

Draft Street Manual Detailed Cross Sections for Discussion

***Annotated Version**

PURPOSE

The purpose of this package is to provide the reviewer with a side by side comparison of the proposed draft cross sections against the closest existing detailed cross-sections. The call outs are intended to assist the reviewer in understanding the changes to each design zone. Note that this is still a Draft and some notes indicate that we are still working through some details internally. Before presenting the cross-sections, we highlight the major changes and what has driven those changes.

MAJOR CHANGES

Simplified Classifications

The current (2020) Design Guide for Subdivision Servicing - Section II: Roads has 17 cross-sections. In the early engagement of this project, we heard that there was a desire to minimize the number of cross-sections. To do this, we simplified the number of street classifications to four basic ones: Skeletal, Arterial, Collector, and Local. Recognizing that there are land use and other contexts that require some variation, we developed cross-sections for industrial, high-activity area, and rural contexts.

Lower Target Speeds

No single change in the proposed Street Manual will be as impactful as the move to reduce target speeds. Local streets have been designed to achieve target speeds of 30 km/h and collector streets have been designed to achieve target speeds of 40 km/h. To achieve these target speeds, narrower lane widths, public trees close to the roadway, and other adjustments to street design are necessary.

Separate Sidewalks

While this isn't a new concept for most Calgary streets, it is for the proposed Local Street. Several factors have driven this change:

- separation from parked vehicles and travel lanes creates a more comfortable experience for pedestrians
- they create a public boulevard with public trees close to the road, lowering travel speeds, and creating a space where shallow utilities and tree roots aren't competing
- improves accessibility for all pedestrians (especially those with vision loss) by creating the correct alignment for two wheelchair ramps at each corner

Reduced On-Street Bicycle Facilities

As industry best-practices for bicycle facilities evolves, it is becoming clear that only streets with low traffic volume and travel speed are appropriate for unprotected on-street bicycle facilities. With this in mind, most bicycle facilities have been moved to the boulevard area. The exception is the low speed local street with traffic calming measures incorporated. This generally saves pavement and right-of-way width.

Reduced Rights-of-Way

Every effort has been made to make the most efficient use of space. We have worked hard with internal staff from over 15 business units spanning 4 departments to minimize off-sets and space requirements for each street element. The result is a similar or reduced right-of-way for all cross-sections with two exceptions: 2.0m additional right-of-way for the local street with parking on both sides, and 1.0m for the collector high activity street (current equivalent is the activity centre street).

Increased Public Trees

Climate and Urban Forestry policies of the Calgary Plan require additional tree canopy across the city, including in public road right-of-way. To respond to this, public trees and a growing envelope has been added to all cross-sections. The trees large canopy, are situated in a minimum 2.1m public boulevard, require a spacing of no more than 10 metres, and must have an available soil volume of 30 cubic meters (20 cubic meters permitted on local streets).

Conflicts Between Shallow Utilities and Public Trees Eliminated

Trees are located in a public boulevard with shallow utilities (including the street light cable) behind the separated sidewalk. This eliminates a long standing issue where these two street elements were in conflict creating undesirable outcomes for both.

New Approach to On-Street Parking Lanes

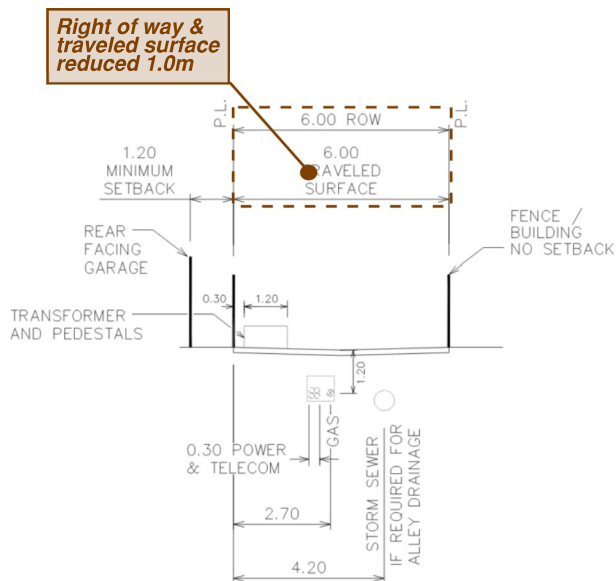
Traditionally, every local and collector street is constructed with on-street parking lanes on both sides. Even when the housing form prevents the ability to park on-street (e.g. front-driveway, narrow lot product), we continue to construct wide roads that not only cost more to build and maintain, but encourage speeding when there are no lateral objects to calm traffic. Moving forward, local and collector streets without parking lanes are the default. This reduces road width (and associated costs), creates safer intersections, and ensures space for transit stops and more boulevard width for trees. For situations where on-street parking lanes are needed, cross-sections have been produced.

Existing Alley

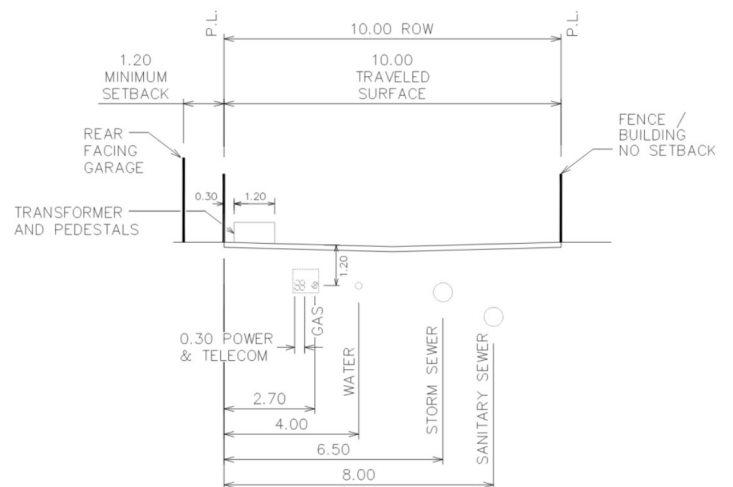
No Cross-Section

Proposed Alley (NEW)

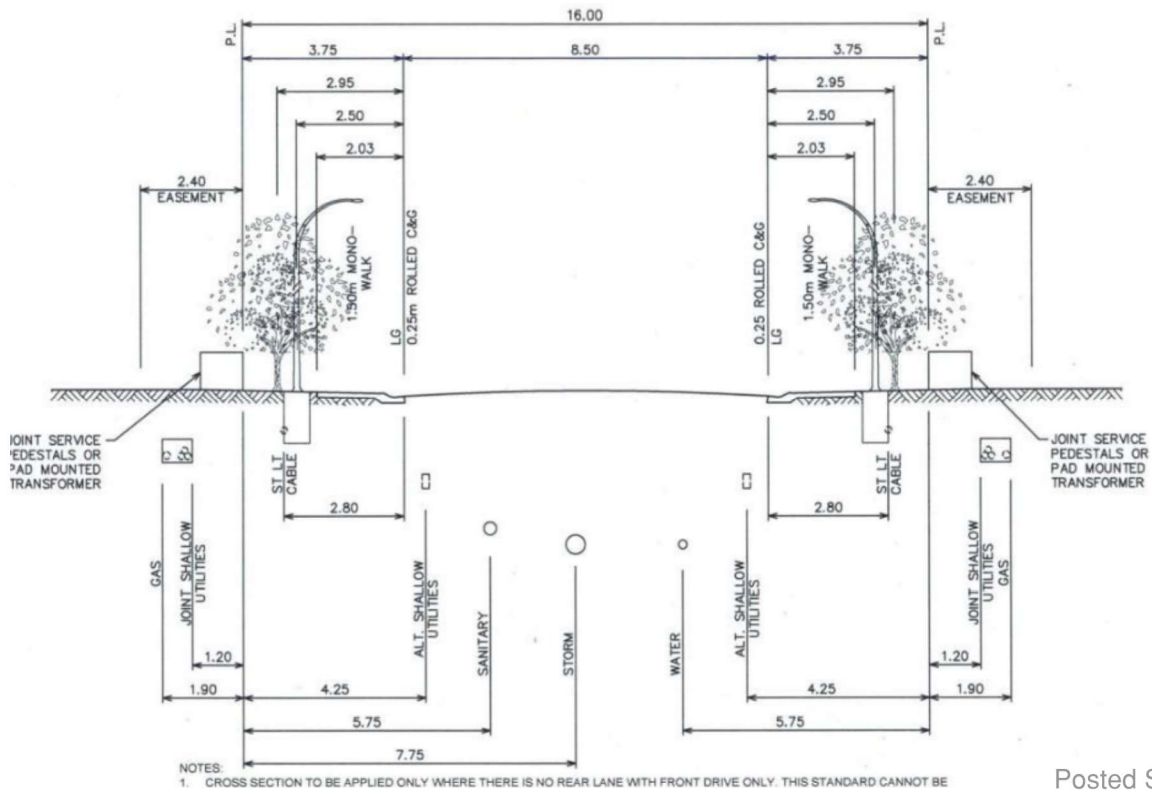
6.0m (no deep utilities)



10.0 (with deep utilities)

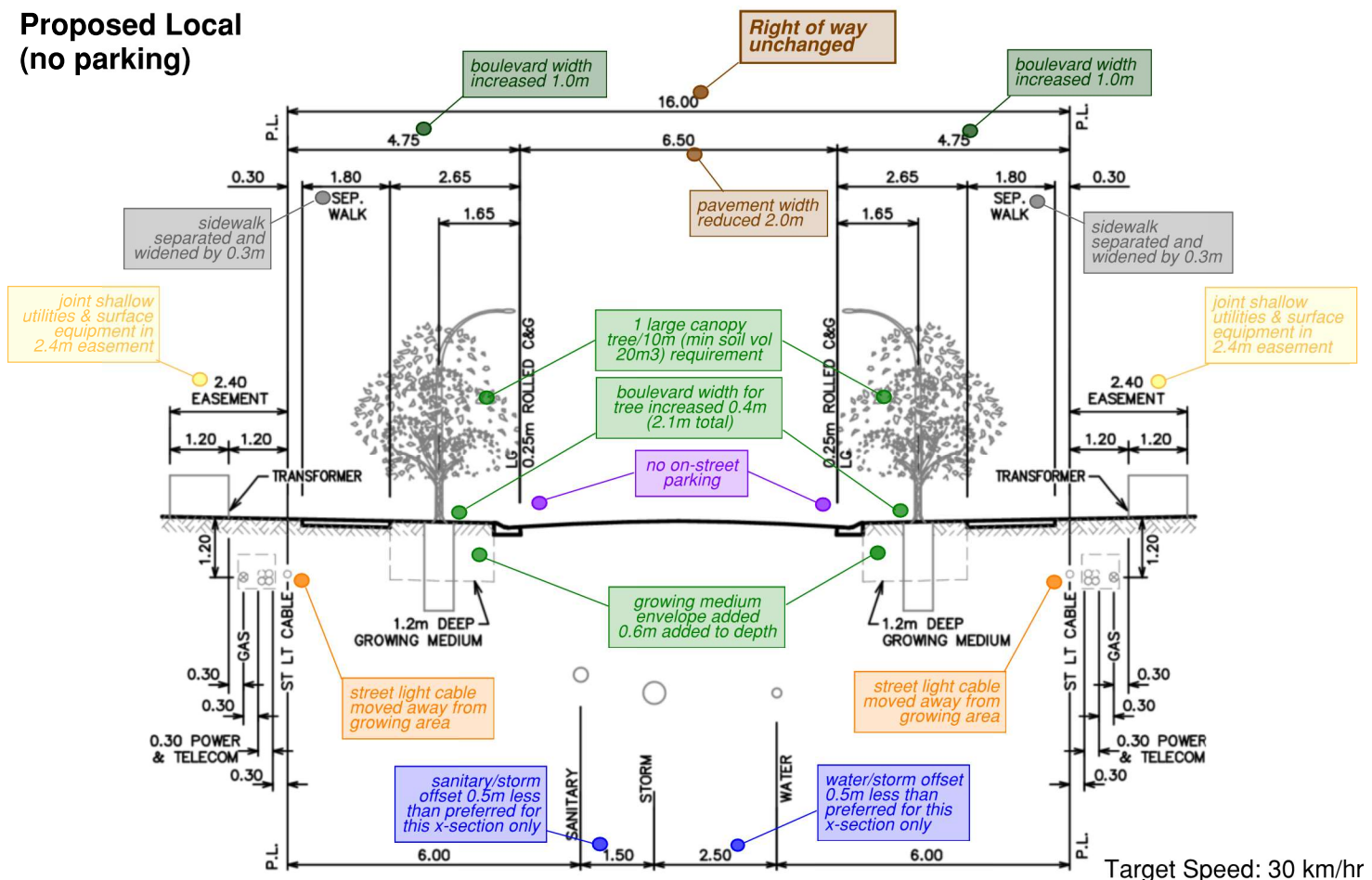


Existing Residential



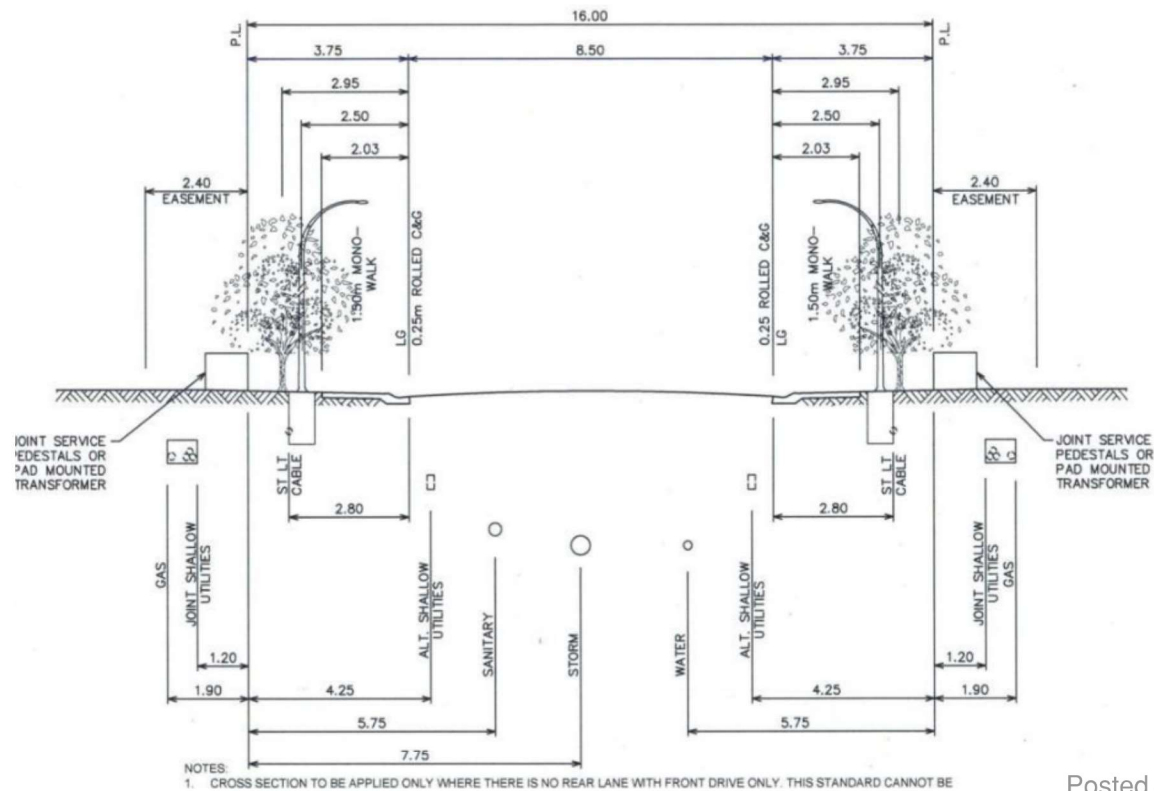
Posted Speed: 40 km/hr

Proposed Local (no parking)



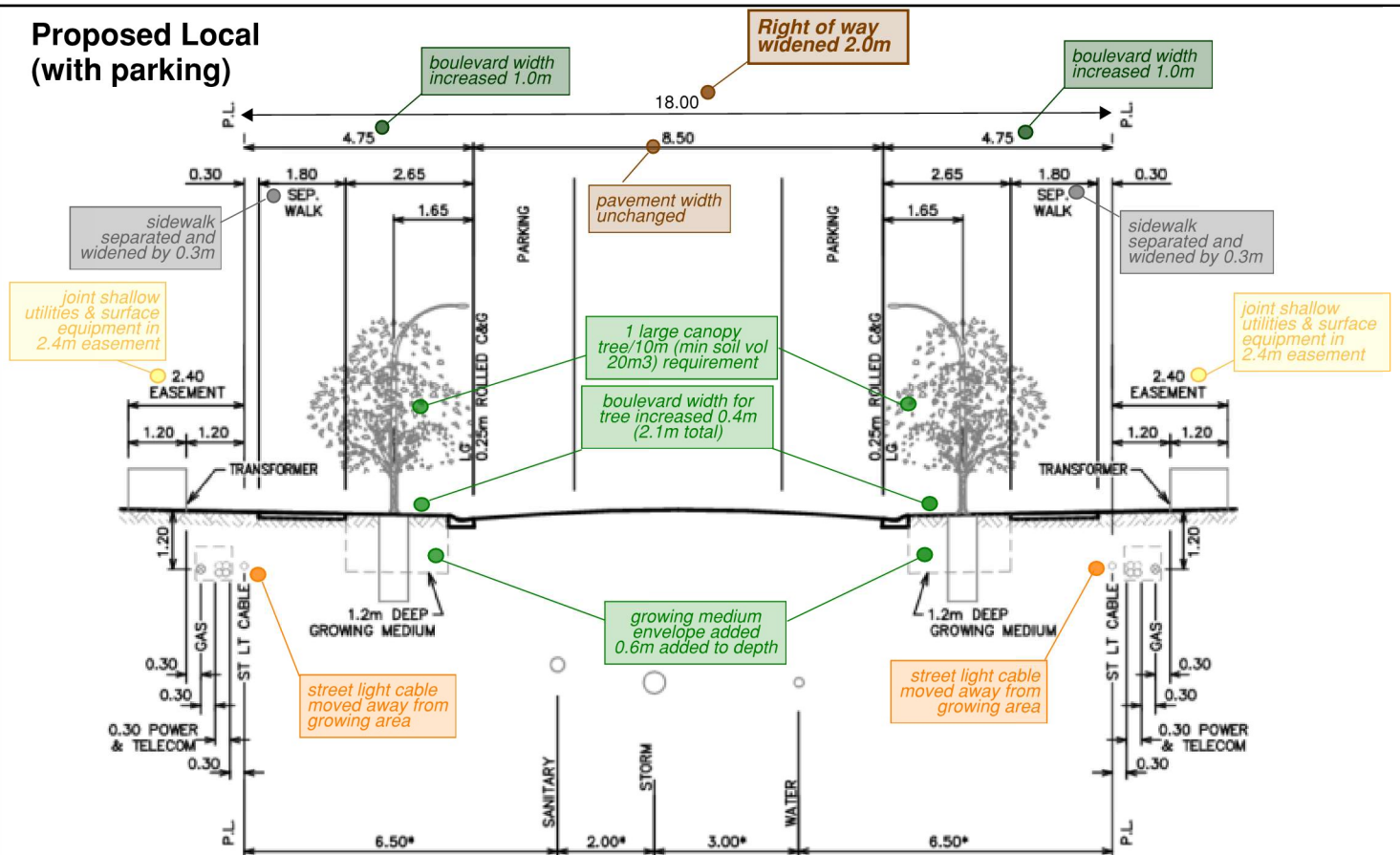
Target Speed: 30 km/hr

Existing Residential



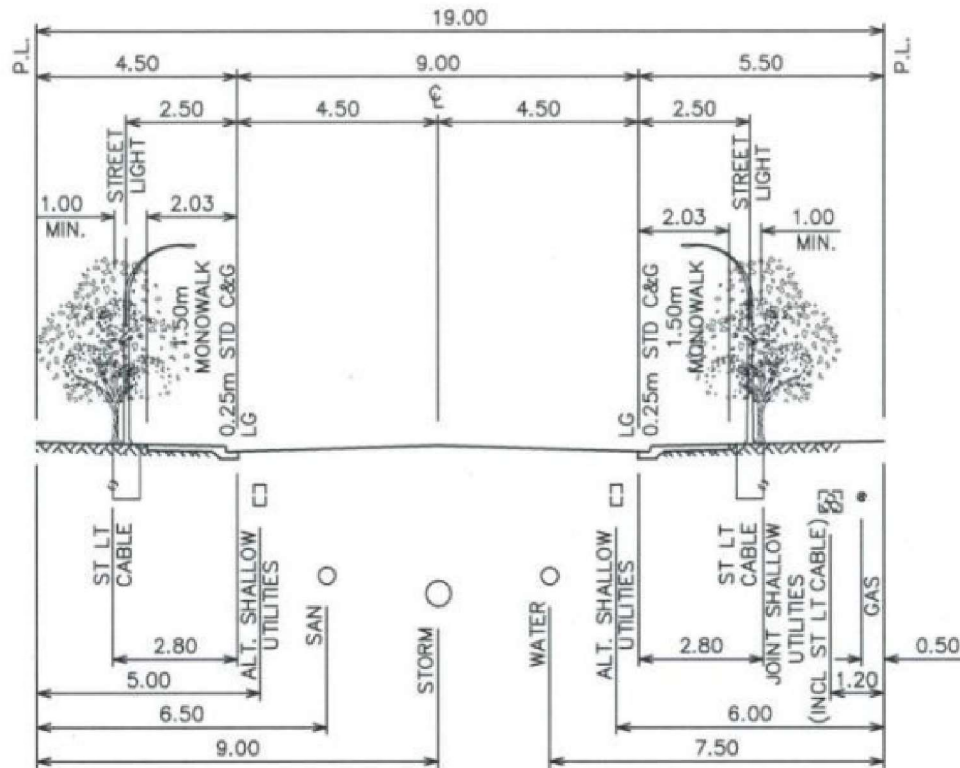
Posted Speed: 40 km/hr

**Proposed Local
(with parking)**



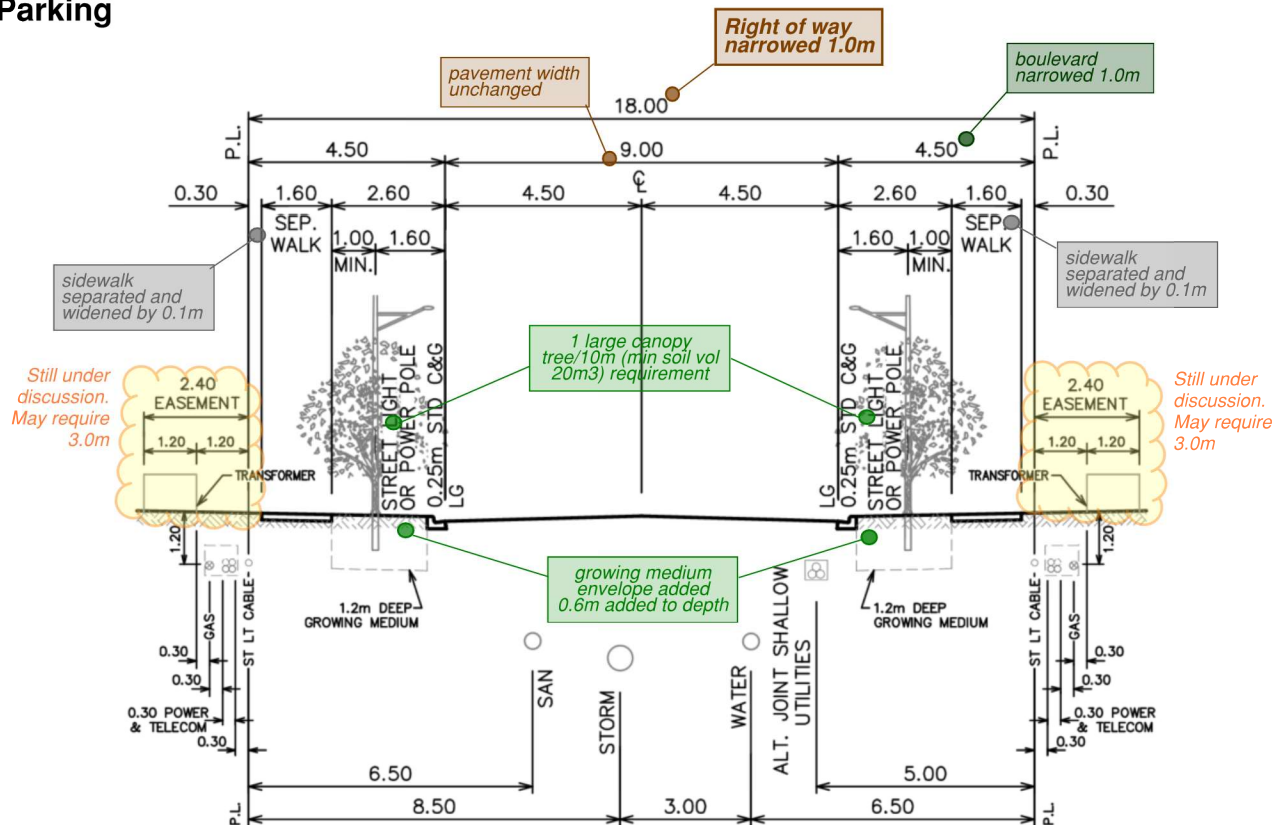
Target Speed: 30 km/hr

Existing Industrial Street



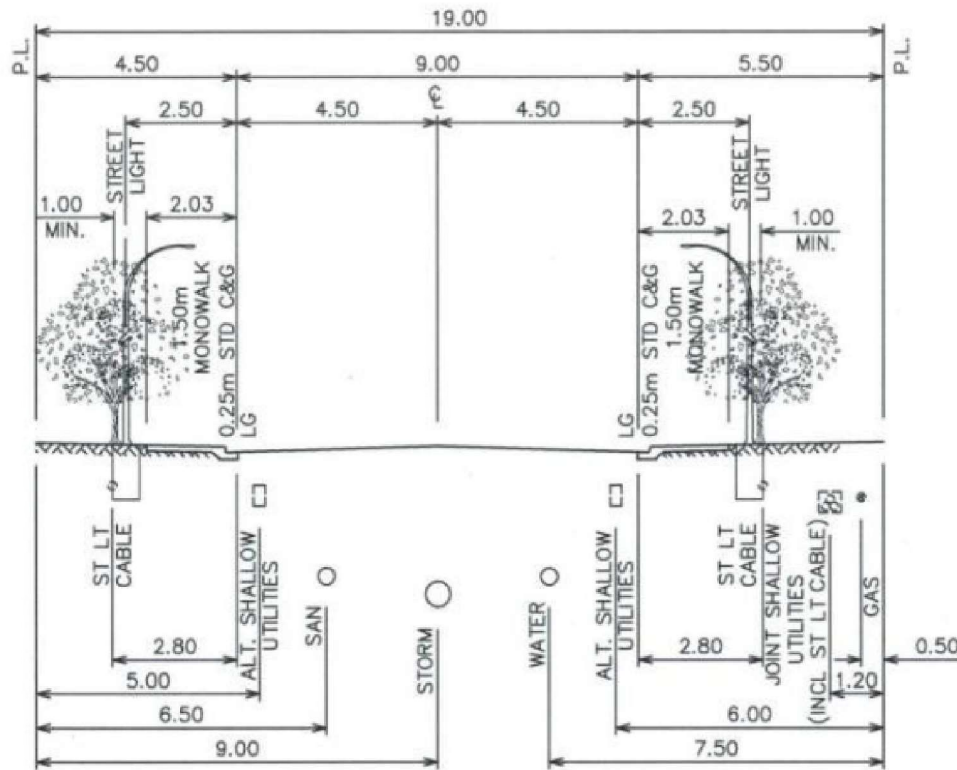
Posted Speed: 50 km/hr

Proposed Local - Industrial No Parking



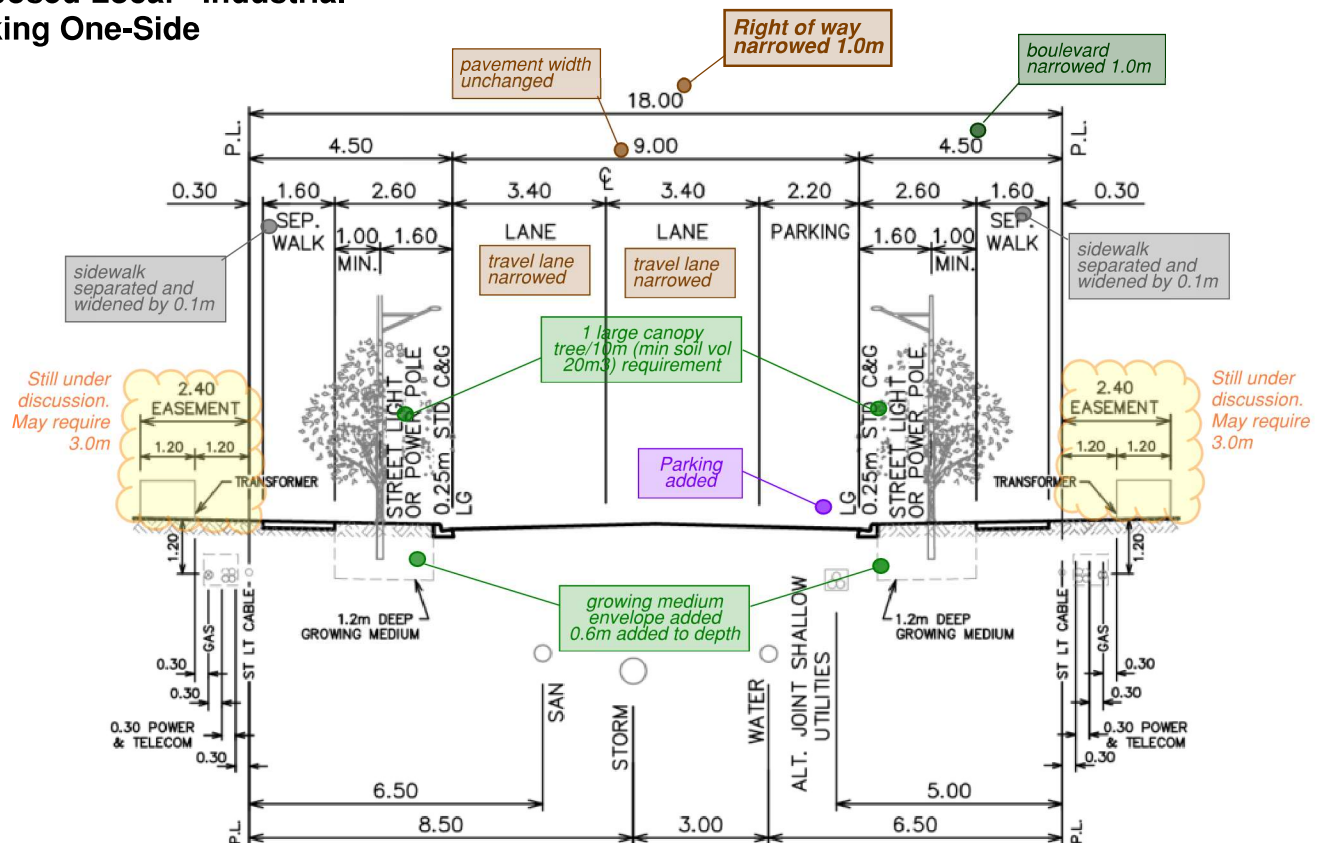
Target Speed: 30 km/hr

Existing Industrial



Posted Speed: 50 km/hr

Proposed Local - Industrial Parking One-Side

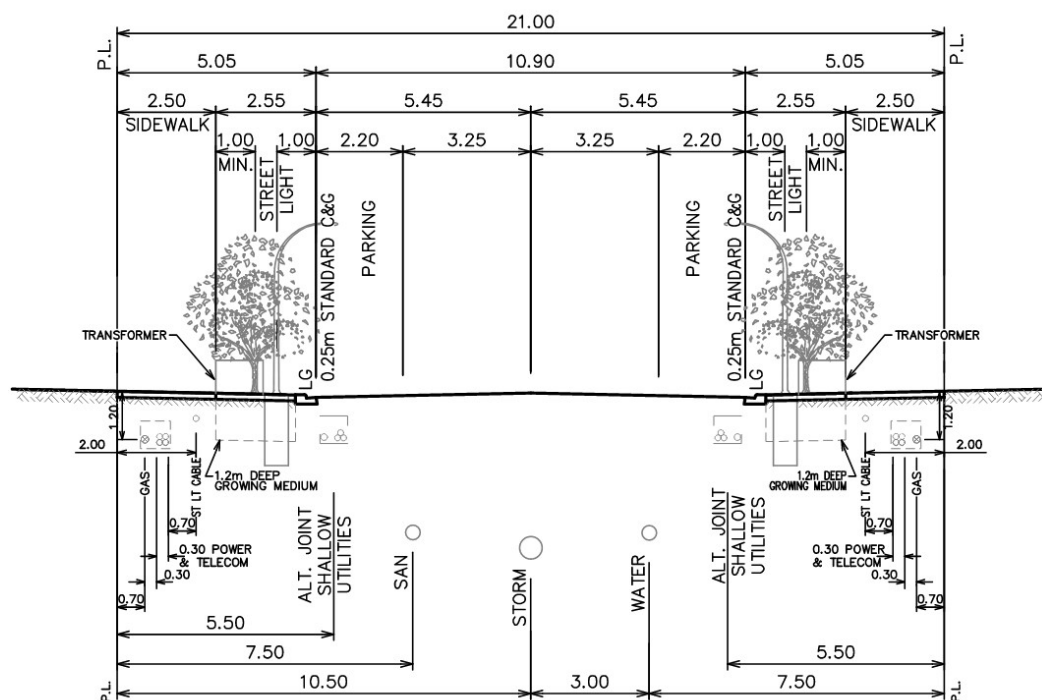


Target Speed: 30 km/hr

Existing Local Activity Center Street

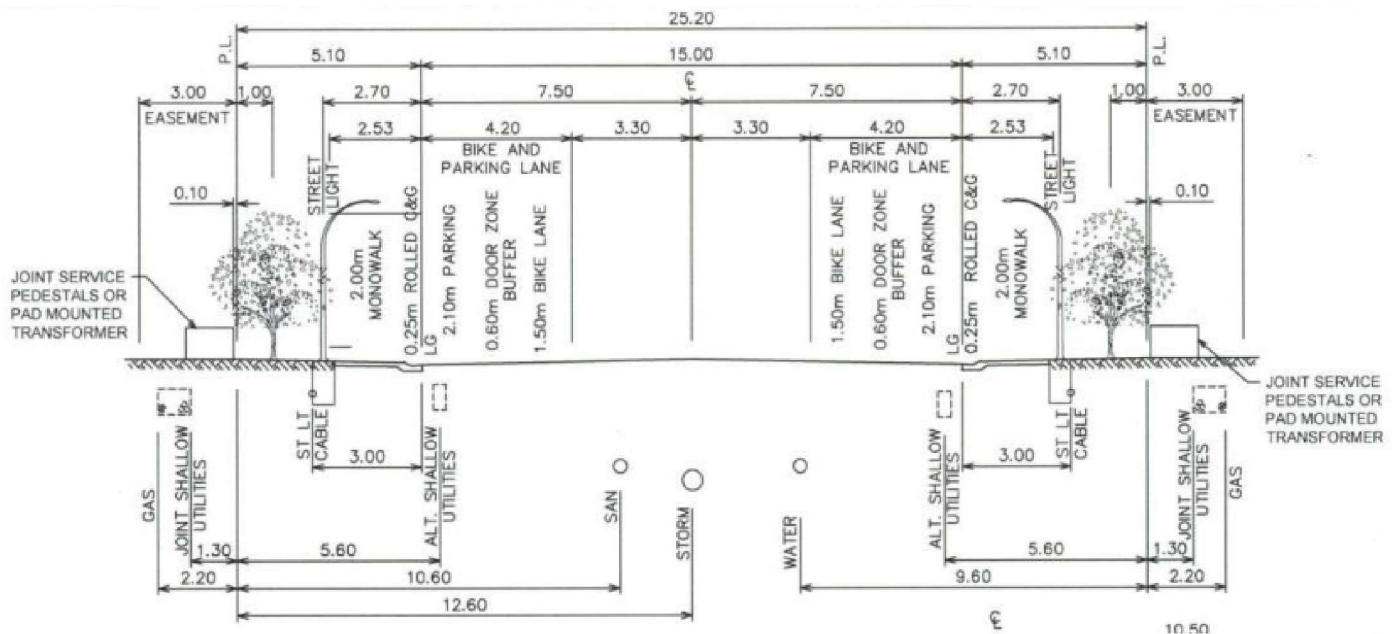
No Cross-Section

Proposed Local - High Activity (NEW)



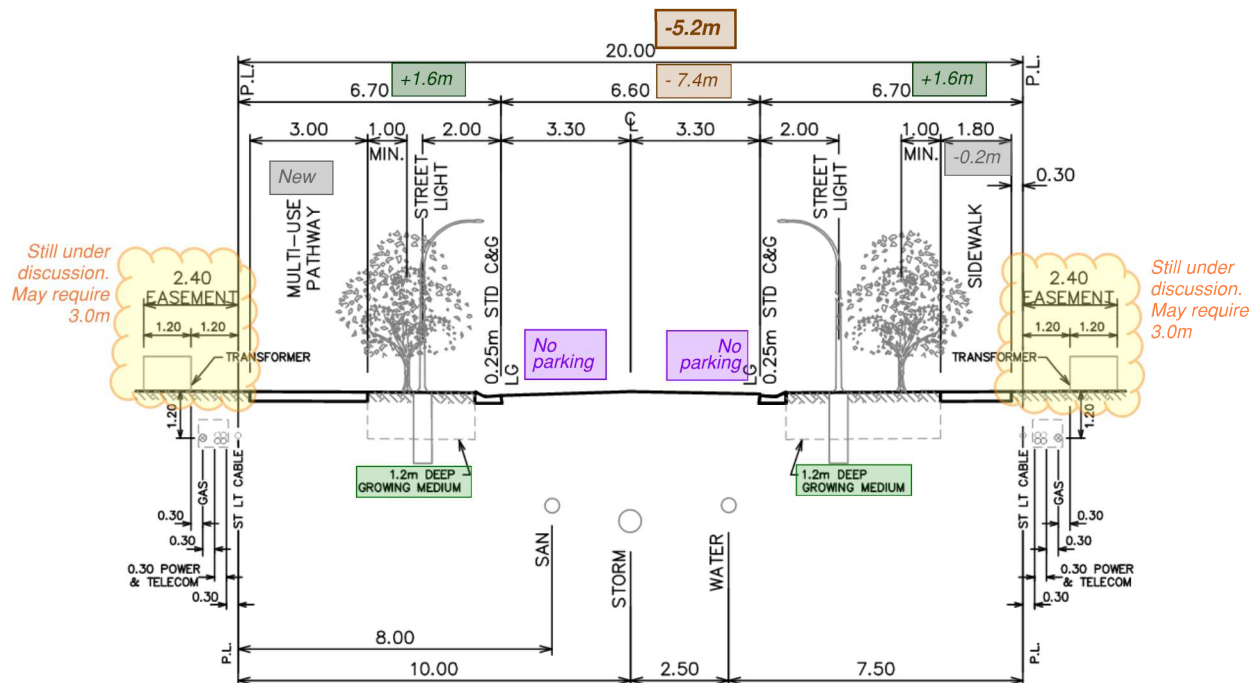
Target Speed: 30 km/hr

Existing Collector



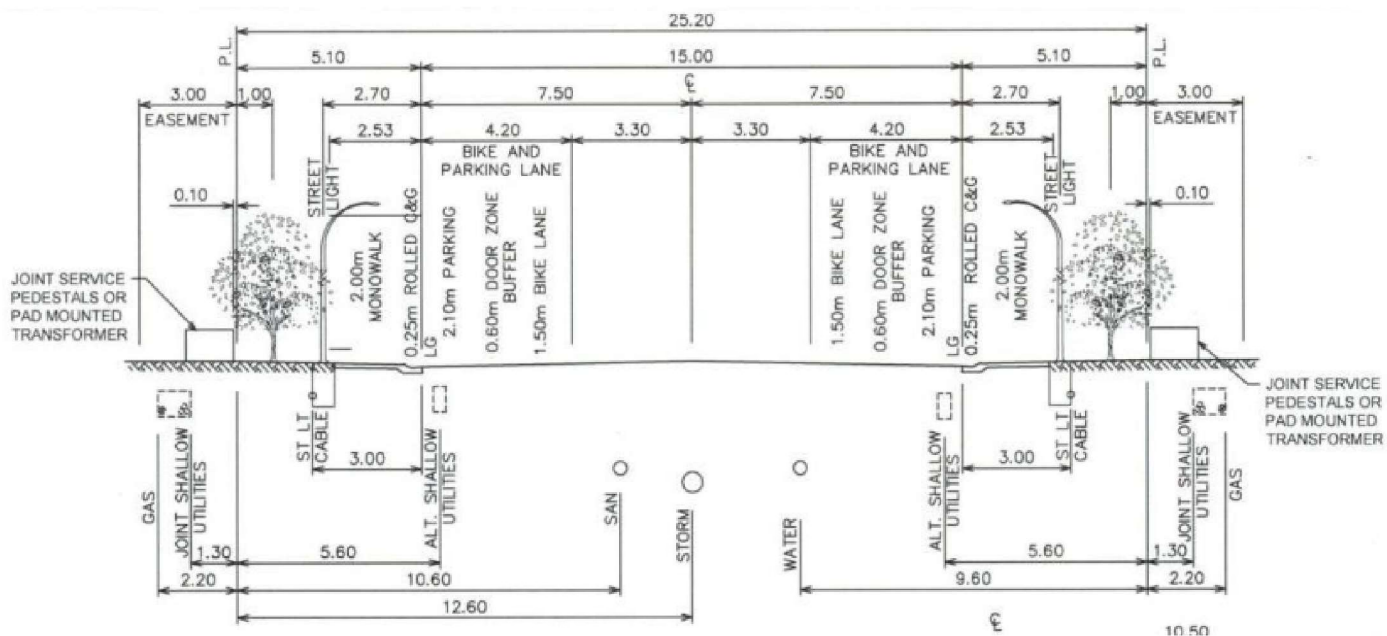
Posted Speed: 50 km/hr

Proposed Collector No Parking



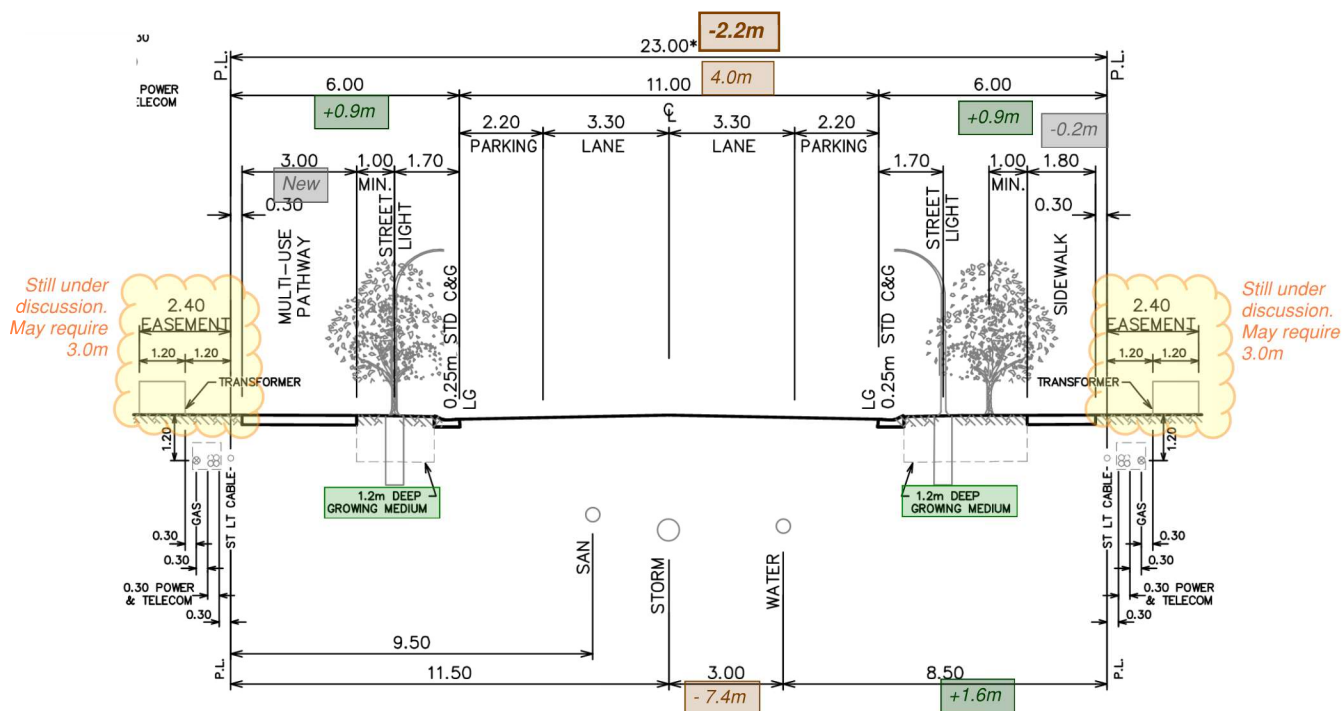
Target Speed: 40 km/hr

Existing Collector



Posted Speed: 50 km/hr

Proposed Collector Parking Both Sides

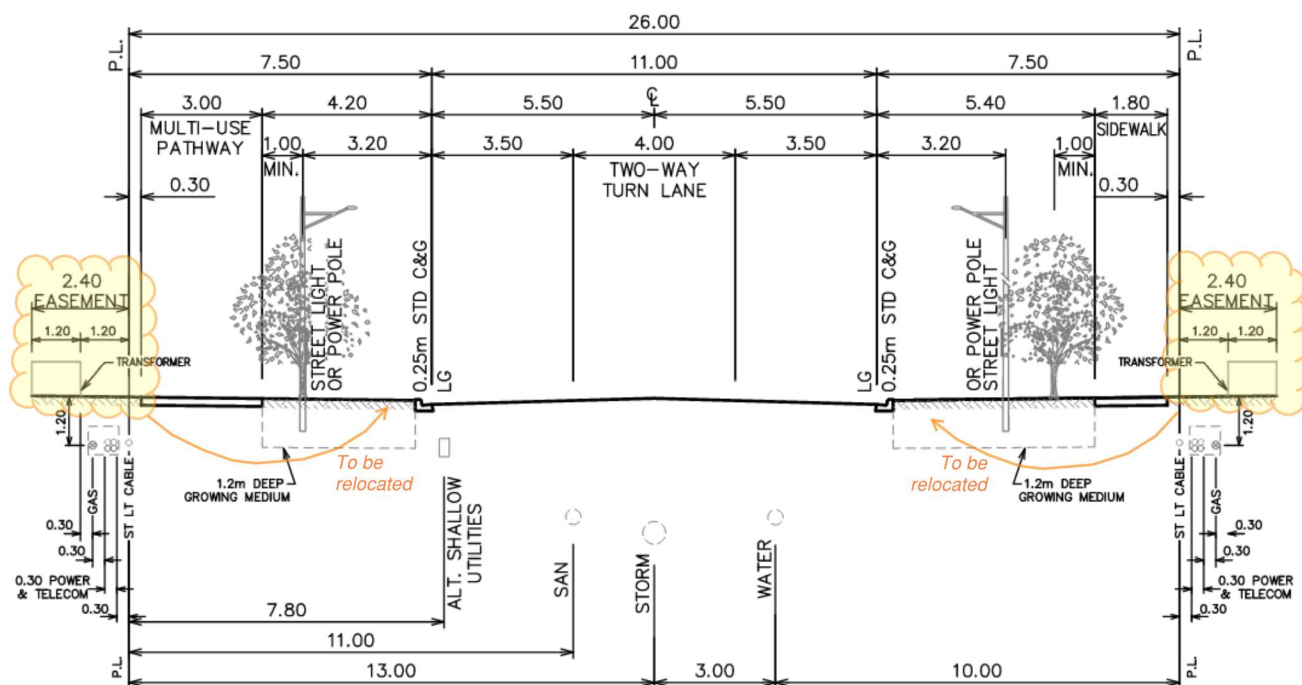


Target Speed: 40 km/hr

Existing Collector - Industrial

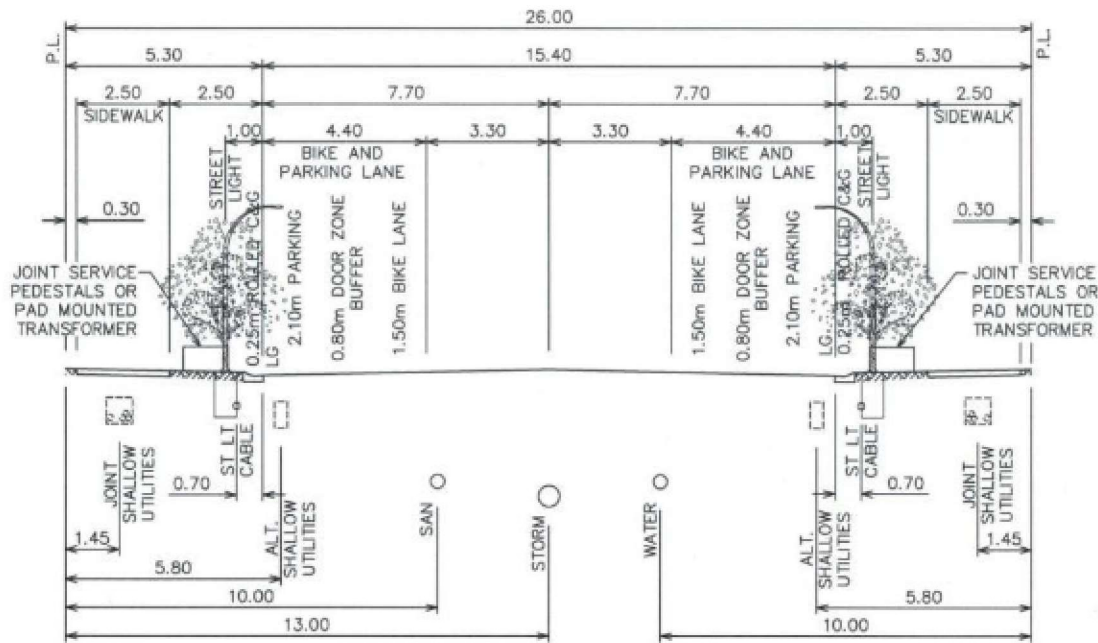
No Cross-Section

Proposed Collector - Industrial (NEW)



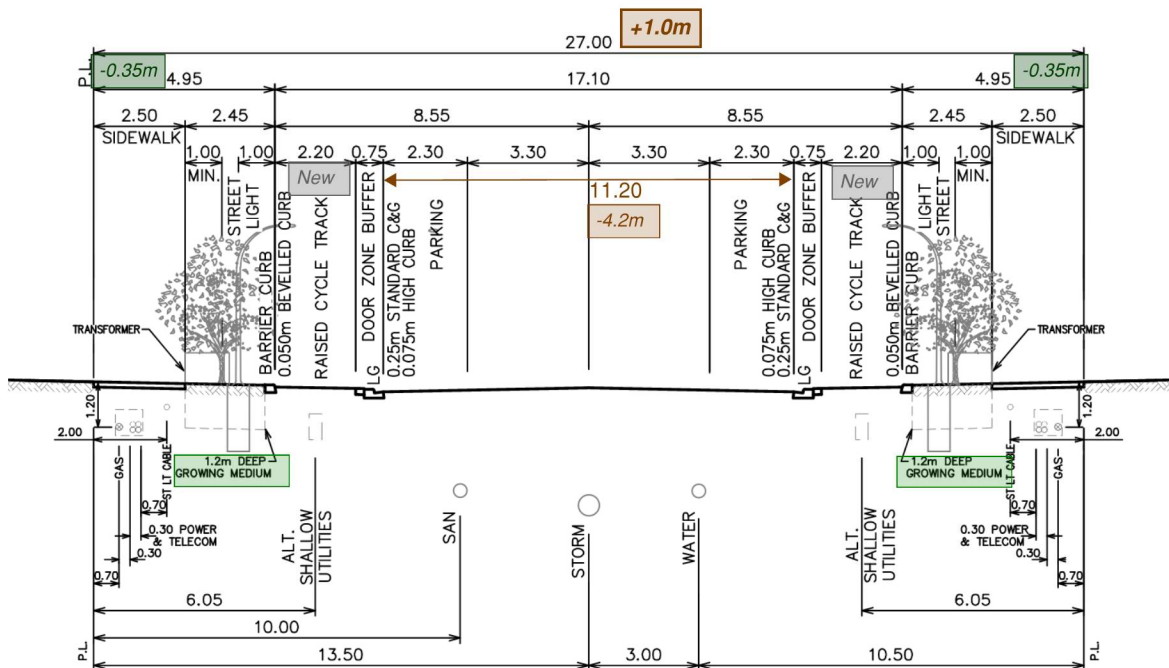
Target Speed: 40 km/hr

Existing Activity Centre Street



Posted Speed: 50/60 km/hr

Proposed Collector - High Activity



Target Speed: 40 km/hr

The diagram illustrates the cross-section of a 4-lane arterial road with a median. The total width is 36.00m. Key components and dimensions include:

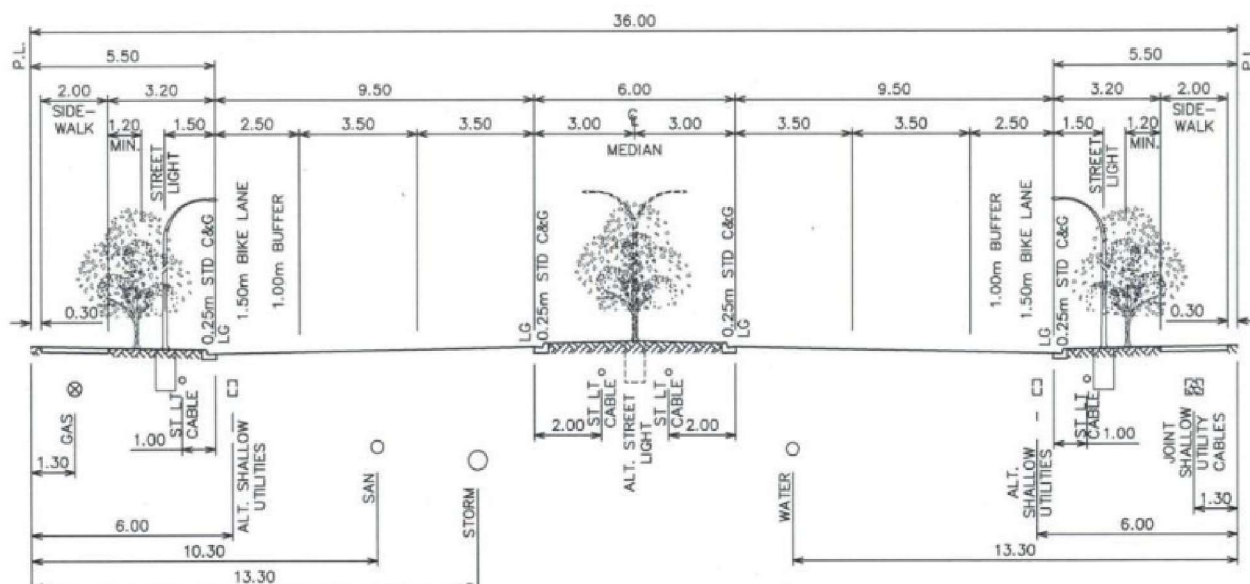
- Side Walks:** 2.00m wide on both sides.
- Street Lights:** 1.20m high, 1.50m from the curb, 0.25m from the curb.
- Bike Lanes:** 1.50m wide on both sides.
- Buffers:** 1.00m wide on both sides.
- Travel Lanes:** 3.50m wide on both sides.
- Median:** 6.00m wide, containing a tree and a street light.
- Utilities:** Gas, water, and storm sewers are shown below the road surface.

Posted Speed: 50 - 70 km/hr

[illegible]

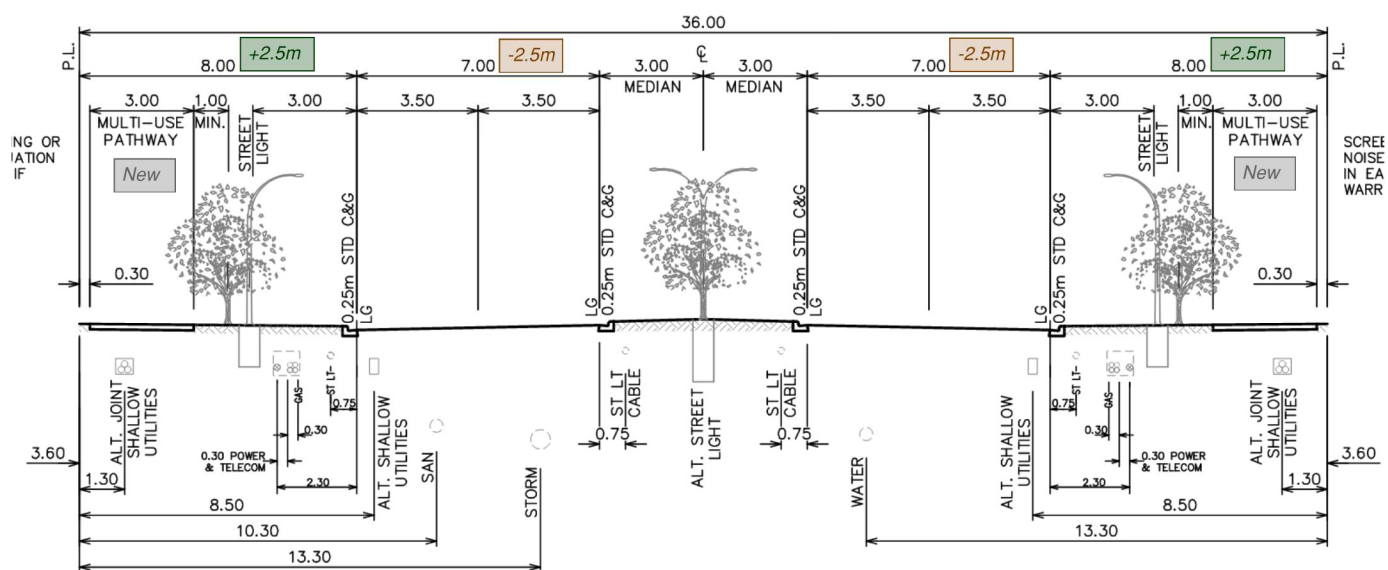
Draft City of Calgary Street Manual Cross Sections **FOR ENGAGEMENT PURPOSES ONLY**

Existing Arterial - 4 Lane



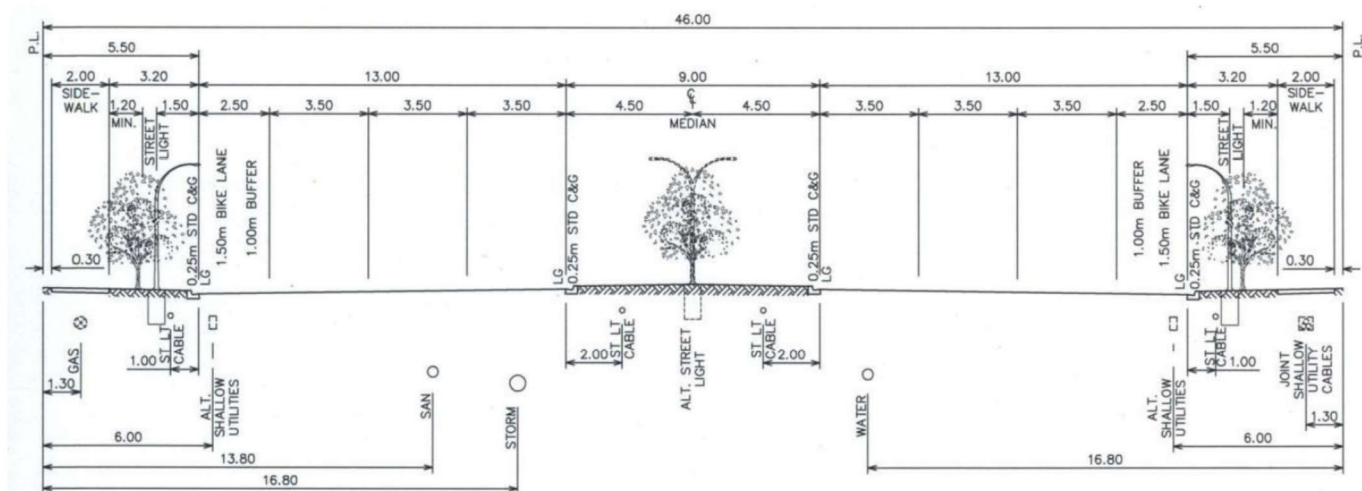
Posted Speed: 50 - 70 km/hr

**Proposed Arterial - 4 Lane
(70 km/hr target speed)**



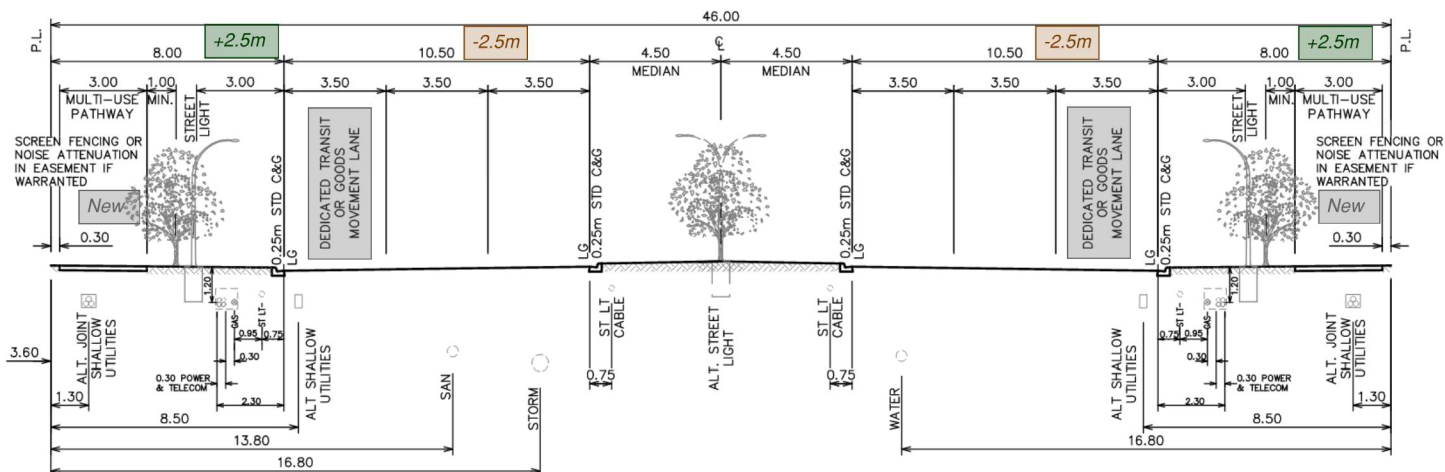
Target Speed: 70 km/hr

Existing Arterial - 6 Lane



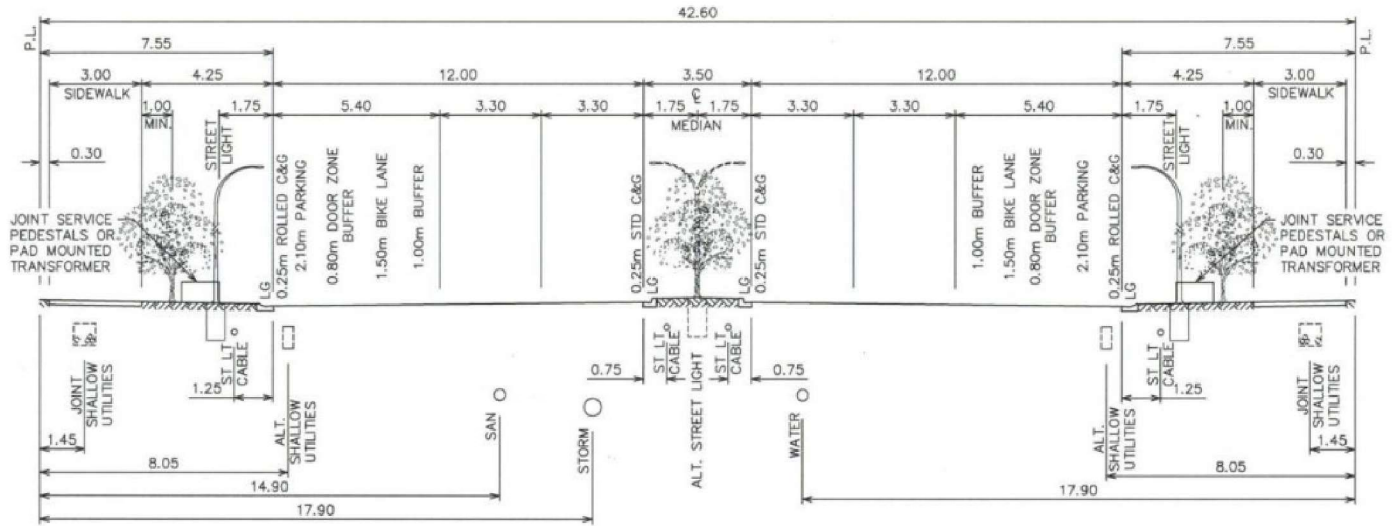
Posted Speed: 50 - 70 km/hr

Proposed Arterial -6 Lane



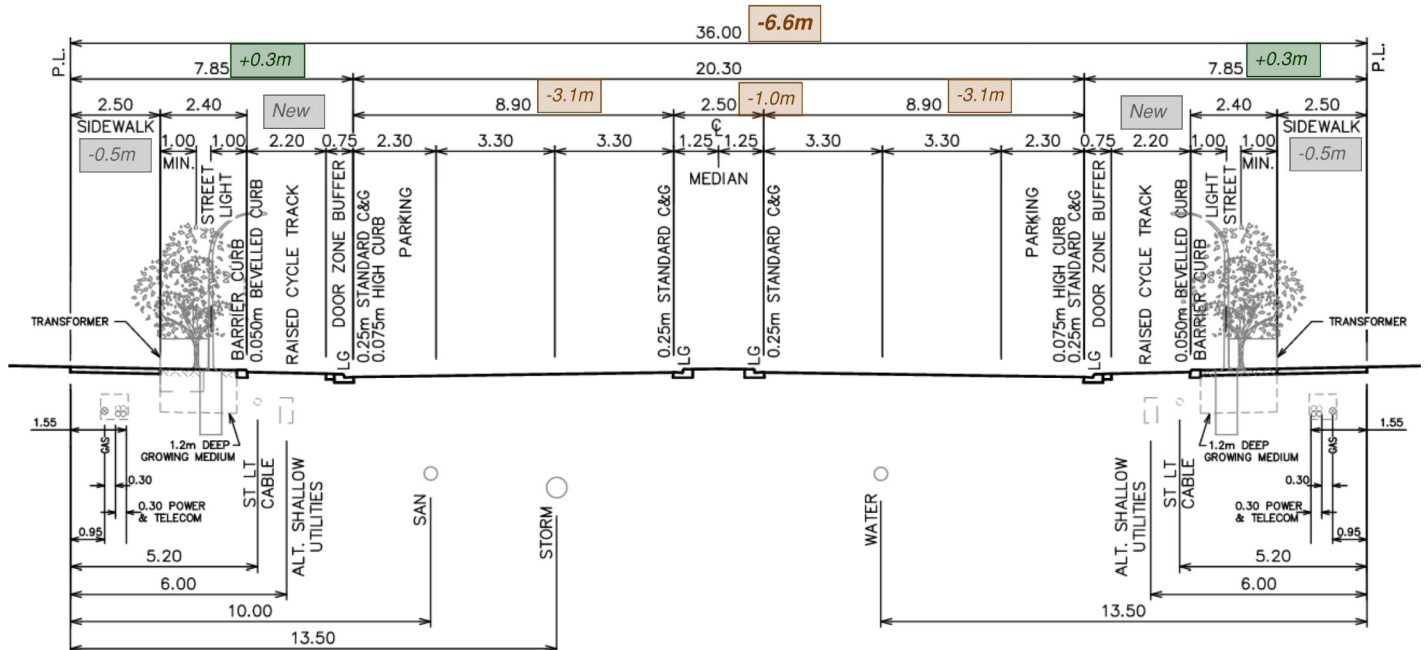
Target Speed: 70 km/hr

Existing Urban Boulevard



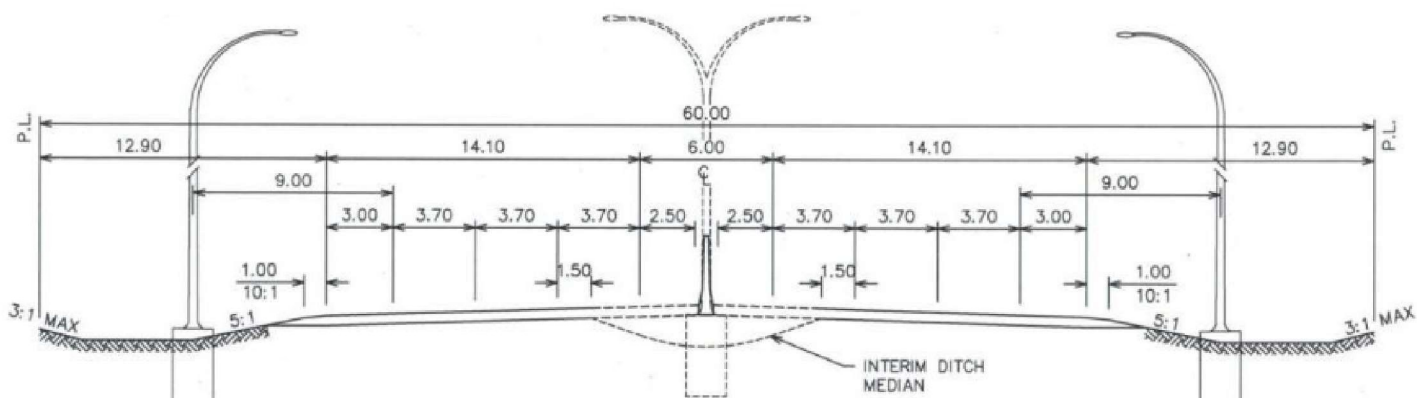
Posted Speed: 50 km/hr

Proposed Arterial - High Activity



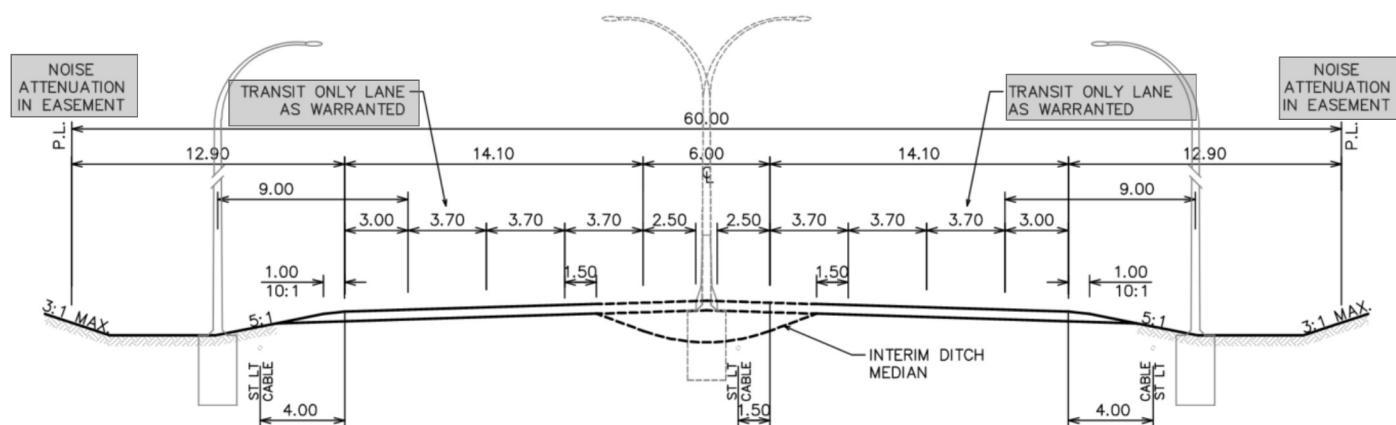
Target Speed: 50 km/hr

Existing Skeletal Road



Posted Speed: 80 - 100 km/hr

Proposed Skeletal Road



Target Speed: 80 km/hr or higher

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