TRANS CANADA HIGHWAY EXTENSION
CORNWALL TO CLYDE RIVER

TCH Extension
Cornwall to Clyde River

Noise Feasibility Study *2017/02/22*

Introductions and Agenda:

Stephen Yeo: Chief Engineer, Director
Department of Transportation, Infrastructure and Energy

Other Department Staff
- Darrell Evans, Capital
- Alan Aitken, Traffic
- Matthew Fortier, Capital
- Shelley Cole Arbing, Environment
- Carol Craswell, Properties
- Sharon Slauenwhite, Properties
- Ron Ryder, Communications

Consultant
- Jeff Ward, MMM Group

Safety / Efficiency / Development

- Reducing upwards of 100 accesses.

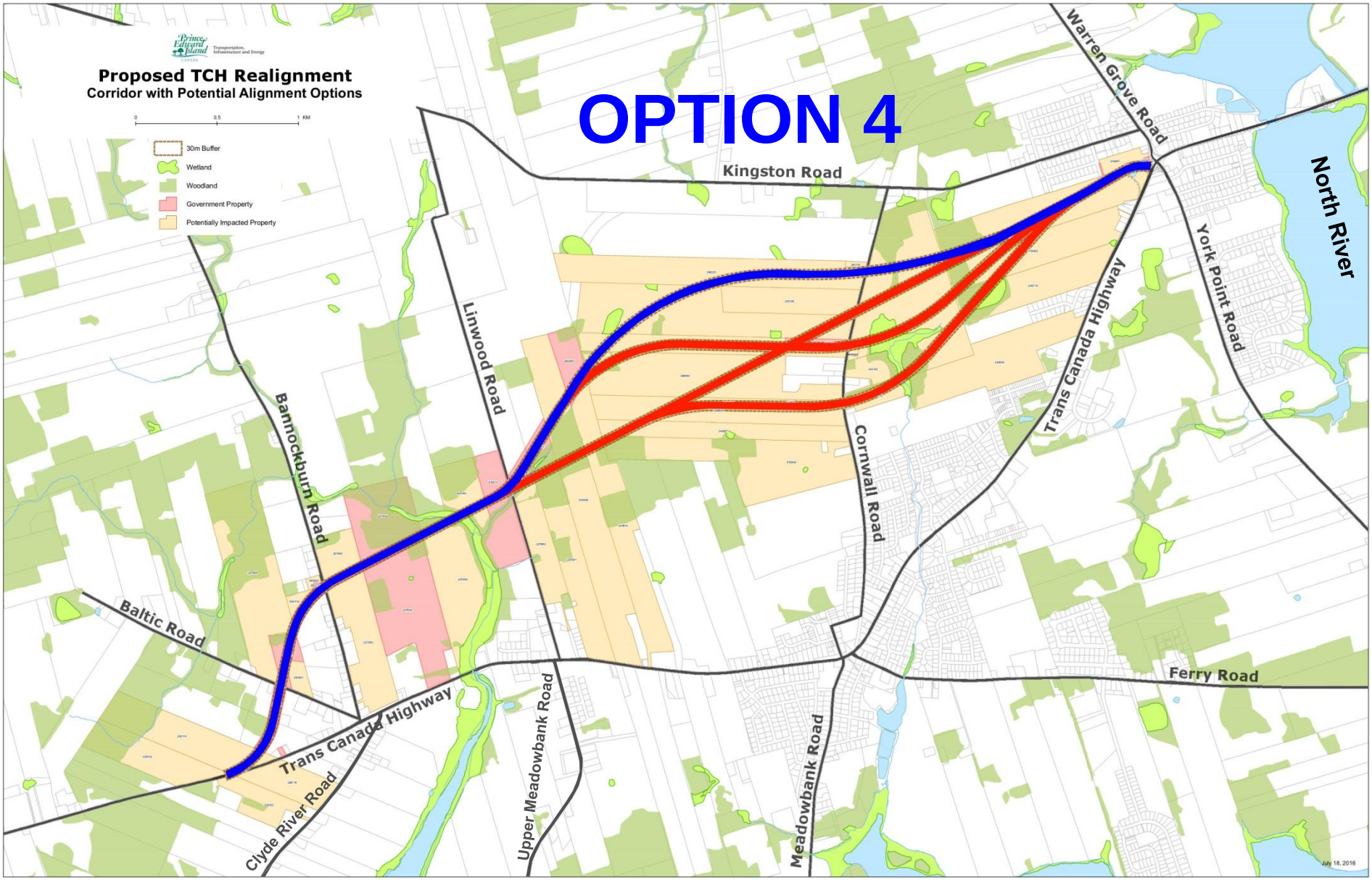
- Rerouting major truck traffic from Cornwall ‘s town core.

- Opportunities for improving accesses to services.

- Six fewer traffic lights approaching the west side of Charlottetown.

- Reduction of idling and greenhouse gas emissions.

- Community development opportunities for local business operators and residential development



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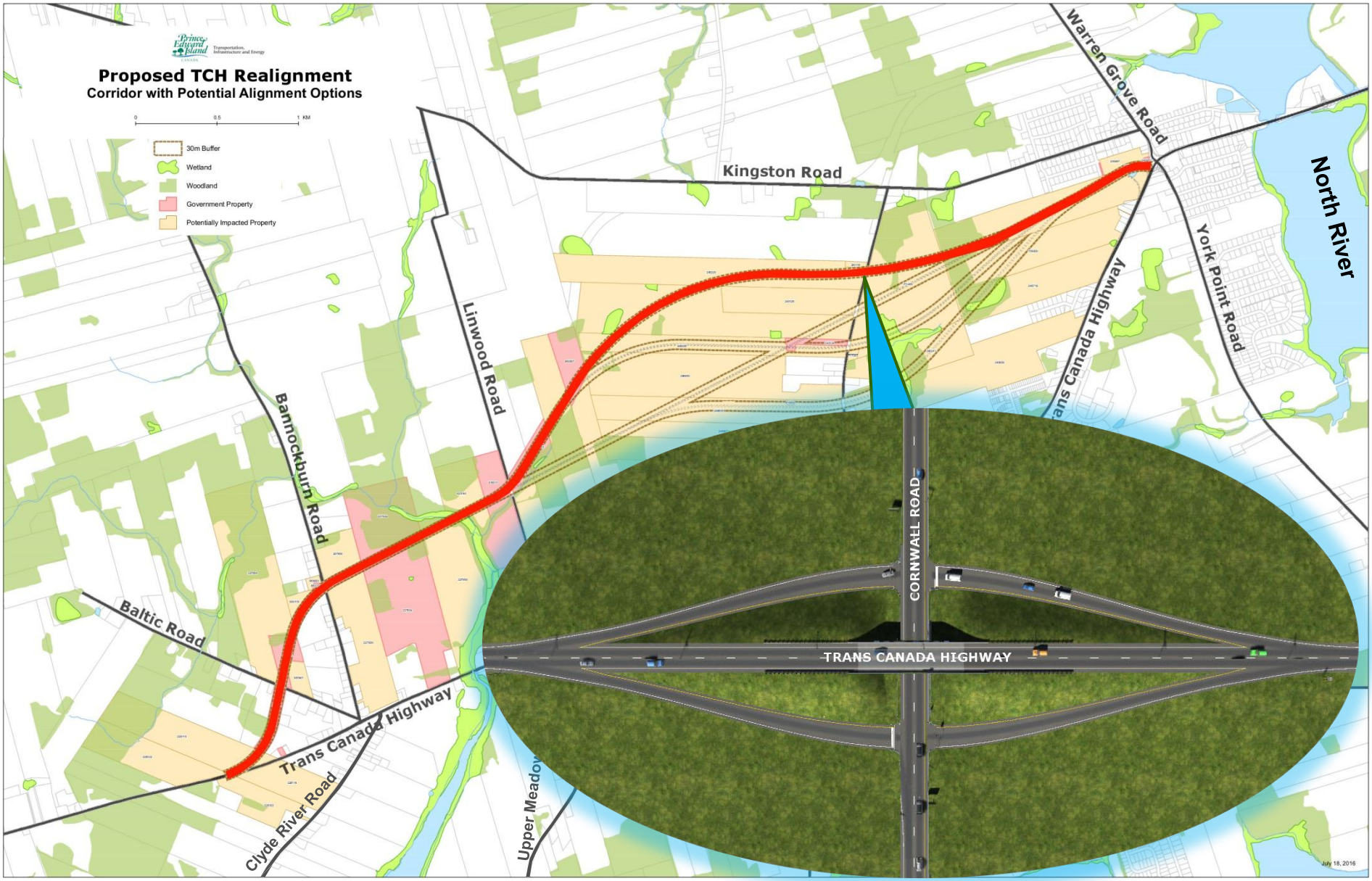

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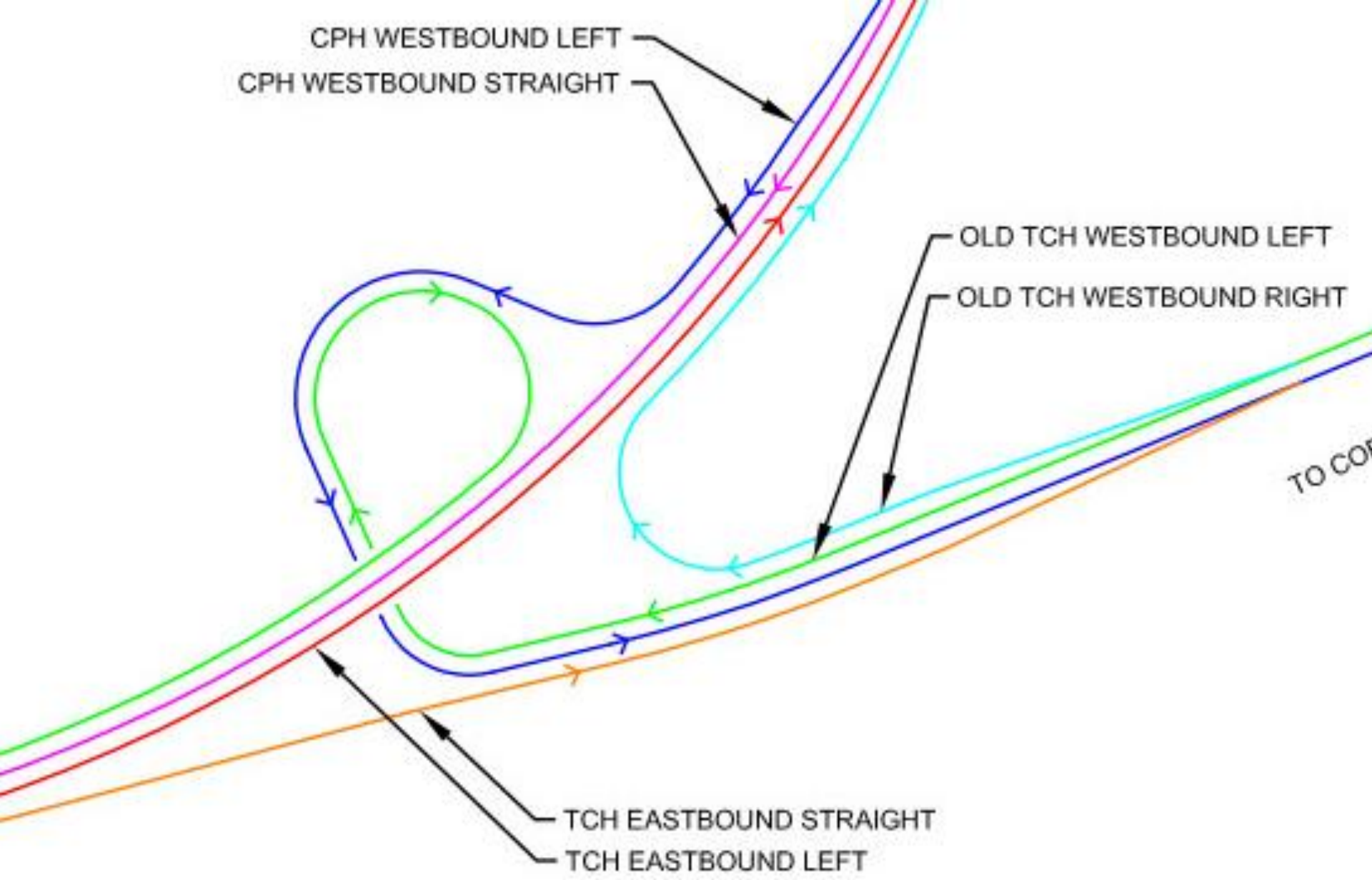

CPH WESTBOUND LEFT
CPH WESTBOUND STRAIGHT
OLD TCH WESTBOUND LEFT
OLD TCH WESTBOUND RIGHT
TO CO
TCH EASTBOUND STRAIGHT
TCH EASTBOUND LEFT

Noise Feasibility Study

- The Province of Prince Edward Island does not currently have any criteria regarding impacts of noise levels as a result of highway construction.

- A Provincial policy is being considered.

- The Department has reviewed noise criteria from Ontario and Nova Scotia.

- For the purpose of this study the Ontario Environmental Guide for Noise has been adopted.

- Consultants have modeled expected noise levels of properties near the structures crossing the Cornwall Road, Bannockburn Road and Baltic Road.

Noise Feasibility Study

Goals

- Determine potential noise impacts to residential properties on Cornwall Road, Bannockburn Road and Baltic Road.

- Demonstrate the effect of the new highway by modeling existing noise levels and comparing them to predicted noise levels upon completion of the highway.

Noise Feasibility Study

Decibel (dB)

The measure of sound pressure levels.

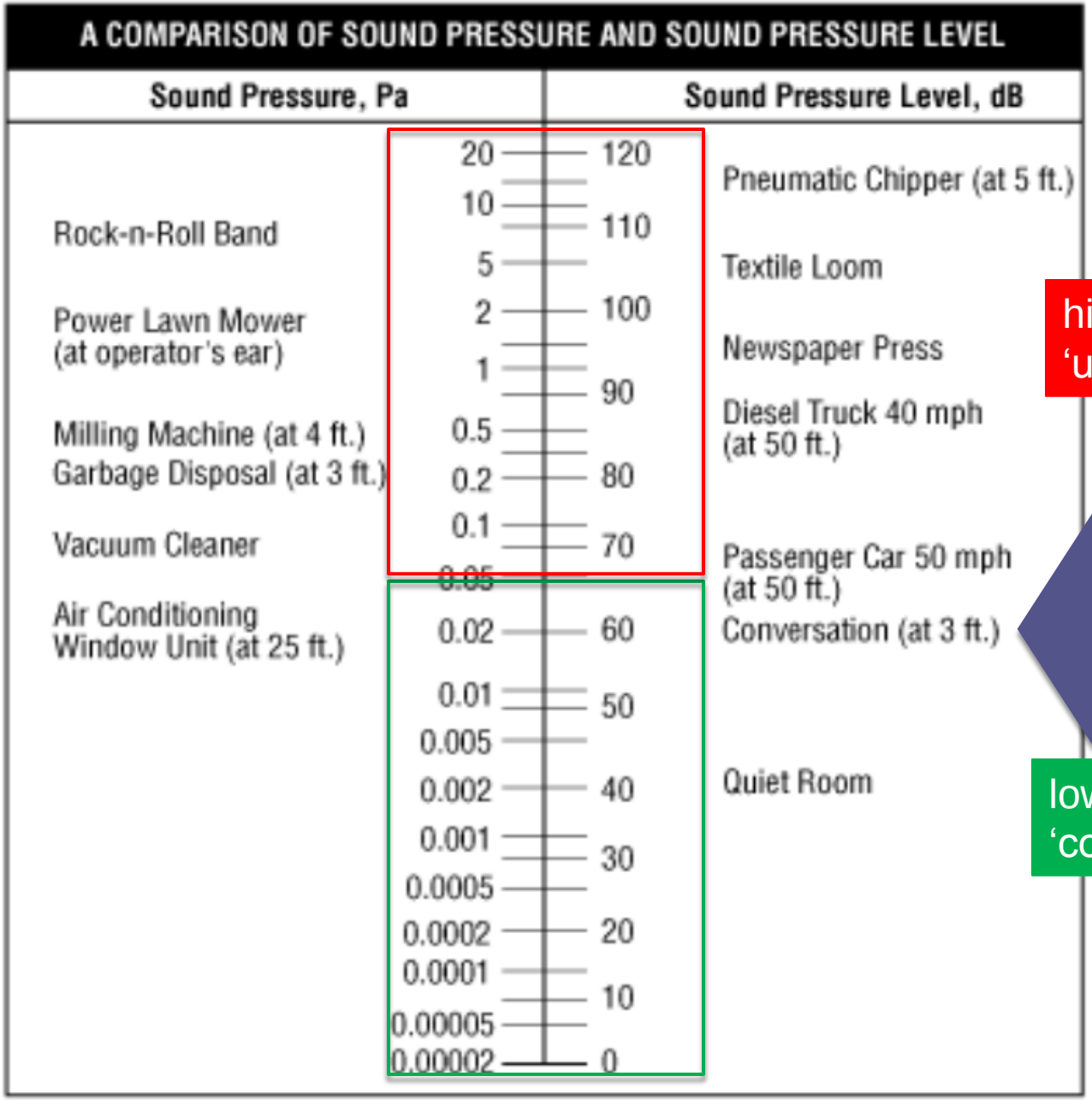
dBA

Noise that matters to people dBA:
Includes pitch and intensity

Assumed Ambient Sound Levels (MTO)

Urban Area – 55 dBA
Suburban Area – 50 dBA
Rural Area – 45 dBA

Sound is a pressure wave (high and low pressure) that interacts with air particles, causing the eardrum to vibrate



higher intensity / 'uncomfortable'

Can you talk and be heard?

lower intensity / 'comfortable'

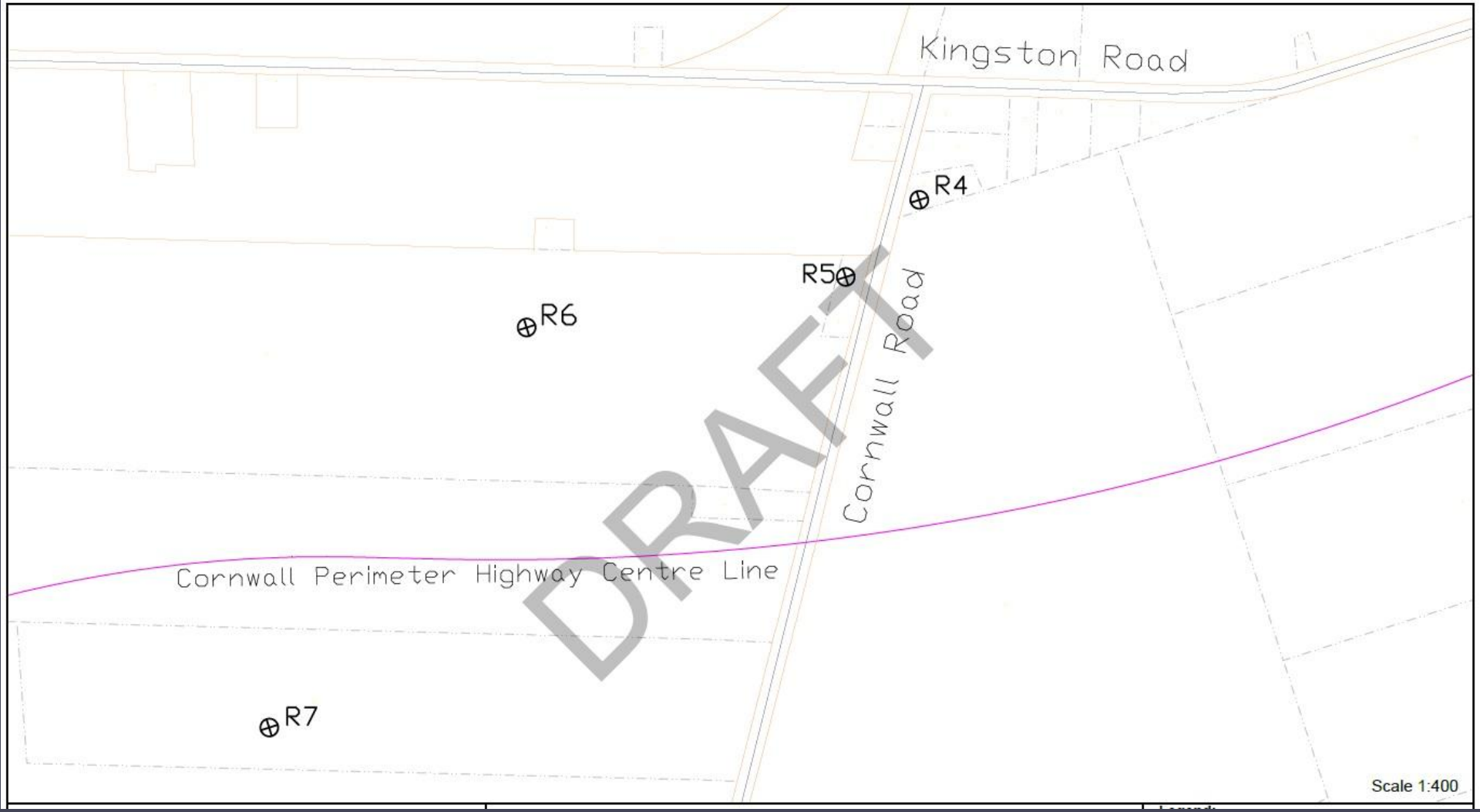
Source: Canadian Centre for Occupational Health and Safety (OSHA Fact Sheet)

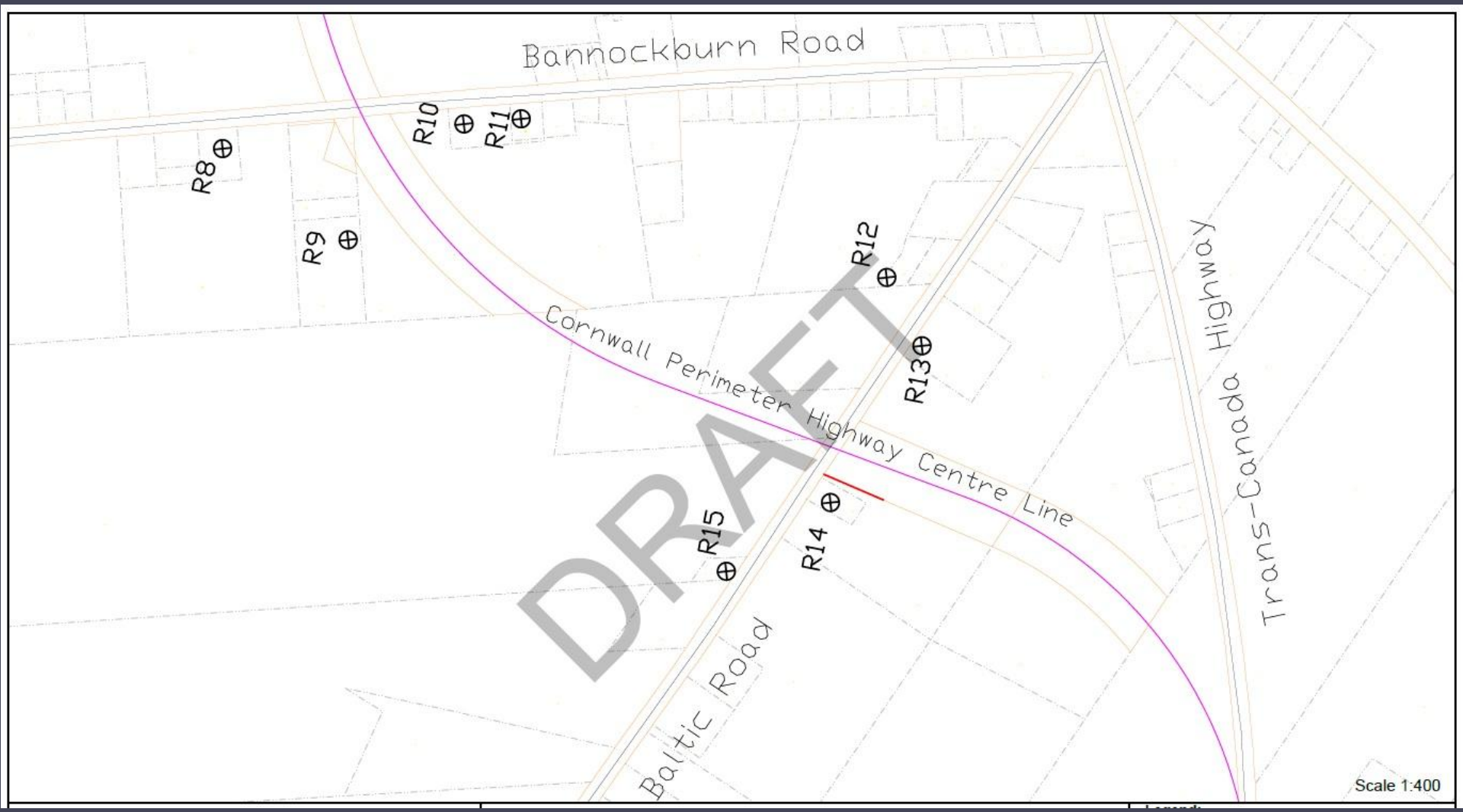
Noise Feasibility Study

Ontario Criteria	
Noise Level	**Mitigation Effort Required**
<5 dBA change & <65 dBA	none
≥5 dBA change OR ≥ 65 dBA	• investigate noise control measures • introduce noise control measures *if feasible*

Objective sound criterion is 55 dBA

Nova Scotia Criteria	
Noise Level	**Time Period**
65 dBA	Day – 07:00 – 19:00
60 dBA	Evening – 19:00 – 23:00
55 dBA	Night – 23:00 – 07:00


Kingston Road
R4
R5
R6
Cornwall Road
Cornwall Perimeter Highway Centre Line
R7
DRAFT
Scale 1:400


Bannockburn Road
R8
R9
R10
R11
R12
R13
R14
R15
Cornwall Perimeter Highway Centre Line
Baltic Road
Trans-Canada Highway
DRAFT
Scale 1:400

Receiver	Existing Sound Levels in dBA Leq (24)	Year 2032 Projected Sound Levels Without TCH-E in dBA Leq (24)	Year 2032 Projected Sound Levels With TCH-E in dBA Leq (24)	Projected Sound Level Change in dBA	Year 2032 dBA Leq (8)
R4	47.1	47.5	48.2	0.7	40
R5	45.9	46.2	47.8	1.6	39.8
R6	45.0	45.0	45.0	0.0	36.4
R7	45.0	45.0	45.4	0.4	38.4
R8	49.6	50.1	52.5	2.4	44.3
R9	45.0	45.0	54.9	9.9	47.8
R10	52.2	52.6	56.2	3.6	48.4
R11	52.4	52.8	54.2	1.4	45.8
R12	45.0	45.0	46.3	1.3	39.2
R13	45.0	45.0	50.4	5.4	43.3
R14	45.0	45.0	57.6	12.6	50.5
R15	45.0	45.0	47.5	2.5	40.4

Noise Feasibility Study

- The model predicted an increase of 5 dBA or more at 3 properties.

- One property has predicted noise levels greater than 55 dBA (objective sound level).

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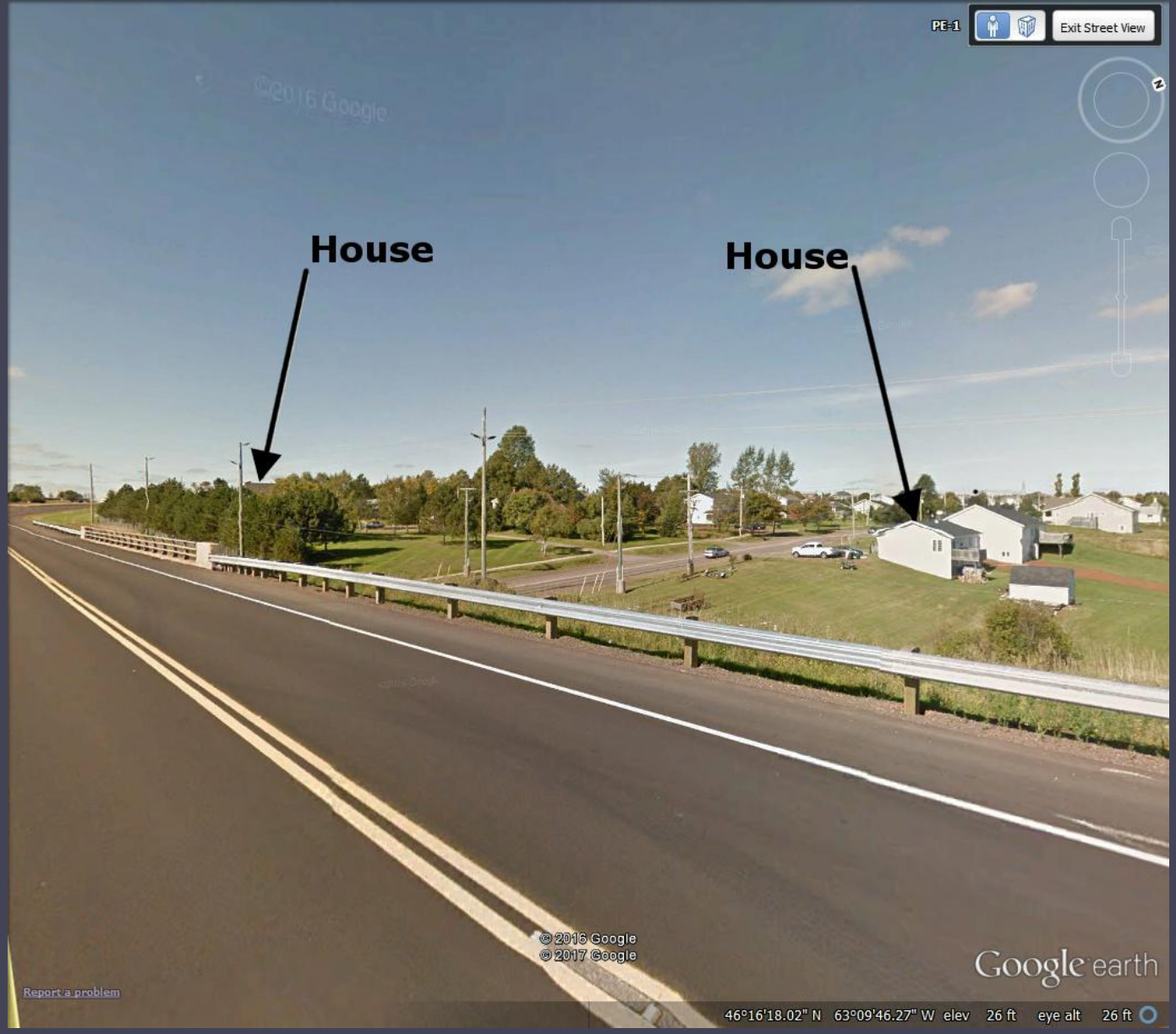
PE-1
Exit Street View
House
House
© 2016 Google
© 2017 Google
Report a problem
Google earth
46°16'18.02" N 63°09'46.27" W elev 26 ft eye alt 26 ft

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Noise Feasibility Study

- QUESTIONS?

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R13	45.0	45.0	50.4	5.4	43.3
R14	45.0	45.0	57.6	12.6	50.5
R15	45.0	45.0	47.5	2.5	40.4