Peel Street Reconstruction

Preliminary Engineering

2018-03-IPW

July 11, 2019

Public Information Centre

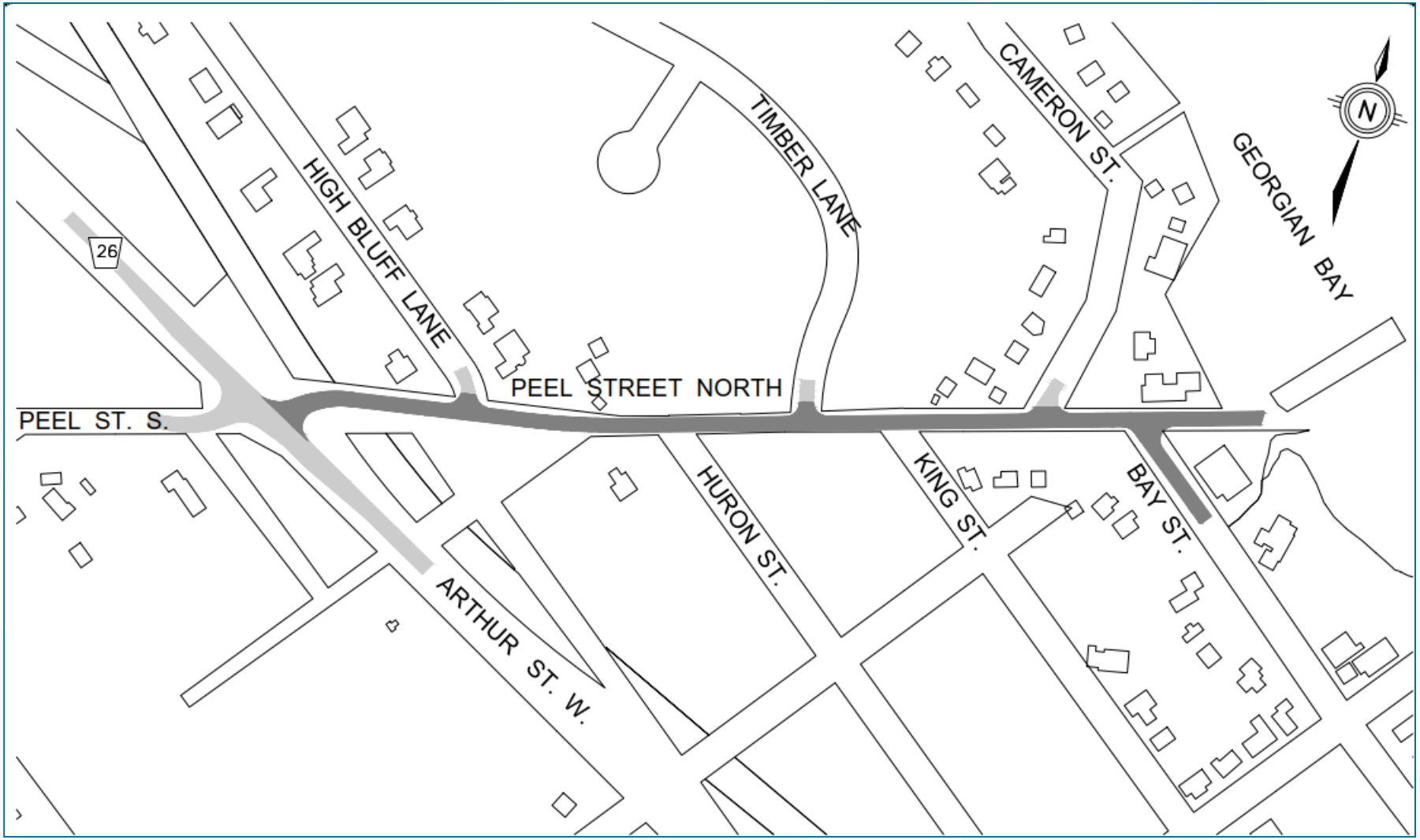
Introduction

MTE Consultants Inc. (MTE) has been retained by Town of The Blue Mountains to undertake the preliminary engineering and public consultation for the reconstruction of Peel Street, from Highway 26 to Bay Street, as well as Bay Street west from Peel Street to the Little Beaver River.

The main objectives of the project are:

- Improving the horizontal and vertical alignment so that the road can be navigated safely.
- Presenting design alternatives and working with the Town to select a Preferred Alternative to meet long term planning objectives.

Project Study Area



Agenda

- Project Objective
- Background
- Existing Conditions and Concerns
- Design (Level of Service) Alternatives
- Preferred Alternative
- Project Timing
- Next Steps

Project Objective

The area surrounding Peel Street (High Bluff Lane, Timber lane, and Cameron Street), has been sufficiently developed to warrant the reconstruction of Peel Street as a local urban road.

- The Town has collected Development Charge (DC) fees from developers so that Peel Street can be reconstructed when development is complete.
- DC fees are collected and used to pay for municipal infrastructure that the Town provides to support development.
- New road should support the development and planned build-out indicated in the Town's Official Plan.
- Current road does not meet the transportation needs of the Official Plan.

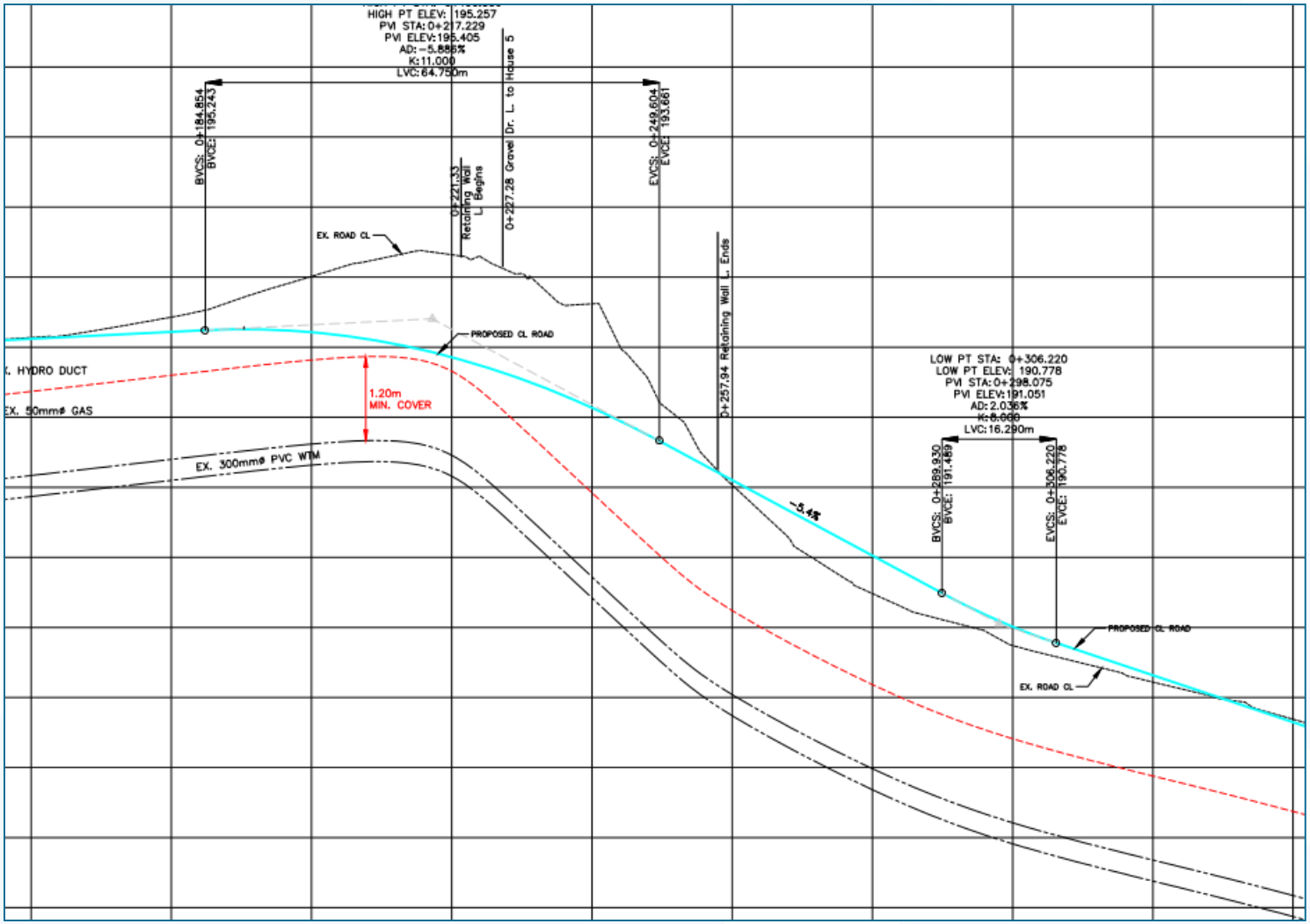
Background

- Peel Street is a 2 lane gravel road (rural cross-section) – *not to current Town standard)*
- Partially functioning roadside ditches
- Significant development on High Bluff Lane and Timber Lane, with further development planned
- Area Development will increase vehicular, pedestrian and cycling volumes

Existing Conditions and Concerns

- Centre line of current roadway is not centered within the Town's Right of Way (ROW)
- Sub-standard profile creates poor sight lines
  - Drivers approaching crest of hill can't see what is on other side
- Existing Ditches are deficient – Not able drain the water that collects on and within the road structure, leading to deterioration of the road
- Road Gravel is contaminated by winter sanding
- The existing road does not meet the needs of the Town's Official Plan

Existing Profile



Design Alternatives

Alternatives are evaluated to determine the preferred solution for reconstruction of Peel Street.

- Alternative No. 1 – Do Nothing
- Alternative No. 2 – Pave Existing Only
- Alternative No. 3 – Rural Cross Section
- Alternative No. 4 – Rural Cross Section (Paved Shoulders)
- Alternative No. 5 – Standard Cross-Section 8.5m Road

Design Alternatives

How will the design alternatives be evaluated?

Criteria	Description
Traffic Capacity, Operations & Safety	• How does the alternative serve the expected vehicular, transit, pedestrian and cycling traffic needs • Does the alternative efficiently and safely handle the forecasted traffic from existing/future developments and properties
Social Environment	• Impact on local community (Dust, noise, etc.) • Property impacts (cost, feasibility) • Can impacts be avoided
Natural Environment	• Effect on existing vegetation, wildlife, habitat, water quality etc. • Stormwater outlet quality and quantity
Costs	• Capital Cost of alternatives • Utility relocation costs • Land acquisition costs • Life cycle costs

Alternative No. 1 – Do Nothing

Do not continue with the project.

Pros	Cons
No further project costs	No improvement to profile/sight lines required to improve overall safety
	No improvement to pedestrian or cycling facilities
	No realignment of roadway centreline
	No lighting added
	Does not achieve planning objectives
	Continued cost of maintenance and dust control

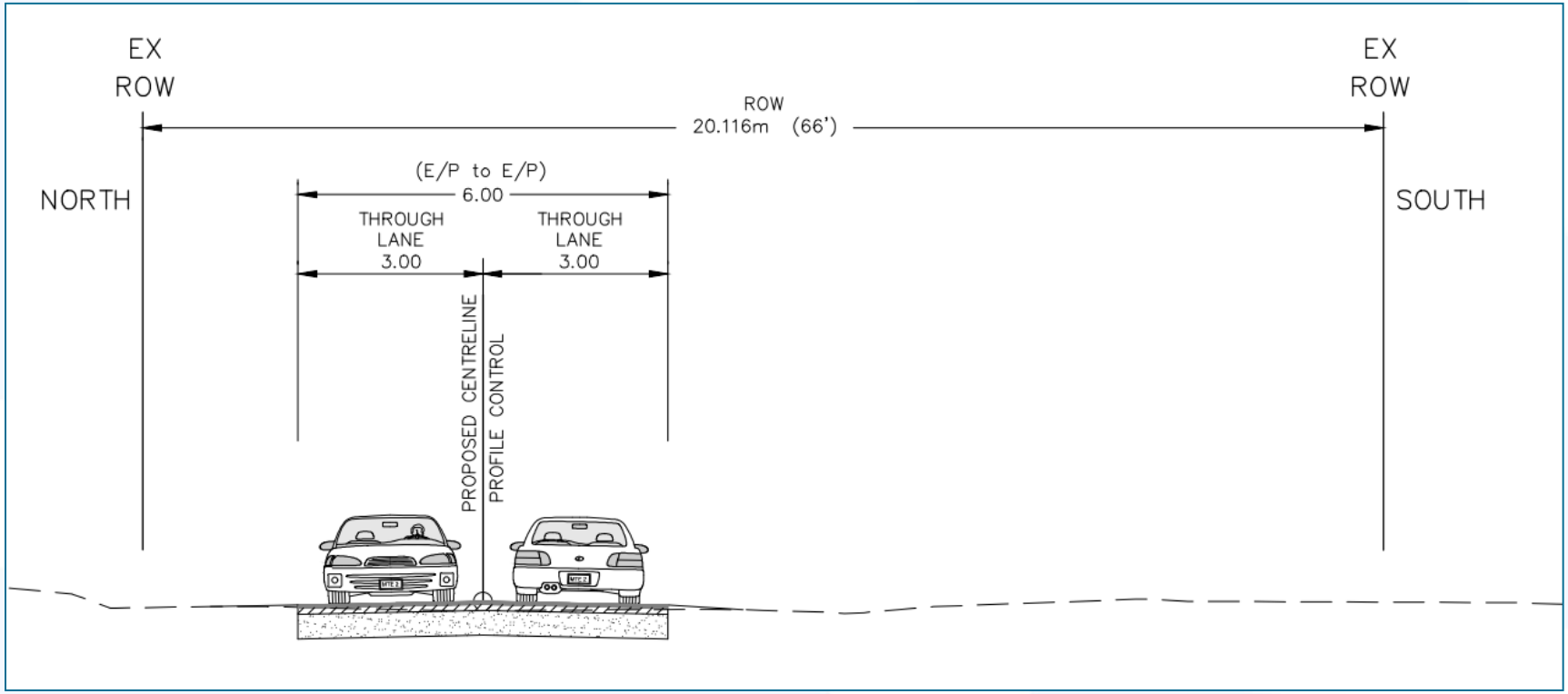
Alternative No. 2 – Pave Existing

- No adjustment to the Profile or Cross Section, replace existing granulars and pave existing

Pros	Cons
Low cost option	No improvement to profile/sight lines required to improve overall safety
Slight reduction in maintenance associated with gravel roadway.	No improvement to pedestrian or cycling facilities
Addresses dust control concerns	No realignment of roadway centreline
	No lighting
	Does not achieve long term planning objectives
	Does not improve / address deficient drainage

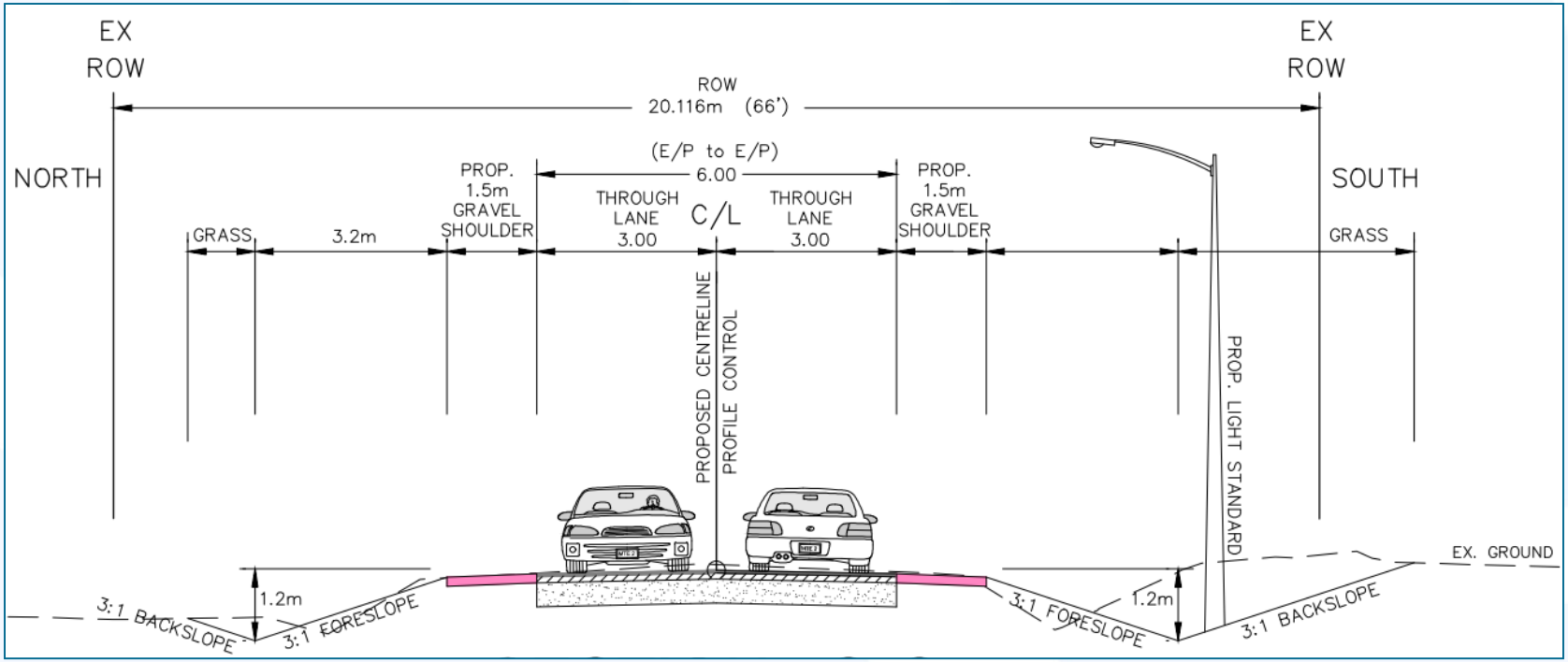
Existing Cross Section

- 3.0m lanes, sub-standard ditches
- Centreline of roadway is not centred centered in Town's right of way.

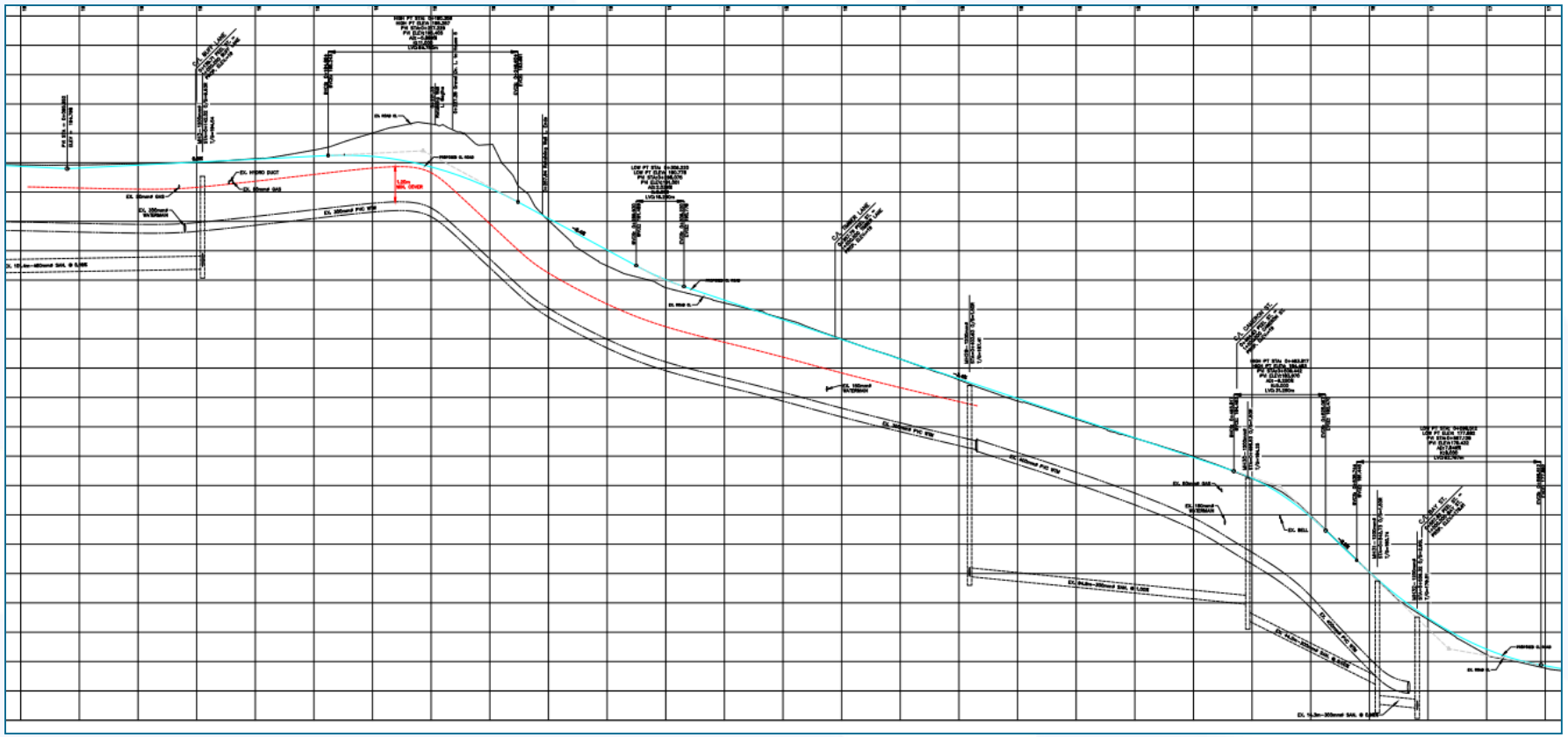


Alternative No. 3 – Rural Cross Section

- Reconstruction with revised profile
- Street Lighting
- 3.0 m lanes, 1.2 m deep ditch, 3:1 slopes on ditch
- Centreline of roadway centered in Town's right of way.



Alternative No. 3 – Rural Cross Section

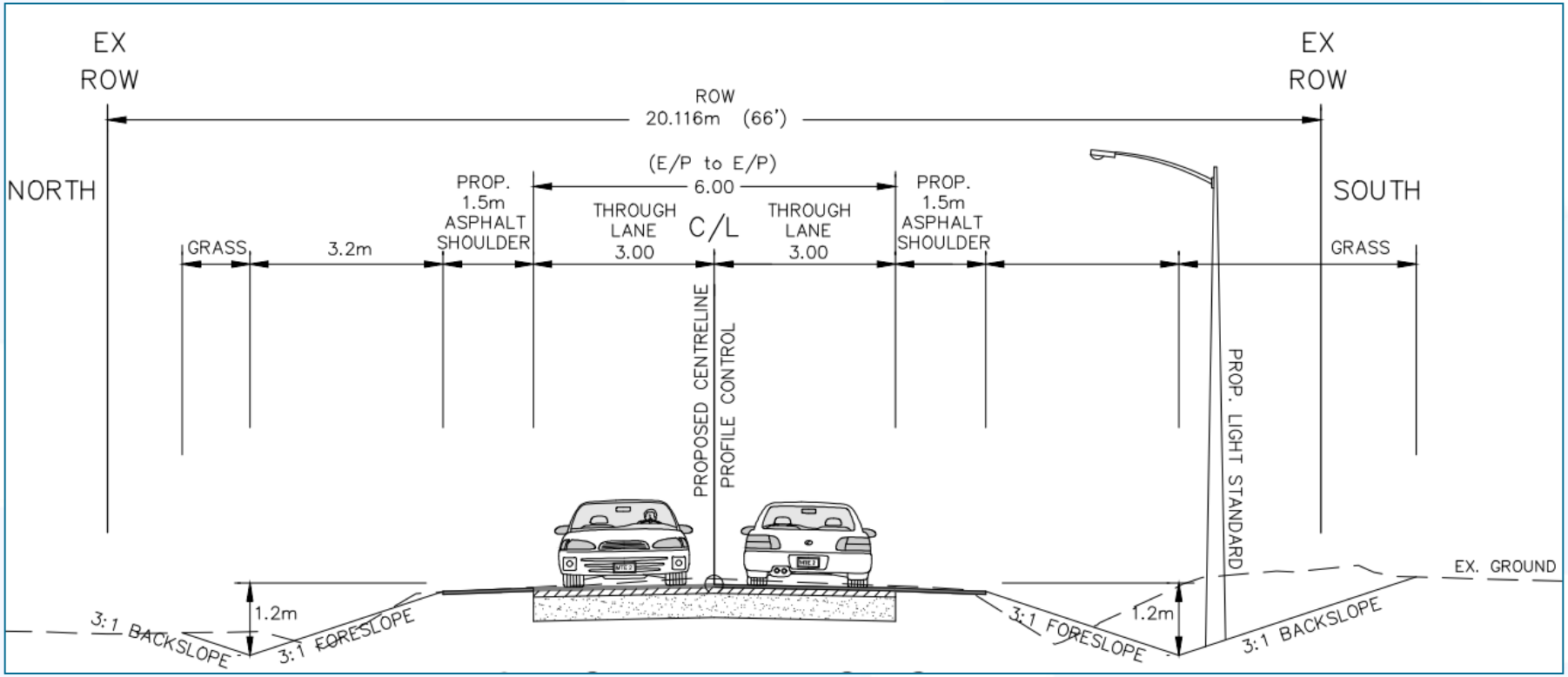


Alternative No. 3 – Rural Cross Section

Pros	Cons
Realignment of roadway centreline within Town right of way	No improvement to pedestrian or cycling facilities
Road profile is improved, results in improved sight lines and drainage	New ditches may result in significant grading impacts. Grading may extend onto private property and cause loss of vegetation
Street lights which improve overall public safety	Grading impact from road cut are increased
	Does not achieve long term planning objectives

Alternative No. 4 – Rural Cross Section (Paved Shoulders)

- Reconstruction with revised profile with 1.5m paved shoulders
- 3.0m lanes, 1.2 m deep ditch, 3:1 slopes on ditch
- Street Lighting
- Centreline of roadway centered in Town's right of way.

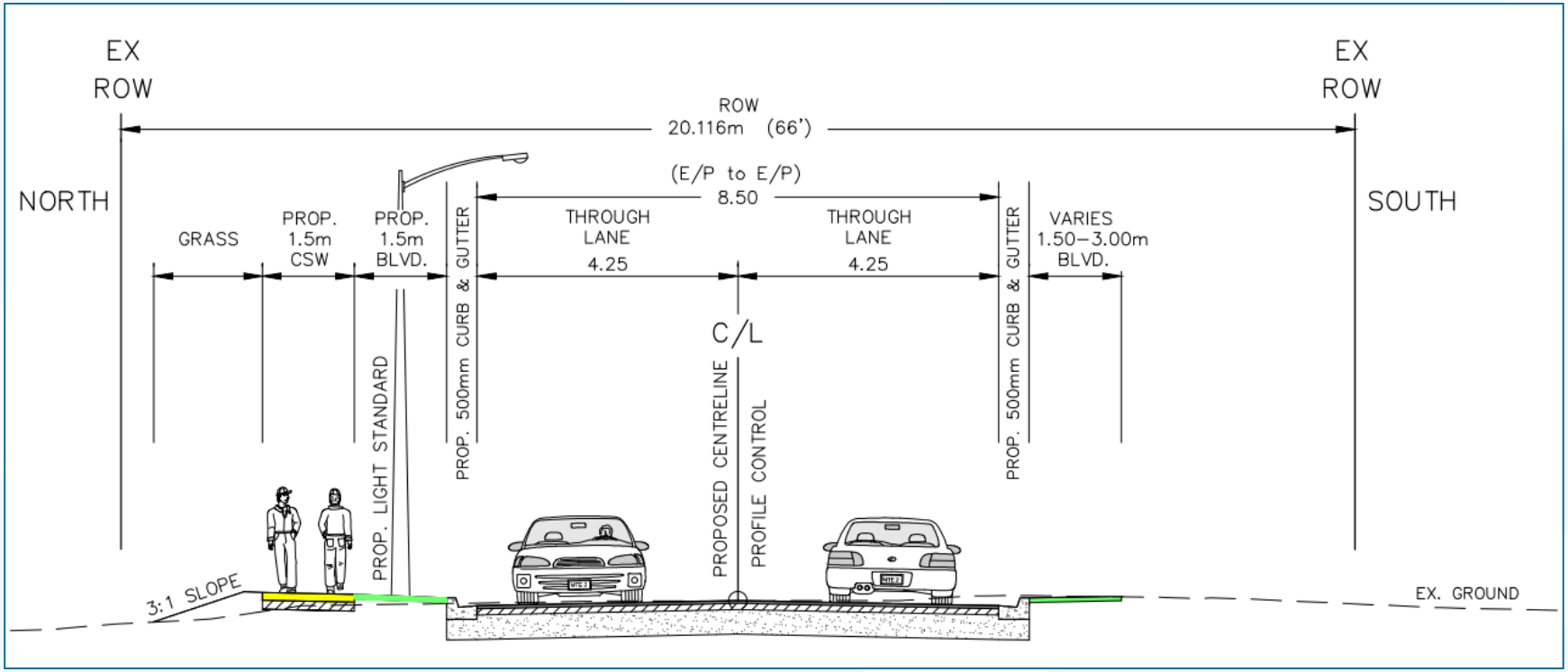


Alternative No. 4 – Rural Cross Section (Paved Shoulders)

Pros	Cons
Realignment of roadway centreline within Town right of way	Pedestrians will use 1.5m paved shoulder. Not the intended use of the 1.5m shoulder
1.5m paved shoulder reduces maintenance	New ditches may result in significant grading impacts. Grading may extend onto private property and cause loss of vegetation
Road profile is improved, results in improved sight lines	Grading impact from road cut are increased
Street lights which improve overall public safety	Does not achieve long term planning objectives

Alternative No. 5 – Standard Cross Section 8.5m Road

- Full urbanization, including sidewalk installed on one side, and street lighting
- 4.25m lanes to Town Urban Road Standard
- Storm sewer system - curb and gutter, underground storm sewer
- Centreline of roadway realigned with Town's right of way.



Alternative No. 5 – Standard Cross Section 8.5m Road

Pros	Cons
Realignment of roadway centreline within Town right of way	Greatest implementation cost
Sidewalk – dedicated pedestrian facility, improved public safety	
Curb provides additional level of protection for pedestrians	
Storm sewer minimizes grading impacts	
Road profile is improved, results in improved sight lines	
Reduced long term maintenance costs	
Meets long term planning objectives	
Reduces grading impact of road cut	
Street lights which improve overall public safety	

Cost Estimates

Alternative	Cost
No. 1 – Do Nothing	$0
No 2 – Pave Existing	$720,000
No. 3 – Rural Cross Section	$1,050,000
No. 4 – Rural Cross Section – Paved Shoulders	$1,100,000
No. 5 – Standard Cross Section 8.5m Road	$1,450,000

Estimated Construction Costs – Includes 30% Contingency

Includes 10% for Engineering

Does not include Lifecycle costing – ie. Road maintenance

Lifecylce Costs

Net Present Value of maintenance costs over 50 years:

- Maintenance of gravel $85,000 ($7,800 every 3 years)
  - Annual grading of gravel shoulder ?????
- Maintenance of ditches $12,000 ($3,000 every 10 years)
- Maintenance of Catchbasins $13,000 ($1,200 every 3 years)

Preferred Alternative

Alternative No. 5 – Local Urban Road

- Meets the transportation needs resulting from growth outlined in the Town's Official Plan
- It is the highest cost option
- Reduced lifecycle (maintenance) costs
- Least amount of impact to adjacent properties
- Sidewalk will provide desired pedestrian connectivity
- Provides highest level of public safety and level of service expected for a growth area

Next Steps

2019

- Public Feedback – Collected at PIC, and through mail or email until August 9, 2019
- Project team will evaluate feedback and asses impacts of each alternative
- Re-evaluate preferred alternative based on public feedback
- Complete preliminary design (30%) based on preferred alternative

2020

- Complete Final Design

2021 / 2022

- Complete Construction

Questions