

**Date:** July 21, 2010 **File No.:** TH/04-1  
**To:** Thetis Island Local Trust Committee  
For meeting of July 28, 2010  
**From:** Courtney Campbell, Island Planner  
**CC:** Chris Jackson, Regional Planning Manager  
**Re:** **Riparian Areas Regulation Compliance**

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**PURPOSE:**

The purpose of this staff report is to provide options and recommendations for compliance with Riparian Areas Regulations on Thetis Island.

**BACKGROUND:**

Implementation of the provincial Riparian Areas Regulation (RAR) is an item on the Official Community Plan and Land Use Bylaw (OCP/LUB) review currently underway. The RAR was enacted under Section 12 of the *Fish Protection Act* in July 2004 and took effect on March 31, 2006. The objectives of the Act are to: (1) ensure sufficient water for fish; (2) protect and restore fish habitat; (3) improve riparian protection and enhancement; and (4) provide stronger local government powers in environmental planning. The RAR is a policy directive from Provincial Cabinet which requires local governments (including local trust committees) to protect riparian areas during residential, commercial, and industrial development by ensuring that proposed activities are subject to a science-based assessment conducted by a Qualified Environmental Professional. Section 4 of the RAR prohibits a local government from approving or allowing a development to proceed in a riparian assessment area unless the local government is notified by the Ministry of Environment that the developer has provided an assessment report by a qualified environmental professional (QEP) which certifies that the development can be carried out without damaging fish habitat.

A "Riparian Assessment Area" (RAA) is defined in the RAR to mean any area within 30 metres of a stream; a "stream" is defined to include all watercourses that provide fish habitat, including ponds, lakes, rivers, creeks and brooks as well as ditches, springs, and wetlands that are connected by surface flow to such watercourses. A watercourse that does not currently have fish present, may still be considered a "stream" for the purposes of the RAR if fish could potentially be present were introduced obstructions made passable. "Fish" is defined for the purposes of the RAR to include salmonids, game fish and regionally significant fish (these include all salmon species and trout).

Under the Regulation there is no authority provided to the Ministry of Environment or a QEP to regulate development. The RAR establishes that it is the local government that must amend its bylaws to ensure that riparian areas are protected and that development does not proceed within a Riparian Assessment Area (RAA) without the provision of a QEP report.

Local governments may allow development within 30 metres of the high water mark of a stream or top of a ravine bank provided the prescribed riparian assessment methods have been followed. The riparian assessment method requires a QEP to provide an opinion – in an Assessment Report – that the development will not result in a harmful alteration of riparian fish habitat. In the assessment, the QEP will establish, on a site-specific basis, an area within the 30 metre RAA that cannot be developed - termed a Streamside Protection and Enhancement Area (SPEA) and those portions of the site where development may occur within the 30 metre RAA. The QEP may also provide recommendations on mitigation or enhancement measures specific to the development proposal. The Assessment Report can also identify measures to maintain the integrity of the riparian area during the development process.

“Development” is defined to mean a range of activities in the RAR that are subject to local government powers under Part 26 of the *Local Government Act*, these include applications such as rezonings, development permits (DPs), development variance permits (DVPs), temporary use permits (TUPs) and subdivisions, but do not include building permits and Board of Variance orders. The types of development that are subject to a RAR assessment are residential, commercial and industrial; not subject to assessment are: permits issued for repair or reconstruction of existing structures, pre-existing buildings or structures, agricultural activities, mining activities, hydroelectric facilities, forestry, parks, institutional development, and federal and first nations lands, as well as institutional and agricultural uses. The Regulation does not give local governments any additional powers with respect to streamside protection. Rather, it requires local governments to use their existing land use planning and management powers under the *Local Government Act* to improve the protection of fish habitat in settlement areas.

Any application to a local government for a rezoning, development variance permit, development permit, temporary use permit or subdivision can trigger the requirement for an assessment by a qualified environmental professional.

In summary, the Regulation specifies that:

- local governments must protect riparian areas in accordance with the regulations when exercising their powers with respect to commercial, residential and industrial development; and
- local governments must meet or better the regulations, but cannot reduce them without specific authorization from Fisheries and Oceans Canada. For example, a local government could not issue a development variance permit for a new residential, commercial or industrial building except in accordance with the riparian area regulations.

As the RAR has been in effect for over 4 years, any Part 26 application can trigger the requirements for an assessment. For example, an unrelated variance for work that happens to be within 30 metres of a watercourse within a RAR designated watershed would trigger the requirement for an assessment.

In 2006 Trust Council adopted a resolution directing staff to prepare development permit area provisions to implement the RAR. Local trust committees were also requested to consider amending setback provisions in their Land Use Bylaws as a first step prior to implementing development permit areas.

The implementation of RAR development permit areas in the Trust Area has been delayed since 2006. Principally, the delay is attributable to issues with identifying watercourses that are subject to the RAR and in accurately mapping those watercourses.

In 2009-10 fiscal year, funding was made available to undertake RAR implementation. The Islands Trust had previously obtained watershed mapping derived from 2-metre contour Digital Elevation Mapping (DEM) for most of the Trust Area. Ministry of Environment (MOE) regional staff identified those watersheds within the Trust Area that, based on their records and knowledge, would be subject to the RAR. On Thetis, one watershed was identified by the Ministry of Environment as containing a RAR watercourse. The detail of mapping was insufficient to determine the exact locations of watercourses within this watershed. On Thetis, RAR would only be triggered for this one watershed.

Other local trust committees have hired consultants to complete the work of mapping and assessing streams within RAR watersheds. The contract typically involves the following: (1) identify RAR applicable watercourses within the MOE-identified watersheds and (2) to map the locations of the watercourses with an acceptable degree of accuracy (less than 5 metre error). The scope of work in the contracts for the southern islands was to assess watercourses as fish-bearing or potentially fish-bearing; lack of fish presence does not disqualify a watercourse from being subject to the RAR, transient fish presence in lower reaches of a stream or the ability to support fish if introduced obstacles can be removed would make a stream subject to the RAR. Proving non-fish presence generally requires a rigorous and detailed sampling methodology conducted throughout the length of a drainage at specified times of the year.

Funding for the mapping in the southern local trust committees came from the scientific studies budget and the intent was to complete the southern islands then move to fine tune the watershed maps by also doing more detailed mapping work, and that the funding would likely come from the scientific studies budget.

#### **COMMUNITY INFORMATION MEETING(S):**

It is recommended that one or more information meetings be held to inform residents about the fact that the RAR is in place, that local governments are obliged to protect riparian areas, and the specifics of how the Local Trust Committee intends to implement the provincial requirements locally. RAR can be included in an information meeting or open house as part of the OCP/LUB review.

#### **STAFF COMMENTS:**

The provincial RAR requires local governments to use their existing land use planning authority to protect fish habitat.

Ministry of Environment documents<sup>1</sup> suggest that local governments apply zoning or DPA to implement the regulation. Changes to zoning would establish a setback consistent with the 30 metre riparian assessment area. However, there are three concerns with this approach: first, zoning would only regulate the siting of buildings and structures and would not affect land alteration, although a landscape strip provision could be established within the RAA to prevent vegetation removal. Second, any work within the RAA would require a variance and conditions cannot be attached to a variance in the manner that they can be included in development permit. Finally, establishing zoning setbacks does not provide the level of certainty for landowners that designating a DPA on a map schedule does. Implementation of the DPA option would manage land alteration, including vegetation removal, provide a map schedule showing

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<sup>1</sup> Ministry of Water Land and Air Protection. Riparian Areas Regulation Implementation Guidebook. 2006.

the designated streams and 30 metre buffers, and provide for the flexibility inherent in considering issuance of a development permit, which can attach conditions and include variances.

In summary, the approach taken to date in identifying the RAR streams for Thetis Island has been to:

- Create watershed mapping.
- Identify these watersheds considered subject to the RAR by the Ministry of Environment.

In a briefing to Trust Council in February 2010, planning staff identified four approaches an LTC may consider in order to become compliant with the RAR, or to exceed the RAR and extend protections:

1. Amend the LUB to establish both a 30 metre setback and a landscape strip for all watercourses within the RAR-identified watersheds. This zoning approach is possible, particularly as an interim approach, but not recommended in the long term for the reasons outlined above.
2. Amend the OCP to designate all RAR-identified watersheds as a Development Permit Area (DPA). This approach may be optimal where there are a limited number of larger properties in the watershed, where subdivision is anticipated, or where it is not anticipated that any watercourse(s) will be mapped. The advantage of this approach is that the flexibility of DPA provisions can be used to establish exemptions for work that is found to be further than 30 metres from a watercourse and a Development Permit (DP) can incorporate any conditions recommended by the QEP's assessment report. The disadvantage of this approach is that all land within the watershed would be designated as a DPA, regardless of where the actual watercourse is, imposing requirements on landowners to determine if development activity actually requires an assessment and DP. This approach may be practical for Thetis Island as only one watershed is identified. There are 35 lots (including strata lots but not including the common property) in the watershed, and there is no subdivision potential, aside from an ongoing phased strata subdivision.
3. Amend the OCP to designate all land within 30 metres of watercourses in RAR-identified watersheds as a Development Permit Area (DPA). The advantage of this approach is that it provides greater certainty with respect to the DPA and limits reviews and applications to work within 30 metres of fish-bearing or potential fish-bearing streams. The disadvantage is that a DPA would not be applied to areas more than 30 metres from a watercourse but still within a RAR-identified watershed, and would not designate non-RAR watercourses. For this approach, there are two options:
  - a. Hire a biologist to provide the stream assessment and mapping data needed to implement this option. Based on costs for similar work on the southern islands, it is estimated that the cost for Thetis would be up to \$6,000. There are not sufficient funds in the OCP/LUB review budget for this work, so another budget area would have to be accessed.
  - b. Islands Trust staff map the stream, and no further biologist work is done to determine if the stream is fish bearing or potentially fish bearing.

4. Exceed RAR: by designating a DPA within a minimum of 30 metres of all watercourses, regardless of fish habitat status. In order to implement this additional mapping work would be required.
  - a. Terrestrial Ecosystem Mapping (TEM), which is the basis of the Sensitive Ecosystem Mapping (SEM) used to identify and designate the sensitive ecosystem DPA, does not identify watercourses or streams. However it does provide a high resolution classification of terrestrial ecosystems that is consistent with accepted classification standards and could be used to identify additional non-stream features such as freshwater ecosystems, mixed wetlands, and wet forest ecosystems beyond those identified in the current SEM.

Mr. Ian Ralston provided us with his "Environmental Assessment of a Proposal to Excavate and Impound Ralston Wetland and Three Dugouts on Ralston Creek" completed by Ted Burns, Biologist, in 1998. This report states that "Ralston Creek supports no fish". It also states that if the works that Mr. Ralston was proposing were undertaken, which involves excavating ponds for water storage, "it may be possible to establish a cutthroat trout population and sticklebacks would likely colonize the system". Although we cannot use this report to satisfy RAR and as a basis for a DPA, it is helpful to know that no fish presence was noted in 1998 but that there may be a potential for the stream to support cutthroat trout which is a species protected by RAR.

The LTC should provide direction to staff on proceeding with the Riparian Area Regulation work.

## RECOMMENDATIONS

Based on the above considerations, Staff recommends:

**THAT** the Thetis Island Local Trust Committee direct staff on the preferred approach for implementing Riparian Areas Regulations.

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Respectfully submitted by:

*Courtney Campbell*

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Courtney Campbell, Island Planner

July 22, 2010

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Date of signature

Concurred in by:

**Chris Jackson**

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Chris Jackson, Regional Planning  
Manager

**July 22, 2010**

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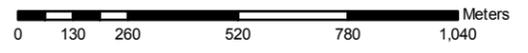
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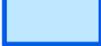
## Attachments:

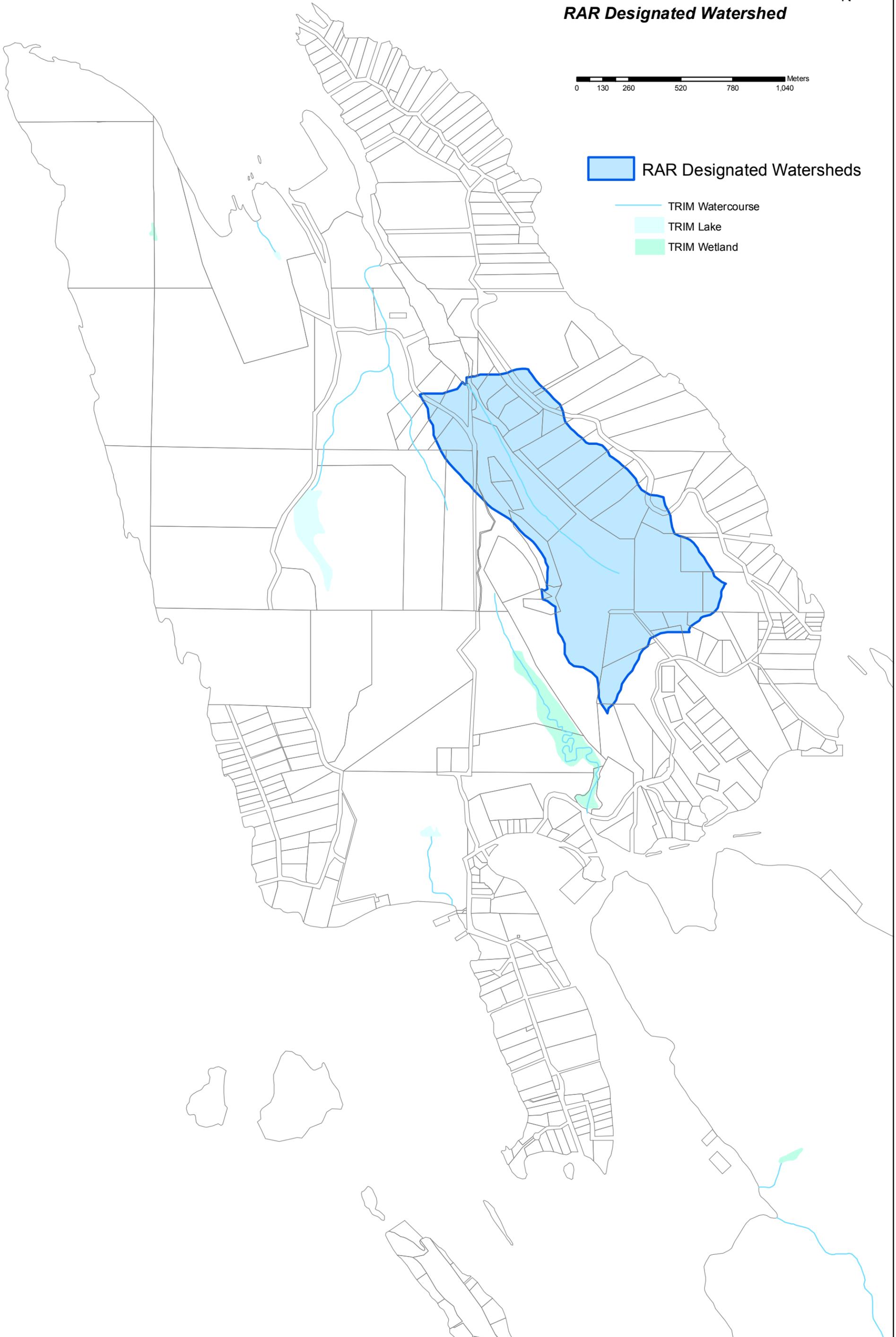
1. RAR designated watershed on Thetis Island
2. *A Brief Environmental Assessment of a Proposal to Excavate and Impound Ralston Wetland and Three Dugouts on Ralston Creek, July 6 1998*

# THETIS ISLAND

## *RAR Designated Watershed*



-  RAR Designated Watersheds
-  TRIM Watercourse
-  TRIM Lake
-  TRIM Wetland



ATTACHMENT 2

**A BRIEF ENVIRONMENTAL ASSESSMENT  
OF A PROPOSAL TO EXCAVATE AND IMPOUND  
RALSTON WETLAND AND THREE DUGOUTS  
ON RALSTON CREEK**

By  
Ted Burns  
Biologist

For  
Ian Ralston  
July 6, 1998

## INTRODUCTION

As part of a development proposal for an 87.2 ha block on Thetis Island, Mr. Ian Ralston wishes to construct a two-stage impoundment at the lower end of an unnamed wetland (for purposes of this discussion, this wetland will be termed "Ralston") and excavate three ponds further upstream on Ralston Creek (Figs. 1 and 2). Purposes of the works are to provide supplemental water for residents of the strata development on the upland and to increase the amenity value of the area by providing open water.

Ralston Wetland has been identified as a Class 4 natural feature of moderate priority in the Islands Trust area (Benn, 1975). It has also been mapped as a sensitive feature under the Sensitive Ecosystem Inventory of East Vancouver Island and the Gulf Islands as has the headwater wetland on the property.

The purpose of this report is to briefly describe the environmental character of the areas proposed for change, outline the proposal and describe possible impacts. If it is decided that the proposal could be acceptable, more detailed plans and assessment can be provided.

## ENVIRONMENTAL SETTING

The area was examined on June 27, 1998.

Ralston Creek is a temporary (seasonal) stream that originates in a headwater wetland basin at an elevation of about 30 m and discharges into Cufra Inlet (Figs. 1 and 2).

The headwater wetland is relatively mature and is dominated by *Salix* – *Spirea*. The sensitive ecosystem inventory has designated it as T1110 and described it as a fen. It is approximately 1.125 ha in size. There is no open water but there were pockets of standing water 20 cm deep. At winter levels, water is between .8 and 1 m deep.

The section of creek between the headwater wetland and Ralston Wetland is 610 m long. The channel averages about 2 m wide and is only occasionally confined. Gradient ranges from .5 to 2 percent and the substrate is largely muck-detritus. There is an 80 m section just above Ralston Wetland where the channel is more defined with small patches of gravel. A variable width riparian zone that ranges from 15 to 35 m is adjacent to the stream in this area. It varies in wetness from Salmonberry-Swordfern to *Carex* – *Equisetum* riparian landscape units. This portion of the creek was not flowing on June 27 but there were intermittent sections of standing water.

Ralston Wetland is a 3.25 ha marsh dominated by *Carex* – *Oenathe* (Water Parsley). It has been designated T1107 in the sensitive ecosystem inventory and has been described as a bog. It was just barely wetted on June 27.

Ralston Creek below the marsh is much more confined than upstream reaches and has no riparian zone. Its channel ranges between 1 and 3 m wide, its slope is .5 to 2 percent and its substrate is primarily fines with an occasional showing of gravel. It is 315 m long. A 125 m section has been recently logged. In all, there are six reaches of Ralston Creek. They are summarized in Appendix 1.

Ralston Creek supports no fish

Rugged  
Islets

I N C O M

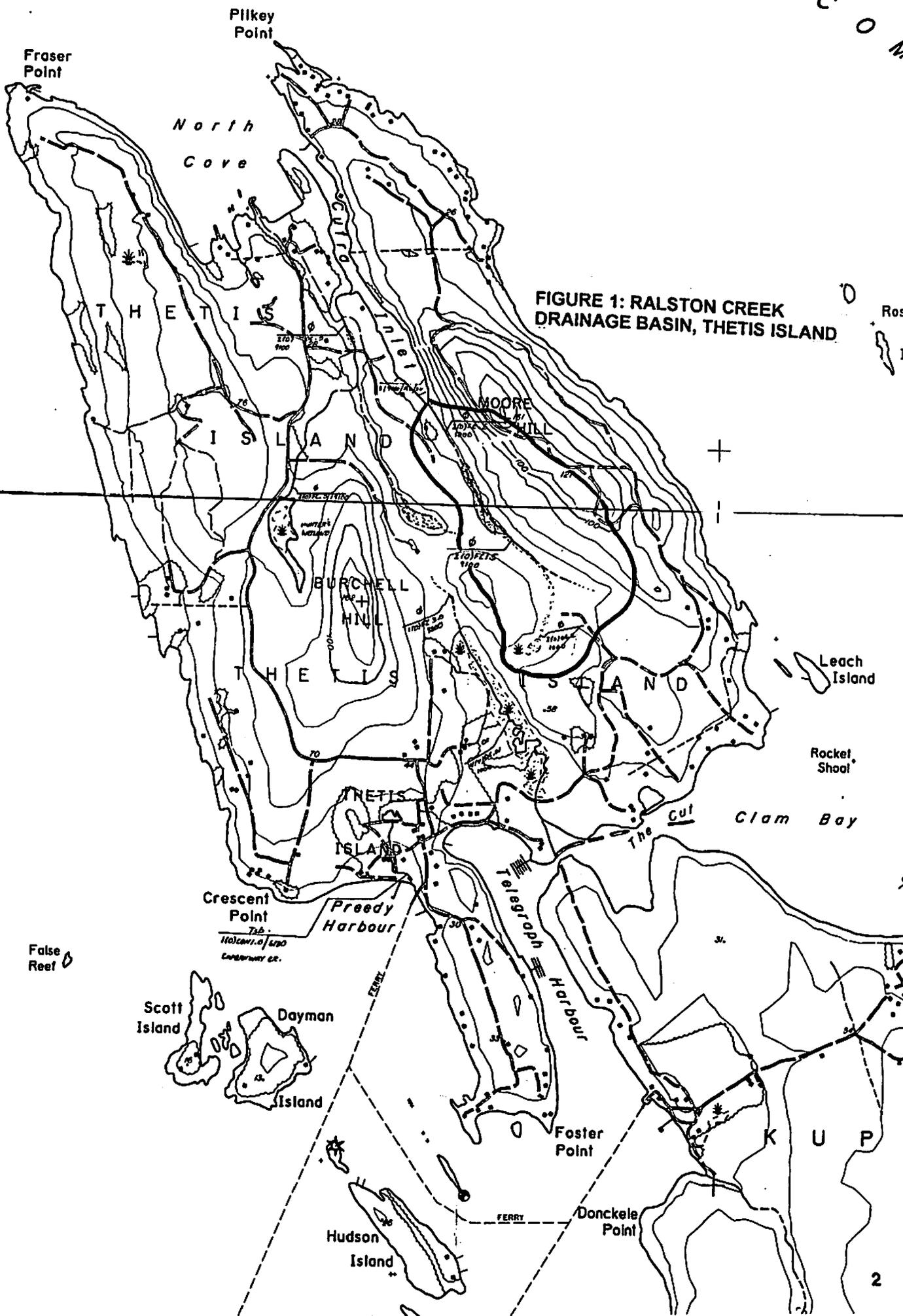


FIGURE 1: RALSTON CREEK DRAINAGE BASIN, THETIS ISLAND

Ros

Leach Island

Rocket Shoal

Clam Bay

Freedy Harbour

Telegraph Harbour

Foster Point

Donckele Point

Scott Island  
Dayman Island

Hudson Island

K U P

+

+

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A

R

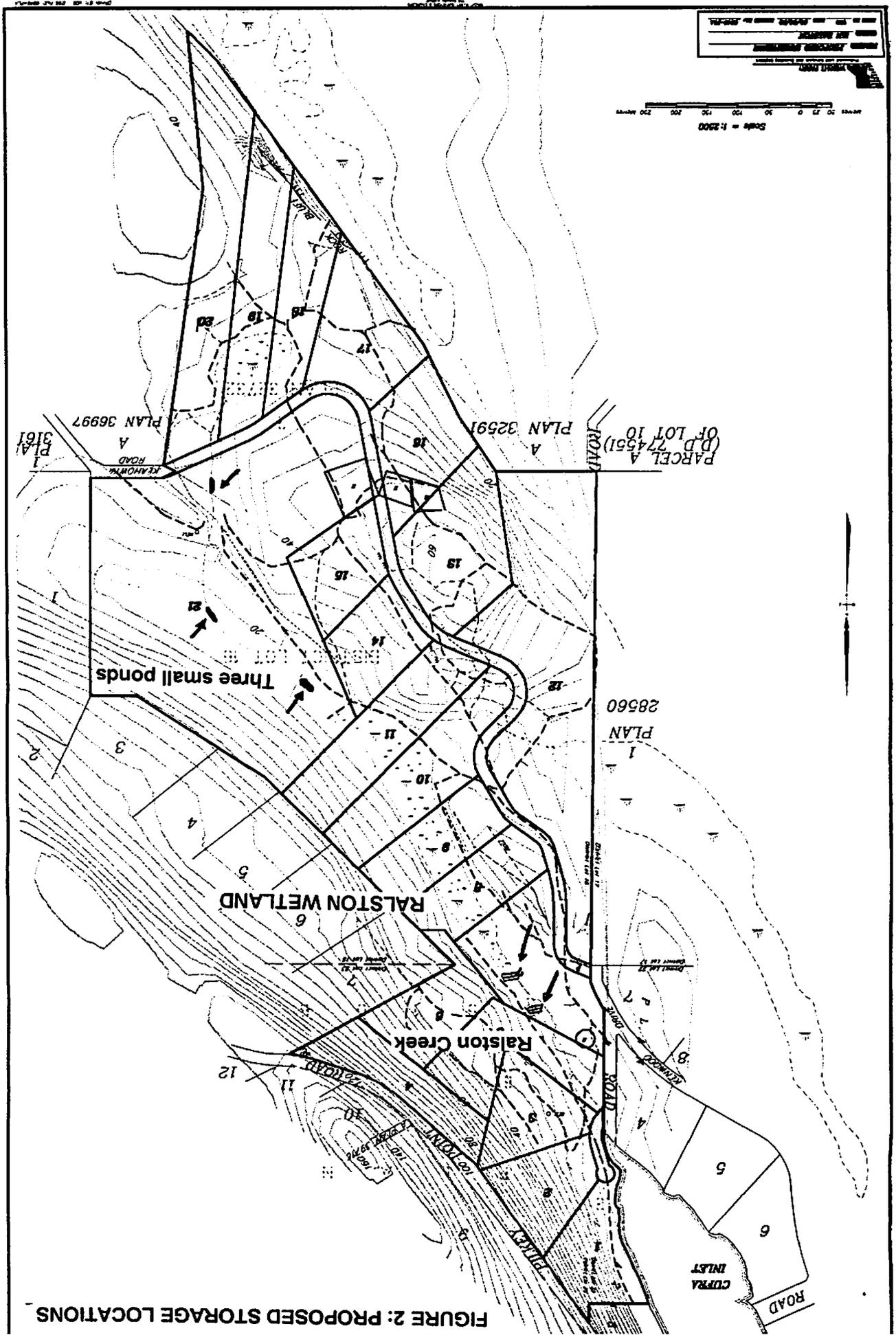


FIGURE 2: PROPOSED STORAGE LOCATIONS

## THE PROPOSAL

Mr. Ralston proposes to impound Ralston Creek and Ralston wetland in two stages. The first impoundment berm would be at a natural constriction on the creek some 190 m above Cufra Inlet and 100 m below Ralston Wetland. It would impound an area of .75 ha. (Fig.2). The second berm would be at the outlet of Ralston Wetland. It would impound the lower portion of the wetland. Combined storage would be about 2.80 ha which could yield about 1.26 LPS below the lower impoundment with 1 m storage. He further proposes to construct three dugouts on Ralston Creek above Ralston Wetland (Fig.2). As a preliminary estimate, each pond would be about 1250 m<sup>2</sup> (50 x 25 m) in surface area. These could produce a combined yield of about .17 LPS below the lower dugout with 1 m of storage.

## IMPACT PREDICTION

### Possible Detriments

Wetland vegetation would be lost in excavated areas and certain species may be reduced or replaced due to increased flooding in Ralston Wetland. For example, *Typha* may become more abundant while *Carex* and *Oenathe* may be reduced. Some recolonization would occur in the ponds and in the impoundments.

### Possible Benefits

If some stored water could be made available for critical period discharge, it may be possible to establish a cutthroat trout population and sticklebacks would likely colonize the system. Allowance for fish passage could be included in spillway design.

Open water in Ralston Wetland and in the ponds would add an element of diversity that would be a benefit to most species of waterfowl and aquatic mammals and would serve as a refuge for fish if the creek dewatered. The ponds were added partly because of the concern that fish may need refuges at strategic points along the system above the larger impoundments.

The presence of fish would increase the habitat value of the system somewhat for species such as Great Blue Heron and otters.

## RECOMMENDATIONS

- 1.
2. **Headwater Wetland:** Mr. Ralston consider storage and critical period release in the headwater wetland. This 1.125 ha basin would yield an additional .525 LPS for the 180 day critical discharge period.
3. **Fish Passage:** Fish passage should be accounted for in all spillways including the headwater wetland spillway.
4. **Ralston Wetland and Impoundment 1:** In impoundment 2 (Ralston Wetland), the storage area be increased by excavating an adjacent lowland area that is somewhat riparian in nature but is not connected to the wetland or any other waterway; this will reduce the flooding need on Ralston Wetland somewhat.

It will also be beneficial to taper the excavated area into the wetland at as low an angle as is possible to prevent erosion/slumping at the face of the wetland and to allow for rapid recolonization of vegetation along the face.

In addition, islands and fingers of wetland should also be retained in the excavated area and their slopes should be similarly low. This recommendation also applies to impoundment 1 where islands and fingers of land would be retained to increase shorezone area.

Photos



Photo 1: Lower Ralston Creek



Photo 2: Area of lower impoundment



Photo 3: Ralston Wetland



Photo 4: Area along Ralston Creek typical of where the dugouts would be located

Stream Code : NA

Stream Name: Ralston Creek

Operational Management Unit: NA

CVRD Electoral Area: NA

**A) BIOPHYSICAL OVERVIEW:** A very small temporary stream that originates in a wetland basin at an elevation of 30 m and flows north for a distance of 1310 m to enter Cufra Inlet, a highly protected embayment of Thetis Island's North Cove.

Air Photos	BC 87024: 23,24
Topographic Map	92B.091, 92G.002
Salmonids	None
Obstructions	None
Max. temp. (C°)	NA
Min. Disch. ( m <sup>3</sup> )	0

#### RALSTON CREEK

Channel	Wetted			Channel	Side	Length	Wetted	
Width	Wtsh	Substrate	Slope (%)	Confinement	Channel	(m)	Area	
Reach 1	2	0	9100	1.0	FC	L	315	0
Reach 2	65	0	1000	.0001	UC	H	500	0
Reach 3	2	0	9100	1.5	FC	M	80	0
Reach 4	2	0	1000	.2	OC	M	200	0
Reach 5	2	0	1000	1.5	OC	L	215	0
Reach 6	70	0	1000	.0001	UC	H	140	0

Reaches 2 and 6 are wetlands

#### **B) FISH UTILIZATION AND LIMITING FACTORS**

No fish are present.

Production is limited by size and nil summer flow. Substrate character is a secondary limiting factor. Most of the substrate is composed of fines with only occasional showings of gravel in Reaches 1 and 3.

#### **C) PRODUCTION OPPORTUNITIES**

Two substantial wetland basins are present: Ralston Wetland (R2) and the headwater wetland (R6). Their combined area is 5.625 ha. If 1 m of storage could be obtained, a flow of .0026 CMS could be obtained for the 180 day critical discharge period (May – October). Impoundment would also involve excavation which would create some deep water refuges at the face of the berms. Fish passage would be required at the berm spillways. Ian Ralston, the landowner, has proposed to impound Ralston wetland as part of a residential development plan.

Mr. Ralston has also proposed to build three dugout ponds on the creek between Ralston Wetland and the headwater wetland. Their combined area would be about .38 ha which could add .127 LPS below the bottom pond for an overall total of 2.727 LPS in the most habitable portion of Ralston Creek.

If CDP flow could be provided, substrate improvement could be undertaken and cutthroat trout could be introduced to hopefully provide a sustained population of resident and anadromous fish.

#### **D) LAND USE FACTORS**

##### Forestry

Selective logging of the uplands has been ongoing since settlement. Forest cover is advanced second growth Douglas fir mixed with cedar on moist sites and Arbutus on dry sites.

##### Residential

Aside from the Ralston homestead, there is no residential use in the basin. Present zoning is R2 rural.