- The trees and vegetation growing along the Ashland Canal (3)
- Viewing wildlife attracted to the Ashland Canal (2)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Other - Leave it alone! Your plan to do anything to it is ridiculous and one more example of the City wasting money on useless projects while raising taxes via utilities.

Question 9

- No

Question 10

Negative impact to property values: 5
Limited access to home during construction: 3
Limited access to trails during construction: 5
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 5
Future irrigation water availability: 3

Question 11

- Other - I'm more worried about the effects of Uproot Meats on the water.

Question 12

Please just stop with these ridiculous projects that aren't truly needed and cost millions of dollars that are needed elsewhere in our city. This proposed project is one of the more useless ones the City has come up with. Building more affordable housing, helping the homeless, fixing roads, fixing the two buildings across from Lithia, dealing with smoke filled summers etc., are where our taxes should be spent, not this boondoggle. You just keep raising our utility taxes to fund some completely unnecessary projects. FRUSTRATING AND SO IRRESPONSIBLE!

Name not shown

inside Ashland
June 13, 2019, 9:29 PM

Question 1

- Upgrading aging water infrastructure (3)
- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (3)
- Ensuring clean water for Ashland Creek and other Ashland streams (3)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (3)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (3)
- The Ashland Canal can be used as a back-up drinking water supply (3)
- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (3)
- The trees and vegetation growing along the Ashland Canal (3)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 3-4 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- Yes

Question 10

Negative impact to property values: 2
Limited access to home during construction: 1
Limited access to trails during construction: 4
Wildlife impacts: 4
Tree loss: 5
Trail access impacted long term: 4
Project costs are too high: 3
Stormwater runoff may be worse: 3
Future irrigation water availability: 3

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

WeTID neighbors love the open water aspect and the trees and other greenery sure it! We know repairs are needed but don't want the canal covered.

Name not available
June 14, 2019, 6:51 AM

Question 1

- Upgrading aging water infrastructure (1)
- Preparing for the effects of climate change (1)
- Ensuring clean water for Ashland Creek and other Ashland streams (13)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (15)

Question 3

- I live near this section of the Ashland Canal

Question 4

- I pay the Talent Irrigation District for irrigation water

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 2
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Name not available
inside Ashland
June 14, 2019, 8:14 AM

Question 1

- Upgrading aging water infrastructure (2)
- Preparing for the effects of climate change (4)
- Ensuring clean water for Ashland Creek and other Ashland streams (2)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (4)
- Providing easy trail access near water for recreation (1)
- Other - Saving money (2)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (2)
- The aesthetic of flowing water in the Ashland Canal (May - September) (3)
- The walking trail along the Ashland Canal (7)
- The trees and vegetation growing along the Ashland Canal (3)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)

Question 7

- 3-4 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)
- Other - Minimize new pipe; maximize maintenance

Question 9

- No

Question 10

Negative impact to property values: 5
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 1
Future irrigation water availability: 5

Question 11

- Other - be unaffordable and unnecessary - go low tech!

Question 12

I think this survey reveals the City Staff's bias toward unaffordable max-piping instead of cost-effective maintenance with minimum piping. For example, it is not well represented that the Klamath Tribe lawsuit results may soon eliminate this water source.

Donna Rhee
inside Ashland

June 14, 2019, 9:24 AM

Question 1

- Upgrading aging water infrastructure (5)
- Ensuring an adequate and sustainable drinking water supply (5)
- Ensuring clean water for Ashland Creek and other Ashland streams (5)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (5)
- The Ashland Canal can be used as a back-up drinking water supply (10)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- Other - I have walked this section of the trail as well as the Scenic ditch trail and find it a pleasing, however it is not a hike in the woods. The greater good for Ashland is to have access to this water and protect this supply for the whole community.

Question 6

- I rarely use the trail along this section of the Ashland Canal

Question 7

- I rarely use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 2
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 2
Stormwater runoff may be worse: 2
Future irrigation water availability: 4

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Name not available

inside Ashland
June 14, 2019, 4:23 PM

Question 1

- Upgrading aging water infrastructure (1)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (1)
- Providing easy trail access near water for recreation (1)
- Other - Infrastructure of the can be upgraded without covering it and piping. There arr literally miles of incovered canal befor Ashland. During the last drought years we hooked into the Medford water supply somwe would not need to use canal water for drinking. (1)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (1)
- The walking trail along the Ashland Canal (1)
- The trees and vegetation growing along the Ashland Canal (1)
- Viewing wildlife attracted to the Ashland Canal (1)
- Other - I moved to Ashland 11 years ago and one reason was the reason was access to the canal for running and hiking. I first started teaching summer workshops in1977 at SOU and was entranced with the canal systems and trails. Please do not cover the up. (1)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal
- I run or bike on the trail along this section of the Ashland Canal
- I use parts of the trail to commute through town

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 5 or more times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)
- Other - I have seen no concerted attempt to maintain this section of the canal in the past 12 years. The e coli can already enter the canal in the miles before it reached Ashland.

Question 9

- No

Question 10

Negative impact to property values: 5
Limited access to home during construction: 1
Limited access to trails during construction: 5
Wildlife impacts: 5
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 5
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Other - I don't think the project will improve the water quality. Any reduction in seepage would be offset by the higher costs of keeping invasive roots out the piping sections.

Question 12

Please keep the civic treasure of canal trails open!

Name not available

inside Ashland
June 14, 2019, 7:42 PM

Question 1

- Upgrading aging water infrastructure (2)
- Ensuring an adequate and sustainable drinking water supply (8)
- Ensuring clean water for Ashland Creek and other Ashland streams (5)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (6)
- The walking trail along the Ashland Canal (6)
- The trees and vegetation growing along the Ashland Canal (3)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I pay the Talent Irrigation District for irrigation water

Question 5

- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 3
Wildlife impacts: 1
Tree loss: 5
Trail access impacted long term: 5
Project costs are too high: 3
Stormwater runoff may be worse: 1
Future irrigation water availability: 3

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

I would hate for trees to be cut down. That section of trail is very shady now and that is a big part of its appeal. While I do like walking beside the water, I understand and agree with the benefits of piping, but I'd hate to lose the shade provided by the trees along the canal. I would like any piping to be minimally invasive to the vegetation along the canal. And while this is not really related, I'd really, really like for the City to acquire a trail easement for the entire length of the canal and reopen the sections closed by Mr Jessup above Paradise Ln and the section where Clay St intersects the trail by Country Willows. Hey, I can dream, can't I?

Name not shown
inside Ashland
June 15, 2019, 6:04 PM

Question 1

- Upgrading aging water infrastructure (5)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (6)
- Providing easy trail access near water for recreation (4)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (4)
- The Ashland Canal can be used as a back-up drinking water supply (1)
- The aesthetic of flowing water in the Ashland Canal (May - September) (5)
- The walking trail along the Ashland Canal (4)
- Viewing wildlife attracted to the Ashland Canal (1)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Winter Months (December - February)
- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 1-2 times a month

Question 8

- Patch up the open sections of canal in phases over the next 5 years and then repeat - (some reduction in water loss, and does not address E. coli)

Question 9

- Perhaps, but I need more information

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 3
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 3
Project costs are too high: 5
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Other - Does not make a difference over the entire TID

Question 12

Does not make a difference over the entire TID . Many many problems with the study. It really is seems that this is a work project for the city. They have not looked at all the aspects of piping. This makes it very hard to trust anything that the city says.

Name not available
inside Ashland
June 16, 2019, 2:19 PM

Question 1

- Upgrading aging water infrastructure (4)
- Preparing for the effects of climate change (3)
- Ensuring an adequate and sustainable drinking water supply (5)
- Ensuring clean water for Ashland Creek and other Ashland streams (3)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (5)
- The Ashland Canal can be used as a back-up drinking water supply (5)
- Other - Conserving water should be highest priority for Ashland long-term sustainability--thus cover canal. It was built for a water conveyance purpose not for a public recreation area. (5)

Question 3

- I don't live near this section of the Ashland Canal
- I don't directly use this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- I never use the trail along this section of the Ashland Canal

Question 7

- I never use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 2
Limited access to trails during construction: 2
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 2
Stormwater runoff may be worse: 1
Future irrigation water availability: 5

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

People who bought property by or near the canal knew it was a canal and not a natural stream. There are many other places to walk in and around Ashland by water. The need for water conservation should outweigh a few residents' personal interests regarding property values and access. Trees will grow back. The City should work to mitigate construction impacts as much as possible.
Not doing this canal improvement would be like not repaving Hersey Street because it will inconvenience adjacent homeowners and people who use this street on a regular basis.

Name not available
June 17, 2019, 1:02 PM

Question 1

- Upgrading aging water infrastructure (5)
- Ensuring an adequate and sustainable drinking water supply (6)
- Ensuring clean water for Ashland Creek and other Ashland streams (4)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (7)
- The Ashland Canal can be used as a back-up drinking water supply (8)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I pay the City of Ashland for irrigation water from the Ashland Canal

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- I never use the trail along this section of the Ashland Canal

Question 7

- I never use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 1
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Name not available
inside Ashland
June 17, 2019, 1:37 PM

Question 1

- Upgrading aging water infrastructure (5)
- Ensuring an adequate and sustainable drinking water supply (5)
- Ensuring clean water for Ashland Creek and other Ashland streams (5)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (7)
- The Ashland Canal can be used as a back-up drinking water supply (7)
- The trees and vegetation growing along the Ashland Canal (1)

Question 3

- I don't live near this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I don't use the trail along this section of the Ashland Canal

Question 6

- I never use the trail along this section of the Ashland Canal

Question 7

- I never use the trail along this section of the Ashland Canal

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 1
Project costs are too high: 1
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek

Question 12

Proceed with piping as proposed.

Name not available
inside Ashland
June 17, 2019, 2:17 PM

Question 1

- Upgrading aging water infrastructure (7)
- Ensuring clean water for Ashland Creek and other Ashland streams (8)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (1)
- The Ashland Canal can be used as a back-up drinking water supply (14)

Question 3

- I don't live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal

Question 4

- I do not use irrigation water from the canal

Question 5

- I run or bike on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)

Question 7

- 1-2 times a month

Question 8

- Pipe this section so that it; 1) does not lose water to seepage and evaporation; and 2) reduces E. coli levels

Question 9

- No

Question 10

Negative impact to property values: 1, 2
Limited access to home during construction: 1
Limited access to trails during construction: 1
Wildlife impacts: 1
Tree loss: 1
Trail access impacted long term: 3
Project costs are too high: 1
Stormwater runoff may be worse: 1
Future irrigation water availability: 1

Question 11

- Improve water quality in Ashland Creek
- Reduce seepage and increase water availability

Question 12

No response

Douglas Knauer
inside Ashland
June 18, 2019, 12:43 PM

Question 1

- Upgrading aging water infrastructure (4)
- Ensuring an adequate and sustainable drinking water supply (5)
- Ensuring clean water for Ashland Creek and other Ashland streams (3)
- Keeping the aesthetic of flowing water in the Ashland Canal during summer (1)
- Providing easy trail access near water for recreation (2)

Question 2

- The Ashland Canal provides irrigation water to residents in the community (6)
- The Ashland Canal can be used as a back-up drinking water supply (5)
- The walking trail along the Ashland Canal (4)

Question 3

- I live near this section of the Ashland Canal
- I use the trail along this section of the Ashland Canal
- I don't directly use this section of the Ashland Canal

Question 4

- I pay the City of Ashland for irrigation water from the Ashland Canal

Question 5

- I walk or exercise my dog on the trail along this section of the Ashland Canal

Question 6

- Spring Months (March - May)
- Summer Months (June - August)
- Fall Months (September - November)

Question 7

- 3-4 times a month

Question 8

- Reline this entire section of canal with concrete - (does not address E. coli or water loss to evaporation)
- Other - Cull the deer herd regularly to decrease the likely source of the e coli contamination.

Question 9

- No

Question 10

Negative impact to property values: 1
Limited access to home during construction: 2
Limited access to trails during construction: 3
Wildlife impacts: 2
Tree loss: 1
Trail access impacted long term: 3
Project costs are too high: 5
Stormwater runoff may be worse: 2
Future irrigation water availability: 5

Question 11

- Reduce seepage and increase water availability

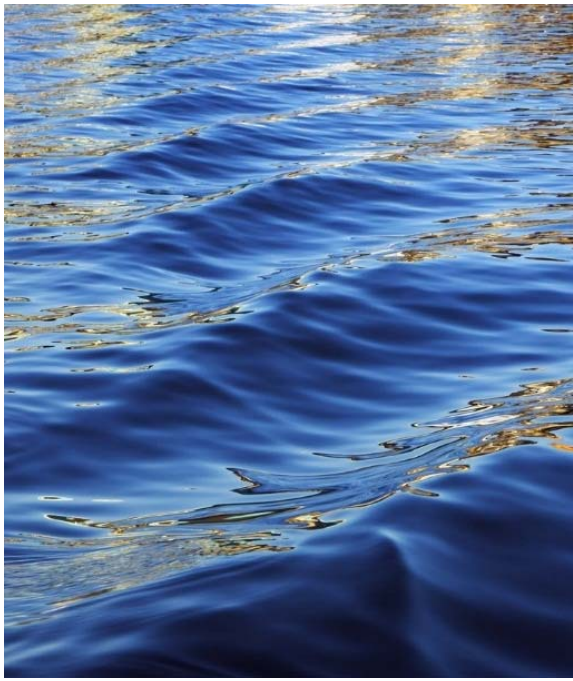
Question 12

No response

Ashland Canal Piping Project

Council Study Session

July 15, 2019



City Council Study Session Expectations

- Recap: Project Goals and Location
- Condition of Canal Today; Deferred Maintenance Concerns
- Community Feedback and Input to Date
  - See Issue Paper Attachment to Council Communication
  - Complete Survey Results

City Council Study Session Expectations - continued

- Cost Comparisons
- Next Steps
  - Council Decision – August 6, 2019 (Council Business Meeting)
  - Final Design and Permitting
    - August 2019 – August 2020; depending on the selected alternative
  - Construction
    - start October 2020 depending upon the selected alternative

City Council Study Session Expectations - continued

Review Common Concerns With All Alternatives

Review Alternatives / Pros and Cons

- Alt 1 Replace Entire Canal with New 24" HDPE Pipe
- Alt 2 Replace Open Sections of Canal with New 24" and 30" HDPE Pipe and Line Existing Piped Sections
- Alt 3 Replace Open Sections of Canal with Urethane Under-liner and new Concrete Channel, Line Existing Piped Sections; canal remains open
- Alt 4 Removed – does not fully meet the project goals

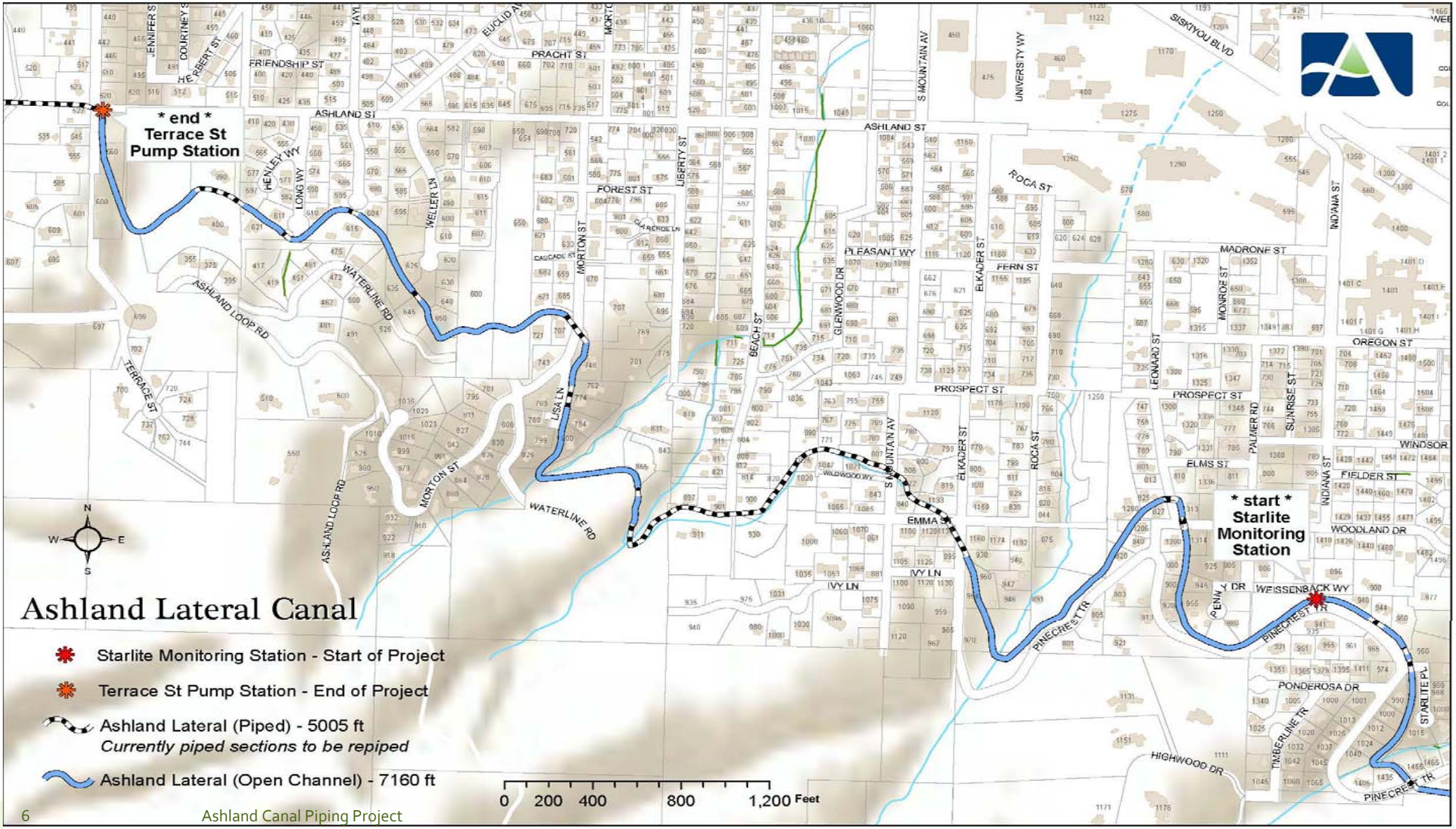
Project Purpose & Benefits

Purpose:

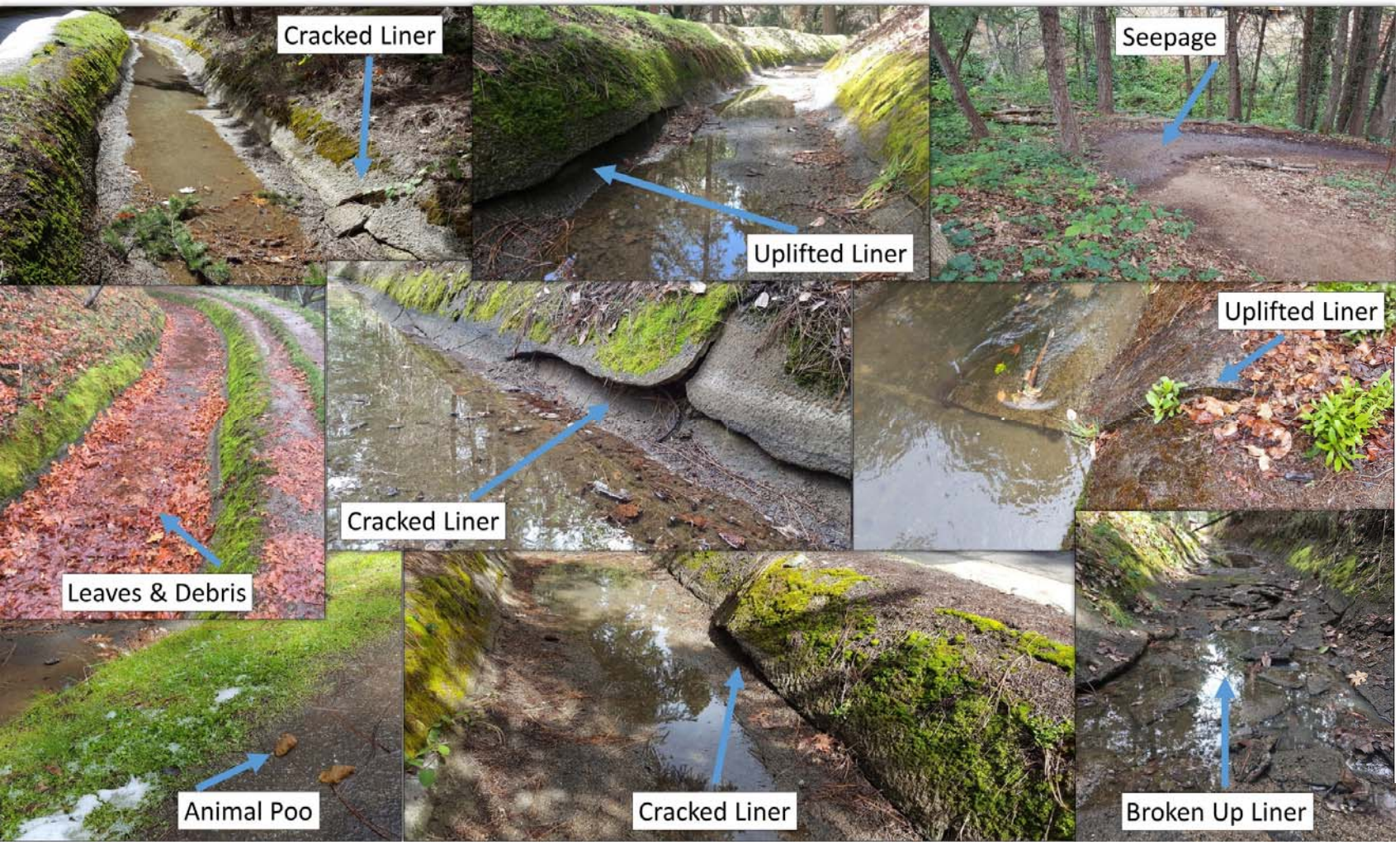
- Replace 10,700 feet of Ashland's open-channel seasonal irrigation canal from Starlite Place to Terrace Street with below-ground pipe to reduce water loss and assist overall water conservation, and improve the water quality in Ashland Creek.
    - Recommended in the 2012 Water Master Plan
    - Included in the 20 Year Capital Improvements Program

Benefits:

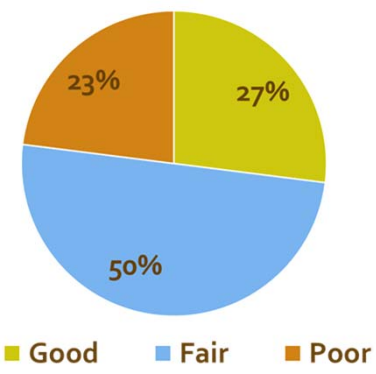
- Minimize water contaminants and health risks in Ashland Creek
- Conserve water and reduce water loss due to seepage and evaporation
- Maximize water resource – *Right Water Right Use*
- Protect future availability of drinking water sources


* end *
Terrace St
Pump Station
* start *
Starlite
Monitoring
Station
Ashland Lateral Canal
Starlite Monitoring Station - Start of Project
Terrace St Pump Station - End of Project
Ashland Lateral (Piped) - 5005 ft
Currently piped sections to be repiped
Ashland Lateral (Open Channel) - 7160 ft
0 200 400 800 1,200 Feet
N
S
E
W
ASHLAND ST
ASHLAND LOOP RD
WATERLINE RD
TERRACE ST
HENLEY WY
LONG WY
WELLER LN
FRIENDSHIP ST
PRACHT ST
EUCLID AV
HERBERT ST
COURTNEY S
JENNIFER S
FOREST ST
LIBERTY ST
MORTON ST
CASCADE ST
LISA LN
BEACH ST
GLENWOOD DR
PLEASANT WY
ELKADER ST
ROCA ST
FERN ST
PROSPECT ST
S MOUNTAIN AV
UNIVERSITY WY
SISKIYOU BLVD
MADRONE ST
MONROE ST
LEONARD ST
OREGON ST
SUNRISE ST
PALMER RD
INDIANA ST
WINDSOR
ELMS ST
FIELDER ST
WOODLAND DR
WEISSENBACK WY
PENNY DR
PINECREST TR
PONDEROSA DR
TIMBERLINE TR
HIGHWOOD DR
STARLITE PL
EMMA ST
IVY LN
WALDWOOD WY

Ashland Canal Existing Conditions



Current Concrete Liner Condition



Public Outreach

- Neighborhood Kick-off Meeting
  - March 6, 2018
- Neighborhood "Backyard Visits"
  - 20 on-site interviews
- Community Meetings
  - April 18, 2018
  - January 31, 2019
- Parks Master Plan Open House
  - May 2, 2019
- Canal Tour (ACAG and staff)
  - November 13, 2018
- Ashland Canal Advisory Group
  - April 2, 2018
  - October 9, 2018
  - December 20, 2018
- City Source Articles
- TV & Radio Interviews
- Project website
- Email notification list (70 citizens)
- Meetings, emails and phone communications with community members
- City Council Study Session
  - February 4, 2019
  - April 1, 2019
  - June 17, 2019 – Council Listening Session

Issue Papers

Based upon Council and community input, 14 issue papers were generated to discuss the specifics of each concern

1. Cost
2. E.coli
3. Survey Summary
   - ✓ full survey results
4. Trees
5. Trails
6. Aesthetics of Water
7. Property Values
8. Just Patch
9. Drainage
10. Construction
11. Wildlife
12. Water Rights
13. "Option 5"
14. Greenhouse Gas Emissions

Alternatives Assumptions

Alternative Criteria

- Meet minimum design criteria of 7.2 cubic feet per second flow rate
- Ensure maximum upstream water elevation of 2,327.05 feet

Funding

- Alternatives 1-3 assume the City will apply for new grant funding and/or secure addition loan funding from the DEQ or IFA
- Potential grant funding sources:
  - Natural Resources Conservation Service
  - Oregon Watershed Enhancement Board
  - US Bureau of Reclamation
  - Oregon Water Resources Department
  - Rogue Basin Partnership

Alternatives Common Concerns

- Tree Loss
  - of the 287 trees identified, **less than 100 trees** must be removed
  - exact number and location to be included on final engineering plans
- Property Values – unknown true impact
- Trail Access
  - City has a maintenance easement for the canal on all 69 properties
  - $29^1/_2$ have dedicated public access easements; 39 do not
  - Portions of the "trail" are not publicly accessible
  - Ability to fully improve trail connection is unknown

Alternatives Common Concerns - continued

- Klamath water rights adjudication is an unknown for the basin
  - irrigation water rights challenges began in the basin in 1975 and continue today
- Wildlife impact
  - although this is not a "wildlife corridor", wildlife do frequent the seasonally open canal; if the canal is piped, wildlife must find alternate water sources
- Historic significance
  - the canal system was constructed in the early 1900s
  - specific historic status of the canal is unknown; not on the historic register
  - will be determined through the permitting stages

Recap of Alternatives; pros and cons

- Alt 1 Replace Entire Canal with New 24" HDPE Pipe
- Alt 2 Replace Open Sections of Canal with New 24" and 30" HDPE Pipe and Line Existing Piped Sections
- Alt 3 Replace Open Sections of Canal with Urethane Under-liner and new Concrete Channel, Line Existing Piped Sections; canal remains open

Alternative #1 – pros and cons

Replace Entire Canal with New 24" HDPE Pipe

Pros

- Maximizes water efficiency – 23% of water conserved
- Maximizes water quality by reducing new contaminates / E. coli from entering the canal
- Improved trail; potential for more connections
- Restores natural stormwater drainage
  - stormwater no longer travels in the canal
- Improved and metered irrigation connections
- Improvements in irrigation service
  - less sediment and debris in private lines
- Protection of a secondary potable water source
- Reduces chances of canal failure – all new pipe
- Removes seepage risk to foundation failure
- Safer environment for children and pets
- Minimizes water theft

Cons

- Loss of open seasonal waterway
- Loss of trees
  - likely the highest impact on trees (less than 100) as it is full replacement, including the existing piped sections
- Potential increase in trespassing
  - Without the canal to define the easement, trail users may wander on to private space
- Greatest impact to property owners during construction
  - entire section is replaced
  - this alternative has the most excavation
  - excavation is 1-2 feet below existing canal

Alternative #2 – pros and cons

Replace Open Sections of Canal with New Pipe (30" and 24" HDPE) and Line Existing Piped Sections

Pros

- Maximizes water efficiency – 23% of water conserved
- Maximizes water quality by reducing new contaminates / E. coli from entering the canal
- Improved trail; potential for more connections
- Restores natural stormwater drainage
  - stormwater no longer travels in the canal
- Improved and metered irrigation connections
- Improvements in irrigation service
  - less sediment and debris in private lines
- Protection of a secondary potable water source
- Reduces chances of canal failure – all new pipe
- Removes seepage risk to foundation failure
- Safer environment for children and pets
- Minimizes water theft

Cons

- Loss of open seasonal waterway
- Loss of trees (less than Alt #1)
- Potential increase in trespassing
  - without the canal to define the easement, trail users may wander
- Impacts to property owners during construction
- Transition of new/old can leak over time
  - must be actively monitored
- Highest capital cost
  - $4 million
  - two different pipe sizes required to maintain capacity and hydraulic head
- Highest life cycle cost
  - $4.3 million

Alternative #3 – pros and cons

Replace Open Sections of Canal with Urethane Under-liner and new Concrete Channel, Line Existing Piped Sections: canal remains open

Pros

- Improves water efficiency – 21% of water conserved
- Retains visual and aesthetic value of open seasonal waterway
- Minimal impacts or changes to trail
  - No new trespassing concerns as the canal is visible
- Improved and metered irrigation connections
- Reduces chances of canal failure – new urethane liner
- Removes seepage risk to foundation failure
- Lower capital costs ($2.4 million)

Cons

- Canal is open to contaminates / E. coli intrusion
  - No additional protection to our secondary potable water source
- Water loss to evaporation/transpiration
- Loss of trees (potentially less than Alt #1 and 2)
- Stormwater drainage will still enter the canal
- Canal can flood/overflow, risk to private property
  - Debris and debris dam potential
- Transition of new/old can leak over time; must be actively monitored
- Impact to property owners during construction
- Does not reduce safety concerns for children or pets
- Does not reduce or eliminate water theft

Cost Comparison Table

	Alternative #1	Alternative #2	Alternative #3
Method	All new 24" pipeline	30" & 24" Pipeline	Replace Canal Liner
Pipe Material	Corrugated HDPE	Corrugated HDPE	Concrete & Urethane
Capital Costs	$3,095,000	$3,950,000	$2,429,000
Annualized OM&R	$12,500	$12,500	$39,000
Life of Option	60 - 100 years	60 - 100 years	40 - 60 years
Salvage Value	$354,280	$335,560	0
Net Present Value *	**$3,472,579**	**$4,339,897**	**$4,334,379**

* Life Cycle Cost / NPV from Adkins Final Report p. 49; based on a 60 year life cycle; 2018 dollars

Cost and Return on Investment

- City pays TID for canal water (weir at the Starlight Place monitoring station)
- City loses 62 million gallons of water to seepage and evaporation
  - water that has already been paid for by the City
- 62 million gallons costs the City $12,400 annually
  - $744,000 if repeated over 60 years
  - in water short years, the loss could also translate to a loss in revenue
- If sold to metered irrigation customers the revenue would be $20,460 annually
  - $1,227,600 in potential lost revenue if repeated over 60 years
- If, the City purchased TAP water to replace the 62 MG lost, the City would pay $71,300 annually
  - $4,278,000 if repeated over 60 years
  - does not consider likely cost escalations

- Avoided TAP costs alone pay for the investment on the 24" pipe with NPV of $3,472,579
- Pay-back for the fully burdened costs of piping the canal, including both the cost of water paid to TID and the cost to purchase TAP water is 41.5 years
  - well within the 60 to 100-year lifetime of the pipe

Next Steps

Questions?

Concerns?

Decision…

August 6, 2019

Council Business Meeting

More Information: www.ashland.or.us/ashlandcanal

CITY OF ASHLAND

Thank you!

"We do not see things the way they are, we see them the way we are."

-- Anais Nin