



Calgary River Valleys champions and engages the public in the protection, appreciation and stewardship of Calgary's rivers, creeks, wetlands and watershed resources.

We are the voice of our rivers.

April 26, 2020

Attention: **City Clerk**
Calgary City Council
Sent via Email to: PublicSubmissions@Calgary.ca

Re: **Item 8.2.1 Proposed Providence Area Structure Plan, PUD2020-0272**

From: **CalgaryRiverValleys2@outlook.com**

Calgary River Valleys (CRV) as part of its mandate provides a platform for our members and partners to provide comments on urban planning and development proposals in the Calgary area. Please accept these comments on the newly proposed Providence Area Structure Plan (ASP) that have been generated through discussions with our staff and membership.

As noted in the document PUD2020-0272, there are only a few changes that have been made to the new ASP from the overturned ASP from 2015. Members of the Calgary River Valleys who reviewed the original Providence ASP in 2015 indicated in our letters submitted in October and November 2015 that they supported a number of principles and policies set out in that ASP, and we are pleased to see these have been retained in the newly proposed Providence ASP for 2020. However, some of the previous questions and concerns we raised in 2015 are still applicable to this document in 2020, as well as new questions and concerns that have arisen since 2015.

Process Concerns & Questions

We have chosen not to fully address the multiple issues we have seen with this Providence ASP planning process; we expect to address these in more detail with City Administration at a future date. However, we believe there is significant room for improvement in how the City Planning department engages with the public and interested groups like Community Associations and stewardship groups like ours for input to the planning and development process. Some elements that are important to note include:

- a. All foundational studies such as Master Drainage Plans, Biophysical Inventories, etc. for major urban planning processes such as ASPs, should be subject to a rigorous independent third party review,
- b. Every ASP planning process should represent the opportunity to optimize the benefits to the public realm and the natural environment, including forward-thinking Best



Management Practices in managing ground water, surface water, climate change impacts, flooding, and source water protection, etc.

- c. Any documents and studies submitted in support of and that are foundational to the urban planning process in Calgary should be easily and readily publicly available at no cost, in digital form or hard copy.

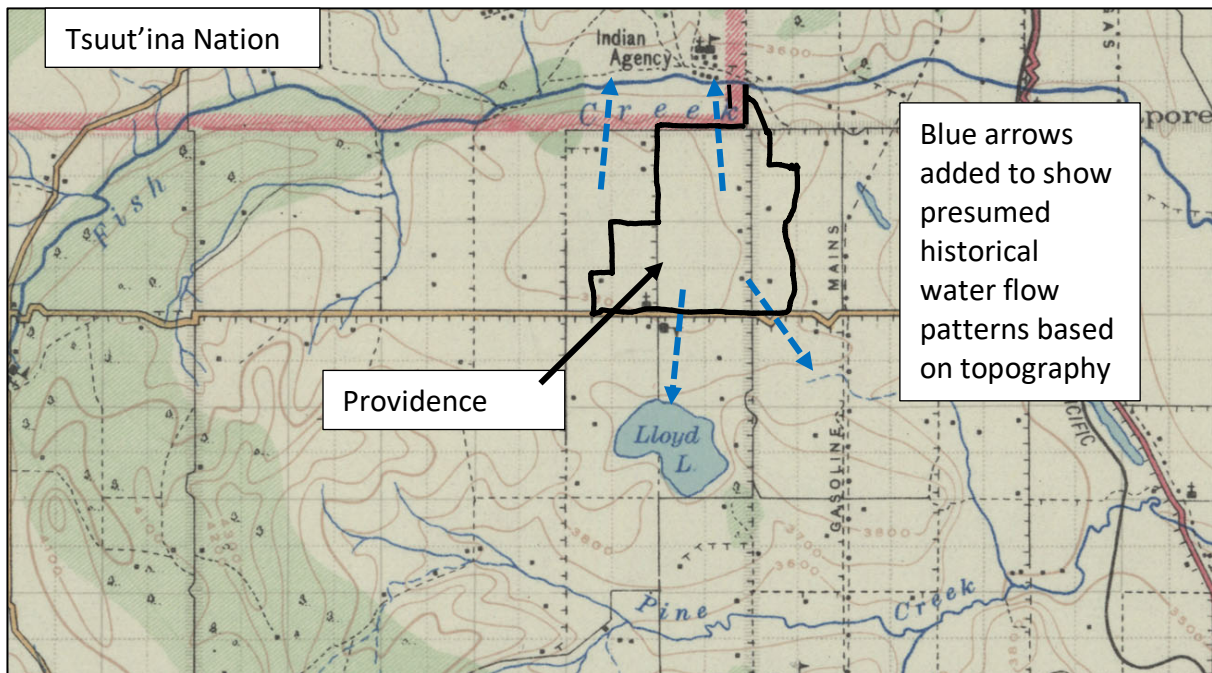
Overview of Calgary River Valleys' Comments

Category of Concern	Recommended Action
Re-Drawing Historical Watershed Boundaries for Fish Creek & Pine Creek	The City needs to know what the impacts and costs to re-drawing the watershed boundaries are before this decision is finalized as part of the MDP, and is part of the basis for the Providence ASP
Surface Water / Stormwater	Incorporate in the Providence MDP the 3 rd Party Review recommendations to “oversize” the stormwater infrastructure to accommodate climate change and other impacts
Sub-surface Groundwater	The City should have better information before the Providence ASP and the accompanying MDP are approved, with regard to the impacts that will occur from stripping off the source water, preventing groundwater recharge (with lined storm ponds), then piping the water directly to Fish Creek; revise the MDP wording to require “no adverse impacts” from proposed changes to the water flows to Tsuut’ina lands and to any other lands
Biodiversity	Ensure Best Management Practices are implemented to protect species at risk and key wildlife habitat; conduct further studies to minimize, or negate, any negative impacts on sensitive environmental features and their functions. For example, assessment needs to be undertaken to determine what areas should <u>not</u> be easily accessed by people (and their dogs)



Drainage Basin Boundaries & Surface Water

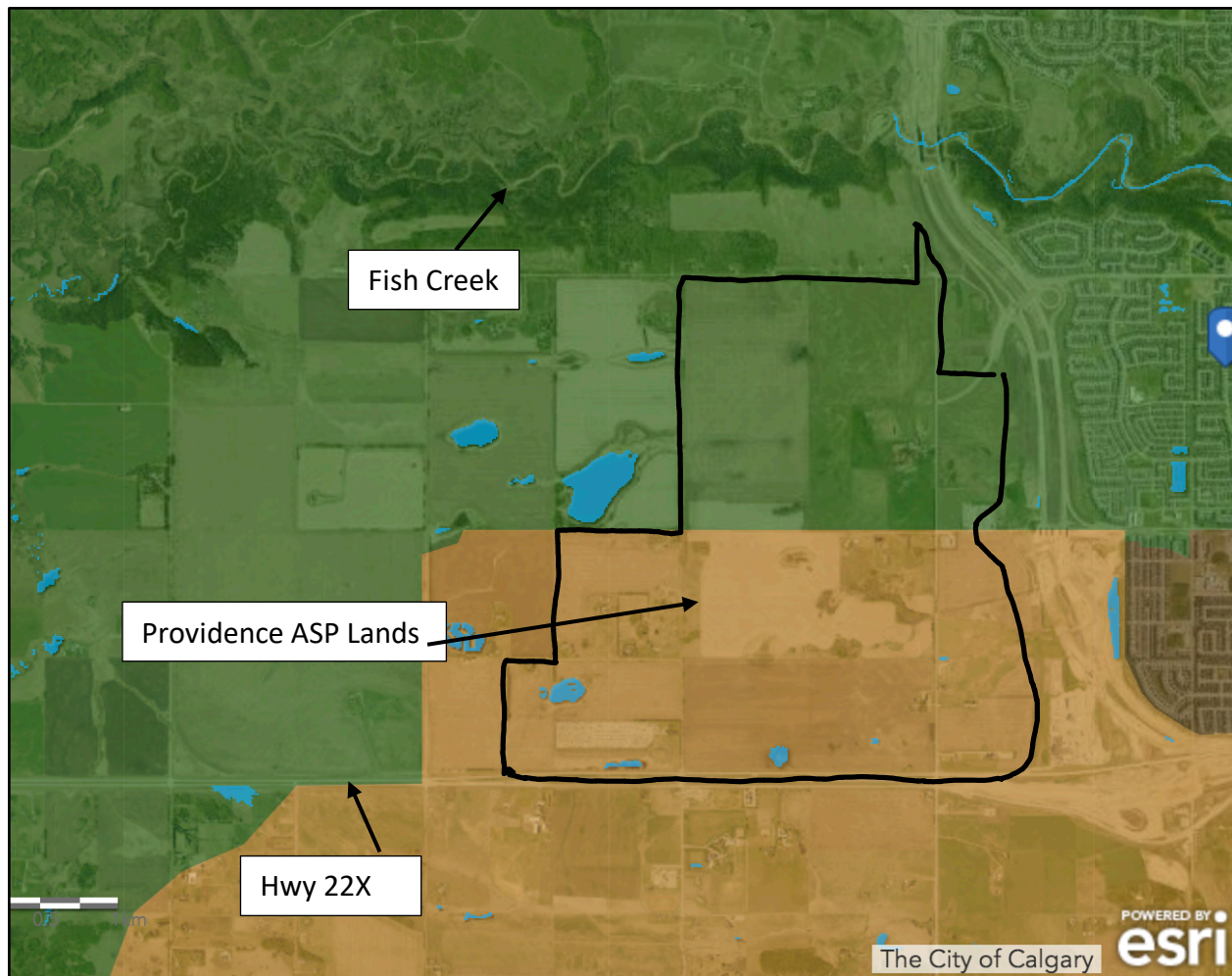
- 1) Re-Drawing Historical Watershed Boundaries:
 - a. The 2020 Master Drainage Plan that was created as part of the developer-funded ASP process argues that the Fish Creek and Pine Creek drainage basins should be re-drawn to indicate that the vast majority, if not all, of the water from the Providence ASP would be identified as draining into Fish Creek rather than approximately $\frac{1}{2}$ to Fish Creek and $\frac{1}{2}$ to Pine Creek as was apparently outlined in the Fish Creek Drainage Study published in 2000, and as is shown on City of Calgary watershed mapping documents.
 - b. The City of Calgary watershed mapping is based on historical information. A map published in 1926 by the Topographical Survey of Canada shows the topographical lines & delineated surface creeks and tributaries in this area (see below).



Topographical Survey of Canada Map 1926, excerpt of Providence ASP lands, Fish Creek, and Pine Creek

- c. The Fish Creek Drainage Study completed in 2000 used topographical maps and other historical information to determine that the north and western portions of what would become the Providence ASP lands drained to the Fish Creek valley and the southeastern portions of the Providence ASP lands drained to the Pine Creek valley. This information is supported by the existing City of Calgary's own mapping of the Pine Creek and Fish Creek watersheds, see enlarged portion of the City watershed map, see below.





Close-up of City of Calgary Watershed Mapping Boundary of Fish Creek (green) and Pine Creek (brown) Watersheds at Providence ASP Lands

- d. It is a major concern to Calgary River Valleys that the plan to re-draw the drainage basin boundaries was made without any notification to or consultation with the Bow River Basin Council, which is the Provincially designated Watershed Planning & Advisory Council (WPAC) for this area. Nor was any notification about this planned change provided to our organization or other stewardship groups affiliated with Fish Creek Provincial Park.
- e. This proposal, apparently made by the developer's consultant, benefits the Providence ASP developers, by allowing them to avoid having to abide by the much more stringent stormwater run-off discharge targets that apply to Pine Creek vs Fish Creek, but this proposal also has potential costs or impacts to the Fish Creek and Pine Creek valleys. We



believe it is important to know what these impacts and costs are before this decision is finalized as part of the MDP. We anticipate these impacts can include:

- i. In addition to the considerable amount of stormwater which would have reached Fish Creek from the new development, Fish Creek will also receive the large amount of stormwater that would have been expected to flow to Pine Creek. Even though there may be timed retention-release ponds, the reality will be under those circumstances, a much higher amount of water released as a sustained higher flow,
 - ii. Pine Creek watershed will receive no surface / stormwater from these lands, and
 - iii. The aquatic habitat for each creek will be affected.
- f. The 2020 MDP report states that the observations made by the ASP land developers' consultant in 2015 should be considered indicative of the drainage basin water flow patterns that were in place in the area before development of the area occurred. This statement is not supported by other longstanding documentation. As a result, we question the validity of this conclusion and believe further study should be done by an independent party of the actual pre-development drainage patterns for the area to determine if revisions to the Providence MDP should be made.

2) Surface Water:

- a. In the Third Party Review of the 2018 MDP completed by Urban Systems there were several problems and inadequacies identified, but it appears several of these issues were not corrected in the 2020 MDP, including questions about the surface water that historically flows through the Providence ASP lands from the lands to the west.
- b. One of the recommendations from Urban Systems was to “oversize” the stormwater infrastructure but it does not appear that this recommendation has been incorporated in the new MDP.
- c. Given that the Providence MDP Post-Development Servicing Concept map (Figure MDP.07) indicates there will be a single stormwater pipe flowing to Fish Creek for the vast majority of the surface water coming off the entire 816 hectares, this raises a concern of the potential erosion that may occur in Fish Creek from this concentrated volume of water.
- d. Some of our members raised concerns about the impacts that may occur from stripping off water from the surface of the Providence ASP lands, putting it into a pipe and



preventing it from flowing to the Pine Creek watershed as it historically has done, what are the impacts to the Pine Creek watershed, Foothills County, and Red Deer Lake (formerly Lloyd Lake).

- e. We and other watershed stewardship groups in Calgary have been advised by City of Calgary Water Resources staff that climate change modelling has shown that within the next 50 to 70 years, the Calgary region may receive 100% more precipitation annually than it does now, and in fewer but more concentrated rain events. One of the conclusions of the Government of Canada study entitled Canada's Changing Climate Report 2019, is that within the next 50 to 70 years, *"the type of extreme rainfall that led to the [2013] southern Alberta flooding event will become much more common in the future."*

Sub-Surface Groundwater

- 1) These ASP lands are a complex area, on a high point at the headwaters of two main drainage basins – Fish Creek and Pine Creek, as well as the sub-basin of Radio Tower Creek. Many, if not most, of the wetlands in the ASP area are connected to each other, and all provide groundwater recharge and a link to the river-connected aquifer in the Fish Creek and Pine Creek valleys.
- 2) The ASP document indicates the pre-development conditions are that the area has minimal surface run-off, but has large areas of internal drainage (infiltration into the soils). The relative lack of permanent water bodies implies that the natural hydrological regime operates by absorbing most of the natural rainfall and snowmelt, without discharging it to adjacent streams by overland flow. In addition, the absence of first order streams suggests that the natural surface volume discharge from this area is very small.
- 3) The Fish Creek Drainage Study completed in 2000 estimated the Providence ASP Lands would have approximately 50% of the area taken up by hard surfaces that will no longer absorb water, but will send it to the stormwater management infrastructure. This estimate has now been increased to 70% hard surfaces in the Providence Lands MDP document.
- 4) To impose a traditional stormwater system that connects large areas of soon to be impermeable areas (paved) to the streams on adjacent parcels of land would be contrary to best management practices that suggest attenuated peaks and net zero discharge of volume in new Area Structure Plans.
- 5) **These groundwaters are the source of the seeps, springs, and wetlands that provide so much of the valued habitat, wildlife corridors, etc. that we celebrate in our creek valleys and other natural areas. The Fish Creek valley is a well-recognized natural area gem.**



Stripping off the source water, holding it in stormwater ponds that are lined (therefore no groundwater recharge) and then piping it directly to the creek will definitely have an impact on the creek valleys. We should know what these impacts will be before the Providence ASP and the accompanying MDP is approved.

- 6) We are pleased to see there are recommendations for implementing elements of Low Impact Development for stormwater management in the new MDP. Such tools should be used to attempt to mimic the natural groundwater regime and therefore hopefully continue to provide the source waters for the creek valleys, and their ecological functionalities.
- 7) We noted that the Providence MDP section 6.2, section 18, sub-section e notes, "Care must be taken to not adversely impact offsite (overland and groundwater) flows to Tsuut'ina lands." We would recommend this clause be modified to state with regard to proposed changes to the water flows, "Care must be taken to not adversely impact offsite (overland and groundwater) flows to Tsuut'ina lands or to any other lands."

Biodiversity

- 1) Best Management Practices:
 - a. There are multiple City of Calgary policies in place outlining targets and best practices for protecting watersheds, preserving natural spaces and the biodiversity that inhabits these spaces. We trust these policies will be adhered to during the urban planning process as it moves forward for the Providence ASP lands.
- 2) Environmentally Significant Areas (ESAs):
 - a. Within the 816 hectares of the ASP lands we understand 49 hectares of the area are made up of wetlands, and there are additional areas of high quality native tree stands many of which have been identified as "rare and unique" both locally and regionally. These assets are considered environmentally significant and worthy of preservation. These areas serve as habitat for a wide variety of wildlife.
 - b. The Rare Plant/Plant Community and Species at Risk Survey dated November 23, 2015 identified 19 species of waterfowl and shorebirds observed during the wetland inventory on the ASP lands, including 4 species at risk (black tern, lesser scaup, green-winged teal and common yellowthroat).
 - c. During the songbird count survey on the ASP lands, 50 different bird species were observed, including 8 species at risk (lesser scaup, sora, black tern, common yellowthroat, barn swallow, least flycatcher, Baltimore oriole and Swainson's hawk).



- d. Section 6.5 of the ASP speaks to a Green Corridor connecting areas of environmental significance. While it is understood that the ASP identifies *potential* corridors, we believe it is imperative that a more detailed study of the Environmental Open Space (EOS) Study Area at the Land Use Amendment/Outline Plan stage determine:
 - i. Whether pedestrian and bike paths are in fact appropriate along the wetland features and/or in the ESAs given the sensitivity of the area, and
 - ii. Whether connections can be made or maintained to the nearby creek valleys or to other significant existing wildlife habitats.
- e. Further studies should also address the location and landscape treatments of corridors to minimize, if not negate, any negative impacts on the environmental features and their functions. For example, pathways do not need to be provided to all the natural features. An assessment needs to be undertaken to determine what areas should not be easily accessed by people (and their dogs) and therefore which development designs would discourage access to these areas to protect the sensitive characteristics of the natural feature.

We look forward to additional opportunities to provide our input regarding the future development of the lands in and around the Providence ASP.

During these times of pandemic emergency, our staff are generally working from home, but if you need to reach us, you can contact our Program Manager, Anne Naumann, via email at CalgaryRiverValleys2@outlook.com, or you can phone me directly at 403-990-5583.

Sincerely,

Bill Morrison, President
Calgary River Valleys

cc: CRV Circulation
Calgary City Council & Mayor Nenshi

