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February 8, 2023

Mathew Coffey
Planning Coordinator, Approvals
The Corporation of the County of Prince Edward
280 Picton Main Street, Suite 201
Picton, Ontario
K0K 2T0

Dear Mr. Coffey:

12697 LOYALIST PARKWAY - TULIP ESTATES SUBDIVISION
SECOND SUBMISSION / RESPONSE TO COMMENTS
IBI FILE NO. 115791
PEC FILE NOS. 13-T-19 & Z58-19

Arcadis IBI Group is the authorized agent for Hilden Homes Ltd., the owner of the property municipally known as 12679 Loyalist Parkway. Applications for Draft Plan of Subdivision and Zoning By-law Amendment for the subject lands were filed in August 2019 (13-T-19 & Z58-19) and deemed completed on January 15, 2021. On behalf of our client, we are pleased to submit the second formal submission and consolidated response to comments.

In order to substantiate the technical requirements, the following studies have been updated and are accompanying this submission:

- Draft Plan of Subdivision, May 25, 2022, Arcadis IBI Group
- Civil Drawing Set, February 7, 2023, Arcadis IBI Group
- Functional Servicing Report, January 30, 2023, Arcadis IBI Group
- Traffic Impact Study Addendum, January 11, 2023, Crozier Consulting Engineers
- Functional Design for Site Access, October 3, 2022, Crozier Consulting Engineers
- Planning Justification Report, February 3, Arcadis IBI Group

For ease of reference, we have appended a table with the original comment by staff and peer reviewers and our response in the right column to this letter. The appended tables provide a consolidated response to the April 19th, 2021, comments provided by Staff and peer review consultants and the subsequent email comments. A summary of the comments was provided by PEC Staff in an email dated August 17th, 2022.

We request that staff undertake a review of the modified Draft Plan of Subdivision and for the municipality to schedule the Public Meeting.

If you have any questions in the interim, please do not hesitate to contact our office.

Sincerely,

Arcadis | IBI Group

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Douglas W. Stewart, MCIP RPP
Associate – Manager, Urban & Regional Planning

Emma Stucke, MCIP RPP
Planner

COMMENT RESPONSE

PLANNING

The following comments were provided in an email dated June 23, 2022.

COMMENT	RESPONSE
We would like to see a commitment to an apartment block in the vicinity of Owen Street and Street B.	Proposing an Apartment Block was initially considered in part to address a grade issue as the building could provide the retaining wall feature to address the significant slope to the north and east. An earlier modifications reduced the eastern boundary of the plan to create a "Other Lands Owned" scenario where in the unknown future the lands could be coordinated with the lands to the east and importantly to reduce the grading and servicing infrastructure requirements to service the block. The east retaining wall feature would now not be required. We considered other locations within the Draft Plan and concluded that given uncertainty in the market demands, that other development better suited can provide the land use and importantly, given the low rise and large lots of the adjacent existing land use, we believe that utilizing the townhouse block would not be appropriate planning. We believe that the proposed townhouse development together with the other residential blocks provide for sufficient diversity of housing type and density. We believe that proposing the apartment block within the plan will raise significant opposition to the proposed development from the neighbourhood. We did reconsider the municipality request and we'd disagree that an apartment block is required within this development. We will not be modifying the plan and have no issue if Council make the decision.
Please remove the eye browed comers.	**Street "C"** - minor "eyebrow" to the curve. This approach has been utilized all across Ontario to address the 90 degree curve of a roadway for safety reasons and we see no reason why it shouldn't be provided at these two locations as shown on the draft plan. The "eyebrow" is an opportunity for safety reasons to provide sufficient spacing of driveways around the curve of the street so that they don't merge at the road and we have

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COMMENT	RESPONSE
	never been advised by a municipality that they have a concern for any reason including winter maintenance. We will continue to pursue this and have no issue if Council makes the decision at Draft Approval.
If Block 10 is access for the swm pond it cannot be parkland.	**Block 10** on the Draft Plan has always been identified through the numerous iterations of the Draft Plan as Water Booster Station/Lift Station and never as Park. While this Block would be conveyed to the municipality through the registration process, it has never been counted towards the 5% park dedication. We consider this matter resolved.

PLANNING

The following comments were provided in an email dated April 22, 2022.

COMMENT	RESPONSE
The park block (Block 1 and 10 would be expanded to include additional road frontage on Street B.	Comment acknowledged and incorporated into 2022-05 Draft Plan Revision. Please refer to the updated Draft Plan accompanying this submission.
The reduction or elimination of Block 9 would allow for a larger flat park area at the front of the development. Security issues around a narrow park area behind homes is also eliminated.	Comment acknowledged and incorporated into 2022-05 Draft Plan Revision. Please refer to the updated Draft Plan accompanying this submission
The triangular piece of parkland behind block 7 should be merged with Block 7. It is not useful park land.	Comment acknowledged and incorporated into 2022-05 Draft Plan Revision. Please refer to the updated Draft Plan accompanying this submission
The apartment block (Block 3) should be relocated closer to the subdivision entrance (such as Block 13).	Comment acknowledged. We disagree that an apartment block is required within this development. We will not be modifying the plan and have no issue if Council make the decision.
Remove the corner flair outs on Street A and C.	Comment acknowledged. We will continue to pursue this design and have no issue if Council makes the decision at Draft Approval.
How will the grade transition to the “additional lands”? Is a retaining wall required? How will this be maintained in the future?	Please refer to the updated grading plan accompanying this submission.
Consider a lower density development over all (given grading constraint). Lower density would allow for larger lots with more green space in between.	Comment acknowledged. We are of the opinion that the minimum and maximum numbers provided are reasonable and provide for housing flexibility and also can achieve a unit number that can be serviced.

TRAFFIC – PARADIGM

The following comments were provided in an email dated April 10, 2022.

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COMMENT	RESPONSE
1. A new intersection is being proposed on a section of Loyalist Parkway to provide access to the site. I understand from previous discussion with County staff that this section of Loyalist Parkway is under MTO jurisdiction. Therefore, Crozer should contact MTO staff and confirm the study scope and tasks that are necessary for MTO review and approval. ***The current study indicated that Crozier tried to contact MTO staff in June 2019 but received no response. Obviously this has to be pursed further unless MTO has no jurisdictional interest.***	Comment acknowledged. MTO has been contacted by Crozier and had indicated that they will review the applications.
2. Provide additional information related to the site traffic forecasts and revise as necessary. This requires completion of the following tasks: • Provide a figure that clearly illustrates the proposed internal roadway connection to the existing street network in the adjacent subdivision; • Estimate the volume of traffic generated by existing development in the vicinity of Owen Street that would potentially use the subject site's road network to access Loyalist Parkway at the proposed new intersection on Loyalist Parkway; • Provide the rational used for splitting site-generated trips approximately 60% to/from the Loyalist Parkway access and 40% to/from the Own Street access (and the Owen Street-John Street route) and revise if it is subsequently determined that this split may not be realistic; and • Based on the conclusions drawn from the tasks above, revise the site and total traffic forecasts as may be necessary.	Comment Acknowledged. Please refer to the TIS Addendum accompanying this submission.
3. Notwithstanding any MTO requirements to be confirmed through 1 above, the current study included <u>no analysis</u> of the proposed new site access intersection on Loyalist Parkway, and therefore, no recommendations were made for operational and/or capacity improvements at this proposed intersection. As noted in our review, the analysis of the proposed new site access intersection on Loyalist Parkway must include the following tasks: • Confirm that the proposed intersection does not result in operational and/or safety concerns related to its proximity to existing	Comment Acknowledged. Please refer to the TIS Addendum accompanying this submission.

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COMMENT	RESPONSE
driveways. A functional drawing to clearly illustrate the proposed intersection and existing driveways along Loyalist Parkway should be provided; • Confirm that there are adequate site lings at the proposed intersection based on Transportation Association of Canada (TAC) intersection sight distance requirements; and • Conduct an operational analysis of the background and total traffic forecasts for the proposed intersection, which would include determining the required traffic control (minor street stop, signalization, etc.) and the potential need for auxiliary turn lanes on Loyalist Parkway.	
4. In consideration of either the current forecasts after 2 above is completed, provide an assessment of the expected changes in the existing traffic volume on Owen Street and John Street, and whether the resultant longer-term traffic forecasts represent volumes that are appropriate for the functional classifications of these streets. This task would assist in addressing potential neighbourhood traffic concerns due to the proposed internal street connection with the new development.	Comment Acknowledged. Please refer to the TIS Addendum accompanying this submission.
5. Address the planning context for the proposed development including the following: • Identify the Secondary Plan that is referenced in the report; and • Confirm that the proposed development is compliant with Zoning regulations and Official Plan policies.	Comment Acknowledged. Please refer to the TIS Addendum accompanying this submission.
The key omission to be addressed in a follow-up study is an assessment of the impact of the proposed development on the road system in the immediate vicinity of the subject site, i.e. at the proposed site access intersection on Loyalist Parkway and on the internal road network of the existing neighbourhood adjacent to the site.	Comment Acknowledged. Please refer to the TIS Addendum accompanying this submission.

PEER REVIEW COMMENTS (2021)

The following peer review comments were provided April 19th, 2021. An interim response letter was submitted November 19th, 2021. For ease of reference, we have included a table with the original comment by peer reviewers and our updated response in the right column of this letter.

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TRAFFIC

COMMENT	UPDATED RESPONSE
Additional localized site traffic impacts need to be reviewed, specifically the intersection with Street 'B' and Bridge Street for driveway setbacks and sightlines and what operational/safety concerns are based on their proximity. This review may identify requirements for tapering lanes or improvements may encroach onto Loyalist Parkway which is an MTO road and will require their consultation. Furthermore, they identify further monitoring of the Bridge Street & Union Street intersection for higher traffic controls (signalization) in the future.	Please refer to the accompanying TIS Addendum. MTO will be advised for any geometric improvements proposed to mitigate traffic-related concerns.
It is recommended that engineering for this new intersection be completed to determine if additional study or consultation with MTO is required.	Acknowledged, MTO has been contacted and will be included for future transportation studies or designs.
It is recommended that cost contributions be required for intersection improvements at Bridge Street and Union Street.	Acknowledged if improvements are warranted based on the proposed development.

STORM

COMMENT	UPDATED RESPONSE
We agree with the concerns identified in the Jewel Engineering peer review. Past discussions with staff have proposed incorporating the existing Owen Street Stormwater Facility into the Tulip Subdivision and repurposing the property for residential lots. The feasibility over this should be considered in the stormwater review.	Please refer to the updated stormwater management report accompanying this submission.
The MTO should be consulted & provide sign off in the downstream outlet encroaches into MTO culverts or on their land.	We have contacted MTO and will continue to pursue and note that appropriate Conditions of Approval could be provided.

SANITARY

COMMENT	UPDATED RESPONSE
RVA provides four scenarios and reviewed the option for a phased approach prior to significant offsite infrastructure works. We agree their conclusion that Option 1 appears to be the most feasible approach to servicing the development, be a sanitary pumping station on Block 10 discharging to a 500m forcemain on Bridge Street that discharges to MH 569 on Bridge Street.	Comment acknowledged. This is the preferred solution. Please refer to the functional servicing report accompanying this submission.
A phased approach to permit development prior to infrastructure upgrades is not possible. Sanitary sewers on Owen Street are too shallow and would	Comment acknowledged. Option 1, as mentioned above, is the preferred option for Sanitary servicing.

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COMMENT	UPDATED RESPONSE
require significant downstream upgrades to accommodate development phasing.	Please refer to the functional servicing report accompanying this submission.

WATER

COMMENT	UPDATED RESPONSE
RVA concludes the requirement for a booster pumping station and storage reservoir is required for the development. Phased approaches were also analyzed to provide development options where sufficient water pressure is available prior to significant water infrastructure upgrades. In these scenarios building designs will need to be changed to accommodate lower water flow availability.	Comment acknowledged. Please refer to the functional servicing study accompanying this submission.

MTO

COMMENT	UPDATED RESPONSE
The Ministry of Transportation (MTO) notes the new subdivision is technically outside of MTO's permit control. The ministry's interest is with the proposed subdivision's new road connection onto Highway 33 (Loyalist Parkway) as the proposed road is only 30 to 40 metres within the link. The ministry is also interested in the drainage for the proposed subdivision as a centreline crossing culvert is located 5 metres from the connecting link. You & the proponent should also be aware that there is a utility station and what appears to be possibly a historic wall located on the north side of Highway 33 in proximity to the proposed new road. I want to bring this to your attention as in the event that the traffic impact study determines a left hand turn lane or other geometric features are required to facilitate this subdivision proposal, the road works will impact the centreline culvert, utility station and possibly a historic wall. Any road works needed on Highway 33 that extend outside the connecting link onto the provincial highway will be within the jurisdiction of MTO under the Public Highway Transportation Improvement Act RSO 1990, which will require permits from MTO	IBI – See STORM comment response above. Crozier – MTO will be consulted for any geometric improvements proposed to mitigate traffic-related concerns.
MTO would like to be involved in the review of the traffic impact study of the proposed subdivision. You should also be aware the ministry will require you to follow the MTO supplement manuals to the TAC Manual when preparing the traffic study, in the event that a left hand turn lane is required as the	MTO will be included in any future TIS submissions, and it is noted that MTO's TAC-GCGCR Supplement will be consulted with regards to left-turn lane warrants.

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COMMENT	UPDATED RESPONSE
left hand turn lane will extend into the ministry's jurisdiction.	
The developer should be informed that the centreline crossing culvert on Highway 33 is located within the ministry's jurisdiction, as such the ministry would like to be circulated for review to ensure there will be no impacts to the provincial highway way facility. The consultant preparing the stormwater management report needs to indicate the intended treatment of calculated runoff, demonstrating that post-development drainage from the site is kept to pre-development levels. I note this to you as any roadworks required will overlap with the drainage. I've attached a couple of photo's of the centreline culvert for reference.	Comment acknowledged. See STORM comment responses above.
Please be aware the ministry has a paving project on Highway 33 that is programmed in 2020 from Glenora to Picton. In regards to growth rates and background developments please contact the municipality.	We will consult the County with regards to the data regarding this development and include in future analysis.

Traffic – Paradigm

COMMENT	UPDATED RESPONSE
Key Points Traffic forecasting and operational analyses are generally acceptable as presented, however, there are many omissions as related to background planning and engineering information, typical traffic impact study content, and the absence of some relevant technical work	Noted.
The key study conclusion is that the proposed development could be accommodated by the study intersections with no road or traffic control improvements	It should be noted that these recommendations have changed, and geometric changes will be recommended to mitigate capacity concerns at Union Street and John Street, and Loyalist and Street B. Please refer to the TIS Addendum accompanying this submission.
The key study recommendation is that the County monitor future traffic conditions at the Bridge Street/Union Street intersection to confirm the need for and type of improvement that may be required (possibly traffic signals). This recommendation relates to the study finding that the northbound left turn from Union Street to Bridge Street would experience unacceptable delays and have traffic demands at or exceeding capacity during peak hour periods in the future	Signalization and left-turn lane warrants will be conducted for this intersection per OTM and MTO's TAC-GDGCR Supplement requirements. Please refer to the TIS Addendum accompanying this submission.

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COMMENT	UPDATED RESPONSE
Actions Required An addendum should be prepared to address the following: Identify the Secondary Plan that is referenced in the report and confirm that the proposed development is compliant with Zoning regulations and Official Plan policies	It is acknowledged that additional work is necessary and would be completed after the Public meeting and the review of the modified Draft Plan of Subdivision by the municipality.
Address MTO requirements where applicable (subject to direction from MTO)	MTO will be included for future transportation studies or designs.
Identify the functional classifications of the study area roads, and the lane configurations and traffic control at the intersections	Noted.
Confirm that the proposed new site access intersection on Loyalist Parkway could operate efficiently and safely at the proposed intersection location (considering traffic operations/capacity, auxiliary turn lanes, sight lines, and proximity to existing private driveways)	Analysis of the proposed site access on Loyalist Parkway will be elaborated upon. Please refer to the updated TIS Addendum accompanying this submission.
Explain the rationale used in splitting site trips between the Loyalist Parkway and Owen Street accesses	Noted.
Provide commentary and an assessment of the potential traffic impact on the adjacent existing residential subdivision to the south with the proposed site access connection to Owen Street, and the potential for traffic from the existing subdivision to travel through the proposed new subdivision	Please refer to the TIS Addendum accompanying this submission.
Overall Summary The Traffic Impact Study follows a typical technical approach but has the following notable omissions: A legible Figure to show the Site Location A clear and concise description of the study area, scope, and methodology that was agreed to with County staff A complete description of the key study area roads and traffic control Field observations of existing traffic Operations A site trip distribution table A clear description and illustration of the	Within the revised Addendum: - The Site Location Figure will be amended. - The study area and scope will be amended for clarity. - The study roadways, including type of control and configuration will be illustrated in a figure. - A site distribution table will be included. - The site trip assignment will be revised to better illustrate the assignment relating to the Owen Street Access. - The distribution between the site accesses will be clarified. Please refer to the TIS Addendum accompanying this submission.

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COMMENT	UPDATED RESPONSE
site trip assignment as related to the Owen Street access An assessment of traffic operations and safety considerations for the primary site access intersection on the public road system (i.e. Loyalist Parkway)	

Engineering Design – Jewell

COMMENT	UPDATED RESPONSE
1. The facility storage is sized according to the MOE 2003 sizing table for a wetland. The facility does not appear to resemble a typical wetland design. Instead the figure representing the post-development conditions appears to show a wet pond. Wet ponds have a much larger permanent pool sizing criteria that would not be met with the storage volume provided in the proposed facility. Wetlands require less volume but a larger land area dedication due to the much diminished storage depths. MOE 2003 requires the average permanent pool depth to be in the range of 150mm to 300mm. This is to support emergent vegetation that are critical to the biological and filtering processes that occur within a wetland. Please support the wetland design by comparing to the specific criteria in the manual. By this I mean table 4-7.	Comment acknowledged. Please refer to the updated Stormwater Management Plan accompanying this submission.
2. Explain why the 6-hr duration storm was selected.	Given the relatively large drainage area, a 6-hour duration storm would appropriate to simulate runoff (similarly 6-hour or 12-hour duration SCS storms could be utilized to model such catchments). Alternative duration storms can be modelled, if requested.
3. The catchment numbering appears inconsistent. On drawing C100 the existing catchments are 10, 20 and 30. In the report they are 101, 102, 103 and 104, where 102 and 104 represent the external catchment 10.	Comment acknowledged. Please refer to the updated Stormwater Management Plan accompanying this submission.
4. From the OTTHYMO output, it appears 67.99 ha is planned to drain though this facility. In this case, the water quality sizing needs to recognize the much larger	Agreed. Please refer to the updated stormwater management plan accompanying this submission.

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	COMMENT	UPDATED RESPONSE
	contributing area. Recognizing that the exteneded detention calculation for water quality treatment is 40m^3/ha and this value does not change with % imperviousness, one calculates the extended detention storage requirement to be 67.99ha X 40m3/ha = 2,720m^3.	
5.	The major / minor drainage routes should be identified on the drawings.	Comment acknowledged. Please refer to the updated stormwater management plan.
6.	How will the major flows from Owen Street drain into the facility? How will the major flows from Street E drain into the facility? Street D?	The downstream stormwater infrastructure was sized to convey the major flows to the stormwater management facility.
7.	Describe the flow route from the facility to the municipal ditch. Relate this to the top of ponding in the facility of 90.50m and the proposed centreline of road elevation of 91.3m near Block 24.	All minor and major flows drain to the SWM pond via overland flow or pipe flow. The pond then drains to the existing ditch.
8.	The downstream drainage route from the pond outlet is not well understood. Over 3 cms will discharge from the pond to Bridge St./Loyalist Parkway and through private property into the Bay of Quinte. The municipality will require a clear understanding and assurance of drainage to the Bay of Quinte. Include a discussion of any culvert capacity constraints and channel capacity calculations.	The proposed conditions peak flows will be controlled to existing conditions levels for events up to the 100 year storm. Since all flows will be routed from the proposed pond to the existing downstream channel, additional review of the downstream channel and culvert will be completed for the next submission.
9.	The site is adjacent to the MTO corridor and they may have some input/requirements for the crossing of the highway.	Contact with MTO has been made, and we will continue to pursue their review and can be addressed through the Conditions of Draft Approval and detailed design stage.
10.	Will there be any gravity drain restrictions on the outlet of the pond?	The pond active storage will drain via a gravity outlet. When sediment removal is required from the forebay, the permanent pool will need to be pumped from the facility to allow for clean-out.
11.	Street B will terminate at the east limits of the 22.15ha development at a proposed centreline of road elevation of 109.26m, but the existing ground elevation nearby is shown as 118.26m. This will leave a 9m elevation difference to the existing ground. Are the external lands to the east being regraded? If there are to be future phases in Catchment 10 (the report is silent on this), will the 9m elevation difference be accommodated in the future phases or will the hill continue to need excavation? Similarly, the northeast corner of Street A	The Draft Plan has been updated to help mitigate elevation discrepancies along the development boundaries.

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COMMENT	UPDATED RESPONSE
will be about 107m but the existing ground at the northeast corner of Block 1 is 117m. This is a consistent 9m to 10m elevation difference between proposed and existing at the property limits. This will be an extensive regrading program. If the development were to try to match the existing elevations, how would this affect the proposed road pattern? Does the development have the right to grade the lands north of the subdivision? Is the plan to incorporate a 9m retaining wall?	
12. The proposed EF4 Stormceptor unit is proposed for water quality polishing. If the primary treatment facility achieves the target TSS removal, would the OGS unit be required?	The OGS unit will be removed from the design.
13. The OGS should be confirmed to have the flow through capacity for the outflow from the pond. This appears to be 665L/s from the stage/storage/discharge relationship.	The OGS unit will be removed from the design.
14. Please include the EF4 design report.	The OGS unit will be removed from the design.

Water Servicing – RVA

COMMENT	RESPONSE
The current design of the Tulip Subdivision Water Distribution System and the existing limitations of the Picton Water Distribution System do not allow some areas within the Tulip Subdivision to have the recommended pressures during PHD conditions nor the fire flows required by the Developer.	The reduced development area will reduce the PHD. Additionally, the area removed from the draft plan is the highest elevations.
Water model scenarios showed the upgrading the watermain on Loyalist Parkway and Union Street improved the pressures and available fire flows throughout the Subdivision. However, even with these improvements, it would not be sufficient to provide the recommended pressure at PHD conditions or the required fire flows in the higher eastern region of the Subdivision.	The reduced development area will reduce the PHD. Please refer to the functional servicing report accompanying this submission.
A booster pumping station was proposed to achieve the recommended pressures and fire flows throughout the Subdivision (at full built-out). • The required HGL to account for adequate pressures during PHD for the highest elevation area is 144.5 m. The actual pump total dynamic head (TDH) will need to be calculated based on this HGL and the headloss in the system depending on	Please refer to the functional servicing report accompanying this submission.

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COMMENT	RESPONSE
the location and specific design of the booster pumping station. • The forecasted water storage needs for the Subdivisoin are 1,500 m^3 based on 125L/s fire flow and the water demand noted in the IBI Group Functional Servicing Report. • The Developer requested a fire flow of 220 L/s for apportion of the Subdivision; however, this flow will be difficult to achieve. It would require upsizing the internal Tulip subdivision watermains, a larger water storage structure and large pumps in the booster station. • It was identified that there is not sufficient space in Block 10 to install both a booster pumping station (and associated reservoir) and a sewage pumping station plus a wet well. Additionally, installing the booster pumping station at a higher elevation is recommended because some areas within the subdivision do not require additional pressure. By locating the booster pumping station strategically (to have enough pressure from the exiting distribution system to feed the Tulip reservoir, while close enough to the new pressure zone), the TDH of the pumps would decrease because there would be a smaller static head to overcome.	
A phased approach can be considered for the Tulip Subdivision • For the Phase 1, it is recommended to service the area J01 and J01. Phase 1 would not require a booster pumping station provided that the housing design can accommodate the lower available fire flows. ○ If Phase 1 is connected only to the watermain in Owen Street, there would be adequate pressures at PHD conditions, but only around 76 L/s of available flows during maximum day demand plus fire. ○ If Phase 1 is connected to the watermains in Loyalist Parkway and Owen Street, there would be adequate pressures at PHD	Comment acknowledged.

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COMMENT	RESPONSE
conditions, but only around 92 L/s of available flows during maximum day demand plus fire. However, this scenario offers better water supply redundancy than the previous one. • Subsequent phases would require a booster pumping station and a reservoir to provide adequate pressure during PHD and fire flows. However, these facilities would service fewer residential units; therefore it would be smaller than a booster pumping station and reservoir that services the entire Subdivision.	
It is recommended to adopt a system-wide approach for the infrastructure upgrades rather than focusing only on the Tulip Subdivision. Other developments in the area are expected to require a booster pumping station and reservoir as well. It would be recommended to develop infrastructure that could be used by all the developments, like a communal booster pumping station and elevated tank. If a system-wide approach is adopted, there may be opportunities for cost sharing of joint infrastructure.	Please refer to the functional servicing report accompanying this submission.

Sanitary Model – RVA

COMMENT	RESPONSE
Review sanitary design sheet from MH6S to MH5S going downstream – the flows do not appear to add up	Peak flow based on Peaking Factor for total population serviced at the location.
Review the purpose of connecting all sanitary sewers on the most southern row (MH25S, MH21S and MH17S to the North) in a 3 way configuration. For example, the current proposed configuration at MH21S allows for sewage entering in to flow either towards MH20S (going northward) or MH17S (going westward). It would likely be better to direct the sewage through one downtstream routing only rather than several routes, especially with very low flows at these locations.	The elevations of the northern inverts will be lifted to ensure flow through these manholes in a westerly direction. The northern connections are included to avoid the need for an additional manhole at each location.
Scenario 1 IBI Group would be required to provide further design details for the SPS at Block 10 and the wet well/emergency storage tank volume. Due to the wet well size, the property for Block 10 should be reserved for the SPS and we well only and would	Comment acknowledged. Please refer to the functional servicing report accompanying this submission.

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COMMENT	RESPONSE
not be able to accommodate a potable water reservoir and booster station at the same time. Therefore the proposed Booster Pumping Station (BPS) and reservoir need to be located elsewhere.	
Scenario 2 Cost sharing for the existing sanitary collection system improvements may be warranted if this option is selected.	Should this be the preferred Scenario we would work with the municipality is defining an appropriate and fair cost sharing arrangement.
Scenario 3 Overall, Scenario 3 is not a desirable scenario compared to Scenario 1 & 2	Comment acknowledged.
Scenario 4 Overall, Scenario 4 is not a desirable scenario when compared to Scenario 1 & 2	Comment acknowledged.