

## EXECUTIVE SUMMARY

### Background

Waterscapes Homes LP (Waterscapes Homes) seeks to construct a residential development on a greenfield site located in the Downtown area of Kelowna, BC. A Transportation Assessment (TA) is required to support the Development Permit (DP) approval process for the proposed Waterscapes 2 development.

The proposed residential development would add 1,141 dwelling units across 4 residential towers on an existing green field parcel at 1070 – 1130 Ellis Street, backing onto the Waterscapes 1 development. The site is located at the North End of Downtown Kelowna within proximity of the Waterfront Park and the Elks Stadium/Recreation Park and is seeking a zoning change to UC1. The Development is also surrounded by several existing and proposed future walking and cycling routes including the Okanagan Rail Trail.

This report evaluates the operational performance of the transportation network surrounding the development for the current day, opening year (2027), and opening day +10 years (2037). Future background traffic and future total traffic has been compared to draw conclusions on impacts created by the proposed development. The report takes into consideration the City of Kelowna's 2040 Official Community Plan (OCP) and evaluates the development's effect on non-vehicular modes in addition to the traffic capacity analysis.

### Key Findings

#### Traffic Operations

The existing conditions show that weekday operations in the study area meet traffic performance thresholds with one exception. The results for the Southbound left and through movement at the St Paul Street and Clement Avenue intersection is operating at a LOS F (acceptable threshold is LOS E).

Where compared to the background traffic, the proposed development traffic is expected to have some impacts on the surrounding road network. The site generated traffic will have higher impact at the St Paul Street & Clement Avenue and the Ellis Street & Clement Avenue intersections than others studied intersections, outlined below:

1. The unsignalized intersection at St Paul Street & Clement Avenue is expected to operate beyond the desirable performance thresholds, with an LOS of F for the opening day total vehicle operations (PM peak hour) and opening day + 10 vehicle operations (AM and PM peak hour) scenarios.
2. The Ellis Street & Clement Avenue intersection is expected to operate with a V/C = 0.97 during the PM peak hour of the Opening Day + 10 Years Total vehicle operations scenario.

3. Bunt performed additional analysis to mitigate the effects of the development by adjusting the intersection layout to include: dedicated Eastbound Left, Eastbound Through, and Eastbound Right lanes; Two Eastbound Through lanes exiting the intersection on the West leg; and a protected and permissive signal for the Westbound Left movement.
4. Using Synchro, the forementioned modifications reduced the V/C ratio for the PM peak hour to 0.73 and all other performance metrics at this intersection were acceptable.

Ellis Street & Clement Avenue and Sunset Drive & Clement Avenue may have problematic 95<sup>th</sup> percentile queue lengths for the WB and EB movements. It is noted that coordinating these two traffic signals or widening the EB approach at Sunset Drive & Clement Avenue may alleviate this issue.

#### **Site Review**

The current site design layout is conceptual and still under review. With this in consideration, based on the available drawings the swept path analysis shows there are some obstructions and concerns with aisle width, stall width and ramp slopes. Bunt notes that these comments will be incorporated into the detailed design refinement. The number of vehicular parking spaces, long-term and short-term bicycle storage spaces provided meet the City bylaw requirements.

#### **Active Transportation**

Waterscapes 2 is not seeking any formal TDM reductions. However, location of the Site is a large promoter for active transportation with its proximity to the downtown area which includes a range of local facilities and amenities. It is anticipated that at opening year the development will generate a total of 22 and 34 bicycle trips in the AM and PM peak periods. It has been assumed that 70% of trips travelled by bike will be to/from the southern downtown area. The Development supportive of and intends on promoting both active transportation and mode share in align with the 2040 Transportation Master Plan.

## **Recommendations**

#### **Traffic Operations**

Further investigation and monitoring should be considered at the St Paul Street & Clement Avenue intersection. Modelling results indicate this intersection is likely reach its capacity in the future. However, the signal warrant analysis indicated a traffic signal is not warranted at this intersection. Notwithstanding this, the City may want to consider installing a traffic signal here to provide protected crossing opportunities for pedestrians and cyclists given St Paul Street has been identified as an Active Transportation Corridor in the City's Transportation Master Plan.

It is suggested that upgrades be made to the Ellis Street & Clement Avenue intersection before the year 2037 to accommodate the site traffic demand at this time. Upgrades would include Eastbound Left, Eastbound Through, and Eastbound Right lanes; Two Eastbound Through lanes exiting the intersection on the West leg; and a protected and permissive signal for the Westbound Left movement. The inclusion of

two Eastbound Through lanes on Clement Avenue is consistent with the direction identified in Kelowna's Transportation Master Plan.

Due to the close proximity Ellis Street & Clement Avenue and Sunset Drive & Clement Avenue it is recommend considering signal coordination of these 2 intersections to a allow better through put of vehicles.

### **Active Transportation**

Upgrade the shared use connection of unpaved path running behind Waterscapes 1. By upgrading this to a paved facility, there is opportunity to increase the quality of service the total route provides as this section lays between 2 paved sections of shared path.

Consider providing a future active transportation link for cycling on Gaston Street. This will increase access and connectivity to three future bike routes and a transit stop.

Marketing materials such as a Transportation Information Package should be provided to residents on the day of move in.