

QLDC Council  
3 September 2020

Report for Agenda Item | Rīpoata moto e Rāraki take 6

Department: Property & Infrastructure

Title | Taitara Supply Boundary Adjustment – 397 Arrowtown-Lake Hayes Road

PURPOSE OF THE REPORT | TE TAKE MŌ TE PŪRONGO

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The purpose of this report is to seek Council approval to extend the wastewater scheme boundary to include 397 Arrowtown-Lake Hayes Road, Queenstown, legally described as Lot 2 DP 337565.

RECOMMENDATION | NGĀ TŪTOHUNGA

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That Council:

1. **Note** the contents of this report;
2. **Agree** to extend the wastewater supply boundary to include the properties legally described as Lots 2 DP 337565.

Prepared by:



Richard Powell  
Infrastructure  
Engineer

12/08/2020

Reviewed by:



Ulrich Glasner  
Chief Engineer  
14/08/2020

Reviewed and Authorised by:



Pete Hansby  
General Manager, Property &  
Infrastructure

21/08/2020

## CONTEXT | HOROPAKI

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- 1 The subject property is located at 397 Arrowtown-Lake Hayes Road and is legally described as Lot 2 DP 337565 (2.77 ha).
- 2 At present the site contains a large residential dwelling and barn containing a residential flat. The existing dwelling and residential flat are currently serviced by an on-site waste water disposal system.
- 3 The site is currently zoned as Wakatipu Basin Rural Amenity however the owner is seeking the site to be zoned Wakatipu Basin Lifestyle Precinct under the Proposed District Plan. The maximum permitted development yield for the proposed zone is 2 residential units (being 1 per hectare).
- 4 Further development within the site has previously been consented with an estimated wastewater discharge rate equivalent of four dwellings. The assessment of this application is based on this higher rate.

## ANALYSIS AND ADVICE | TATĀRITANGA ME NGĀ TOHUTOHU

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- 5 QLDC's wastewater network is located within Arrowtown-Lake Hayes Road directly adjacent to the entrance of the site, this line is 150 mm and connects to a manhole south of the sites entrance which receives flows from Arrowtown and has an outlet line with a size of 300 mm.
- 6 It is proposed to install a new manhole on the 300 mm line, where it reaches the western side of Arrowtown-Lake Hayes Road, and provide a low pressure connection to this manhole.
- 7 Specific modelling of the expected flows has not been undertaken as they are within the margin of error for our model. It is reasonable to expect that the 300 mm wastewater line will have capacity for the peak flow rate expected to be 0.17 l/s. Therefore I accept that the network has capacity for the proposed.
- 8 The approval of the scheme boundary extension will allow the decommissioning of the existing wastewater disposal system and negate the need for further onsite systems at the time of further development. The site is located within a groundwater protection zone being in the Lake Hayes catchment.
- 9 **Option 1:** Decline the proposed wastewater scheme boundary adjustment.  
*Advantages:*
- 10 No increase in demand on Council's existing infrastructure.  
*Disadvantages:*
- 11 Continued use and possible addition to on-site wastewater systems within a sensitive receiving environment.

12 **Option 2:** Approve the proposed wastewater scheme boundary adjustment.

*Advantages:*

13 Will result in an onsite wastewater treatment system being decommissioned and not added to at the time of further development, removing a risk to the sensitive receiving environment.

*Disadvantages:*

14 Increased demand on existing infrastructure

15 This report recommends **Option 2** for addressing the matter because it is accepted that there is capacity within the existing network . Approval of the extension will allow the Council to apply wastewater rates to the properties legally within the scheme boundary once connected.

### CONSULTATION PROCESS | HĀTEPE MATAPAKI:

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#### > SIGNIFICANCE AND ENGAGEMENT | TE WHAKAMAHI I KĀ WHAKAARO HIRAKA

16 This matter is of low significance, as determined by reference to the Council's Significance and Engagement Policy because the decision has nearly no impact to the existing ratepayers.

17 Engagement considered not required in this case.

#### > MĀORI CONSULTATION | IWI RŪNANGA

18 Engagement with Iwi is considered not to be required in this case.

### RISK AND MITIGATIONS | NGĀ RARU TŪPONO ME NGĀ WHAKAMAURUTANGA

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19 This matter relates to the strategic risk SR1 Current and future development needs of the community, as documented in the Council's risk register. The risk is classed as insignificant. This matter relates to this risk because any economic, social, environmental and reputational risks are insignificant.

### FINANCIAL IMPLICATIONS | NGĀ RITENGA Ā-PŪTEA

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20 There are no budgets or cost implications resulting from the decision Council Policies, Strategies and Bylaws.

21 The applicant will be responsible for connecting to Council owned infrastructure.

22 No cost to Council.

**COUNCIL EFFECTS AND VIEWS | NGĀ WHAKAAWEAWE ME NGĀ TIROHANGA A TE KAUNIHERA**

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23 The following Council policies, strategies and bylaws were considered:

- QLDC’s Subdivision and Land Development Code of Practice

24 The recommended option is consistent with the principles set out in the named policy/policies.

**LOCAL GOVERNMENT ACT 2002 PURPOSE PROVISIONS | TE WHAKATURETURE 2002 O TE KĀWANATAKA Ā-KĀIKA**

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25 The recommended option:

- Will help meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses by [explain how it will help];
- Can be implemented through current funding under the Ten Year Plan and Annual Plan;
- Is consistent with the Council's plans and policies; and
- Would not alter significantly the intended level of service provision for any significant activity undertaken by or on behalf of the Council, or transfer the ownership or control of a strategic asset to or from the Council.

**ATTACHMENTS | NGĀ TĀPIRIHANGA**

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A	Application Letter
B	Holmes Consulting Memo

**Attachment A**

8 July 2020

Richard Powell  
Infrastructure Development Engineer  
Queenstown Lakes District Council

Email: [richard.powell@qldc.govt.nz](mailto:richard.powell@qldc.govt.nz)

Dear Richard

**RE: APPLICATION FOR A WASTEWATER SCHEME BOUNDARY EXTENSION**

The property subject to this application is located at 397 Arrowtown-Lake Hayes Road and is legally described as Lot 2 DP 337565. The property is owned by Graeme Wills. A large residential dwelling and barn containing a residential flat exist on the site. There is an approved resource consent for three accessory buildings and associated activities that are yet to be constructed or undertaken on the site, these include a swimming pool, pool house, tennis court, tennis pavilion and detached garage. All accessory buildings contain toilet facilities.

The property currently lies outside of the current scheme boundary adjacent to the southern boundary as illustrated in Figure 1 below and the Holmes Consulting memo at **Attachment A**.

This application seeks an extension to the wastewater scheme boundary so that the boundary includes the subject property, to enable connection to the Queenstown Lakes District Council (QLDC) Wastewater services.

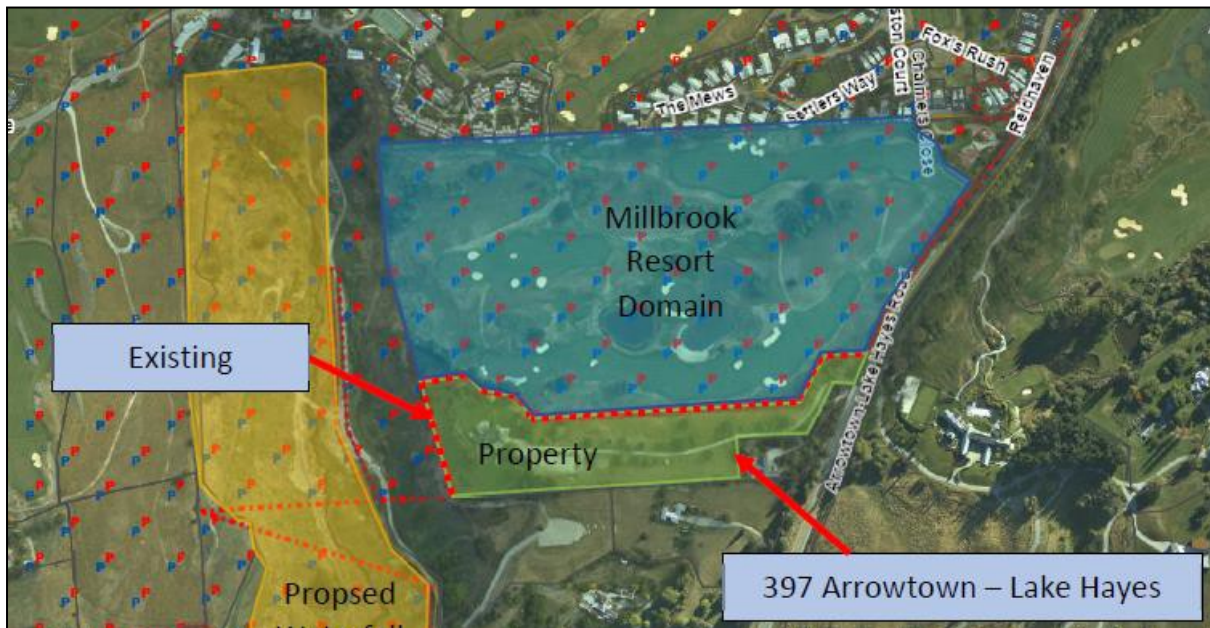


Figure 1. Wastewater scheme boundary (red dotted line) in relation to 397 Arrowtown-Lake Hayes Road (coloured green)

The extension of the wastewater scheme boundary to include 397 Arrowtown-Lake Hayes Road is a logical extension and would remove the requirement of constructing further onsite waste water systems to service the consented buildings that are yet to be constructed. As identified in the memo prepared by Holmes Consulting the property is located within a groundwater protection zone and any increase in

onsite waste water treatment systems would result in an increase in the amount of nutrient being discharged into the ground and travelling toward Lake Hayes which is in a eutrophic state. Avoiding such increases is a positive environmental outcome.

Furthermore Holmes Consulting has confirmed there is capacity within the QLDC wastewater network and recommended connecting the wastewater from 397 Arrowtown-Lake Hayes Road to the 3mm PVC trunk main within Arrowtown Lake Hayes Road.

We therefore request extending the QLDC wastewater scheme boundary to include 397 Arrowtown-Lake Hayes Road and providing for an additional four dwelling units. The existing residential dwelling will remain connected to the onsite wastewater system at this time, however there is potential in connecting it to the QLDC system and decommissioning the existing system. Therefore the proposed connection would allow for three additional units to what currently exists on site.

Yours sincerely,



Morgan Shepherd  
**Brown & Company Planning Group**



**Attachment B**



Project Name: 397 Arrowtown – Lake Hayes Road

Project no: 140723.54

Author: SE

Date: 03/07/2020

**Memo: Proposed QLDC Wastewater Scheme Amendment**

To whom this may concern,

The memo below proposes a change to QLDC’s wastewater scheme boundary to include 397 Arrowtown – Lake Hayes Road, Arrowtown. The proposed connection will have an equivalent flow of four dwellings per QLDC’s Land Development and Subdivision Code of Practice.

The site lies on the south boarder of Millbrook Resort with access along Arrowtown – Lake Hayes Road. The location of the site can be seen in Figure 1 below. The existing site consists of a five-bedroom dwelling, a barn, tennis pavilion and garage.

**The Existing Wastewater System**

The site is serviced by an existing on-site wastewater treatment system and an associated drain field. The current system is assumed to be functioning and will remain in service at this time.

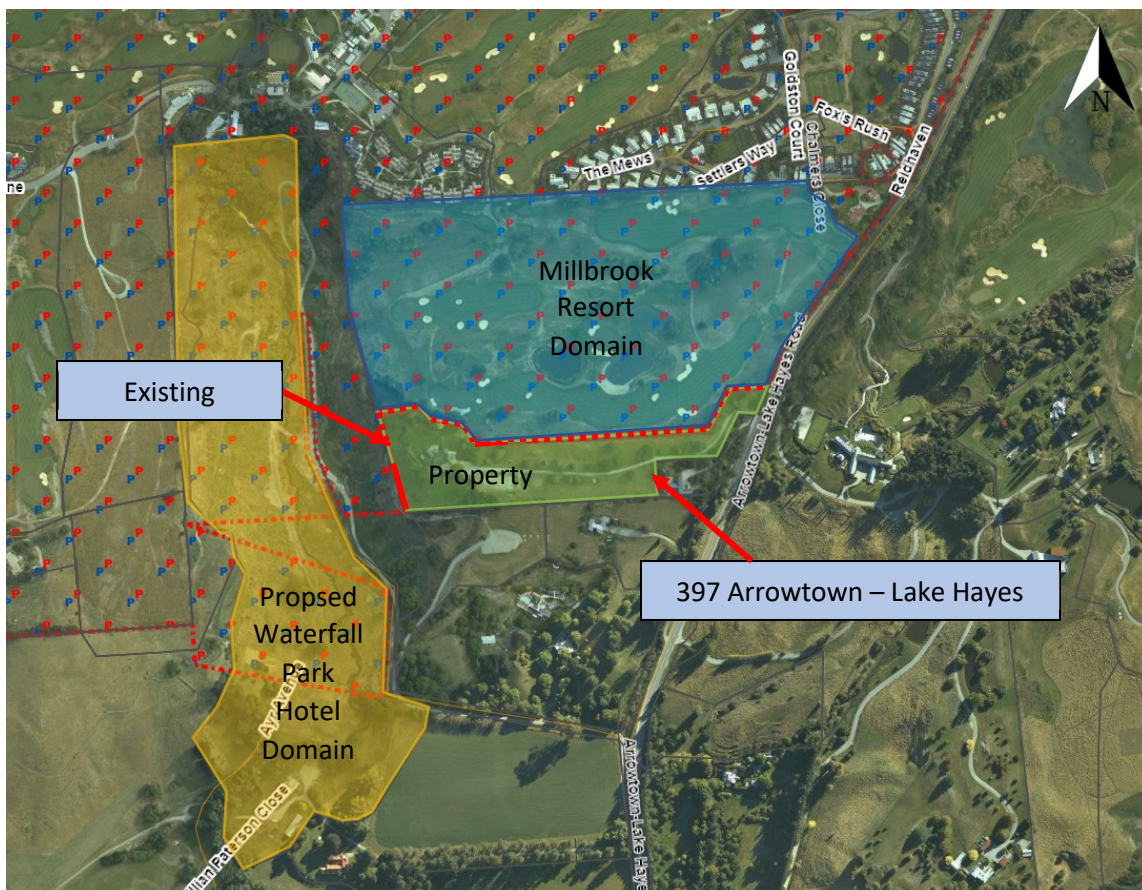


Figure 1: Location of 397 Arrowtown – Lake Hayes Road

The QLDC's wastewater network surrounding 397 Arrowtown – Lake Hayes Road includes a 150 mm uPVC pipe which runs past the entrance to the property. Further down the road this 150 mm pipe connects to a 300 mm PVC trunk main. At this connection there is a manhole. The existing scheme can be seen below in Figure 2.

The wastewater from Arrowtown is currently pumped to the manhole mentioned above (ID 103393) where it is combined with the wastewater from Millbrook. From this manhole the wastewater is conveyed by gravity to the Bendemeer Wastewater Pump Station, located east of Lake Hayes.

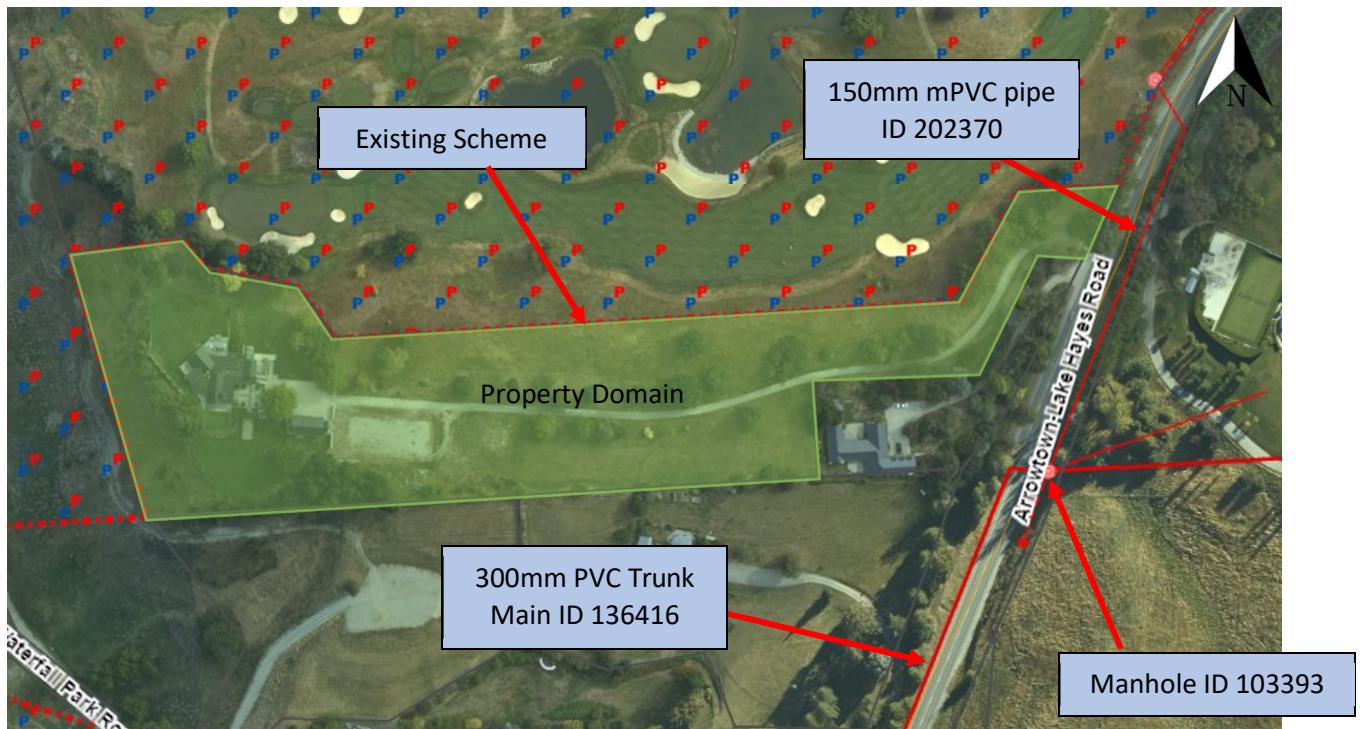


Figure 2: Existing Wastewater Infrastructure

West of the site is the proposed domain for Waterfall Park Hotel. The flow of wastewater from Waterfall Park Hotel was estimated to be 15.5 – 18 L/s (found in Waterfall Park Hotel Water, Wastewater and Stormwater Assessment – April 2018). Using the method outlined in the QLDC Land Development and Subdivision Code of Practice, the peak flow for 397 Arrowtown – Lake Hayes Rd is estimated to be 0.17 L/s. This is significantly lower than the flow from Waterfall Park Hotel and therefore has much less of an impact of the wastewater system.

When the wastewater system for Waterfall Park Hotel was being proposed, the capacity of the existing infrastructure was modelled by the QLDC's modelling consultants, BECA. This modelling found that the 150 mm uPVC pipe did not have the capacity to carry the flows from the hotel. However, the hotel will have significantly larger flows than the four dwellings located at 397 Arrowtown – Lake Hayes Road. Further modelling will need to take place to determine if this 150mm uPVC pipe has the capacity to carry the added flows from these four dwellings.

The modelling found that the 300 mm PVC trunk main did have the adequate capacity to carry the flows from the hotel. Therefore, we can assume this 300 mm pipe also has the capacity for the additional load from the dwellings at 397 Arrowtown – Lake Hayes Road.



397 Arrowtown – Lake Hayes Road is located just North of Lake Hayes in a groundwater protection zone. Lake Hayes is in a eutrophic state which means the water has high levels of nutrients such as nitrogen and phosphorus. These nutrients support the growth of dense plants, the decomposition of which can harm and kill animal life. If 397 Arrowtown – Lake Hayes Road were to increase the quantity of onsite wastewater treatment systems, the amount of nutrients being discharged into the ground and travelling into Lake Hayes would increase. However, if the wastewater flow from these new dwellings were added into the QLDC’s wastewater network the added nutrients would not be discharged to ground meaning there would be negligible negative effects on Lake Hayes or any of the surrounding environment.

### **The Proposed System**

The wastewater output from the increased demand (equivalent to 4 dwellings) will be connected to QLDC’s wastewater network through a pumped system. This will be an increase to QLDC’s network of 0.174 L/s (the estimated peak flow for the four dwellings at 397 Arrowtown – Lake Hayes Road). Including 397 Arrowtown – Lake Hayes Road in the QLDC’s scheme would involve only expanding the scheme to one property as 397 lies along the existing scheme boundary.

Option 1: The 150 mm uPVC pipe is one option to connect the new dwellings at 397 Arrowtown – Lake Hayes Road to the QLDC’s network. The modelling from Waterfall Park Hotel found this pipe does not have the capacity to carry the flows from the hotel. As stated above further modelling will have to take place in order to determine if this pipe has the suitable capacity to accommodate the flows from 397 Arrowtown – Lake Hayes Road.

Option 2: Another option is to connect the wastewater from 397 Arrowtown-Lake Hayes Road to the 300mm PVC trunk main within Arrowtown – Lake Hayes Road. This will involve running a pipe from the property boundary south within or adjacent to Arrowtown – Lake Hayes Rd to this 300mm main.

We propose option 2. This will eliminate the need for further modelling as we already know the 300mm PVC trunk main has the capacity to carry the flows from 397 Arrowtown – Lake Hayes Road. The wastewater will be pumped from the property to a connection point on the 300mm PVC trunk main.

Completing this connection will then include 397 Arrowtown – Lake Hayes Road within the QLDC wastewater scheme boundary. These changes can be seen below in Figure 3a and Figure 3b.

The proposed wastewater connection to the existing infrastructure is feasible, only involves extending the QLDC’s scheme boundary by one property and has minimal negative effects on the surrounding environment as explained above.



Figure 3a: Proposed Scheme

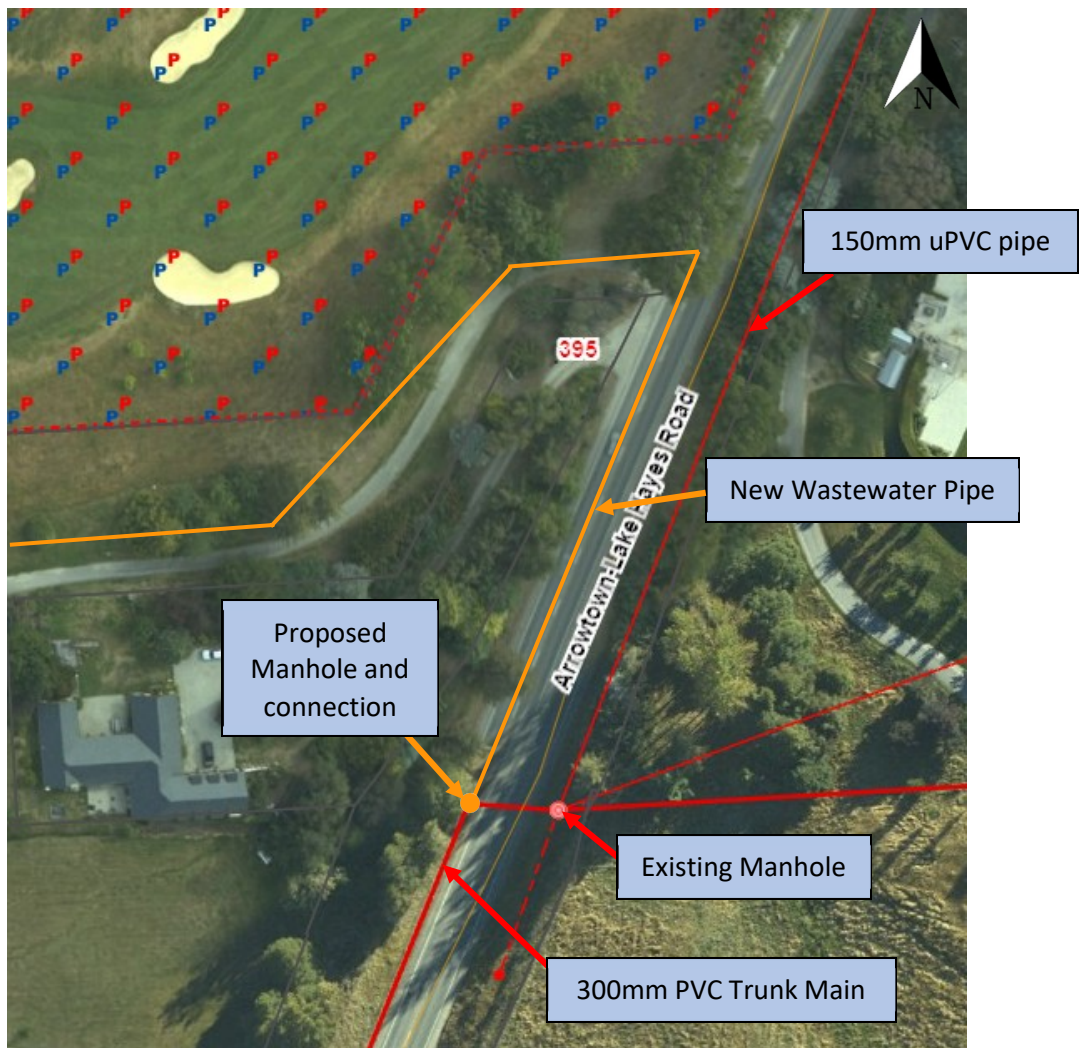


Figure 3b: Proposed Wastewater Connection