
MUNICIPALITY OF BROCKTON

RURAL ROAD MANAGEMENT STUDY

2019



BMROSS
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MUNICIPALITY OF BROCKTON

RURAL ROAD MANAGEMENT STUDY

2019

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MUNICIPALITY OF BROCKTON RURAL ROAD MANAGEMENT STUDY - 2019

1.0 PURPOSE

Roads, like anything else, suffer from the effects of “wear and tear”. Unless the road system is adequately maintained by appropriate rehabilitation strategies at the proper time, it will quickly deteriorate to the point where major expenditures will be required to bring it back to acceptable standards. This neglect is an unwise and a very expensive management strategy which will result in deteriorating road conditions and higher improvement costs.

This Road Management Study provides an inventory of the existing roads and a means for examining the physical and financial needs of the road system in order to plan the next five and ten-year programs of action within the operating & capital budget of the municipality.

The condition assessment process used for this study was developed by the Ministry of Transportation of Ontario. The condition scores are determined by comparing the existing roads and streets to the pre-determined standards defined in the guidelines. Other parameters are also assessed to help prioritize the needs. The financial needs of maintaining the road system and address the deficient sections were assessed and compared with the funds typically supplied by the municipality to maintain the road system.

This Rural Road Management Study has been prepared by B. M. Ross and Associates Limited (BMROSS) for the Municipality of Brockton in general accordance with the Ministry of Transportation’s Inventory Manual.

The road survey used to assess the roads was undertaken in the early summer of 2019.

Please note, that the Road Management Study for the urban roads within the Brockton community of Walkerton, was completed in 2018 under BMROSS project # 18193.

2.0 SCOPE OF THE STUDY

This study is to help the Municipality prioritize the rural road improvement schedule in a cost-effective way and help predict future costs, assuming that the Municipality generally want to maintain the current level of service of the existing roads.

Recommendations and probable costs for work to be completed over the next 5 year time period and anticipated for the 6 to 10 year time period are provided. The work in the 6 to 10 year time period is intended as a guide for future long term budgeting purposes with the understanding that deterioration rates and repair needs are less accurate when making longer term projections. An updated needs study should be completed in five years to re-assess the condition of the roads and the priorities for the subsequent five year period.

In general, the assessment process is divided into the following major components:

1. Prepare an inventory of the road system using information supplied by the Municipality, information from our previous assessment reports, and road map network data.
2. Review the road sections with a municipal staff member to assess the condition of the roads, note maintenance problems, preventative maintenance options, and collect historical information about repairs to road sections
3. Assemble and summarize the operational cost and typical capital budget information provided by the Municipality.
4. Enter and assemble the information gathered to assess the statistical condition of the roads, issues identified during our review, and develop a priority list of the needs.
5. Prepare the road assessment report in draft format, present it to municipal staff to review for comments then revise and finalize the report as per comments.

Note: Assessment of the road sections for conformance with current provincial standards for horizontal and vertical alignment is beyond the scope of this study. If a road section is reconstructed, conformance should be reviewed during the design stage and the road section should be modified as required. Conformance with standards of the ‘uniform traffic control devices (signage) manuals’ was not within the scope of this study.

3.0 ASSESSMENT AND PRIORITIZING METHODOLOGY

The methodology used in this study to assess the condition of the rural road sections was generally completed in accordance with the MTO’s Method and Inventory Manual. The 1991 version provides an extensive list of parameters; however, it does not provide specific direction on how to evaluate risk and level of service being provided by the asset to satisfy the typical requirements of an asset management plan. The earlier version of manual included a methodology to calculate the theoretical year of need which we have also referred to when creating the assessment process. An explanation of the procedures used to collect the data and combine the condition scores to prioritize the needs is outlined in this section of the report and a table summarizing the priority scoring factors is provided in Appendix C-2.

3.1 Inventory of Road Sections

The Municipality provides the road sections to be used in the study, with the sections being divided typically by block. An inventory of each of these road sections was gathered in the field and entered onto an Appraisal Sheet as shown in Figure No. 1. Copies of the data are provided to the Municipality in a separate bound document from this report. Each sheet will show two road sections from the database where the information is stored. When municipal staff provided previous construction information for the road sections it was included in the road appraisal sheets. This information was used to help determine the proper type of road improvement.

Boundary road sections where costs are shared with the bordering municipality have been included in the total inventory length. When costs are provided for these sections the entire expected cost is indicated with no adjustment for division between municipalities.

Traffic volume ranges were either provided based on traffic count data or estimates provided by municipal staff members at the time of the field review.

Figure No. 1
Sample Road Appraisal Sheet

Municipality Of Brockton: Road Appraisal Sheet

✖ Close Form

Select Section Number

←
Prev
Next
→

Section No.
 Asset ID:

Sidewalk
Report

Inspection Information

Road Name	
From	
To	
Former Municipality	
Length (m)	
Speed Limit (Km/h)	
Boundary Road	
Road Classification	
Road Side Environment	
Road Maint Classification	
Road Surface Type	
Maintenance Demand	
Curbs (0, 1, 2)	
Curb Type	
Curb Material	
Curb Width (m)	
Curb Length (m)	
Sidewalks (0,1,2)	
Horizontal Alignment	
Vertical Alignment	
Platform Width (m)	
Surface Width (m)	
Right of Way Width (m)	
Winter Maintenance	
Criticality	
Dead End	
Traffic Range (vpd)	
Traffic Type	
Traffic Count Year	
Traffic Count (vpd)	
Surface Rating	
Road Structural Rating	
Drainage Rating	
Drainage Method	

Road Improvements and Costs

Spot Road Drainage (\$,000)		Remarks
Maintenance:	0.0	
Maintenance:	0.0	
Other:		
Sub-Total 1:	0.0	
Specific Maintenance (\$,000)		Remarks
Maintenance:	0.0	
Maintenance:	0.0	
Other:		
Sub-Total 2:	0.0	
Construction (\$,000)		Remarks
Construction:	0.0	
☒ Sidewalk 0 0		
☒ Storm Sewers ☒ Minor Storm Sewer Improvements		
Additional Constructed	0.0	
Other		
Sub-Total 3:	0.0	
Total Costs:	0.0	
Theoretical Year of Need	2020	Adjustment
Proposed Year of Need	2020	0
Deteriorate Rate	1.0	
Years to Need	0	
Other Notes: 66		
Inspection Date:		

Year	Cost	Type	Job_Num	
*				

Record: 14 1 of 1 No Filter Search

B.M. Ross and Associates Ltd.

3.2 Condition Assessing

During the field review, characteristics of each road section were recorded and condition scores were assigned to each road section for the surface and structural condition taking into account the integrity of the road. Also, a drainage condition score assessing the suitability of the drainage system for the granular base of the road system was assigned for each section. Both of these scores are based on a visual review unless municipal staff provided additional information about the performance or construction history of the road section.

As outlined in the MTO manuals, the Condition Rating numbers take into consideration the surface condition and structural adequacy of the road section based on the visual inspection. The rating numbers were assigned on a scale of 1 to 10 with the lower numbers describing those roads with the most surface and structural distress. The higher the rating numbers, the better the condition of the road. As per the 1985 version of the Manual, road sections with Surface Condition Ratings of 5 or less at the time of this Road Appraisal, or within the five-year forecast; theoretically, have a need for improvement. A cost to address the identified needs are calculated for each road section expected to deteriorate down to a condition rating of 5 within the next 10 years. However, with gravel roads that have traffic volumes of less than 50 AADT, only maintenance work would generally be recommended.

Note, the condition rating numbers do not consider the road width, vertical and horizontal alignment, or an assessment of the road to determine if it is constructed in accordance with suitable standards for the amount of traffic it passes. With this way of rating, it is possible to have a road with condition ratings of 10 but the alignment, or other components could be substandard. These other parameters are assessed and scored separate from the condition rating and used when prioritizing the needs. The scoring process elevates the priority to address needs on the road sections that have not been built up to appropriate standards.

Note: for paved roads of either hot mix or surface treatment, the condition ratings may be misleading because roads with a poor structural base or inadequate drainage that have been recently resurfaced, will appear to be very good. Additional information on the rating system is contained in the M.T.O. manual.

Drainage of the road base has a significant impact on the performance of the road and the amount of maintenance required. MTO added a drainage condition score to later versions of the Inventory Manual. With this study the drainage condition rating for each road section is scored as good, fair or poor. The score is relative for the drainage system that appears to be provided, when compared against the optimum drainage system. No material samples were collected to assess the drainage capabilities of the granular base in the road and drainage tile along the sides of the roads were not inspected as part of this report. The score is assigned based on information supplied by the municipal staff about maintenance activities for the road section and visual observations at the time of review. If there is no evidence to indicate otherwise, it will be assumed that the drainage system is suitable for the road section and a drainage rating of good is assigned.

3.3 Assumed Life Expectancy of Road Types

The life of a road is affected by many factors. These include the structural components in the road, the drainage provided for the granular base, the amount and type of traffic on the road and weather conditions. Many of these cannot be precisely determined from a visual inspection. To predict how

quickly the condition of the road will deteriorate and when rehabilitation needs will be required, it is necessary to make an assumption about how long each different road type will last.

For high class bituminous pavements (hot mix), the forecast condition rating is adjusted for each year for the remaining life of the pavement prior to resurfacing. The MTO manual suggests that the life of a single lift hot mix pavement is about 10 years. Using this life cycle, the condition rating would drop by 0.5 per year. Starting with a new condition rating of 10, this would mean that the condition rating would drop to 5 and require a resurfaced lift after 10 years. Assuming the road has been constructed appropriately to current cross-section standards, the projected life expectancy of a road system is affected primarily by the amount of traffic on the road. Table 1, shows the assumed life expectancies used for the different types of roads with different traffic ranges.

Table 1
Assumed Probable Useful Life Expectancy for Roads Based on Traffic Range

Traffic Range	2-HCB	1-HCB	LCB	Gravel	Earth
0-49	30	20	6	100	100
50-199	27	19	6	100	100
200-499	24	17	6	100	100
500-999	22	16	6	80	100
>1000	20	15	5	60	100

Notes

1. The above probable life expectancies are considered a reasonable assumption if the road is constructed to typical standards with a structural base, i.e. asphalt and granular base, and drainage that is suitable for the application.
2. It is anticipated that there may be localized repairs and maintenance work such as crack sealing necessary to achieve the probable life expectancy.
3. Shaded cells are typically not present or recommended because they will require more frequent maintenance.
4. The actual service life of a road section is variable. The Municipality should review statistical information and over time adjust the life expectancies to match experience.

Low Class Bituminous road surfaces (LCB) are generally able to last about six years between re-surfacing. This would be equivalent to a condition rating drop of 0.83 each year. For this study it has been assumed that two lifts of surface treatment will be placed the first time a low class bitumen is applied on a road and a single lift is only applied on an existing LCB road that still has a uniform surface and it appears structurally sound.

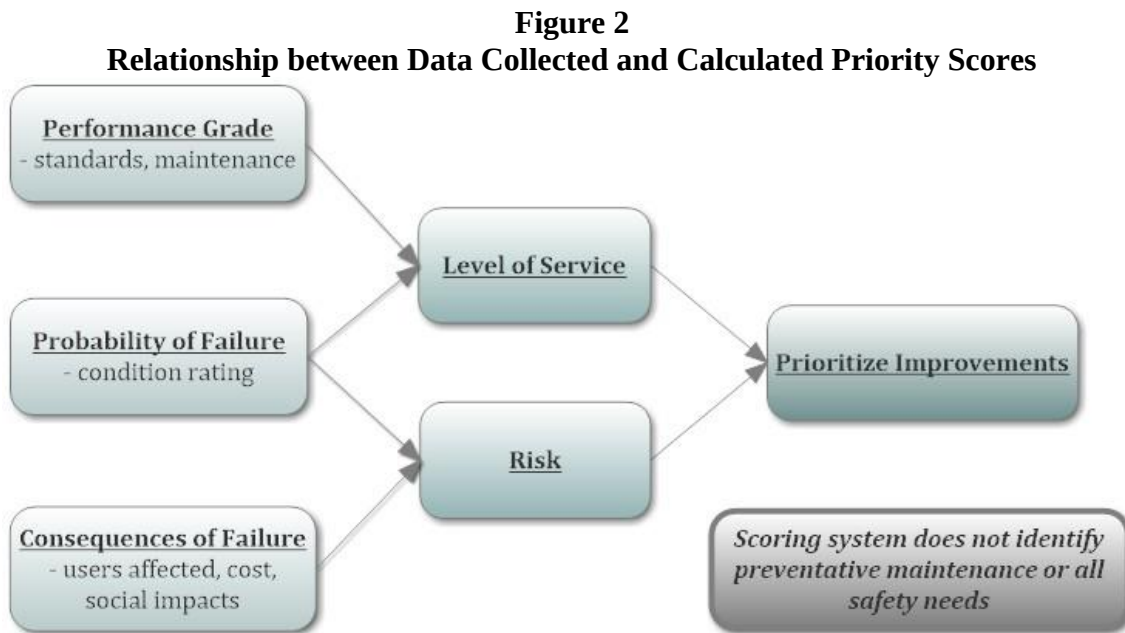
For roads with a gravel surface, it is assumed that the future condition rating will deteriorate very slowly due to continued routine, loose top maintenance. The projected life of low volume gravel roads with regular grading and biannual applications of gravel is 100 years and can be more. This would mean that the condition rating for the next five and even ten year period would stay virtually the same for low volume gravel roads and unless a gravel road has a current condition rating of 5 it will not be identified as a road section with a need.

3.4 Methodology to Prioritize Improvements

When developing a Road Maintenance Program or Asset Management Plan, we believe there are three key factors that should be taken into consideration; the probability of failure, the consequence of failure and the performance grade. While these factors can include many components, the **probability of failure** factor is generally represented by the condition rating or age of an asset.

The **consequence of failure** is a score based on the number of users affected if the asset fails or other social impacts and the cost of the asset. The **performance grade** should incorporate the relative maintenance requirements of the asset and a comparison of how the asset was built versus the appropriate design standard for that particular asset. In a simplified way these components are used in this study as illustrated in Figure 2 to develop a theoretical priority score for the improvements.

BMROSS has developed a scoring system using the defined parameters to help prioritize the improvement needs as per the relationship shown in Figure 2 and weigh the importance of different parameters similarly to the 1991 version of the MTO manual.



Within Appendix C-2, is a table showing the priority score calculation factors used to help prioritize the needs, however this section includes an explanation also:

Performance Grade

The Performance Grade is calculated using the platform width of the road surface, maintenance demand and alignment value scores for each road section follows. If the platform width of a road section is adequate for its application based on the traffic volume, a score of 1 was applied. If the width was somewhat narrow, a score of 3 was applied and if the road was significantly narrower than it should be, a score of 5 was applied. For the maintenance demand, if the road section was recorded to be a no winter maintenance road or it is a newly re-constructed road with minimal maintenance requirements, it was considered low maintenance and a score of 1 was applied. All other road sections are considered average and assigned a score of 2, unless it was a road which the municipal staff noted, required extra maintenance. For example, in the spring extra maintenance was required to address soft spots or is shifting due to frost, then it was consider high or excessive, scoring 4 or 5. Another example, asphalt roads that have cracks developing in the surface prematurely and roads that experience erosion along the surface or shoulder as a result of flooding are also considered roads with higher than average or excessive maintenance needs. For alignment value, if a visual review of both the vertical and horizontal alignments were acceptable or if the road

appeared to be properly signed to identify all the alignment risks, the score was 1. If only one of the alignments components were not acceptable, the score was 3. If both the vertical and horizontal alignment were not acceptable the score was 5.

Probability of Failure

The surface and structural condition ratings as described earlier in the report and the drainage rating were used for the probability of failure factor. Similarly to above; good, fair and poor drainage condition ratings were assigned a score of 1, 3 and 5. The probability of failure calculation is weighted towards the structural rating, as the score for that component is multiplied by 2. The surface rating score is also used to help predict the year of needs, as explained earlier. The drivers on the roads are generally most concern about the condition of the road surface but the structure under the road and the adequacy of the road drainage system determines how quickly the condition of the road surface will deteriorate; therefore, they are considered to be as important, or more important than the condition of the road surface. The road surface score is focus on the condition of the road surface and ride quality.

Consequence of Failure

For this study, the consequence of failure was determined by traffic volume. The consequence of failure is the parameter used to take into account for the importance of the road or how many would be affected if the condition of the road was unacceptable. The traffic volumes on each road section were based on the supplied or assumed traffic volumes on each road section provided by or reviewed by the Municipality. A score of 1 means it has an average annual daily traffic value of less than 50 and a road with greater than a 1000 vehicles per day would have a score of 5.

Figure 2 suggests that combining the probability of failure rating with the performance standard gives a level of service value and combining the probability of failure and consequence of failure value yields the risk score for each asset. Although these are just relative numbers, Municipalities may choose to define a targeted average level of service or risk value for their roads system. These may be set at different values for different classes of roads. They can also monitor and track these average scores over time for future comparison purposes. The theoretical priority score for each asset is the combined score of the level of service factor and the risk factor. Defining the desired level of service or acceptable levels of risk are beyond the scope of this study so only the priority score has been used.

The theoretical priority score can be used as a guide to help prioritize improvement work on the assets. However, there are other factors that should be taken into account when prioritizing the road improvements. Factors including preventative maintenance activities, scheduling tasks to coincide with integrated assets within the same area, financial and timing constraints and other activities taking place within the locale must be considered by municipal staff. It is impossible to take into account all these other factors in a simplified scoring system. For this reason, the theoretical score of highest priorities established on an individual asset basis should only be used as a guide and the best sequence for improvements should be established by the Municipality. Additional considerations about preventative maintenance will be discussed in Section 7 of this report.

For low traffic volume roads with asphalt surfaces it is recommended that surface reconstruction be delayed until other work is required on streets in the immediate area. Work on urban streets should be co-ordinated with repairs to nearby or adjoining road sections and with other infrastructure, when-ever possible, to minimize total costs.

4.0 SUMMARY OF ROAD DATA COLLECTED

The road system was assembled on maps, data collected and condition ratings assigned for each of the road sections. A road section was generally defined as an individual block. In rural areas these would have lengths of approximately 2km and run between the Lines and Roads. Similarly, urban areas and urban fringe road sections were divided up by blocks or in some cases, sections with similar surface characteristics.

Appendix A-1 is a summary of the complete rural road inventory, listed by road section number. Appendix A-2 gives the same information sorted by rural road name. For additional data, such as road widths and roadside environment, the individual appraisal sheets must be referenced. The maps enclosed in Appendix B-1 identify the location, name and inventory number and surface type for each section.

Table 2 shows a summary of the lengths of different surfaces currently owned by the Municipality. It was identified that there are only a few roads with two lifts of HCB within the rural roads examined and we should assume there is only one lift unless directed otherwise. Table 3 summarizes the lengths of different cross section types.

Table 2
Inventory by Road Surface

Road Surface Type	Length (km)
Gravel	182.56
LCB – 2 lifts	82.76
HCB – 1 lift	116.00
HCB – 2 lifts	2.07
Total	383.39

Table 3
Inventory by Road Cross Section

Roadside Environment	Length (km)
Urban	1.9
Semi-Urban	11.4
Rural	370.0
Total	383.4

Based on the information in Table 2 and the assumed deterioration rates discussed in Section 3 of this report, the approximate theoretical number of kilometres which should be improved each year in order to maintain the road system is as shown in Table 4. These amounts assume that the Municipality has been improving road sections in accordance with Table 4 continuously since the start of the road system. If this is not the case and less work has been completed in past years or if past work is deteriorating faster than projected, more kilometres must be improved in the future in order to put the road improvements back on track.

Table 4
Theoretical Kilometres of Improvements
Per Year Required to Maintain Road System

Surface	Assumed Life *	Recommended (km/year)
Gravel	100	1.82
LCB – 2 lifts	6	13.79
HCB – 1 lift	20	5.8
HCB – 2 lifts	30	0.07

* For simplicity the assumed life expectancy used in this Table is the maximum life expectancies listed in Table 1.

Table 5 shows the recent road appraisal average condition ratings for road surface and road structure at the time of the field review and splits the weighted averages up based different road surface types. Figure 3 shows a distribution of the condition ratings for the paved and gravel road surfaces.

Table 5
Average Condition Ratings

	Surface Rating	Structural Rating
Gravel	7.8	7.4
LCB	7.5	7.6
HCB	7.6	7.9
Average (all surface types)	7.7	7.6

Figure 3
Condition Rating by Road Surface

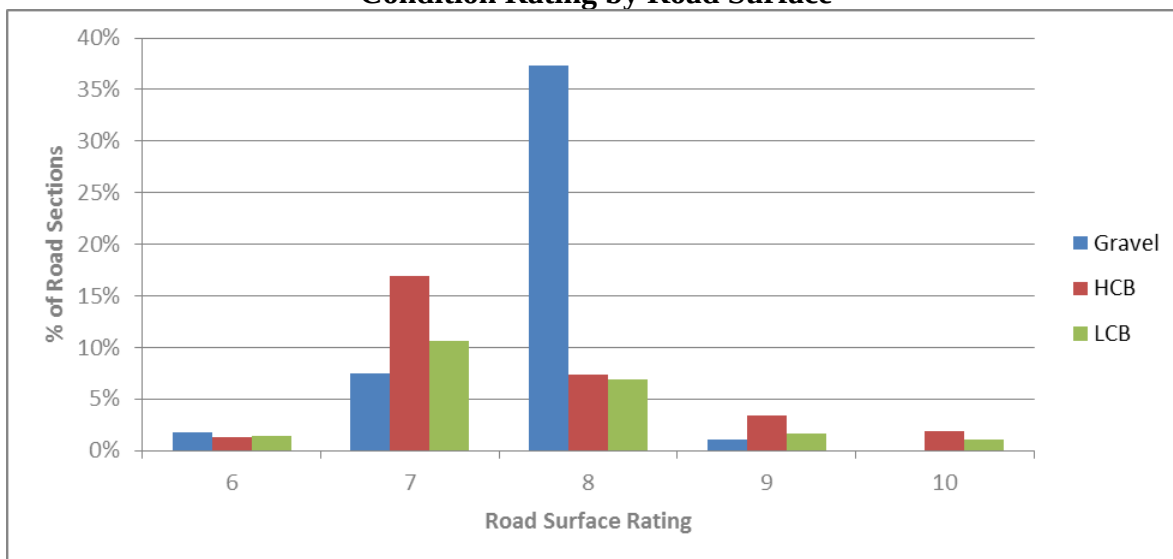
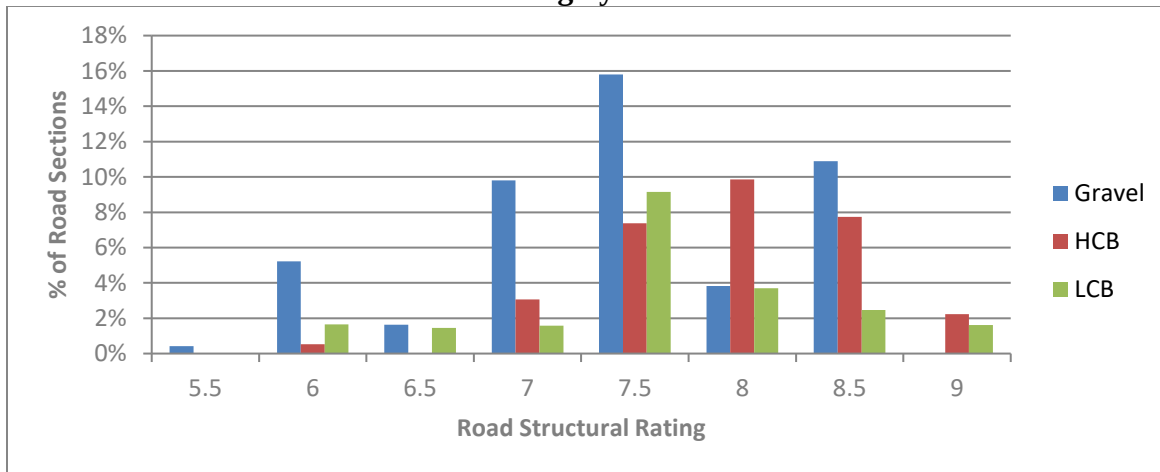


Figure 4
Condition Rating by Road Structural



5.0 NORMAL MAINTENANCE NEEDS (FIXED COSTS)

The Municipality's first consideration for use of road funds is to address the normal maintenance or fixed cost needs. These items include the normal day-to-day activities to keep the road system operational and include road surface grading and re-surfacing of gravel roads, roadside maintenance, application of surface treatment, safety devices and overhead. Funds must be provided for these fixed costs and winter snow removal costs prior to considering expenditures for a construction program. It is our understanding that the Municipality of Brockton budget for equipment, fuel and labour associated with the snow removal and day to day maintenance work separately. However, municipal staff provided typical annual costs to address the other work and expenses associated with maintenance of the gravel and paved roads. The typical costs per year, are shown in Table 6.

Table 6
Previous Annual Average Expenditures

Year	Gravel Road Maintenance	Paved Road Maintenance
2014 to 2018	\$280,000	\$290,000

It is our understanding the Municipality includes re-surfacing and grading for gravels roads in the gravel road maintenance item and includes the cost to apply emulsion on the LCB roads, crack sealing, patching paved roads and shoulder regrading work within the paved road maintenance work. When maintenance work on the road sections is not adequately completed, the condition of the road will deteriorate quicker and it is generally necessary to perform a capital improvements or reconstruction work on the road section sooner.

6.0 GENERAL COMMENTS ABOUT THE ROAD SYSTEM

In general, the rural road system within the Municipality of Brockton is in relatively good condition and well maintained. The area benefits from excellent natural drainage of primarily granular soils resulting in very little disruptive frost action. This results in a slower deterioration of asphalt paving. With the exception of localized swampy areas, the Municipality has for several years been

able to maintain its paved road surfaces by using full-depth pulverization and single lift paving. This method is a relatively cost-effective way to maintain the road sections. At the same time, roads with the highest need have been fully reconstructed in an orderly fashion. This approach has also worked well within the community of Walkerton and in our opinion generally should be continued.

6.1 High-Class Bituminous Roads

As noted earlier, the High-Class Bituminous (HCB) roads, commonly referenced to as asphalt roads, have a weighted average score of 7.9. This indicates that these roads are generally well maintained and provide a good level of service to the community. As stated above in order to sustain this standard of service, current maintenance programs need to continue at least at the current level. This includes continuing the crack-sealing program to preserve the integrity of the road surface and reconstructing the shoulders to support the edge of the road.

With only one lift of asphalt, once the paved surface becomes unacceptable, the surface has generally been pulverized and resurfaced with a new lift of asphalt. Some municipalities have found that the application of another lift of asphalt or a slurry seal before the surface has started to lose its shape, increases the life span of the paved surface in a cost-effective way. The decision to use asphalt or slurry seal is dependent on the traffic loads and the structural stability of the road base. The cost to patch the asphalt and resurface the top with a slurry seal type product has been included in the maintenance costs and it is proposed that the client try this technic to extend the life of the road in a cost-effective way.

6.2 Low-Class Bituminous Roads

As noted earlier, the Low-Class Bituminous (LCB) roads have a weighted average score of 7.6. This indicates that these “tar and chip” type roads are being well maintained and are providing a good level of service to the community. In order to sustain this standard of service, current maintenance programs need to continue. We understand these road surfaces are generally resurfaced with emulsion every 6 years. The Municipality should continue to apply the re-surfacing material within the recommended time period to maintain the integrity of the road surface. While, Low-Class Bituminous surfaces can be more accommodating if the road base is not as structurally sound the life expectancy of the surface material will be reduced if the surface material has to shift around to accommodate frost action each spring.

Within the Municipality there are a few LCB roads with relatively high traffic volumes passing over them. While they still appear to be performing acceptable, to date, it has been proposed that some of these be upgraded to an HCB road type.

6.3 Gravel Roads

The gravel road sections have a weighted average score of 7.4. This indicates that these roads are also well maintained and provide a good level of service to the community. However, it is important to realize the review of the road sections took place after all the spring maintenance work was completed on the roads. In order to sustain this standard of service, current maintenance programs need to continue at least at the current level. There will always be minor deficiencies with gravel surfaced roads due to dust and stone scatter as well as potholing and rutting during certain weather conditions which will prohibit gravel sections from having a condition rating above 9.0.

7.0 SPECIFIED MAINTENANCE AND CONSTRUCTION NEEDS

The assumed cross sections for rural, and urban environments are as shown in BMROSS drawings 1, 2 and 3 provided in Appendix B-3. These cross sections are the recommended minimum standard that should be used when existing roads are being reconstructed or new roads are being constructed. It may be appropriate to provide a wider surface on roads that experience high traffic volumes and high speeds. Rehabilitation of an existing road may not achieve the recommended cross section.

The probable costs of the various types of road improvements have been prepared using “benchmark” costs based on work done in similar rural municipalities. Where applicable, the cost of engineering, supervision and some other assumptions have been included. All these costs are based on 2019 prices and should be adjusted using inflation for work in subsequent years. The bench mark costs used in this study are as shown in Table 7. A more detailed breakdown is presented in Appendix C-1.

Table 7
Benchmark Construction Costs for Year 2019

Rural – 6.7 m Surface Width	
1. Rural Full depth pulverize and pave	\$200/m
2. Rural Full Reconstruction - Base Course Asphalt	\$615/m
3. Rural Full Reconstruction - Gravel Surface	\$470/m
4. Rural Hot Mix Resurfacing (40mm HL-4, incl tack coat)	\$145/m
5. Rural partial depth cold in place and pave (50mm HL-4)	\$240/m
6. Rural Paving (40mm HL-4)	\$135/m
7. Rural Paving (50mm HL-4)	\$175/m
8. Rural Pulverize and Two Lifts Surface Treatment	\$105/m
Semi-Urban – 6.7 m Surface Width	
1. Semi-Urban Full Depth Pulverize and pave	\$178/m
2. Semi-Urban Full Reconstruction - Base Course of Asphalt	\$560/m
3. Semi-Urban Hot Mix Resurfacing	\$135/m
Urban – 8.5 m Surface Width	
1. Urban Full Depth Pulverize and Pave (40mm HL-4)	\$250/m
2. Urban Full depth pulverize, widen and pave	\$475/m
3. Urban Full depth removal and pave - 8.5m	\$440/m
4. Urban Full Reconstruction - Base Course of Asphalt	\$990/m
5. Urban Partial depth cold planning and resurfacing	\$285/m
6. Edge cut, curb & gutter, top lift of asphalt	\$450/m
7. Urban Paving (40mm HL-4)	\$175/m
Specific Maintenance	
1. Surface Treatment - Single Surface	\$35/m
2. Surface Treatment - Double Surface	\$60/m

3. Gravel resurfacing, 50 mm	\$20/m
4. Ditching Improvements (Full Length)	\$6/m
5. Raise Road Grade, 150 mm with gravel	\$70/m
6. Edge Widening 1 m, each side	\$170/m
7. Clearing along sides of ROW, (4 m swath)	\$400/m
8. Install subdrain full length, both sides	\$15/m
9. Fiber Mat	\$35/m
10. Crack Sealing	\$8/m
Spot Maintenance	
1. Culvert Crossing up to 750 mm dia., excluding asphalt	\$7,500
2. Ditching Spot Location up to 200 m	\$2,500
3. Raise Grade Line – Gravel 150 mm (<100 m)	\$8,600
4. Asphalt patch up to 60 m, full road width	\$17,000
5. Patch Road with Gravel Surface up to 60 m	\$18,000
6. Paved Surface up to 60 m	\$25,000
7. Shoulder and Slope Repair (100 m)	\$4,500
8. Storm and sewer cress, 1 CB & Subdrain or similar	\$12,750
9. Guiderail (<50 m one side)	\$5,500
10. Subdrain both sides up to 500 m	\$9,500
Miscellaneous	
1. Sidewalk (each side), 1.5 m wide, including restoration	
a) – concrete	\$150/m
b) – gravel	\$35/m
c) – asphalt	\$100/m
d) - unit pavers	\$240/m
2. Storm sewers – incl. CBs and MHs	\$610/m
3. Minor storm sewer improvements, subdrains, in-line catchbasins, surface restoration	\$265/m

7.1 Asphalt Surfaced vs Gravel Surfaced Roads

A cost comparison was developed to assessment the cost difference between providing a paved road with High-Class Bituminous (HCB), a paved road with Low-Class Bituminous (LCB) and a gravel road surface. The estimated regular maintenance costs were developed using operating costs provided by the Municipality. Table 8 shows that the average cost to maintain an asphalt surfaced road over the long term is about twice as much as for gravel. Appendix C-3 contains the detail calculations for each surface types.

Table 8
Probable Cost per km/yr to Maintain Gravel and Asphalt Roads

Component	Gravel	LCB	HCB
Annual Maintenance	\$3,448	\$548	\$921
Annualized Capital Cost	\$0	\$4,421	\$6,713
Total	\$3,448	\$4,969	\$7,635

Note: An asphalt road surface referenced within this section implies a road with a hot mix type of pavement generally referred to as a High-Class Bituminous (HCB). A road with a surface treatment has a bituminous emulsion applied and stone chips compacted in placed on top and is referred to as a Low-Class Bituminous (LCB).

The annualized maintenance cost for the gravel roads includes resurfacing the road with gravel every second year, applying calcium chloride and grading the roads three times throughout the year. If a gravel road had very high traffic volumes, such as 1000 vehicle per day, the road maintenance cost would increase significantly. The numbers presented in the table would generally be applicable for road with traffic volumes less than 400 vehicles per day.

The capital cost for LCB (tar and chip) roads assumes that the road will need to be resurface with an emulsion every 6 years. The capital cost for the asphalt road assumes the road is pulverized, fine graded and repaved every 25 years. To convert the capital cost to an annual cost, the costs were amortized to an equivalent annual cost over the assumed life of the proposed road type with a discount rate of 3%. The life expectancy for the paved road will depend on how well the road base is constructed and the amount of heavy traffic on the road surface. It has been assumed the road receives relatively low traffic volumes, less than 400 vehicles per day. To achieve the life expectancies assumed, an HCB asphalt surface road needs to have a suitable granular base to satisfy the traffic loading requirements and needs to have an effective drainage system for the granular base.

The maintenance costs for the paved surfaces include the application of sand and salt during winter months. As this material is typically applied when the snow is being removed only the material costs have been included with the application costs. The maintenance costs for the asphalt roads also include crack sealing and patching the asphalt roads as well as some costs to perform shoulder maintenance work.

It is generally recommended that roads with traffic volumes above 400 vehicles per day would have either a LCB or HCB surface to minimize the maintenance costs and provide a safer road surface for the users.

8.0 RECOMMENDED IMPROVEMENT PROGRAM AND EXPENDITURE FORECAST

It is generally not possible for Municipalities to complete all the identified road section needs within the theoretical year of need. Typically, the theoretical needs fluctuate from one year to the next and to stay within the Municipality's budget it is necessary to shift projects from year to year. Also, it is sometimes cost effective and preferred to group adjacent projects together. As funding availability and priorities change, it is expected that it may be necessary to revise the schedule accordingly. If the improvement is significantly delayed beyond the recommended year of need, it may be

necessary to change the type of improvement. The proposed year was chosen based on the theoretical year of need, the priority score calculated, attempts to achieve economies of scale by grouping needs by geographic proximity, and to schedule timely improvements to cost effectively extend the life of the roads. The proposed year of need is also adjusted based on consultation with the Municipality.

The tables in Appendix D-1 list the road sections with needs sorted by their proposed year of work and the priority score. Table 9 indicates the expenditure forecast for capital improvements assuming the road work is completed in the proposed year of work is also shown in Appendix E-1 (map). The proposed list of needs resulted in a total of \$11.7 million dollars of costs over the next ten years, of which \$2,447,000 is theoretically due in 2020. The proposed schedule assumes that all of the anticipated capital improvement needs will be addressed within the next ten years.

The suggested type of improvement for each road section is listed on the tables provided in the appendix. However, these may be subject to change if other improvements are also required or if this section of road deteriorates at a quicker than expected rate. As more historical information on road sections is accumulated, it should be easier to determine the appropriate type of improvement.

Table 9
Summary of Capital Improvement Costs by Proposed Year of Need

Year	Capital Improvements by Current Surface			Total Cost (\$,000)
	Gravel (km)	LCB (km)	HCB (km)	
2020	0.0	2.7	0.2	\$ 2,446.9
2021	0.0	8.5	0.0	\$ 1,818.2
2022	0.0	3.2	3.3	\$ 2,204.4
2023	0.0	0.4	1.4	\$ 556.0
2024	0.0	0.0	9.2	\$ 2,101.5
2025	0.0	3.0	3.1	\$ 816.5
2026	0.0	0.0	7.2	\$ 1,506.9
2027	0.0	0.0	0.0	\$ 000.0
2028	0.0	0.0	0.0	\$ 000.0
2029	0.0	0.0	0.6	\$ 284.5
Total	0 km	17.8 km	25.0 km	\$ 11,734.9
Average	0 km/yr	1.78 km/yr	2.50 km/yr	\$ 1,173.5/yr

Included in the cost summarized within the capital improves is upgrading about 14 km of LCB roads to HCB roads. Some of these costs pertaining to converting road sections in Elmwood and Riversdale from LCB roads to HCB roads and the installation of new curbs, some sewers and sidewalk in Elmwood. There is also a kilometre-long road section at Lake Rosalind and about 10 km of road LCB roads included that would be upgraded to HCB. This upgrade account for almost half of the Capital improvement budget listed in the table. If the Municipality is unable to accommodate all the costs identified, it may be acceptable to resurface some of these roads with LCB and upgrade them at a later time.

The above table suggested that the length of road improvements over the next ten years would be significantly less than the theoretical lengths listed earlier in the report. In Table 4, the theoretical rehabilitation rates calculated based on the assumed life expectancies were 1.82 km/year for gravel,

13.8 km/year for LCB surfaces, and 5.8 km/year for HCB surfaces. However, since the Municipality normally includes the work completed or administrated by their own staff in the maintenance budget, we have excluded some task that may normally be considered capital improvements from Table 9. This includes resurfacing of the LCB roads, patching HCB roads and resurfacing the HCB roads with a slurry type seal, as proposed in Section 6. As a result, the maintenance budget is higher than it has been in the past. An explanation of the work included in the maintenance budget instead of the capital budget follows.

The total of \$6.68 million has been included in the maintenance needs table, as presented in Appendix D-2. When this work is spread evenly over the 10 year expenditure forecast it equates to \$668,000/year. These improvements are beyond the scope of typical maintenance work but includes work that can be administrated by municipal staff. More specifically, the maintenance cost to resurface about 60 km of the LCB roads over the next ten years is estimated to be \$2,652,500. Also, \$2,236,600 has been included in the maintenance needs to patch localized surface defects and resurface about 41.5 km of HCB roads within a slurry seal material. It is anticipated the municipal staff will review and shift the schedule for the road improvements to accommodate for other priorities and budget restraints, as required. When the length of improvement from the maintenance and capital improvement tables are combined, 7.7 km/year of LCB and 6.6 km/year of HCB roads would be upgraded over the next ten years.

As suggested in the earlier referenced Ministry of Transportation guidelines, capital improvements would generally not be scheduled for roads with traffic volumes less than 50 AADT, even if they were identified as a need. It is assumed that additional maintenance work will be performed on all the gravel and low volume roads, as required, within the maintenance budget or when other work is required in the area.

When preparing budget costs for the improvements, it was necessary to make some assumptions to simplify this process. Improvements as indicated may not uniformly apply along an entire road section as assumed. For example, it is possible that a road recommended for resurfacing will have spot locations that will require rebuilding of the road base and the condition of the road will deteriorate prior to when the improvements are completed. Prior to road improvements being undertaken a more detailed examination of the road section to be improved should be performed in order to identify possible deviations from the plan.

The total suggested budget to address all the road improvements costs for each of the next 10 years is presented in Table 10. The total is for road improvements and does not include the annual maintenance type expenditures for, equipment or snow removal costs.

Table 10
Total Suggested 10 Year Expenditure Forecast for Road Improvements

Category	2020	2021	2022	2023	2024
Specific Maintenance Needs – Gravel Roads	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000
Specific Maintenance Needs – Paved Roads	\$668,000	\$668,000	\$668,000	\$668,000	\$668,000
Road Improvements	\$2,446,900	\$1,818,200	\$2,204,400	\$556,000	\$2,101,500
Suggested Annual Budget	\$3,394,900	\$2,766,200	\$3,152,400	\$1,504,000	\$3,049,500

Category	2025	2026	2027	2028	2029
Specific Maintenance Needs – Gravel Roads	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000
Specific Maintenance Needs – Paved Roads	\$668,000	\$668,000	\$668,000	\$668,000	\$668,000
Road Improvements	\$816,500	\$1,506,900	\$0	\$0	\$284,500
Suggested Annual Budget	\$1,764,500	\$2,454,900	\$948,000	\$948,000	\$1,232,500

Note: - The above table does not include the costs for any bridge repairs, equipment costs or staff labour. Any needed bridge improvements should be scheduled in conjunction with the road improvements to minimize the need for duplication of work and to reduce costs.

- Unit costs used in Table 7 are based upon relatively small or individual contracts for each road section. Economies of scale are expected to arise when road sections are grouped into a single contract.
- Costs are in 2019 dollars, have not been inflated and are HST exclusive.

9.0 REGULATION UPDATES

The Ontario regulation 239/02 “Minimum Maintenance Standards for Municipal Highways” was updated in May of 2018. The classification of highways table, see Table 11, was updated to include a wider range of AADT values with minor changes to the classification numbers. The majority of road classifications have not changed, where the classification has changed the number has been increased by one.

Table 11
Classification of Highways

Column 1 Average Daily Traffic (number of motor vehicles)	Column 2 91 - 100 km/h speed limit	Column 3 81 - 90 km/h speed limit	Column 4 71 - 80 km/h speed limit	Column 5 61 - 70 km/h speed limit	Column 6 51 - 60 km/h speed limit	Column 7 41 - 50 km/h speed limit	Column 8 1 - 40 km/h speed limit
53,000 or more	1	1	1	1	1	1	1
23,000 - 52,999	1	1	1	2	2	2	2
15,000 - 22,999	1	1	2	2	2	3	3
12,000 - 14,999	1	1	2	2	2	3	3
10,000 - 11,999	1	1	2	2	3	3	3
8,000 - 9,999	1	1	2	3	3	3	3
6,000 - 7,999	1	2	2	3	3	4	4
5,000 - 5,999	1	2	2	3	3	4	4
4,000 - 4,999	1	2	3	3	3	4	4
3,000 - 3,999	1	2	3	3	3	4	4
2,000 - 2,999	1	2	3	3	4	5	5
1,000 - 1,999	1	3	3	3	4	5	5
500 - 999	1	3	4	4	4	5	5
200 - 499	1	3	4	4	5	5	6
50 - 199	1	3	4	5	5	6	6
0 - 49	1	3	6	6	6	6	6

Notes: Table from Ontario Regulation 239/02 Minimum Maintenance Standards for Municipal Highways (Updated May 3, 2018)

Highway classification values are used in determining the minimum maintenance standards. Maintenance standards include patrolling frequency, weather maintenance (snow and ice removals), roadway maintenance needs (pot holes, cracks, shoulder drop offs), sign and luminaire inspections.

The road classifications were assessed throughout the Municipality and are present on Figure B-2 which is found in Appendix B-2. This assessment was performed based on the traffic volume data provided by the Municipality.

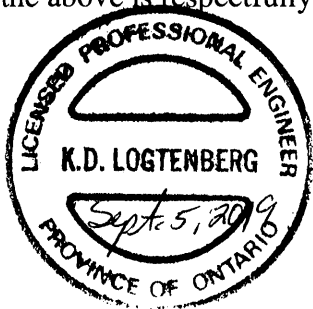
10.0 UPDATING THE PLAN

As outlined in the M.T.O. Manual, road management is an ongoing process requiring an annual review of the Municipality's accomplishments, which is a measure of road improvements and the identification of any new needs not originally determined.

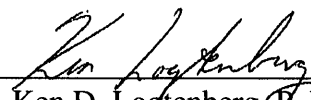
After each year of the study, the Municipality should compare the completed road program to that recommended in this report and make the appropriate adjustments. Changes would result because of a deviation from the original plan, where some work was not done because of other critical work or where additional work was accomplished. Furthermore, the condition rating forecast may be adjusted for some roads that did not perform as expected. These conditions will be noticed by the manager or work crews during the year, while carrying out their normal work activities.

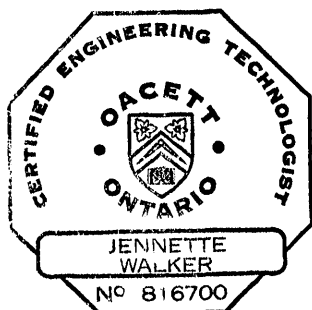
It is recommended that every fifth year, the total road system should again be reviewed to establish updated condition ratings and prepare a current needs assessment report. It is also recommended that a list of all improvements be maintained by annually updating the road inventory sheets. Data containing updated information will be useful when determining the most appropriate method of road rehabilitation in the future.

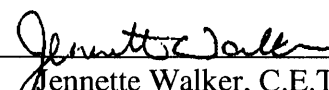
All of the above is respectfully submitted.



B. M. ROSS AND ASSOCIATES LIMITED

Per 
Ken D. Logtenberg, P. Eng.



Per 
Jennette Walker, C.E.T.

:hv

APPENDIX A-1

INVENTORY SUMMARY SHEET SORTED BY ROAD SECTION NUMBER

**Appendix A1 - Inventory Summary Sheet
Sorted by Road Section Number**

**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Road Surface Rating
16	CONCESSION 8	SDR 10	Bruce Rd 19	2046	Rural	HCB - 1 lift	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.5	8
20	SIDEROAD 10 SOUTH	Con 6	Con 4	2055	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	10
21	CONCESSION 6 EAST	SDR 10	Bruce Rd 19	2046	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	7
34	CONCESSION 4 EAST BRANT	East of River	SDR 10	1667	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
35	CONCESSION 10 BRANT	SDR 5 Brant	0.4 km east of SDR 5 Brant	412	Rural	LCB - 2 lifts	8.0	6.0	200-499	Local Traffic	6.0	8
36	CONCESSION 12	SDR 5	Cty Rd 19	4077	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
37	BRANT-ELDERSLIE	SDR 10	Cty Rd 19	2054	Rural	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	8
38	CONCESSION 14 EAST	SDR 10	Cty Rd 19	2044	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
40	CONCESSION 10 GREENOCK	Bruce Rd 1	SDR 30	243	Rural	Gravel	7.5	5.5	0-49	Local Traffic	7.0	8
41	CONCESSION 4 WEST GREENOCK	Bruce Rd 1	easterly for .5 km to end	895	Rural	Gravel	6.0	4.0	0-49	Local Traffic	6.5	8
42	YOUNG'S RD	Bruce Rd 1	Con 6	2190	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
43	CONCESSION 8 WEST	Bruce Rd 1	SDR 30	1966	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
44	SCHMIDT LAKE RD	SDR 5	1.4 km west of SDR5	1430	Rural	LCB - 2 lifts	7.5	6.0	50-199	Local Traffic	7.0	7
50	CONCESSION 14	SDR 5	Baseline South	2044	Rural	LCB - 2 lifts	8.0	6.0	200-499	Local Traffic	7.5	7
51	SIDEROAD 5 GREENOCK	Con 14	Bruce Rd 15	2036	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.0	7
52	CONCESSION 16	SDR 5	Baseline South	2058	Rural	Gravel	8.5	7.0	0-49	Local Traffic	8.0	8
63	CONCESSION 4 EAST GREENOCK	Cty Rd 20	SDR 5	4072	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
65	CONCESSION 10 GREENOCK	Cty Rd 20	SDR 5	4169	Rural	LCB - 2 lifts	8.5	6.0	200-499	Trucks/Farm Equipment	6.0	7
68	CONCESSION 2	Cty Rd 20	Austin Sideroad	2040	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
69	CONCESSION 18	SDR 5	Baseline North	1976	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
114	CONCESSION 10 GREENOCK	SDR 20 North Greenock	Bruce Road 20	2045	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.0	7
115	CULROSS-GREENOCK WEST	SDR 25	east end	1009	Rural	Gravel	7.5	5.5	50-199	Local Traffic	7.0	8
117	CONCESSION 18	Bruce Rd 1	SDR 10	2164	Rural	Gravel	6.5	5.5	0-49	Local Traffic	6.0	7
118	CONCESSION 16	SDR 15	SDR 10	2154	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
119	SIDEROAD 15 GREENOCK	Con 16	Bruce Rd 20	356	Rural	Gravel	7.5	5.5	0-49	Local Traffic	7.5	8
120	CONCESSION 2	SDR 25	barricade at former bridge	870	Rural	Gravel	0.0	0.0	0-49	Local Traffic	0.0	0
122	CONCESSION 14	SDR 20 North Greenock	Cty Rd 20	2092	Rural	Gravel	5.0	4.5	50-199	Local Traffic	6.0	7
123	GAMBLE RD	SDR 20 North Greenock	Bruce Rd 20	2053	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8

**Appendix A1 - Inventory Summary Sheet
Sorted by Road Section Number**

**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Road Surface Rating
124	EGYPT SIDEROAD	Egypt SdRd	easterly along Culross-Greenock	450	Rural	Gravel	6.0	4.5	0-49	Local Traffic	6.0	7
125	EGYPT SIDEROAD	Hwy 9	Culross - Greenock	1835	Rural	Gravel	6.0	4.5	0-49	Local Traffic	6.0	7
127	SIDEROAD 25	Hwy 9	Culross-Greenock	1159	Rural	Gravel	7.5	5.5	50-199	Local Traffic	7.0	8
130	CONCESSION 18	Cty Rd 1	SDR 15	32	Rural	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	8.0	8
131	SIDEROAD 15 GREENOCK	Con 18	Con 16	1037	Rural	Gravel	7.5	5.5	0-49	Local Traffic	7.5	8
132	CONCESSION 8 WEST	SDR 30	East	1102	Rural	Gravel	5.0	4.5	0-49	Local Traffic	6.0	6
135	HERD'S SIDEROAD	Herd's Sideroad	South End	1593	Rural	Gravel	4.5	3.5	0-49	Local Traffic	5.5	7
136	SIDEROAD 30	Con 6	Southerly Point	1094		Gravel	0.0		0-49			0
137	SIDEROAD 30	Conc 8	Conc 6	2045	Rural	Gravel	7.5	5.5	50-199	Local Traffic	7.5	8
138	SIDEROAD 30	Con 10	Conc 8	2020	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
139	SIDEROAD 30	Bruce Rd 1	Con 10	278	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
140	SIDEROAD 25	Conc 2	north end	209		Gravel	0.0		0-49			0
141	CONCESSION 14	Bruce Rd 1	SDR 20 North Greenock	813	Rural	Gravel	6.0	5.0	0-49	Local Traffic	7.5	8
142	SIDEROAD 20 NORTH GREENOCK	Con 14	Gamble Rd	1033	Rural	Gravel	5.0	4.0	0-49	Local Traffic	6.0	7
143	SIDEROAD 20 NORTH GREENOCK	Bruce Rd 1	Con 14	935	Rural	Gravel	5.0	4.0	0-49	Local Traffic	6.0	7
145	GAMBLE RD	Bruce Rd 15	SDR 20 North Greenock	1119	Rural	Gravel	6.5	4.5	0-49	Local Traffic	7.0	8
149	SIDEROAD 20 NORTH GREENOCK	Gamble Rd	Bruce Rd 15	1021	Rural	Gravel	5.0	4.0	0-49	Local Traffic	6.0	7
150	CONCESSION 10 GREENOCK	SDR 30	SDR 20 North Greenock	4117	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.0	8
151	SIDEROAD 25	Con 2 NDR	Hwy 9	2042	Rural	Gravel	0.0		0-49	Local Traffic		0
152	SIDEROAD 20 NORTH GREENOCK	Bruce Rd 15	Con 10	2050	Rural	Gravel	8.0	5.5	0-49	Local Traffic	7.5	8
165	SIDEROAD 5 GREENOCK	Con 16	Con 14	2041	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.0	7
167	BRUCE-GREENOCK NORTH	SDR 5	Conc 12	912	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
168	SIDEROAD 5 GREENOCK	Conc 22	Bruce-Greenock N	370	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
176	CONCESSION 2	SDR 20	Cty Rd 20	2031	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
179	MELVIN ST	Union St.	High St., Riversdale	94	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	7
180	MELVIN ST	Union St.	east end	63		Gravel	0.0		0-49			0
181	HIGH ST	Melvin St.	Hwy 9., Riversdale	201	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.0	7

**Appendix A1 - Inventory Summary Sheet
Sorted by Road Section Number**

**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Road Surface Rating
183	UNION ST N	Melvin St.	Hwy 9, Riversdale	201	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.0	7
184	UNION ST S	Hwy 9	150m south of Hwy 9	150	Semi-Urban	LCB - 2 lifts	7.0	5.0	0-49	Local Traffic	7.0	7
185	SIDEROAD 20 SOUTH GREENOCK	Con 2 NDR	Bridge St.	1565	Rural	Gravel	8.5	6.0	50-199	Local Traffic	7.5	8
186	BRIDGE ST	Union St N	SDR 20	218	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	7
187	UNION ST N	Bridge St	Melvin St, Riversdale	277	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	7
190	MOSCOW SIDEROAD	Hwy 9	Culross-Greenock	1033	Rural	Gravel	7.0	5.5	0-49	Local Traffic	7.0	8
200	SIDEROAD 5 GREENOCK	Con 22	Bruce Rd 1	2054	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.0	8
201	SIDEROAD 5 GREENOCK	Bruce Rd 1	Con 18	2044	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	9
202	CONCESSION 18	SDR 10	SDR 5	2078	Rural	Gravel	6.5	5.5	50-199	Local Traffic	6.0	7
203	SIDEROAD 10	Con 18	Con 16	1033	Rural	Gravel	6.0	4.5	0-49	Local Traffic	6.5	7
204	SIDEROAD 10	Conc 16	south end	164	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.0	8
205	SIDEROAD 10	Bruce Rd 1	Con 18	2054	Rural	Gravel	6.0	4.5	0-49	Local Traffic	6.5	7
208	BRUCE-GREENOCK SOUTH	Bruce Rd 1	Concession Rd 8	166	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
209	BRUCE-GREENOCK SOUTH	Concession Rd 8	Concession Rd 10	1906	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	7
215	CONCESSION 14	Cty Rd 20	SDR 5	4248	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	7
218	SIDEROAD 5 GREENOCK	Con 18	Con 16	1077	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	7.0	7
219	CONCESSION 16	SDR 10	SDR 5	2119	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
271	CONCESSION 2 NDR WEST	Greenock-Brant	Bruce Rd 3	2070	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	7
272	CONCESSION 12	Cty Rd 3	SDR 5	2047	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
274	GREENOCK-BRANT	Con 2	Durham Rd	2046	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	10
276	CONCESSION 14 WEST	Bruce Rd 3	Saugeen River	2081	Rural	Gravel	6.5	4.5	0-49	Local Traffic	6.0	6
282	CONCESSION 6 WEST	Greenock Brant	Bruce Rd 3	2049	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
283	CARGILL RD	Greenock-Brant	0.3km east of Greenock-Brant	291	Semi-Urban	HCB - 2 lifts	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.5	8
286	CONCESSION 2	SDR 5	Greenock-Brant	2967	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	7
287	BRANT-ELDERSLIE	Cty Rd 3	SDR 5	1769	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
291	GREENOCK-BRANT	Bend in Road	Cargill Road	863	Semi-Urban	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	8
292	GREENOCK-BRANT	Con 10	Bend in Road	1253	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	8
293	GREENOCK-BRANT	Conc 6	Bend in Road	1775	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	9

**Appendix A1 - Inventory Summary Sheet
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Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Road Surface Rating
294	GREENOCK-BRANT	Bend in Road	Cargill Road	327	Semi-Urban	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	9
305	HILL ST	Cty Rd 15	south end	104	Semi-Urban	HCb - 2 lifts	9.0	6.7	0-49	Local Traffic	8.5	8
312	GREENOCK-ELDERSLIE	Conc 18	Conc 20	2032	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	6
313	CONCESSION 20	Baseline North	Greenock-Elderslie	1032	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
314	WILKINSON LN	Conc 22	north end	132		Gravel	0.0		0-49			0
344	CONCESSION 10 GREENOCK	SDR 5	0.15 km west of Greenock/Brant	2825	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	8
346	AUSTIN SIDEROAD S	Hwy 9	Con 2 SDR	1029	Rural	Gravel	7.0	5.5	0-49	Local Traffic	7.5	8
347	CONCESSION 2	Austin Sideroad	SDR 5	2044	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
348	SIDEROAD 5 GREENOCK	Con 10	Con 8	2034	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.0	8
349	AUSTIN SIDEROAD N	Con 2 NDR	Hwy 9	2088	Rural	Gravel	6.0	5.0	0-49	Local Traffic	6.0	8
350	SIDEROAD 5 GREENOCK	Bruce Rd 15	Con 10	2041	Rural	HCb - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	7.0	7
351	GREENOCK-BRANT	Cheptow	Conc 6	2044	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	7
352	CARGILL RD	Greenock-Brant	Greenock-Brant	30	Semi-Urban	HCb - 2 lifts	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.5	8
357	CHEPSTOW RD	SDR 5 Greenock	Doerr SDR	2085	Rural	HCb - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	7
359	GREENOCK-BRANT	Con 12	Con 10	2036	Rural	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	7
360	SIDEROAD 5 GREENOCK	Hwy 9	0.4km south of Hwy 9	400	Rural	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	8.5	8
364	CULROSS_GREENOCK EAST	Austin SDR	SDR 5B	1909	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
367	SIDEROAD 5 GREENOCK	Conc 2	Hwy 9	2102	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	9.0	9
368	SIDEROAD 5 GREENOCK	Con 4	Con 2	2048	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	8
369	SIDEROAD 5 GREENOCK	Chepstow Rd	Mill St	115	Semi-Urban	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	8
370	MILL ST	SDR 5	east end	131	Semi-Urban	Gravel	5.0	4.5	0-49	Local Traffic	6.0	7
371	SIDEROAD 5 GREENOCK	Mill St	Conc 4	1904	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	8
372	SIDEROAD 5 GREENOCK	Con 8	Con 6	2037	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	8
373	CONCESSION 14	Baseline South	Banting Line	419	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
374	GREENOCK-BRANT	Brant-Elderslie	Con 12	3142	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
375	CONCESSION 14	Banting Line	Greenock - Brant	508	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
376	BANTING LINE	Con 14	Cty Rd 15	1988	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
379	DONNELLY CR	Cty Rd 15	Cty Rd 15	246	Semi-Urban	HCb - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	7

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382	QUEEN ST BRANT	King St.	Cargill Rd.	330	Urban	HCB - 2 lifts	9.0	6.7	50-199	Local Traffic	8.5	8
383	CARGILL RD	Queen St Brant	King St	61	Urban	HCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	8
384	KING ST	Cargill Rd.	Queen St Brant.	424	Urban	HCB - 2 lifts	9.0	6.7	50-199	Local Traffic	8.5	8
385	CHEPSTOW RD	Doerr SDR	Greenock-Brant	933	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	7
386	CARGILL RD	King St	Greenock-Brant	124	Urban	HCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	8
387	CONCESSION 18	Baseline S	Greenock - Elderslie	928	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
388	CONCESSION 18	Baseline N	Baseline S	100	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
389	BASELINE NORTH	Cty Rd 1	Con 18	2028	Rural	Gravel	7.5	5.5	0-49	Local Traffic	7.5	8
390	BASELINE SOUTH	Con 18	Con 16	1241	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
391	BASELINE SOUTH	Con 16	Con 14	1875	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
394	BRANT-ELDERSLIE	Greenock-Brant	Cty Rd 3	2025	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
403	ZETTEL LN	Cty Rd 15	east end	112	Semi-Urban	HCB - 1 lift	9.0	6.7	0-49	Local Traffic	7.0	7
410	GREENOCK-BRANT	Conc 2	Cheptow	2007	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	7
411	CONCESSION 4 EAST GREENOCK	SDR 5	Greenock-Brant	2971	Rural	LCB - 2 lifts	9.0	6.7	50-199	Trucks/Farm Equipment	8.0	8
412	CONCESSION 12	Greenock-Brant	Cty Rd 3	2029	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.0	7
416	SIDEROAD 5 NORTH	Bend	End	373	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.5	6
417	SIDEROAD 5 NORTH	Brant - Elderslie	Bend	266	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.5	6
418	BRANT-ELDERSLIE	end of east bridge approach	SDR 10	1679	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
419	BRANT-ELDERSLIE	SDR 5	end of east bridge approach	673	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
420	GREENOCK-BRANT	Hwy 9	Durham	2052	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
423	CARRICK-BRANT WEST	0.25km west of Cty Rd 3	Bruce Rd 12	1781	Rural	Earth	4.5	3.0	0-49	Local Traffic	5.0	5
453	SIDEROAD 10 SOUTH	Con 8	Con 6	2057	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	10
454	SIDEROAD 5 SOUTH	Hwy 9	Pletsch Ct	1030	Rural	Gravel	7.5	6.0	50-199	Local Traffic	7.0	8
492	DURHAM RD	Greenock-Brant	Cty Rd 3	2043	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	8
493	CONCESSION 10 BRANT	SDR 5	County Road 3	2058	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	6.5	6
495	SIDEROAD 5 SOUTH	Con 2 NDR W	Bruce Rd 2	2039	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.5	8
499	MAPLE CREEK DR	Cty Rd 3	Woodland Ct	420	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	8
500	CONCESSION 4 WEST BRANT	Bruce Rd 3	SDR 5	2040	Rural	HCB - 1 lift	9.0	6.7	50-199	Trucks/Farm Equipment	7.5	7

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511	CONCESSION 6 WEST	Bruce Rd 3	westerly point of Saugeen River	1608	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
518	SIDEROAD 5 BRANT	Con 12	Con 10	2050	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.5	8
520	MAPLE CREEK DR	Highland Cr	east end	130	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	8
522	MAPLE CREEK DR	Woodland Ct	Highland Cr	116	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	8
523	CONCESSION 4 WEST BRANT	SDR 5	East (ends at River)	73	Rural	Gravel	4.5	3.0	0		5.0	5
524	SIDEROAD 5 SOUTH	Conc 4	north end	771	Rural	Gravel	5.5	4.0	0-49	Local Traffic	5.0	5
533	SIDEROAD 5 SOUTH	Con 4	Con 2 NDR	2042	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	7
534	CONCESSION 14 EAST	Saugeen River	SDR 10	1247	Rural	Gravel	7.0	5.5	0-49	Local Traffic	6.5	7
535	SIDEROAD 10 NORTH	Conc 14	Brant-Elderslie	1055	Rural	Gravel	8.0	6.0	0-49	Local Traffic	6.5	7
545	CONCESSION 6 EAST	Easterly Point of Saugeen River	SDR 10	2205	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
547	CONCESSION 2 NDR WEST	SDR 5	Saugeen River	1076	Rural	LCB - 2 lifts	8.0	6.0	0-49	Local Traffic	7.5	8
548	PLETSCH CT	SDR 5	west end	601	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
549	SIDEROAD 5 SOUTH	Bruce Rd 2	Hwy 9	2042	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	7
550	CONCESSION 8	Cty Rd 3	SDR 10	4185	Rural	HCB - 1 lift	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.0	7
552	CONCESSION 2 SDR	SDR 30	east end	2057	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
556	CONCESSION 4 EAST BRANT	Emke Rd	Bruce Rd 10	1115	Rural	LCB - 2 lifts	9.0	6.7	500-999	Local Traffic	7.0	7
568	PEARL LAKE RD 1	Cty Rd 10	Pearl Lake Rd 2	1408	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.5	8
619	SIDEROAD 20	Cty Rd 4	Conc 2	2044	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
624	CONCESSION 12	SDR 25	SDR 30	2010	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	7
625	SIDEROAD 25 NORTH	Con 12	Con 10	2070	Rural	Gravel	7.5	5.7	50-199	Local Traffic	7.5	8
628	CONCESSION 2 NDR EAST	SDR 20	SDR 25	2041	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	7
629	CONCESSION 4 EAST BRANT	SDR 20	SDR 25	2043	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.0	7
630	CONCESSION 14 EAST	SDR 25	SDR 30	2009	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.0	8
638	CONCESSION 8	SDR 20	SDR 25	2035	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	9
639	CONCESSION 2 SDR	SDR 15	SDR 20	2043	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	7
640	CONCESSION 6 EAST	SDR 20	SDR 25	2038	Rural	Gravel	9.0	7.0	50-199	Local Traffic	8.5	8
642	CONCESSION 10 BRANT	SDR 20	SDR 25	2039	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	8
643	KINGMA CT	SDR 15	west end	721	Rural	Gravel	7.0	5.0	0-49	Local Traffic	8.0	8

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644	SIDEROAD 15 BRANT	Con 2 SDR	Carrick Boundary	1068	Rural	Gravel	7.0	5.0	0-49	Local Traffic	8.0	9
665	SIDEROAD 20	Con 4	Con 2	2065	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
666	SIDEROAD 25 NORTH	Bruce Rd 19	Con 14	1163	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
667	SIDEROAD 25 NORTH	Con 14	Con 12	2038	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
701	SIDEROAD 20	Con 8	Con 6	2048	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
704	CONCESSION 2 NDR EAST	SDR 10	Bruce Rd 19	2022	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
705	CONCESSION 10 BRANT	Cty Rd 19	SDR 20	2059	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.0	7
716	CARRICK-BRANT EAST	Hwy 9	east end	830	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
719	SIDEROAD 10 SOUTH	Con 2	Brant-Walkerton Road	1011	Rural	HCB - 1 lift	9.0	6.7	1000-1999	Trucks/Farm Equipment	9.0	10
720	BRANT-WALKERTON	SDR 10	east end	810	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	9
721	SIDEROAD 10 SOUTH	Tom King Rd	Con 2 NDR East	1013	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	10
722	TOM KING RD	Tom King Road	West End	401	Rural	Gravel	7.0	5.0	0-49	Local Traffic	8.5	9
723	CONCESSION 4 EAST BRANT	SDR 10	Bruce Rd 19	2040	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.0	7
724	SIDEROAD 10 SOUTH	Con 4 East Brant	Tom King Rd	1047	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	10
728	SIDEROAD 20	Con 12	Con 10	2081	Rural	Gravel	7.5	5.7	0-49	Local Traffic	6.0	7
731	CONCESSION 6 EAST	Bruce Rd 19	SDR 20	2038	Rural	Gravel	9.0	7.0	50-199	Local Traffic	8.5	8
732	CONCESSION 8	Bruce Rd 19	SDR 20	2052	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
733	CONCESSION 2 SDR	Saugeen River	SDR 15	1396	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
734	SIDEROAD 15 BRANT	Bruce Rd 4	Con 2 SDR	2043	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	8
735	SIDEROAD 20	Con 10	Con 8	2041	Rural	Gravel	7.5	5.7	200-499	Local Traffic	7.0	8
738	SIDEROAD 20 NORTH BRANT	Bruce Rd 19	Con 14	1157	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	7
739	SIDEROAD 20 NORTH BRANT	Con 14	Con 12	2038	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	7
741	CONCESSION 14 EAST	Cty Rd 19	SDR 20 North Brant	2053	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
743	SIDEROAD 15 NORTH	Bruce Rd 19	Brant-Elderslie	136	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	8
751	SIDEROAD 20	Con 6	Con 4	2053	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
752	CONCESSION 12	SDR 20	SDR 25	2044	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	7
753	CONCESSION 4 EAST BRANT	Bruce Rd 19	SDR 20	2034	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	6.0	6
755	CONCESSION 2 NDR EAST	Bruce Rd 19	SDR 20	2043	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	8.5	8
759	CONCESSION 14 EAST	SDR 20	SDR 25	2049	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8

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760	SIDEROAD 30 SOUTH	Saugeen River	Con 2 SDR	1630	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	9
765	EMKE RD	Con 4	south end	312	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
766	LAKE ROSALIND RD 5	Lake Rosalind Rd 5A	north end	408	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.0	6
767	LAKE ROSALIND RD 4	Lake Rosalind Rd 4A	West End	225	Semi-Urban	HCB - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	8
768	LAKE ROSALIND RD 5	SDR 30 N	Lake Rosalind Rd 5A	483	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.0	6
769	MARL LAKE RD 7	Marl Lake Road 7	South End	684	Semi-Urban	HCB - 1 lift	5.5	4.5	50-199	Local Traffic	8.5	9
774	LAKE ROSALIND RD 5A	Lake Rosalind Rd 5	south end	68	Semi-Urban	Gravel	7.0	6.0	0-49	Local Traffic	7.0	8
776	MARL LAKE RD 8	Marl Lake Rd 8	South End	932	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	9.0	9
777	LAKE ROSALIND RD 4	Marl Lakes Rd.	Lake Rosalind Rd 4A	893	Semi-Urban	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	8
785	CONCESSION 10 BRANT	SDR 30	Cty Rd 10	1223	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	6.0	6
791	SIDEROAD 30 SOUTH	Con 2 SDR	Carrick Boundary	1028	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	7
792	MARL LAKES RD	Lake Rosalind Rd 4	Marl Lake Rd 7	16	Semi-Urban	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	9.0	9
793	MARL LAKES RD	Metzger Dr	Marl Lake Rd 8	71	Semi-Urban	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	9
794	MARL LAKES RD	Marl Lake Rd 7	Metzger Dr	223	Semi-Urban	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	9
795	MARL LAKES RD	Marl Lake Rd 8	Lake Rosalind Rd 1	187	Semi-Urban	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	8
796	DANKERT LAKE RD	Dankert Lake	West	725	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
809	SIDEROAD 30 NORTH	Con 4	Lake Rosalind Rd 5	1069	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
810	SIDEROAD 30 NORTH	Lake Rosalind Rd 5	Con 2 NDR E	1018	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
811	AIRPORT RD	Saugeen Airport Rd	Marl Lakes Rd	94	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
812	SAUGEEN AIRPORT RD	Airport Rd	west end	346		HCB - 1 lift	0.0		0-49			0
815	CONCESSION 6 EAST	Holme Ln	east end	37	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	7
816	SIDEROAD 25 NORTH	Con 10	Con 8	2043	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
817	CONCESSION 8	SDR 25	SDR 30	2026	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	9
818	SIDEROAD 25 NORTH	Con 8	Con 6	2047	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
819	SIDEROAD 30 NORTH	Con 12	Con 10	2039	Rural	LCB - 2 lifts	9.0	6.7	500-999	Local Traffic	7.5	7
820	CONCESSION 2 SDR	SDR 25	Maple Hill Rd	811	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
821	SIDEROAD 25 SOUTH	Con 2 SDR	Carrick Boundary	1025	Rural	Gravel	10.0	8.0	50-199	Local Traffic	8.0	8
823	CONCESSION 6 EAST	SDR 25	SDR 30	2037	Rural	Gravel	9.0	7.0	50-199	Local Traffic	8.5	8
827	SIDEROAD 30 NORTH	Conc 6	Conc 8	2041	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7

**Appendix A1 - Inventory Summary Sheet
Sorted by Road Section Number**

**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Road Surface Rating
829	CONCESSION 2 SDR	SDR 20	SDR 25	2053	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
830	SIDEROAD 20 SOUTH BRANT	S of Saugeen River	Con 2 SDR	1231	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	7
831	SIDEROAD 20 SOUTH BRANT	Con 2 SDR	Carrick Boundary	1032	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	6
832	SIDEROAD 25 NORTH	Con 2	Hwy 4	2042	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.0	7
833	SIDEROAD 25 NORTH	Con 4	Con 2	2073	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
834	SIDEROAD 25 NORTH	Con 6	Con 4	2047	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
840	CONCESSION 10 BRANT	SDR 25	SDR 30	2013	Rural	LCB - 2 lifts	8.7	6.7	200-499	Local Traffic	7.5	8
841	SIDEROAD 30 NORTH	Conc 10	Conc 8	2040	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	7
842	MAPLE HILL RD	Hwy 4	Con 2 SDR	2056	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	7
846	CONCESSION 12	SDR 30	Cty Rd 10	1783	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	7
848	CONCESSION 2 NDR EAST	SDR 25	SDR 30	2034	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	8.0	8
849	CONCESSION 4 EAST BRANT	SDR 25	SDR 30	2041	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
850	PLEASURE VALLEY RD	Bruce Road 4	Bruce Road 4	399	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.0	6
852	SIDEROAD 30 NORTH	Con 6	Con 4	2041	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.0	7
853	CONCESSION 6 EAST	SDR 30	Holme Ln	501	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	7
857	CONCESSION 14 EAST	SDR 30	Cty Rd 10	1789	Rural	Gravel	8.0	6.0	200-499	Local Traffic	7.0	8
858	SIDEROAD 30 NORTH	Con 14	Con 12	2042	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	8.0	8
861	MARL LAKES RD	SDR 30	Lake Rosalind Rd 4	424	Rural	HCB - 1 lift	8.7	6.7	200-499	Local Traffic	9.0	9
862	CONCESSION 4 EAST BRANT	SDR 30 N	Emke Rd	655	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	7
863	AIRPORT RD	Cty Rd 22	Conc. 2 Ndr E	1077	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
865	CONCESSION 2 SDR	Maple Hill Rd	SDR 30	1229	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	6
924	SIDEROAD 30 NORTH	Bruce Rd 19	Con 14	1171	Rural	LCB - 2 lifts	9.0	6.7	500-999	Local Traffic	7.5	7
928	BRUCE-GREENOCK NORTH	Conc 12	Bruce-Saugeen Townline	1114	Rural	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	8.0	7
929	CONCESSION 22	Cty Rd 1	Wilkinson	26	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.5	10
930	CONCESSION 22	Bruce Greenock S	Cty Rd 1	2006	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.5	10
931	CONCESSION 8	SDR 30	Cty Rd 10	1781	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	8.0	8
935	DOERR SIDEROAD	Con 8	Bruce Rd 31	2043	Rural	Gravel	5.5	4.0	0-49	Local Traffic	6.0	6
936	CONCESSION 8 EAST	Doerr SDR	Greenock-Brant	945	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.0	8
937	CONCESSION 8 EAST	SDR 5	Doerr SDR	2038	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8

**Appendix A1 - Inventory Summary Sheet
Sorted by Road Section Number**

**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Road Surface Rating
938	WILLI ST	John Cr.	East	105	Semi-Urban	LCB - 2 lifts	9.0	6.7	0-49	Local Traffic	8.5	8
939	JOHN CR	Con 6	Willi St, Chepstow	109	Semi-Urban	HCb - 1 lift	9.0	7.0	50-199	Local Traffic	8.5	8
940	JOHN CR	Willi	Con 6, Chepstow	516	Semi-Urban	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	7
941	ANN ST	Concession 6	South End	51	Semi-Urban	HCb - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	8
942	CONCESSION 6	John Cr	SDR 5 Greenock	282	Urban	HCb - 2 lifts	9.0	6.7	500-999	Local Traffic	7.5	7
943	CONCESSION 6	John Cr	Ann St	261	Rural	HCb - 2 lifts	9.0	6.7	500-999	Local Traffic	7.5	7
944	CONCESSION 6	Bruce Rd 20	John Cr	3484	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	6.5	7
945	CHEPSTOW RD	Con 4 - Greenock Brant	Bruce Rd 3 (Chepstow Rd)	2087	Rural	HCb - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	7
946	CONCESSION 6	Con 6 - SDR 30	Bruce Rd 20	6163	Rural	Gravel	7.5	5.5	50-199	Local Traffic	7.0	8
947	CONCESSION 6	Young's Rd	SDR 30	822	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
948	CONCESSION 6	Bruce Rd 1	Young's Rd	1218	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
1103	PARKER ST	Dirstein Street S	Main St S	119	Semi-Urban	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	6
1104	DIRSTIEN ST S	Dirstein Street S. - Parker St.	Firehall	287	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
1105	DIRSTIEN ST S	Queen	Parker	210	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
1106	QUEEN ST W	Conc 10 - town limit	Dirstien	441	Urban	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	6.0	6
1107	QUEEN ST W	Dirstien	Main St	118	Urban	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	6.0	6
1108	DIRSTIEN ST N	David	north end	72	Semi-Urban	LCB - 2 lifts	9.0	6.7	0-49	Local Traffic	7.5	6
1109	DIRSTIEN ST N	Queen	David	138	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
1110	DAVID ST	Dirstien St N	west end	66	Semi-Urban	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	6
1111	DAVID ST	Dirstien St N	Main St N	117	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
1112	CHURCH ST W	Main St N	west end	75	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
1261	WELLINGTON ST	Bruce Rd 1	Balaklava St. (Paisley)	211	Semi-Urban	HCb - 1 lift	9.0	6.7	0-49	Local Traffic	8.5	7
1262	WELLINGTON ST	Balaklava St	End (Paisley)	217	Semi-Urban	HCb - 1 lift	9.0	6.7	0-49	Local Traffic	8.5	7
1779	LAKE ROSALIND RD 4A	Lake Rosalind Rd 4	North End	74	Semi-Urban	HCb - 1 lift	7.0	6.0	0-49	Local Traffic	7.5	8
1780	BRUCE-SAUGEEN TOWNLINE	Conc A	Paisley Boundary	1030	Rural	HCb - 1 lift	10.0	7.5	500-999	Trucks/Farm Equipment	8.5	8
1781	CONCESSION A	Bruce-Saugeen Townline	north end	495	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
1782	BRUCE-SAUGEEN TOWNLINE	Bruce-Greenock N	Conc A	672	Rural	HCb - 1 lift	10.0	7.5	500-999	Trucks/Farm Equipment	8.5	8
2399	SILVER LAKE RD	Highway 9	South End	204		Gravel	0.0		0-49			0
2607	BRUCE-GREENOCK SOUTH	Concession Rd 10	SDR 5	1015	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	7

**Appendix A1 - Inventory Summary Sheet
Sorted by Road Section Number**

**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Road Surface Rating
6293	MARL LAKES RD	Lake Rosalind Rd 1	Cty Rd 22	242	Semi-Urban	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	8
6550	CONCESSION 6	Ann St	John Cr	13	Urban	HCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
6739	LAKE ROSALIND RD 2	Lake Rosalind Rd 2A	south end	93	Semi-Urban	HCB - 1 lift	8.7	6.7	0-49	Local Traffic	7.5	9
6740	LAKE ROSALIND RD 1	Marl Lakes Rd.	Lake Rosalind Rd 2A	200	Semi-Urban	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	9
6741	LAKE ROSALIND RD 1	Lake Rosalind Rd 2	Lake Rosalind Rd 6	1224	Semi-Urban	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	9
6742	LAKE ROSALIND RD 6	Lake Rosalind Rd 1	south end	234	Semi-Urban	HCB - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	9
6743	LAKE ROSALIND RD 1	Lake Rosalind Rd 2A	Lake Rosalind Rd 2	65	Semi-Urban	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	9
6744	LAKE ROSALIND RD 2	Lake Rosalind Rd 1	Lake Rosalind Rd 2A	366	Semi-Urban	HCB - 1 lift	8.7	6.7	50-199	Local Traffic	7.5	9
6745	LAKE ROSALIND RD 2A	Lake Rosalind Rd 1	Lake Rosalind Rd 2	215	Semi-Urban	HCB - 1 lift	8.7	6.7	50-199	Local Traffic	7.5	9
6746	LAKE ROSALIND RD 6	Lake Rosalind Rd 1	north end	151	Semi-Urban	HCB - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	9
6748	CONCESSION 12	Cty Rd 19	SDR 20 North Brant	1933	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	9
6749	CONCESSION 12	Cty Rd 19	SDR 20 North Brant	123	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.0	9
6752	CONCESSION 2 NDR WEST	Cty Rd 3	SDR 5	2042	Rural	HCB - 1 lift	9.0	6.7	50-199	Trucks/Farm Equipment	8.5	9
6760	CULROSS_GREENOCK EAST	SDR 5B	SDR 5	117	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
6761	CONCESSION 10 BRANT	0.4 km east of SDR 5 Brant	0.35 km east of bridge	2738	Rural	Gravel	8.0	6.0	200-499	Local Traffic	7.0	7
6762	CONCESSION 10 BRANT	0.35 km east of bridge	Bruce Rd 19	917	Rural	Gravel	9.0	6.5	200-499	Local Traffic	8.5	8
6763	SCHMIDT LAKE RD	1.4 km west of SDR5	west end	1433	Rural	Gravel	5.5	4.5	50-199	Local Traffic	7.0	8
6764	UNION ST S	150m south of Hwy 9	south end	139	Semi-Urban	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
6765	CARGILL RD	0.3km east of Greenock-Brant	Cty Rd 3	1546	Rural	HCB - 1 lift	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.5	8
6766	SIDEROAD 5 GREENOCK	0.4km south of Hwy 9	Culross-Grennock East	639	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
6767	CARRICK-BRANT WEST	Cty Rd 3	0.25km west of Cty Rd 3	258	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
6768	CONCESSION 2	SDR 20	barricade at former bridge	1097	Rural	Gravel	6.5	5.5	0-49	Local Traffic	7.0	8
6769	CONCESSION 10 GREENOCK	0.15 km west of Greenock/Brant	Queen St Brant	149	Urban	HCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	7

APPENDIX A-2

**INVENTORY SUMMARY SHEET
SORTED BY ROAD NAME**

**Appendix A2 - Inventory Summary Sheet
Sorted by Road Name**

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**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
863	AIRPORT RD	Cty Rd 22	Conc. 2 Ndr E	1077	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
811	AIRPORT RD	Saugeen Airport Rd	Marl Lakes Rd	94	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
941	ANN ST	Concession 6	South End	51	Semi-Urban	HCb - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	8
349	AUSTIN SIDEROAD N	Con 2 NDR	Hwy 9	2088	Rural	Gravel	6.0	5.0	0-49	Local Traffic	6.0	8
346	AUSTIN SIDEROAD S	Hwy 9	Con 2 SDR	1029	Rural	Gravel	7.0	5.5	0-49	Local Traffic	7.5	8
376	BANTING LINE	Con 14	Cty Rd 15	1988	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
389	BASELINE NORTH	Cty Rd 1	Con 18	2028	Rural	Gravel	7.5	5.5	0-49	Local Traffic	7.5	8
391	BASELINE SOUTH	Con 16	Con 14	1875	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
390	BASELINE SOUTH	Con 18	Con 16	1241	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
287	BRANT-ELDERSLIE	Cty Rd 3	SDR 5	1769	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
419	BRANT-ELDERSLIE	SDR 5	end of east bridge approach	673	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
418	BRANT-ELDERSLIE	end of east bridge approach	SDR 10	1679	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
394	BRANT-ELDERSLIE	Greenock-Brant	Cty Rd 3	2025	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
37	BRANT-ELDERSLIE	SDR 10	Cty Rd 19	2054	Rural	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	8
720	BRANT-WALKERTON	SDR 10	east end	810	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	9
186	BRIDGE ST	Union St N	SDR 20	218	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	7
928	BRUCE-GREENOCK NORTH	Conc 12	Bruce-Saugeen Townline	1114	Rural	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	8.0	7
167	BRUCE-GREENOCK NORTH	SDR 5	Conc 12	912	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
209	BRUCE-GREENOCK SOUTH	Concession Rd 8	Concession Rd 10	1906	Rural	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	7
2607	BRUCE-GREENOCK SOUTH	Concession Rd 10	SDR 5	1015	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	7
208	BRUCE-GREENOCK SOUTH	Bruce Rd 1	Concession Rd 8	166	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
1782	BRUCE-SAUGEEN TOWNLINE	Bruce-Greenock N	Conc A	672	Rural	HCb - 1 lift	10.0	7.5	500-999	Trucks/Farm Equipment	8.5	8
1780	BRUCE-SAUGEEN TOWNLINE	Conc A	Paisley Boundary	1030	Rural	HCb - 1 lift	10.0	7.5	500-999	Trucks/Farm Equipment	8.5	8
386	CARGILL RD	King St	Greenock-Brant	124	Urban	HCb - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	8
352	CARGILL RD	Greenock-Brant	Greenock-Brant	30	Semi-Urban	HCb - 2 lifts	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.5	8
383	CARGILL RD	Queen St Brant	King St	61	Urban	HCb - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	8
6765	CARGILL RD	0.3km east of Greenock-Brant	Cty Rd 3	1546	Rural	HCb - 1 lift	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.5	8
283	CARGILL RD	Greenock-Brant	0.3km east of Greenock-Brant	291	Semi-Urban	HCb - 2 lifts	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.5	8

**Appendix A2 - Inventory Summary Sheet
Sorted by Road Name**

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**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
716	CARRICK-BRANT EAST	Hwy 9	east end	830	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
6767	CARRICK-BRANT WEST	Cty Rd 3	0.25km west of Cty Rd 3	258	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
423	CARRICK-BRANT WEST	0.25km west of Cty Rd 3	Bruce Rd 12	1781	Rural	Earth	4.5	3.0	0-49	Local Traffic	5.0	5
945	CHEPSTOW RD	Con 4 - Greenock Brant	Bruce Rd 3 (Chepstow Rd)	2087	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	7
385	CHEPSTOW RD	Doerr SDR	Greenock-Brant	933	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	7
357	CHEPSTOW RD	SDR 5 Greenock	Doerr SDR	2085	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	7
1112	CHURCH ST W	Main St N	west end	75	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
493	CONCESSION 10 BRANT	SDR 5	County Road 3	2058	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	6.5	6
642	CONCESSION 10 BRANT	SDR 20	SDR 25	2039	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	8
6761	CONCESSION 10 BRANT	0.4 km east of SDR 5 Brant	0.35 km east of bridge	2738	Rural	Gravel	8.0	6.0	200-499	Local Traffic	7.0	7
35	CONCESSION 10 BRANT	SDR 5 Brant	0.4 km east of SDR 5 Brant	412	Rural	LCB - 2 lifts	8.0	6.0	200-499	Local Traffic	6.0	8
6762	CONCESSION 10 BRANT	0.35 km east of bridge	Bruce Rd 19	917	Rural	Gravel	9.0	6.5	200-499	Local Traffic	8.5	8
785	CONCESSION 10 BRANT	SDR 30	Cty Rd 10	1223	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	6.0	6
840	CONCESSION 10 BRANT	SDR 25	SDR 30	2013	Rural	LCB - 2 lifts	8.7	6.7	200-499	Local Traffic	7.5	8
705	CONCESSION 10 BRANT	Cty Rd 19	SDR 20	2059	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.0	7
150	CONCESSION 10 GREENOCK	SDR 30	SDR 20 North Greenock	4117	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.0	8
65	CONCESSION 10 GREENOCK	Cty Rd 20	SDR 5	4169	Rural	LCB - 2 lifts	8.5	6.0	200-499	Trucks/Farm Equipment	6.0	7
40	CONCESSION 10 GREENOCK	Bruce Rd 1	SDR 30	243	Rural	Gravel	7.5	5.5	0-49	Local Traffic	7.0	8
114	CONCESSION 10 GREENOCK	SDR 20 North Greenock	Bruce Road 20	2045	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.0	7
344	CONCESSION 10 GREENOCK	SDR 5	0.15 km west of Greenock/Brant	2825	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	8
6769	CONCESSION 10 GREENOCK	0.15 km west of Greenock/Brant	Queen St Brant	149	Urban	HCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	7
412	CONCESSION 12	Greenock-Brant	Cty Rd 3	2029	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.0	7
6749	CONCESSION 12	Cty Rd 19	SDR 20 North Brant	123	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.0	9
6748	CONCESSION 12	Cty Rd 19	SDR 20 North Brant	1933	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	9
624	CONCESSION 12	SDR 25	SDR 30	2010	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	7
36	CONCESSION 12	SDR 5	Cty Rd 19	4077	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
752	CONCESSION 12	SDR 20	SDR 25	2044	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	7
846	CONCESSION 12	SDR 30	Cty Rd 10	1783	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	7

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Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
272	CONCESSION 12	Cty Rd 3	SDR 5	2047	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
50	CONCESSION 14	SDR 5	Baseline South	2044	Rural	LCB - 2 lifts	8.0	6.0	200-499	Local Traffic	7.5	7
215	CONCESSION 14	Cty Rd 20	SDR 5	4248	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	7
122	CONCESSION 14	SDR 20 North Greenock	Cty Rd 20	2092	Rural	Gravel	5.0	4.5	50-199	Local Traffic	6.0	7
375	CONCESSION 14	Banting Line	Greenock - Brant	508	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
141	CONCESSION 14	Bruce Rd 1	SDR 20 North Greenock	813	Rural	Gravel	6.0	5.0	0-49	Local Traffic	7.5	8
373	CONCESSION 14	Baseline South	Banting Line	419	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
857	CONCESSION 14 EAST	SDR 30	Cty Rd 10	1789	Rural	Gravel	8.0	6.0	200-499	Local Traffic	7.0	8
741	CONCESSION 14 EAST	Cty Rd 19	SDR 20 North Brant	2053	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
534	CONCESSION 14 EAST	Saugeen River	SDR 10	1247	Rural	Gravel	7.0	5.5	0-49	Local Traffic	6.5	7
759	CONCESSION 14 EAST	SDR 20	SDR 25	2049	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
630	CONCESSION 14 EAST	SDR 25	SDR 30	2009	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.0	8
38	CONCESSION 14 EAST	SDR 10	Cty Rd 19	2044	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
276	CONCESSION 14 WEST	Bruce Rd 3	Saugeen River	2081	Rural	Gravel	6.5	4.5	0-49	Local Traffic	6.0	6
118	CONCESSION 16	SDR 15	SDR 10	2154	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
52	CONCESSION 16	SDR 5	Baseline South	2058	Rural	Gravel	8.5	7.0	0-49	Local Traffic	8.0	8
219	CONCESSION 16	SDR 10	SDR 5	2119	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
130	CONCESSION 18	Cty Rd 1	SDR 15	32	Rural	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	8.0	8
117	CONCESSION 18	Bruce Rd 1	SDR 10	2164	Rural	Gravel	6.5	5.5	0-49	Local Traffic	6.0	7
69	CONCESSION 18	SDR 5	Baseline North	1976	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
202	CONCESSION 18	SDR 10	SDR 5	2078	Rural	Gravel	6.5	5.5	50-199	Local Traffic	6.0	7
388	CONCESSION 18	Baseline N	Baseline S	100	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
387	CONCESSION 18	Baseline S	Greenock - Elderslie	928	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
176	CONCESSION 2	SDR 20	Cty Rd 20	2031	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
68	CONCESSION 2	Cty Rd 20	Austin Sideroad	2040	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
120	CONCESSION 2	SDR 25	barricade at former bridge	870	Rural	Gravel	0.0	0.0	0-49	Local Traffic	0.0	0
347	CONCESSION 2	Austin Sideroad	SDR 5	2044	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
286	CONCESSION 2	SDR 5	Greenock-Brant	2967	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	7
6768	CONCESSION 2	SDR 20	barricade at former bridge	1097	Rural	Gravel	6.5	5.5	0-49	Local Traffic	7.0	8
755	CONCESSION 2 NDR EAST	Bruce Rd 19	SDR 20	2043	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	8.5	8

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Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
848	CONCESSION 2 NDR EAST	SDR 25	SDR 30	2034	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	8.0	8
704	CONCESSION 2 NDR EAST	SDR 10	Bruce Rd 19	2022	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
628	CONCESSION 2 NDR EAST	SDR 20	SDR 25	2041	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	7
547	CONCESSION 2 NDR WEST	SDR 5	Saugeen River	1076	Rural	LCB - 2 lifts	8.0	6.0	0-49	Local Traffic	7.5	8
271	CONCESSION 2 NDR WEST	Greenock-Brant	Bruce Rd 3	2070	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	7
6752	CONCESSION 2 NDR WEST	Cty Rd 3	SDR 5	2042	Rural	HCB - 1 lift	9.0	6.7	50-199	Trucks/Farm Equipment	8.5	9
865	CONCESSION 2 SDR	Maple Hill Rd	SDR 30	1229	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	8.5	6
829	CONCESSION 2 SDR	SDR 20	SDR 25	2053	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
552	CONCESSION 2 SDR	SDR 30	east end	2057	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
733	CONCESSION 2 SDR	Saugeen River	SDR 15	1396	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
639	CONCESSION 2 SDR	SDR 15	SDR 20	2043	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	7
820	CONCESSION 2 SDR	SDR 25	Maple Hill Rd	811	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
313	CONCESSION 20	Baseline North	Greenock-Elderslie	1032	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
930	CONCESSION 22	Bruce Greenock S	Cty Rd 1	2006	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.5	10
929	CONCESSION 22	Cty Rd 1	Wilkinson	26	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.5	10
723	CONCESSION 4 EAST BRANT	SDR 10	Bruce Rd 19	2040	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.0	7
849	CONCESSION 4 EAST BRANT	SDR 25	SDR 30	2041	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
862	CONCESSION 4 EAST BRANT	SDR 30 N	Emke Rd	655	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	7
753	CONCESSION 4 EAST BRANT	Bruce Rd 19	SDR 20	2034	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	6.0	6
34	CONCESSION 4 EAST BRANT	East of River	SDR 10	1667	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
629	CONCESSION 4 EAST BRANT	SDR 20	SDR 25	2043	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.0	7
556	CONCESSION 4 EAST BRANT	Emke Rd	Bruce Rd 10	1115	Rural	LCB - 2 lifts	9.0	6.7	500-999	Local Traffic	7.0	7
63	CONCESSION 4 EAST GREENOCK	Cty Rd 20	SDR 5	4072	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
411	CONCESSION 4 EAST GREENOCK	SDR 5	Greenock-Brant	2971	Rural	LCB - 2 lifts	9.0	6.7	50-199	Trucks/Farm Equipment	8.0	8
523	CONCESSION 4 WEST BRANT	SDR 5	East (ends at River)	73	Rural	Gravel	4.5	3.0	0		5.0	5

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Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
500	CONCESSION 4 WEST BRANT	Bruce Rd 3	SDR 5	2040	Rural	HCB - 1 lift	9.0	6.7	50-199	Trucks/Farm Equipment	7.5	7
41	CONCESSION 4 WEST GREENOCK	Bruce Rd 1	easterly for .5 km to end	895	Rural	Gravel	6.0	4.0	0-49	Local Traffic	6.5	8
943	CONCESSION 6	John Cr	Ann St	261	Rural	HCB - 2 lifts	9.0	6.7	500-999	Local Traffic	7.5	7
946	CONCESSION 6	Con 6 - SDR 30	Bruce Rd 20	6163	Rural	Gravel	7.5	5.5	50-199	Local Traffic	7.0	8
948	CONCESSION 6	Bruce Rd 1	Young's Rd	1218	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
944	CONCESSION 6	Bruce Rd 20	John Cr	3484	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	6.5	7
947	CONCESSION 6	Young's Rd	SDR 30	822	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.0	8
942	CONCESSION 6	John Cr	SDR 5 Greenock	282	Urban	HCB - 2 lifts	9.0	6.7	500-999	Local Traffic	7.5	7
6550	CONCESSION 6	Ann St	John Cr	13	Urban	HCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
815	CONCESSION 6 EAST	Holme Ln	east end	37	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	7
823	CONCESSION 6 EAST	SDR 25	SDR 30	2037	Rural	Gravel	9.0	7.0	50-199	Local Traffic	8.5	8
640	CONCESSION 6 EAST	SDR 20	SDR 25	2038	Rural	Gravel	9.0	7.0	50-199	Local Traffic	8.5	8
21	CONCESSION 6 EAST	SDR 10	Bruce Rd 19	2046	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	7
545	CONCESSION 6 EAST	Easterly Point of Saugeen River	SDR 10	2205	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
731	CONCESSION 6 EAST	Bruce Rd 19	SDR 20	2038	Rural	Gravel	9.0	7.0	50-199	Local Traffic	8.5	8
853	CONCESSION 6 EAST	SDR 30	Holme Ln	501	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	7
282	CONCESSION 6 WEST	Greenock Brant	Bruce Rd 3	2049	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
511	CONCESSION 6 WEST	Bruce Rd 3	westerly point of Saugeen River	1608	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
817	CONCESSION 8	SDR 25	SDR 30	2026	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	9
16	CONCESSION 8	SDR 10	Bruce Rd 19	2046	Rural	HCB - 1 lift	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.5	8
732	CONCESSION 8	Bruce Rd 19	SDR 20	2052	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	7
931	CONCESSION 8	SDR 30	Cty Rd 10	1781	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	8.0	8
550	CONCESSION 8	Cty Rd 3	SDR 10	4185	Rural	HCB - 1 lift	9.0	6.7	1000-1999	Trucks/Farm Equipment	8.0	7
638	CONCESSION 8	SDR 20	SDR 25	2035	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	9
936	CONCESSION 8 EAST	Doerr SDR	Greenock-Brant	945	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.0	8
937	CONCESSION 8 EAST	SDR 5	Doerr SDR	2038	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
43	CONCESSION 8 WEST	Bruce Rd 1	SDR 30	1966	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
132	CONCESSION 8 WEST	SDR 30	East	1102	Rural	Gravel	5.0	4.5	0-49	Local Traffic	6.0	6

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Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
1781	CONCESSION A	Bruce-Saugeen Townline	north end	495	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
364	CULROSS_GREENOCK	Austin SDR	SDR 5B	1909	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
6760	CULROSS_GREENOCK	SDR 5B	SDR 5	117	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
115	CULROSS-GREENOCK WEST	SDR 25	east end	1009	Rural	Gravel	7.5	5.5	50-199	Local Traffic	7.0	8
796	DANKERT LAKE RD	Dankert Lake	West	725	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
1110	DAVID ST	Dirstien St N	west end	66	Semi-Urban	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	6
1111	DAVID ST	Dirstien St N	Main St N	117	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
1108	DIRSTIEN ST N	David	north end	72	Semi-Urban	LCB - 2 lifts	9.0	6.7	0-49	Local Traffic	7.5	6
1109	DIRSTIEN ST N	Queen	David	138	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
1104	DIRSTIEN ST S	Dirstein Street S. - Parker St.	Firehall	287	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
1105	DIRSTIEN ST S	Queen	Parker	210	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	6
935	DOERR SIDEROAD	Con 8	Bruce Rd 31	2043	Rural	Gravel	5.5	4.0	0-49	Local Traffic	6.0	6
379	DONNELLY CR	Cty Rd 15	Cty Rd 15	246	Semi-Urban	HCb - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	7
492	DURHAM RD	Greenock-Brant	Cty Rd 3	2043	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	8
124	EGYPT SIDEROAD	Egypt SdRd	easterly along Culross-Greenock	450	Rural	Gravel	6.0	4.5	0-49	Local Traffic	6.0	7
125	EGYPT SIDEROAD	Hwy 9	Culross - Greenock	1835	Rural	Gravel	6.0	4.5	0-49	Local Traffic	6.0	7
765	EMKE RD	Con 4	south end	312	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
123	GAMBLE RD	SDR 20 North Greenock	Bruce Rd 20	2053	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
145	GAMBLE RD	Bruce Rd 15	SDR 20 North Greenock	1119	Rural	Gravel	6.5	4.5	0-49	Local Traffic	7.0	8
293	GREENOCK-BRANT	Conc 6	Bend in Road	1775	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	9
374	GREENOCK-BRANT	Brant-Elderslie	Con 12	3142	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
351	GREENOCK-BRANT	Cheptow	Conc 6	2044	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	7
359	GREENOCK-BRANT	Con 12	Con 10	2036	Rural	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	7
294	GREENOCK-BRANT	Bend in Road	Cargill Road	327	Semi-Urban	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	9
420	GREENOCK-BRANT	Hwy 9	Durham	2052	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	8.0	8
410	GREENOCK-BRANT	Conc 2	Cheptow	2007	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	7
292	GREENOCK-BRANT	Con 10	Bend in Road	1253	Rural	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	8
291	GREENOCK-BRANT	Bend in Road	Cargill Road	863	Semi-Urban	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	8
274	GREENOCK-BRANT	Con 2	Durham Rd	2046	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	10
312	GREENOCK-ELDERSLIE	Conc 18	Conc 20	2032	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	6

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135	HERD'S SIDEROAD	Herd's Sideroad	South End	1593	Rural	Gravel	4.5	3.5	0-49	Local Traffic	5.5	7
181	HIGH ST	Melvin St.	Hwy 9., Riversdale	201	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.0	7
305	HILL ST	Cty Rd 15	south end	104	Semi-Urban	HCb - 2 lifts	9.0	6.7	0-49	Local Traffic	8.5	8
940	JOHN CR	Willi	Con 6, Chepstow	516	Semi-Urban	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	8.5	7
939	JOHN CR	Con 6	Willi St, Chepstow	109	Semi-Urban	HCb - 1 lift	9.0	7.0	50-199	Local Traffic	8.5	8
384	KING ST	Cargill Rd.	Queen St Brant.	424	Urban	HCb - 2 lifts	9.0	6.7	50-199	Local Traffic	8.5	8
643	KINGMA CT	SDR 15	west end	721	Rural	Gravel	7.0	5.0	0-49	Local Traffic	8.0	8
6740	LAKE ROSALIND RD 1	Marl Lakes Rd.	Lake Rosalind Rd 2A	200	Semi-Urban	HCb - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	9
6741	LAKE ROSALIND RD 1	Lake Rosalind Rd 2	Lake Rosalind Rd 6	1224	Semi-Urban	HCb - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	9
6743	LAKE ROSALIND RD 1	Lake Rosalind Rd 2A	Lake Rosalind Rd 2	65	Semi-Urban	HCb - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	9
6739	LAKE ROSALIND RD 2	Lake Rosalind Rd 2A	south end	93	Semi-Urban	HCb - 1 lift	8.7	6.7	0-49	Local Traffic	7.5	9
6744	LAKE ROSALIND RD 2	Lake Rosalind Rd 1	Lake Rosalind Rd 2A	366	Semi-Urban	HCb - 1 lift	8.7	6.7	50-199	Local Traffic	7.5	9
6745	LAKE ROSALIND RD 2A	Lake Rosalind Rd 1	Lake Rosalind Rd 2	215	Semi-Urban	HCb - 1 lift	8.7	6.7	50-199	Local Traffic	7.5	9
777	LAKE ROSALIND RD 4	Marl Lakes Rd.	Lake Rosalind Rd 4A	893	Semi-Urban	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	8
767	LAKE ROSALIND RD 4	Lake Rosalind Rd 4A	West End	225	Semi-Urban	HCb - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	8
1779	LAKE ROSALIND RD 4A	Lake Rosalind Rd 4	North End	74	Semi-Urban	HCb - 1 lift	7.0	6.0	0-49	Local Traffic	7.5	8
768	LAKE ROSALIND RD 5	SDR 30 N	Lake Rosalind Rd 5A	483	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.0	6
766	LAKE ROSALIND RD 5	Lake Rosalind Rd 5A	north end	408	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.0	6
774	LAKE ROSALIND RD 5A	Lake Rosalind Rd 5	south end	68	Semi-Urban	Gravel	7.0	6.0	0-49	Local Traffic	7.0	8
6742	LAKE ROSALIND RD 6	Lake Rosalind Rd 1	south end	234	Semi-Urban	HCb - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	9
6746	LAKE ROSALIND RD 6	Lake Rosalind Rd 1	north end	151	Semi-Urban	HCb - 1 lift	9.0	6.7	0-49	Local Traffic	7.5	9
499	MAPLE CREEK DR	Cty Rd 3	Woodland Ct	420	Rural	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	8
522	MAPLE CREEK DR	Woodland Ct	Highland Cr	116	Rural	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	8
520	MAPLE CREEK DR	Highland Cr	east end	130	Rural	HCb - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	8
842	MAPLE HILL RD	Hwy 4	Con 2 SDR	2056	Rural	HCb - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	7
769	MARL LAKE RD 7	Marl Lake Road 7	South End	684	Semi-Urban	HCb - 1 lift	5.5	4.5	50-199	Local Traffic	8.5	9
776	MARL LAKE RD 8	Marl Lake Rd 8	South End	932	Rural	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	9.0	9
792	MARL LAKES RD	Lake Rosalind Rd 4	Marl Lake Rd 7	16	Semi-Urban	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	9.0	9
6293	MARL LAKES RD	Lake Rosalind Rd 1	Cty Rd 22	242	Semi-Urban	HCb - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	8
861	MARL LAKES RD	SDR 30	Lake Rosalind Rd 4	424	Rural	HCb - 1 lift	8.7	6.7	200-499	Local Traffic	9.0	9

**Appendix A2 - Inventory Summary Sheet
Sorted by Road Name**

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**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
793	MARL LAKES RD	Metzger Dr	Marl Lake Rd 8	71	Semi-Urban	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	9
795	MARL LAKES RD	Marl Lake Rd 8	Lake Rosalind Rd 1	187	Semi-Urban	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	8
794	MARL LAKES RD	Marl Lake Rd 7	Metzger Dr	223	Semi-Urban	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	9
179	MELVIN ST	Union St.	High St., Riversdale	94	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	7
180	MELVIN ST	Union St.	east end	63		Gravel	0.0		0-49			0
370	MILL ST	SDR 5	east end	131	Semi-Urban	Gravel	5.0	4.5	0-49	Local Traffic	6.0	7
190	MOSCOW SIDEROAD	Hwy 9	Culross-Greenock	1033	Rural	Gravel	7.0	5.5	0-49	Local Traffic	7.0	8
1103	PARKER ST	Dirstein Street S	Main St S	119	Semi-Urban	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	6
568	PEARL LAKE RD 1	Cty Rd 10	Pearl Lake Rd 2	1408	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.5	8
850	PLEASURE VALLEY RD	Bruce Road 4	Bruce Road 4	399	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.0	6
548	PLETSCH CT	SDR 5	west end	601	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
382	QUEEN ST BRANT	King St.	Cargill Rd.	330	Urban	HCB - 2 lifts	9.0	6.7	50-199	Local Traffic	8.5	8
1107	QUEEN ST W	Dirstien	Main St	118	Urban	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	6.0	6
1106	QUEEN ST W	Conc 10 - town limit	Dirstien	441	Urban	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	6.0	6
812	SAUGEEN AIRPORT RD	Airport Rd	west end	346		HCB - 1 lift	0.0		0-49			0
6763	SCHMIDT LAKE RD	1.4 km west of SDR5	west end	1433	Rural	Gravel	5.5	4.5	50-199	Local Traffic	7.0	8
44	SCHMIDT LAKE RD	SDR 5	1.4 km west of SDR5	1430	Rural	LCB - 2 lifts	7.5	6.0	50-199	Local Traffic	7.0	7
205	SIDEROAD 10	Bruce Rd 1	Con 18	2054	Rural	Gravel	6.0	4.5	0-49	Local Traffic	6.5	7
204	SIDEROAD 10	Conc 16	south end	164	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.0	8
203	SIDEROAD 10	Con 18	Con 16	1033	Rural	Gravel	6.0	4.5	0-49	Local Traffic	6.5	7
535	SIDEROAD 10 NORTH	Conc 14	Brant-Elderslie	1055	Rural	Gravel	8.0	6.0	0-49	Local Traffic	6.5	7
453	SIDEROAD 10 SOUTH	Con 8	Con 6	2057	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	10
724	SIDEROAD 10 SOUTH	Con 4 East Brant	Tom King Rd	1047	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	10
20	SIDEROAD 10 SOUTH	Con 6	Con 4	2055	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	10
721	SIDEROAD 10 SOUTH	Tom King Rd	Con 2 NDR East	1013	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	9.0	10
719	SIDEROAD 10 SOUTH	Con 2	Brant-Walkerton Road	1011	Rural	HCB - 1 lift	9.0	6.7	1000-1999	Trucks/Farm Equipment	9.0	10
644	SIDEROAD 15 BRANT	Con 2 SDR	Carrick Boundary	1068	Rural	Gravel	7.0	5.0	0-49	Local Traffic	8.0	9
734	SIDEROAD 15 BRANT	Bruce Rd 4	Con 2 SDR	2043	Rural	HCB - 1 lift	9.0	6.7	500-999	Trucks/Farm Equipment	8.0	8
119	SIDEROAD 15 GREENOCK	Con 16	Bruce Rd 20	356	Rural	Gravel	7.5	5.5	0-49	Local Traffic	7.5	8
131	SIDEROAD 15 GREENOCK	Con 18	Con 16	1037	Rural	Gravel	7.5	5.5	0-49	Local Traffic	7.5	8

**Appendix A2 - Inventory Summary Sheet
Sorted by Road Name**

**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
743	SIDEROAD 15 NORTH	Bruce Rd 19	Brant-Elderslie	136	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	7.5	8
728	SIDEROAD 20	Con 12	Con 10	2081	Rural	Gravel	7.5	5.7	0-49	Local Traffic	6.0	7
701	SIDEROAD 20	Con 8	Con 6	2048	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
619	SIDEROAD 20	Cty Rd 4	Conc 2	2044	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
665	SIDEROAD 20	Con 4	Con 2	2065	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
751	SIDEROAD 20	Con 6	Con 4	2053	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
735	SIDEROAD 20	Con 10	Con 8	2041	Rural	Gravel	7.5	5.7	200-499	Local Traffic	7.0	8
738	SIDEROAD 20 NORTH BRANT	Bruce Rd 19	Con 14	1157	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	7
739	SIDEROAD 20 NORTH BRANT	Con 14	Con 12	2038	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	7
142	SIDEROAD 20 NORTH GREENOCK	Con 14	Gamble Rd	1033	Rural	Gravel	5.0	4.0	0-49	Local Traffic	6.0	7
149	SIDEROAD 20 NORTH GREENOCK	Gamble Rd	Bruce Rd 15	1021	Rural	Gravel	5.0	4.0	0-49	Local Traffic	6.0	7
152	SIDEROAD 20 NORTH GREENOCK	Bruce Rd 15	Con 10	2050	Rural	Gravel	8.0	5.5	0-49	Local Traffic	7.5	8
143	SIDEROAD 20 NORTH GREENOCK	Bruce Rd 1	Con 14	935	Rural	Gravel	5.0	4.0	0-49	Local Traffic	6.0	7
831	SIDEROAD 20 SOUTH BRANT	Con 2 SDR	Carrick Boundary	1032	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	6
830	SIDEROAD 20 SOUTH BRANT	S of Saugeen River	Con 2 SDR	1231	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.0	7
185	SIDEROAD 20 SOUTH GREENOCK	Con 2 NDR	Bridge St.	1565	Rural	Gravel	8.5	6.0	50-199	Local Traffic	7.5	8
140	SIDEROAD 25	Conc 2	north end	209		Gravel	0.0		0-49			0
127	SIDEROAD 25	Hwy 9	Culross-Greenock	1159	Rural	Gravel	7.5	5.5	50-199	Local Traffic	7.0	8
151	SIDEROAD 25	Con 2 NDR	Hwy 9	2042	Rural	Gravel	0.0		0-49	Local Traffic		0
667	SIDEROAD 25 NORTH	Con 14	Con 12	2038	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
816	SIDEROAD 25 NORTH	Con 10	Con 8	2043	Rural	Gravel	8.0	6.0	0-49	Local Traffic	8.5	8
625	SIDEROAD 25 NORTH	Con 12	Con 10	2070	Rural	Gravel	7.5	5.7	50-199	Local Traffic	7.5	8
666	SIDEROAD 25 NORTH	Bruce Rd 19	Con 14	1163	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
832	SIDEROAD 25 NORTH	Con 2	Hwy 4	2042	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	8.0	7
833	SIDEROAD 25 NORTH	Con 4	Con 2	2073	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
818	SIDEROAD 25 NORTH	Con 8	Con 6	2047	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8

**Appendix A2 - Inventory Summary Sheet
Sorted by Road Name**

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**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
834	SIDEROAD 25 NORTH	Con 6	Con 4	2047	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	8
821	SIDEROAD 25 SOUTH	Con 2 SDR	Carrick Boundary	1025	Rural	Gravel	10.0	8.0	50-199	Local Traffic	8.0	8
137	SIDEROAD 30	Conc 8	Conc 6	2045	Rural	Gravel	7.5	5.5	50-199	Local Traffic	7.5	8
138	SIDEROAD 30	Con 10	Conc 8	2020	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
139	SIDEROAD 30	Bruce Rd 1	Con 10	278	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
136	SIDEROAD 30	Con 6	Southerly Point	1094		Gravel	0.0		0-49			0
809	SIDEROAD 30 NORTH	Con 4	Lake Rosalind Rd 5	1069	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
841	SIDEROAD 30 NORTH	Conc 10	Conc 8	2040	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	7.5	7
827	SIDEROAD 30 NORTH	Conc 6	Conc 8	2041	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
819	SIDEROAD 30 NORTH	Con 12	Con 10	2039	Rural	LCB - 2 lifts	9.0	6.7	500-999	Local Traffic	7.5	7
810	SIDEROAD 30 NORTH	Lake Rosalind Rd 5	Con 2 NDR E	1018	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.5	7
852	SIDEROAD 30 NORTH	Con 6	Con 4	2041	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.0	7
858	SIDEROAD 30 NORTH	Con 14	Con 12	2042	Rural	HCB - 1 lift	9.0	6.7	500-999	Local Traffic	8.0	8
924	SIDEROAD 30 NORTH	Bruce Rd 19	Con 14	1171	Rural	LCB - 2 lifts	9.0	6.7	500-999	Local Traffic	7.5	7
791	SIDEROAD 30 SOUTH	Con 2 SDR	Carrick Boundary	1028	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	7
760	SIDEROAD 30 SOUTH	Saugeen River	Con 2 SDR	1630	Rural	Gravel	8.0	6.0	50-199	Local Traffic	8.5	9
518	SIDEROAD 5 BRANT	Con 12	Con 10	2050	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.5	8
51	SIDEROAD 5 GREENOCK	Con 14	Bruce Rd 15	2036	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.0	7
200	SIDEROAD 5 GREENOCK	Con 22	Bruce Rd 1	2054	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.0	8
360	SIDEROAD 5 GREENOCK	Hwy 9	0.4km south of Hwy 9	400	Rural	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	8.5	8
168	SIDEROAD 5 GREENOCK	Conc 22	Bruce-Greenock N	370	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8
350	SIDEROAD 5 GREENOCK	Bruce Rd 15	Con 10	2041	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	7.0	7
348	SIDEROAD 5 GREENOCK	Con 10	Con 8	2034	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.0	8
218	SIDEROAD 5 GREENOCK	Con 18	Con 16	1077	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	7.0	7
367	SIDEROAD 5 GREENOCK	Conc 2	Hwy 9	2102	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	9.0	9
201	SIDEROAD 5 GREENOCK	Bruce Rd 1	Con 18	2044	Rural	HCB - 1 lift	9.0	6.7	200-499	Trucks/Farm Equipment	8.5	9
368	SIDEROAD 5 GREENOCK	Con 4	Con 2	2048	Rural	LCB - 2 lifts	9.0	6.7	500-999	Trucks/Farm Equipment	7.5	8
165	SIDEROAD 5 GREENOCK	Con 16	Con 14	2041	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	7.0	7
372	SIDEROAD 5 GREENOCK	Con 8	Con 6	2037	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	8
6766	SIDEROAD 5 GREENOCK	0.4km south of Hwy 9	Culross-Grennock East	639	Rural	Gravel	8.0	6.0	50-199	Local Traffic	7.5	8

**Appendix A2 - Inventory Summary Sheet
Sorted by Road Name**

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**Municipality of Brockton
Road Management Study**

Section Number	Road Name	From	To	Section Length (m)	Roadside Environment	Surface Type	Platform Width (m)	Surface Width (m)	Traffic Range (vpd)	Commercial Traffic	Road Structural Rating	Surface Rating
371	SIDEROAD 5 GREENOCK	Mill St	Conc 4	1904	Rural	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	8
369	SIDEROAD 5 GREENOCK	Chepstow Rd	Mill St	115	Semi-Urban	LCB - 2 lifts	9.0	6.7	200-499	Trucks/Farm Equipment	7.5	8
416	SIDEROAD 5 NORTH	Bend	End	373	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.5	6
417	SIDEROAD 5 NORTH	Brant - Elderslie	Bend	266	Rural	Gravel	7.0	5.0	0-49	Local Traffic	7.5	6
495	SIDEROAD 5 SOUTH	Con 2 NDR W	Bruce Rd 2	2039	Rural	LCB - 2 lifts	9.0	6.7	200-499	Local Traffic	8.5	8
549	SIDEROAD 5 SOUTH	Bruce Rd 2	Hwy 9	2042	Rural	HCB - 1 lift	9.0	6.7	200-499	Local Traffic	8.5	7
533	SIDEROAD 5 SOUTH	Con 4	Con 2 NDR	2042	Rural	HCB - 1 lift	9.0	6.7	50-199	Local Traffic	7.5	7
524	SIDEROAD 5 SOUTH	Conc 4	north end	771	Rural	Gravel	5.5	4.0	0-49	Local Traffic	5.0	5
454	SIDEROAD 5 SOUTH	Hwy 9	Pletsch Ct	1030	Rural	Gravel	7.5	6.0	50-199	Local Traffic	7.0	8
2399	SILVER LAKE RD	Highway 9	South End	204		Gravel	0.0		0-49			0
722	TOM KING RD	Tom King Road	West End	401	Rural	Gravel	7.0	5.0	0-49	Local Traffic	8.5	9
187	UNION ST N	Bridge St	Melvin St, Riversdale	277	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.5	7
183	UNION ST N	Melvin St.	Hwy 9, Riversdale	201	Semi-Urban	LCB - 2 lifts	9.0	6.7	50-199	Local Traffic	7.0	7
184	UNION ST S	Hwy 9	150m south of Hwy 9	150	Semi-Urban	LCB - 2 lifts	7.0	5.0	0-49	Local Traffic	7.0	7
6764	UNION ST S	150m south of Hwy 9	south end	139	Semi-Urban	Gravel	7.0	5.0	0-49	Local Traffic	7.0	8
1261	WELLINGTON ST	Bruce Rd 1	Balaklava St. (Paisley)	211	Semi-Urban	HCB - 1 lift	9.0	6.7	0-49	Local Traffic	8.5	7
1262	WELLINGTON ST	Balaklava St	End (Paisley)	217	Semi-Urban	HCB - 1 lift	9.0	6.7	0-49	Local Traffic	8.5	7
314	WILKINSON LN	Conc 22	north end	132		Gravel	0.0		0-49			0
938	WILLI ST	John Cr.	East	105	Semi-Urban	LCB - 2 lifts	9.0	6.7	0-49	Local Traffic	8.5	8
42	YOUNG'S RD	Bruce Rd 1	Con 6	2190	Rural	Gravel	8.0	6.0	0-49	Local Traffic	7.5	8
403	ZETTEL LN	Cty Rd 15	east end	112	Semi-Urban	HCB - 1 lift	9.0	6.7	0-49	Local Traffic	7.0	7

APPENDIX B-1

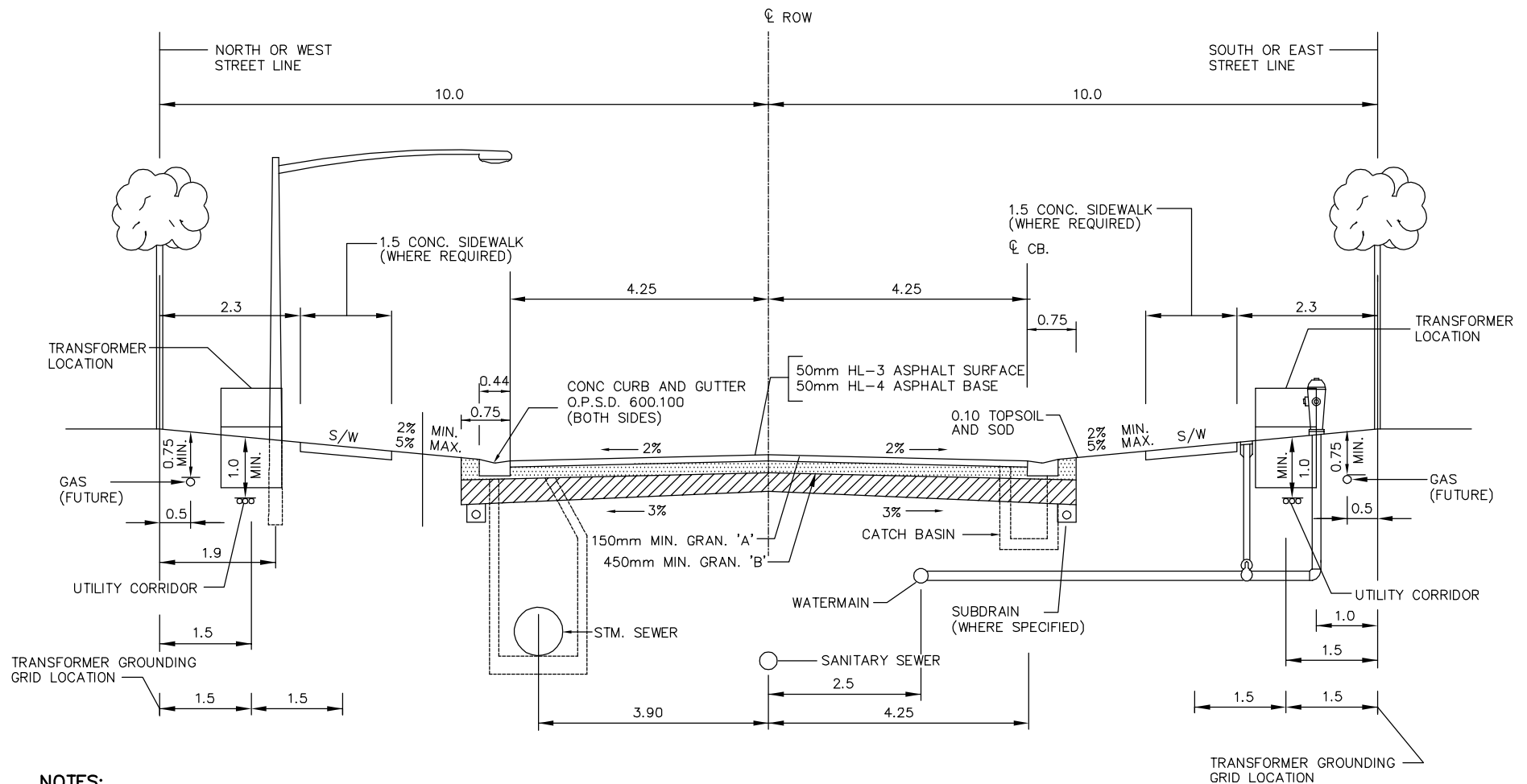
MAPS – SURFACE TYPE

APPENDIX B-2

MAINTENANCE CLASS

APPENDIX B-3

PROPOSED CROSS SECTIONS



NOTES:

1. ROAD CROSSINGS DEPTHS FOR UTILITIES - HYDRO 1.2 MIN.
- BELL TELEPHONE, UNION GAS, CABLE TV 1.0 MIN.
- WATER 1.8 MIN.
2. ALL WATER SERVICE BOXES TO BE SET AT PROPERTY LINE.
3. ROAD CONSTRUCTION DESIGN TO BE CONFIRMED BY GEOTECHNICAL ENGINEER
4. SIDEWALK SHALL BE PROVIDED AS REQUIRED BY MUNICIPALITY.
5. TRANSFORMER IS TO BE ON OPPOSITE SIDE TO SIDEWALK WHERE POSSIBLE.



BMROSS
engineering better communities

Municipality of Brockton

Typical Road Section

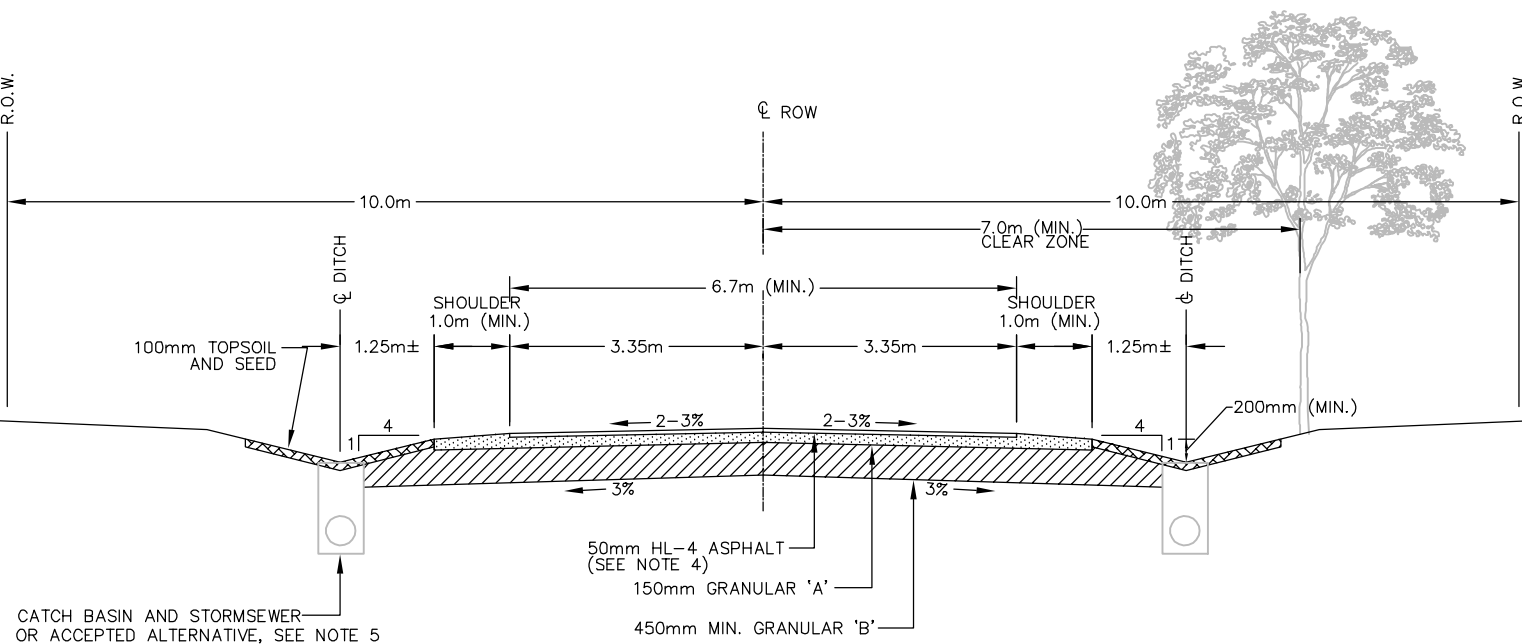
Urban Roads

DATE
Aug. 16, 2019

PROJECT No
19074

SCALE
1:100

FIGURE No.
1



NOTES:

1. TOPSOIL TO BE REMOVED TO ITS FULL DEPTH ALONG ENTIRE WIDTH OF ROAD BETWEEN TOPS OF DITCH BACKSLOPES AND BOULEVARD TO BE FULLY SEEDED AS SPECIFIED.
2. ROAD RECONSTRUCTION DESIGN TO BE CONFIRMED BY GEOTECHNICAL DESIGN.
3. THIS CROSS SECTION IS TO BE USED AS TYPICAL STANDARD FOR UP TO 50km/hr VELOCITY ROADS.
4. A DECISION OF PAVE THE ROAD WILL BE DETERMINED AS MUNICIPAL POLICY OR AS OTHERWISE DIRECTED BY THE MUNICIPALITY.
5. DRAINAGE SYSTEM SHALL BE DESIGNED TO ACCOMMODATE A 5 YEAR STORM EVENT, UNLESS APPROVED OTHERWISE BY THE MUNICIPALITY.
6. THIS SECTION IS INTENDED FOR USE THROUGHOUT VILLAGES AND HAMLETS.



Municipality of Brockton

Typical Road Section

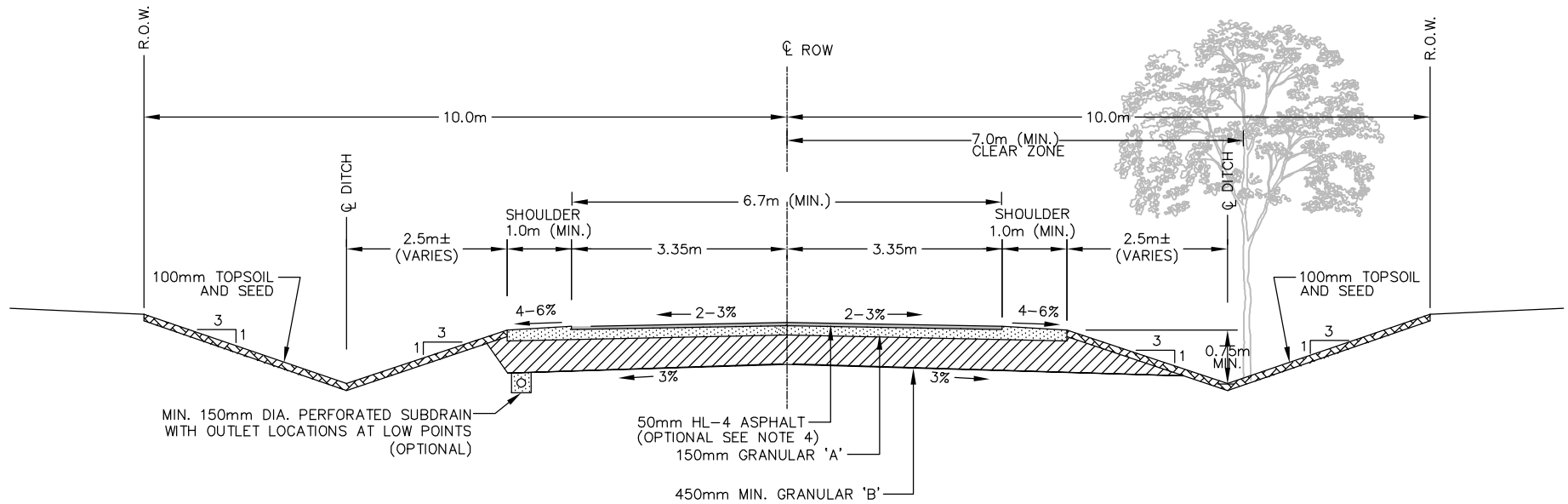
Semi Urban Roads

DATE
Aug. 16, 2019

PROJECT No.
19074

SCALE
1:100

FIGURE No.
2



NOTES:

1. TOPSOIL TO BE REMOVED TO ITS FULL DEPTH ALONG ENTIRE WIDTH OF ROAD BETWEEN TOPS OF DITCH BACKSLOPES AND BOULEVARD TO BE FULLY SEEDED AS SPECIFIED.
2. ROAD RECONSTRUCTION DESIGN TO BE CONFIRMED BY GEOTECHNICAL DESIGN.
3. THIS CROSS SECTION IS TO BE USED AS TYPICAL STANDARD FOR UP TO 80km/hr VELOCITY ROADS.
4. A DECISION OF PAVE THE ROAD WILL BE DETERMINED AS MUNICIPAL POLICY OR AS OTHERWISE DIRECTED BY THE MUNICIPALITY.
5. WHERE PRACTICAL SIDE AND BACK SLOPES FOR DITCHES AND SWALES ARE TO BE 3:1 MAXIMUM SIDE SLOPES OF 2:1 UNLESS APPROVED OTHERWISE.
6. THIS SECTION IS INTENDED FOR USE THROUGHOUT THE RURAL AREAS.



Municipality of Brockton

Typical Road Section

Rural Roads

DATE
Aug. 16, 2019

PROJECT No
19074

SCALE
1:100

FIGURE No.
3

APPENDIX C-1

DETAILED BENCHMARK COST BREAK DOWNS

Detailed Benchmark Cost Breakdown Assumed Construction Improvement Costs

19074

2019

Ref. No.	Description	Qty./Unit	Price	Amount	Cost
	<u>Rural</u>				
1	Rural Full depth pulverize and pave				
	Pulverize	6700 sq. m	1	6,700.00	
	50mm Gran. A	804 t	15	12,060.00	
	Shoulder Gravel, 1m wide	240 t	20	4,800.00	
	Fine grade	8700 sq. m	1.5	13,050.00	
	HL-4 (50mm)	904.5 t	115	104,017.50	
	Bond/Insur/Traffic/Lump Sum	10.0%		14,062.75	
	Contingencies	15.0%		23,203.54	
	Engineering/Administration	10.0%		17,789.38	
	Total per 1000m			195,683.17	\$ 200.00/m
2	Rural Full Reconstruction - Base Course Asphalt				
	Excavation	6420 cu. m	15	96,300.00	
	150mm Gran. A	3132 t	14	43,848.00	
	450mm Gran B	11556 t	10	115,560.00	
	Ditching	2000 m	2	4,000.00	
	Topsoil	8500 sq. m	6	51,000.00	
	Seed	8500 sq. m	0.85	7,225.00	
	HL-4 (50mm)	904.5 t	115	104,017.50	
	Bond/Insur/Traffic/Lump Sum	10.0%		42,195.05	
	Contingencies	15.0%		69,621.83	
	Engineering/Administration	15.0%		80,065.11	
	Total Probable Cost per 1000m			613,832.49	\$ 615.00/m
3	Rural Full Reconstruction - Gravel Surface				
	Excavation	6420 cu. m	15	96,300.00	
	150mm Gran. A	3132 t	14	43,848.00	
	450mm Gran B	11556 t	10	115,560.00	
	Ditching	2000 m	2	4,000.00	
	Topsoil	8500 sq. m	6	51,000.00	
	Seed	8500 sq. m	0.85	7,225.00	
	Calcium	4.95 t	950	4,702.50	
	Bond/Insur/Traffic/Lump Sum	10.0%		32,263.55	
	Contingencies	15.0%		53,234.86	
	Engineering/Administration	15.0%		61,220.09	
	Total Probable Cost per 1000m			469,353.99	\$ 470.00/m

4	Rural Hot Mix Resurfacing (40mm HL-4, incl tack coat)			
	HL-4 (40mm)	723.6 t	115	83,214.00
	padding	135 t	100	13,500.00
	Tack Coat	6700	1	6,700.00
	Bond/Insur/Traffic/Lump Sum	10.0%		10,341.40
	Contingencies	15.0%		17,063.31
	Engineering/Administration	10.0%		13,081.87
	Total Probable Cost per 1000m			143,900.58 \$ 145.00/m
5	Rural partial depth cold in place and pave (50mm HL-4)			
	Partial depth asphalt removal	6700 sq.m	7	46,900.00
	Crack repair	500 m	40	20,000.00
	HL-4 (50mm)	904.5 t	115	104,017.50
	Bond/Insur/Traffic/Lump Sum	10.0%		17,091.75
	Contingencies	15.0%		28,201.39
	Engineering/Administration	10.0%		21,621.06
	Total Probable Cost per 1000m			237,831.70 \$ 240.00/m
6	Rural Paving (40mm HL-4)			
	HL-4 (40mm)	723.6 t	115	83,214.00
	padding	135 t	100	13,500.00
	Tack Coat	6700	0	0.00
	Bond/Insur/Traffic/Lump Sum	10.0%		9,671.40
	Contingencies	15.0%		15,957.81
	Engineering/Administration	10.0%		12,234.32
	Total Probable Cost per 1000m			134,577.53 \$ 135.00/m
7	Rural Paving (50mm HL-4)			
	HL-4 (50mm)	904.5 t	115	104,017.50
	padding	135 t	100	13,500.00
	Tack Coat	6700	1	6,700.00
	Bond/Insur/Traffic/Lump Sum	10.0%		12,421.75
	Contingencies	10.0%		13,663.93
	Engineering/Administration	15.0%		22,545.48
	Total Probable Cost per 1000m			172,848.65 \$ 175.00/m
8	Rural Pulverize surface treatment, two lifts of surface treatment			
	Pulverize surface treatment	6700 sq. m	3.5	23,450.00
	Granular A	804 t	14	11,256.00
	Fine grade	8700 sq. m	2	17,400.00
	Double lift surface treatment	6700 sq. m	3.25	21,775.00
	Bond/Insur/Traffic/Lump Sum	10.0%		7,388.10
	Contingencies	15.0%		12,190.37
	Engineering/Administration	10.0%		9,345.95
	Total Probable Cost per 1000m			102,805.41 \$ 105.00/m

Semi-Urban

1 Semi-Urban Full depth pulverize and pave

Pulervize	6700 sq. m	1.5	10,050.00	
Granular A	804 t	14	11,256.00	
Shoulder Gravel	240 t	20	4,800.00	
Fine grade	8700 sq. m	1.5	13,050.00	
HL-4 (40mm)	723.60 t	115	83,214.00	
Bond/Insur/Traffic/Lump Sum	10.0%		12,237.00	
Contingencies	15.0%		20,191.05	
Engineering/Administration	15.0%		23,219.71	
Total			178,017.76	\$ 178.00/m

2 Semi-Urban Full Reconstruction - Base Course of Asphalt

Excavation	6420 cu. m	15	96,300.00	
150mm Gran. A	3132 t	14	43,848.00	
450mm Gran. B	11556 t	10	115,560.00	
HL-3 (40mm)	0 t	110	0.00	
HL-4 (40mm)	723.60 t	115	83,214.00	
Topsoil	5000 sq. m	6	30,000.00	
Seed	5000 sq. m	0.85	4,250.00	
Calcium	5.625 t	950	5,343.75	
Water	445.5 cu. m	8	3,564.00	
Bond/Insur/Traffic/Lump Sum	10.0%		38,207.98	
Contingencies	15.0%		63,043.16	
Engineering/Administration	15.0%		72,499.63	
Total			555,830.52	\$ 560.00/m

3 Semi-Urban Hot Mix Resurfacing

HL-2 (40mm)	723.6 t	105	75,978.00	
Tack Coat	6700	1.1	7,370.00	
Adjust MHs & CBs	4 Ea	400	1,600.00	
Adjust MHs & CBs incl Rest.	4 Ea	675	2,700.00	
Repair C & G	0 m	175	0.00	
Supply and install Frame & Grate	5 Ea	450	2,250.00	
Bond/Insur/Traffic/Lump Sum	10.0%		8,989.80	
Contingencies	15.0%		14,833.17	
Engineering/Administration	15.0%		17,058.15	
Total			130,779.12	\$ 135.00/m

Urban

1 Urban Full Depth Pulverize and Pave (40mm HL-4)

Pulverize	9350 sq. m	1.7	15,895.00	
Fine grade	9350 sq. m	2.2	20,570.00	
Granular A	1212 t	14	16,968.00	
HL-4 (40mm)	918 t	115	105,570.00	
Adjust MHS & CBs	4 Ea	375	1,500.00	
Adjust MHS & CBs incl Rest.	4 Ea	650	2,600.00	
Minor C&G repairs	25 m	175	4,375.00	
Bond/Insur/Traffic/Lump Sum	10.0%		16,747.80	
Contingencies	15.0%		27,633.87	
Engineering/Administration	15.0%		31,778.95	
Total			243,638.62	\$ 250.00/m

2 Urban Full Depth Pulverize, widen pave

Pulverize	6820 sq. m	1.7	11,594.00	
Excavation	2400 cu. m	15	36,000.00	
Fine grade	6820 sq. m	2.2	15,004.00	
Granular A	2328 t	14	32,592.00	
Granular B	3139.5 t	10	31,395.00	
Curb and Gutter	2000 m	45	90,000.00	
HL-4 (40mm)	918 t	115	105,570.00	
Bond/Insur/Traffic/Lump Sum	10.0%		32,215.50	
Contingencies	15.0%		53,155.58	
Engineering/Administration	15.0%		61,128.91	
Total			468,654.99	\$ 475.00/m

3 Urban Full Depth Removal and Pave (8.5m)

Asphalt removal/excavation	850 cu. m	16	13,600.00	
Calcium	0.64 t	950	608.00	
water	76.5 cu. m	8	612.00	
Granular A	1530 t	14	21,420.00	
Fine Grade	8500 sq. m	2	17,000.00	
HL-3(40mm)	918 t	110	100,980.00	
HL-4(50mm)	1147.5 t	115	131,962.50	
Adjust MHS & CBs	4 Ea	375	1,500.00	
Adjust MHS & CBs incl Rest.	4 Ea	650	2,600.00	
Minor C&G repairs	50 m	175	8,750.00	
Bond/Insur/Traffic/Lump Sum	10.0%		29,903.25	
Contingencies	15.0%		49,340.36	
Engineering/Administration	15.0%		56,741.42	
Total			435,017.53	\$ 440.00/m

4 Urban Full Reconstruction - Base Course of Asphalt

Excavation	6943.75 cu. m	15	104,156.25	
150mm Gran. A	3636 t	15	54,540.00	
450mm Gran B	11340 t	11	124,740.00	
HL-3 (40mm)	918.00 t	110	100,980.00	
HL-4 (50mm)	1147.50 t	115	131,962.50	
Hot Mix Misc	90 sq. m	25	2,250.00	
Adjust MHs & CBs	6 Ea.	400	2,400.00	
Remove some C&G	50 m	10	500.00	
Curb & Gutter	2000 m	50	100,000.00	
Reconnect ex. storm	50 m	120	6,000.00	
Remove conc. Sidewalk	0 sq. m	10	0.00	
Place conc. Sidewalk	0 sq. m	50	0.00	
Topsoil	6000 sq. m	6	36,000.00	
Seed	6000 sq. m	0.85	5,100.00	
Calcium	6.375 t	1000	6,375.00	
Water	609.03 cu. m	8	4,872.24	
Bond/Insur/Traffic/Lump Sum	10.0%		67,987.60	
Contingencies	15.0%		112,179.54	
Engineering/Administration	15.0%		129,006.47	
Total			989,049.60	\$ 990.00/m

5 Urban Partial depth cold planing and resurfacing

Partial depth asphalt removal	9350 sq. m	7	65,450.00	
Crack Repair	500 m	40	20,000.00	
HL-3 (40mm)	918.00 t	110	100,980.00	
Adjust MHs & CBs	4 Ea	400	1,600.00	
Adjust MHs & CBs incl Rest.	4 Ea	675	2,700.00	
Minor C&G repairs	25 m	175	4,375.00	
Bond/Insur/Traffic/Lump Sum	10.0%		19,510.50	
Contingencies	15.0%		32,192.33	
Engineering/Administration	15.0%		37,021.17	
Total			283,829.00	\$ 285.00/m

5 Edge Cut, Curb and Gutter, Top lift of Asphalt

Excavation	1100 cu. m	15	16,500.00	
150mm Gran. A	662.4 t	14	9,273.60	
300mm Gran B	1214.4 t	10	12,144.00	
HL-3 (40mm)	918 t	110	100,980.00	
HL-4 (40mm)	197.376 t	115	22,698.24	
Hot Mix Misc	90 sq. m	25	2,250.00	
Adjust MHs & CBs	6 Ea.	375	2,250.00	
Curb & Gutter	2000 m	45	90,000.00	
Reconnect ex. storm	2 m	100	200.00	
Remove conc. Sidewalk	50 sq. m	10	500.00	
Place conc. Sidewalk	50 sq. m	50	2,500.00	
Topsoil	6000 sq. m	6	36,000.00	
Seed	6000 sq. m	0.85	5,100.00	
Calcium	6.375 t	950	6,056.25	
Water	96.48 cu. m	8	771.84	
Bond/Insur/Traffic/Lump Sum	10.0%		30,722.39	
Contingencies	15.0%		50,691.95	
Engineering/Administration	15.0%		58,295.74	
Total			446,934.01	\$ 450.00/m

Specific Maintenance**1 Surface Treatment - Single surface**

Single lift surface treatment	6700 sq. m	3	20,100.00	
Bond/Insur/Traffic/Lump Sum	10.0%		2,010.00	
Contingencies	20.0%		4,422.00	
Engineering/Administration	10.0%		2,653.20	
Total			29,185.20	\$ 35.00/m

2 Surface Treatment - Double surface

Double lift surface treatment	6700 sq. m	6	40,200.00	
Bond/Insur/Traffic/Lump Sum	10.0%		4,020.00	
Contingencies	20.0%		8,844.00	
Engineering/Administration	10.0%		5,306.40	
Total			58,370.40	\$ 60.00/m

3 Gravel Resurfacing 50mm

Grader	8 hrs	100	800.00	
Operator	8 hrs	55	440.00	
Granular A	990 t	14	13,860.00	
Calcium	0.9375 sq. m	950	890.63	
Bond/Insur/Traffic/Lump Sum	4.0%		639.63	
Contingencies	6.0%		997.82	
Engineering/Administration	5.0%		881.40	
Total			18,509.47	\$ 20.00/m

4 Ditching Improvements, (Full Length), Both Sides

Grader	10 hrs	100	1,000.00	
Operator	10 hrs	55	550.00	
Dump Truck, assume 2	18 hrs	100	1,800.00	
Operator	18 hrs	55	990.00	
Foreman	8 hrs	70	560.00	
Bond/Insur/Traffic/Lump Sum	4.0%		196.00	
Contingencies	10.0%		509.60	
Engineering/Administration	5.0%		280.28	
Total			5,885.88	\$ 6.00/m

5 Gravel Road Grade Raise 150mm

Grader	12 hrs	100	1,200.00	
Operator	12 hrs	55	660.00	
Granular A	2970 t	14	41,580.00	
Calcium	0.64 sq. m	950	608.00	
Bond/Insur/Traffic/Lump Sum	10.0%		4,404.80	
Contingencies	15.0%		7,267.92	
Engineering/Administration	15.0%		8,358.11	
Total			64,078.83	\$ 70.00/m

6 Edge Widening 1m each side

Excavation, side slope and ditch	550 cu.m	18	9,900.00	
150mm Gran A	1600 t	16	25,600.00	
300mm Gran B	2400 t	12	28,800.00	
Subdrain, along each side	2000 m	7	14,000.00	
Restoration	4000 sq. m	6	24,000.00	
Bond/Insur/Traffic/Lump Sum	10.0%		10,230.00	
Contingencies	20.0%		22,506.00	
Engineering/Administration	15.0%		20,255.40	
Total			155,291.40	\$ 170.00/m

7 Tree Clearing (4m wide swath)

Clearing	4 m	100	400.00	\$ 400.00/m
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8	Install subdrain full length both sides			
	Sub-drain installation cost by plov	2000 m	6	12,000.00
	Contingencies	10.0%		1,200.00
	Engineering / Administration	10.0%		1,320.00
	Total			14,520.00
				\$ 15.00/m

9	Fibre-mat Surface Treatment - Single Surface			
	Fibre-mat surface treatment	6700 sq. m	3.4	22,780.00
	Bond/Insur/Traffic/Lump Sum	10.0%		2,278.00
	Contingencies	15.0%		3,758.70
	Engineering/Administration	5.0%		1,440.84
	Total			30,257.54
				\$ 35.00/m

10	Crack-Sealing (1.5m per lineal meter assumed)			
	Crack-Sealing	1500 m	4	6,000.00
	Bond/Insur/Traffic/Lump Sum	10.0%		600.00
	Contingencies	15.0%		990.00
	Engineering/Administration	5.0%		379.50
	Total			7,969.50
				\$ 8.00/m

Spot Maintenance

1	Culvert Crossing upto 750mm Dia. excluding asphalt			
	750mm storm	15 m	320	4,800.00
	Granular A	10 t	18	180.00
	Restoration	10 m	20	200.00
	Bond/Insur/Traffic/Lump Sum	5.0%		240.00
	Contingencies	15.0%		813.00
	Engineering/Administration	10.0%		623.30
	Lump sum Total Costs			6,856.30
				\$7,500

2	Ditching Spot Location up to 200m			
	Grad-all	6 hrs	100	600.00
	Operator	6 hrs	55	330.00
	Dumb Truck	6 hrs	100	600.00
	Operator	6 hrs	55	330.00
	Foreman	4 hrs	75	300.00
	Contingencies	15.0%		324.00
	Lump sum Total Costs			2,484.00
				\$2,500

3 Gravel Road Grade Raise 150mm (<100m)

Grader	12 hrs	100	1,200.00	
Operator	12 hrs	55	660.00	
Granular A	2970 t	16	47,520.00	
Calcium	0.64 sq. m	950	608.00	
Bond/Insur/Traffic/Lump Sum	10.0%		4,998.80	
Contingencies	15.0%		8,248.02	
Engineering/Administration	10.0%		6,323.48	
Total			69,558.30	\$ 70.00/m

20% Contingency

Lump sum Total Costs		8347.00	\$8,600
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4 Paving Patch, full width (<60m)

Asphalt removal	420 sq.m	12	5,040.00	
50mm Gran. A	60 t	14	840.00	
HL-4 (40mm)	50 t	115	5,750.00	
Calcium	0.3825 t	950	363.38	
Water	0 cu.m	8	0.00	
Bond/Insur/Traffic/Lump Sum	10%		1,199.34	
Contingencies	15%		1,978.91	
Engineering/Administration	10%		1,517.16	
Lump sum Total Costs			16,688.78	\$17,000

5 Gravel Road Spot Repair (<60m)

Excavation	225 cu.m	20	4,500.00	
150mm Gran. A	200 t	18	3,600.00	
300mm Gran B	320 t	12	3,840.00	
Calcium	0.3825 t	950	363.38	
Water	0 cu.m	8	0.00	
Bond/Insur/Traffic/Lump Sum	10%		1,230.34	
Contingencies	15%		2,030.06	
Engineering/Administration	10%		1,556.38	
Lump sum Total Costs			17,120.15	\$18,000

6 Paved Road Spot Repair (<60)

Excavation	225 cu.m	20	4,500.00	
150mm Gran. A	180 t	18	3,240.00	
300mm Gran B	320 t	12	3,840.00	
HL-3 (40mm)	0 t	110	0.00	
HL-4 (40mm)	50 t	115	5,750.00	
Calcium	0.3825 t	950	363.38	
Water	0 cu.m	8	0.00	
Bond/Insur/Traffic/Lump Sum	10%		1,769.34	
Contingencies	15%		2,919.41	
Engineering/Administration	10%		2,238.21	
Lump sum Total Costs			24,620.33	\$25,000

7	Shoulder and Slope Repair (<100m)			
	Excavation, side slope and ditch	40 cu.m	20	800.00
	150mm Gran A	40 t	18	720.00
	300mm Gran B	40 t	15	600.00
	Restoration	150 sq.m	6	900.00
	Bond/Ins/Traffic	10%		302.00
	Contingencies	20%		664.40
	Engineering	10%		398.64
	Lump sum Total Costs			4,385.04 \$4,500

8	Minor Storm Sewer Improvements			
	300mm Storm	25 m	180	4,500.00
	Inline CB	1 Ea	900	900.00
	150mm SubDrain	30 m	30	900.00
	Granular 'A'	14.4 t	16	230.40
	Restoration	50 m	20	1,000.00
	Bond/Insur/Traffic/Lump Sum	10%		753.04
	Contingencies	20%		1,656.69
	Engineering/Administration	15%		1,491.02
	Certificate of Approval			1,100.00
	Lump sum Total Costs			12,531.15 \$12,750

9	Guiderails (<50m one side)			
	Steel Beam guide rails	50 m	95	4,750.00
	End Treatments, flare only	2 Ea	275	550.00
	Lump sum Total Costs			5,300.00 \$5,500

10	Install subdrain both sides upto 500m			
	Sub-drain installation cost by plov	1000 m	7	7,000.00
	Contingencies	20%		1400
	Engineering / Administration	10%		840
	Lump sum Total Costs			9,240.00 \$9,500

Miscellaneous

1 a)	Concrete Sidewalk (Ea. Side) - Incl Topsoil & Seed Restoration			
	Excavation	540 cu.m	16	8,640.00
	150mm Gran. A	712.8 t	14	9,979.20
	Conc. Sidewalk	1500 sq.m	55	82,500.00
	Hot Mix Misc	75 sq.m	30	2,250.00
	Topsoil	600 sq.m	6	3,600.00
	Seed	600 sq.m	0.85	510.00
	Bond/Insur/Traffic/Lump Sum	10%		10,747.92
	Contingencies	15%		17,734.07
	Engineering	10%		13,596.12
	Total			149,557.31 \$ 150.00/m

1 b) Gravel Sidewalk (Ea. Side) - Incl Topsoil & Seed Restoration

Excavation	360 cu.m	20	7,200.00	
150mm Gran. A	712.8 t	15	10,692.00	
Conc. Sidewalk	0 m	55	0.00	
Topsoil	750 sq.m	6	4,500.00	
Seed	750 sq.m	0.85	637.50	
Bond/Insur/Traffic/Lump Sum	10%		2,302.95	
Contingencies	15%		3,799.87	
Engineering	10%		2,913.23	
Total			32,045.55	\$ 35.00/m

1 c) Asphalt Sidewalk (Ea. Side) - Incl Topsoil & Seed Restoration

Excavation	360 cu,m	17	6,120.00	
150mm Gran. A	712.8 t	15	10,692.00	
Asphalt	1500 sq.m	30	45,000.00	
Hot Mix Misc	75 sq.m	30	2,250.00	
Topsoil	750 sq.m	6	4,500.00	
Seed	750 sq.m	0.85	637.50	
Bond/Insur/Traffic/Lump Sum	10%		6,919.95	
Contingencies	15%		11,417.92	
Engineering	10%		8,753.74	
Total			96,291.10	\$ 100.00/m

1 d) Unit Paver Sidewalk (Ea. Side) - Incl Topsoil & Seed Restoration

Excavation	360 cu.m	16	5,760.00	
150mm Gran. A	712.8 t	14	9,979.20	
Unit Pavers	1500 sq.m	100	150,000.00	
Topsoil	750 sq.m	6	4,500.00	
Seed	750 sq.m	0.85	637.50	
Bond/Insur/Traffic/Lump Sum	10%		17,087.67	
Contingencies	15%		28,194.66	
Engineering	10%		21,615.90	
Total			237,774.93	\$ 240.00/m

2 Storm Sewers

375mm Storm	100 m	200	20,000.00	
300mm Storm	20 m	180	3,600.00	
0.6x0.6 CB	4 Ea	1600	6,400.00	
1200mm MH	2 Ea	3500	7,000.00	
Remove MHs	2 Ea	575	1,150.00	
Remove Cbs	4 Ea	350	1,400.00	
Reconnect Ex. Sewers	10 m	125	1,250.00	
Bond/Insur/Traffic/Lump Sum	10%		4,080.00	
Contingencies	15%		6,732.00	
Engineering/Administration	15%		7,741.80	
Certificate of Approval			1,100.00	
Total, 100m			60,453.80	\$ 610.00/m

3 Minor Storm Sewer Improvements

300mm Storm	25 m	180	4,500.00	
Inline CB	2 Ea	900	1,800.00	
150mm SubDrain	200 m	30	6,000.00	
Granular 'A'	144 t	16	2,304.00	
Restoration	100 m	20	2,000.00	
Bond/Insur/Traffic/Lump Sum	10%		1,660.40	
Contingencies	15%		2,739.66	
Engineering	20%		4,200.81	
Certificate of Approval			1,100.00	
Total, 100m			26,304.87	\$ 265.00/m

APPENDIX C-2

PRIORITY SCORE CALCULATION FACTORS FOR ROADS

Priority Score Calculation Factors for Roads

Consequence of Failure:

Traffic Volume

Traffic Volume	Value
0-49	1
50-199	2
200-499	3
500-999	4
>1000	5

Performance Grade:

Maintenance Demand

Rating	Value
Low	1
Average	2
High	4
Excessive	5

Alignment

Rating	Value
Both vertical and horizontal	1
Horizontal or vertical not acceptable	3
Horizontal and vertical not acceptable	5

Width Value based on Traffic Volume

Traffic Volume and Platform Width Criteria	Value
0-49 and Platform Width $\geq$ 6 m	1
0-49 and Platform Width 5 - 5.9 m	3
0-49 and Platform Width < 5 m	5
50-199 and Platform Width $\geq$ 7 m	1
50-199 and Platform Width 6 - 6.9 m	3
50-199 and Platform Width < 6 m	5
200-499 and Platform Width $\geq$ 8 m	1
200-499 and Platform Width 7 - 7.9 m	3
200-499 and Platform Width < 7 m	5
500-999 and Platform Width $\geq$ 9 m	1
500-999 and Platform Width 8 - 8.9 m	3
500-999 and Platform Width < 8 m	5
>1000 and Platform Width $\geq$ 9 m	1
>1000 and Platform Width 8 - 8.9 m	3
>1000 and Platform Width < 8 m	5

Probability of Failure:

Road Surface Rating Value

Rating	Value
$\geq$ 9	1
8	2
7	3
6	4
< 6	5

Drainage

Drainage Rating	Value
Good	1
Fair	3
Poor	5

Road Structure Rating Value

Rating	Value
$\geq$ 8.5	1
7.5 - 8	2
6.5 - 7	3
5.5 - 6	4
< 5.5	5

Consequence of Failure: Traffic Value

Probability of Failure: (Surface Condition Value + Drainage Value + (Structure Value * 2) / 4

Performance Grade: (Maintenance Demand + Platform Width Value + Alignment Value) / 3

Risk = Consequence of Failure + Probability of Failure

Priority Score = Risk + Level of Service

Level of Service = Performance Grade + Probability of Failure

APPENDIX C-3

COST COMPARISON BETWEEN GRAVEL, LCB AND HCB ROAD TYPES

Brockton Gravel vs. Asphalt Road Cost Comparison

Capital Costs for One Lift of Asphalt

Assumptions:

- Roads pulverized and paved in year one and the cost to do that work are spread over the life of the asset.
- **Assumed that the base of the road is already in good condition and suitable to support asphalt surface.**
- Assume that cost is amortized over the life of the road.
- Maintenance costs are spread over all of Brocktons roads
- Road components as presented below:

Rural Full depth pulverize and pave, 6.7m wide road, 1m shoulder

Pulervize	6700 sq. m	1	6,700.00
Granular A	804 t	15	12,060.00
Shoulder Gravel	240 t	20	4,800.00
Fine grade	8700 sq. m	1.5	13,050.00
HL-4 (50mm)	904.5 t	85	76,882.50
Bond/Insur/Traffic/Lump Sum	10.0%		3,404.78
Contingencies	0.0%		0.00
Engineering/Administration	0.0%		0.00
Total Probable Cost per 1000m			116,897.28
			\$ 120.00/m

Life Expectancy, assumed average	25 years	20 years
Discount Rate for money	3%	3%
Equivalent Annual Expenditure	\$6,713 /km	\$7,857 /km
Total Length of Paved Roads	118.07 km	
Total Length of LCB Roads	82.76 km	
Total Length of Gravel Roads	182.56 km	

Hard Top Maintenance Costs per Year, Paved Roads

Repairs, includes crack sealing, shoulder gravel, patching,	\$50,000.00
Total Length of Paved Roads	118.07 km
Cost per kilometer of roads	\$423 /km/ year

Road salt and sand application costs, Applied to Paved and LCB roads

Cost to purchase and mix sand and salt for road applications.	\$100,000.00
Total Length of Paved Roads	200.83
Cost per kilometer of roads	\$498 /km/ year

Costs to apply were not included as it has been assumed it would be placed when removing the snow and other miscellaneous costs such as storage, managing has been ignored.

Summary of Paved Road Costs

Maintenance:

Crack sealing, shoulders, patching, etc.	\$423 /km/ year
Road Sand and Salt Costs	\$498 /km/ year

Capital Costs:

Reconstruct surface every 25 years	\$6,713 /km/ year
Total	\$7,635 /km /year

Notes:

Maintenance Costs do not include road side grass cutting, equipment & labour for snow removal
Line painting, equipment costs, fuel, etc.

A relatively low discount rate of 3% has been assumed because Municipality are generally not financing the improvements through a bank.

While the life expectancy of 25 years has been assumed, an alternative estimate of the capital costs has been calculated assuming a life expectancy of 20 years.

Brockton Gravel vs. Asphalt Road Cost Comparison

Capital Costs for Single lift of LCB

Assumptions:

- Roads are resurfaced with emulsion every 6 years.
- Assumed that the base of the road is already in good condition and suitable to support emulsion
- Assume that cost is amortized over the life of the road.
- Maintenance costs are spread over all of Brocktons roads
- **Note: the surface treatment costs were calculated two ways and checked for comparison**
- Road components as presented below:

Surface Treatment - Single surface, 6.7m wide

Single lift surface treatment	6700 sq. m	3	20,100.00	
Bond/Insur/Traffic/Lump Sum	10.0%		2,010.00	
Contingencies	0.0%		0.00	
Engineering/Administration	0.0%		0.00	
Total			22,110.00	\$ 22.00/m

Life Expectancy, assumed average	5.5 years
Discount Rate for money	3%
Equivalent Annual Expenditure	\$4,421 /km
Total Length of Paved Roads	118.07 km
Total Length of LCB Roads	82.76 km

Average Emulsion Costs per Year, LCB Roads

Resurfacing with emulsion using municipal average cost, every 6 yrs	\$240,000.00
Total Length of LCB Roads	82.76
Cost per kilometer of roads	\$2,900 /km

Hard Top Maintenance Costs per Year, Paved Roads

Repairs, includes crack sealing, shoulder gravel, patching,	\$50,000.00	
Total Length of Paved Roads	200.83	
Cost per kilometer of roads	\$249 /km	Say \$50/km fro

Road salt and sand application costs, Applied to Paved and LCB roads

Cost to purchase and mix sand and salt for road applications.	\$100,000.00
Total Length of Paved Roads	200.83
Cost per kilometer of roads	\$498 /km

Costs to apply were not included as it has been assumed it would be placed when removing the snow and other miscellaneous costs such as storage, managing has been ignored.

Summary of Paved Road Costs

Maintenance:

Emulsion Application Every 6 year	-	/km/ year
Crack sealing, shoulders, patching, etc.		\$50 /km/ year
Road Sand and Salt Costs		\$498 /km/ year

Capital Costs:

Reconstruct surface every 20 years		\$4,421 /km/ year
Total		\$4,969 /km/ year

Notes:

- Maintenance Costs do not include road side grass cutting and equipment & labour for snow removal
- The more expensive price calculated to apply emulsion has been used in the price comparison.
- If the cost information provided by the Municipality was used the cost would be reduce about \$900/km.
- As the resurfacing work is spreadout of the 6 year period the discount rate has been decreased.

Brockton Gravel vs. Asphalt Road Cost Comparison

Capital Costs for Gravel Roads

Assumptions:

- Gravel roads will last 100 years, therefore, no capital cost, only maintenance costs.
- Assumed gravel resurface with on average 35mm of A gravel every second year.
- Cost calculated in summary table includes allowance for placement costs

Gravel Resurfacing 50mm, Applied every second year

Operator	4 hrs	55	220.00
Grader	4 hrs	100	400.00
Granular A	460.8 t	9.5	4,377.60
Calcium	0.9375 sq. m	950	890.63
Bond/Insur/Traffic/Lump Sum	4.0%		235.53
Contingencies	0.0%		0.00
Engineering/Administration	0.0%		0.00
Total			6,123.75 \$ 6.00/m

Life Expectancy	2 years
Discount Rate for money	0%
Equivalent Annual Expenditure	\$3,064 /km
Total Length of Paved Roads	118.07 km
Total Length of LCB Roads	82.76 km
Total Length of Gravel Roads	182.56 km

Maintenance Costs for Gravel Roads

Annual costs gravel and calcium, excluding placement, purchase costs	\$280,000.00
Total Length of Paved Roads	118.07
Cost per kilometer of roads	\$2,371 /km

Gravel Labour Costs per Year,

Annual grading, excluding fuel and equipment cost	\$10,000.00
Allowance for fuel and equipment costs	\$60,000.00
Total Length of Paved Roads	182.56
Cost per kilometer of roads	\$383 /km

Summary of Paved Road Costs

Maintenance:

Bi-annual gravel applicaton	\$3,064 /km/ year
annual grading	\$383 /km/ year

Capital Costs:

Reconstruct surface every 2 years	\$0 /km/ year
Total	\$3,448 /km/ year

Notes:

- Maintenance Costs do not include road side grass cutting and equipment & labour for snow removal
- Municipality currently uses own gravel supply, current costs include crushing and trucking

APPENDIX D-1

ROAD CONSTRUCTION NEEDS SORTED BY PROPOSED YEAR OF WORK AND PRIORITY SCORE

Appendix D1 - Road Construction Needs
Sorted by Proposed Year of Need and Priority Score

Municipality of Brockton
Road Management Study

Section ID	Road Name	From	To	Section Length (m)	Surface Type	Traffic Range (vpd)	Road Construction Needs	Theo. Year of Need	Proposed Year of Work	Priority	Probable Costs (\$,000)
1106	QUEEN ST W	Conc 10 - town limit	Dirstien	441	LCB - 2 lifts	200-499	Urban Full Reconstruction - Base Course of Asphalt Minor Storm 1 Concrete Sidewalk	2021	2020	12.5	662.1
785	CONCESSION 10 BRANT	SDR 30	Cty Rd 10	1223	LCB - 2 lifts	200-499	Rural Full Reconstruction - Base Course Asphalt	2021	2020	11.8	794.4
1107	QUEEN ST W	Dirstien	Main St	118	LCB - 2 lifts	200-499	Urban Full Reconstruction - Base Course of Asphalt Minor Storm 2 Concrete Sidewalk	2021	2020	11.8	225.3
1111	DAVID ST	Dirstien St N	Main St N	117	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave Minor Storm	2021	2020	8.8	94.0
1110	DAVID ST	Dirstien St N	west end	66	HCB - 1 lift	50-199	Semi-Urban Full depth pulverize and pave	2024	2020	8.8	53.8
1109	DIRSTIEN ST N	Queen	David	138	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave Minor Storm 1 Concrete Sidewalk	2021	2020	8.8	124.0
1112	CHURCH ST W	Main St N	west end	75	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave Minor Storm	2021	2020	8.8	75.0
1104	DIRSTIEN ST S	Dirstien Street S. - Parker St.	Firehall	287	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave Minor Storm	2021	2020	8.8	169.2
1105	DIRSTIEN ST S	Queen	Parker	210	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave Minor Storm 1 Concrete Sidewalk	2021	2020	8.8	124.5
1103	PARKER ST	Dirstien Street S	Main St S	119	HCB - 1 lift	50-199	Semi-Urban Full depth pulverize and pave Minor Storm	2024	2020	8.8	94.7
1108	DIRSTIEN ST N	David	north end	72	LCB - 2 lifts	0-49	Semi-Urban Full depth pulverize and pave	2021	2020	7.8	29.9
944	CONCESSION 6	Bruce Rd 20	John Cr	3484	LCB - 2 lifts	500-999	Rural Full depth pulverize and pave	2022	2021	11.3	738.8
493	CONCESSION 10 BRANT	SDR 5	County Road 3	2058	LCB - 2 lifts	200-499	Rural Full depth pulverize and pave	2021	2021	10.8	459.5
732	CONCESSION 8	Bruce Rd 19	SDR 20	2052	LCB - 2 lifts	500-999	Rural Full depth pulverize and pave	2022	2021	10.3	427.4
768	LAKE ROSALIND RD 5	SDR 30 N	Lake Rosalind Rd 5A	483	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave	2021	2021	9.8	103.0
766	LAKE ROSALIND RD 5	Lake Rosalind Rd 5A	north end	408	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave	2021	2021	9.8	89.6
753	CONCESSION 4 EAST BRANT	Bruce Rd 19	SDR 20	2034	HCB - 1 lift	200-499	Rural Full Reconstruction - Base Course Asphalt	2023	2022	11.8	1268.1
183	UNION ST N	Melvin St.	Hwy 9, Riversdale	201	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave	2022	2022	9.3	35.8
181	HIGH ST	Melvin St.	Hwy 9., Riversdale	201	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave	2022	2022	9.3	35.7
552	CONCESSION 2 SDR	SDR 30	east end	2057	LCB - 2 lifts	500-999	Rural Full depth pulverize and pave	2022	2022	9.3	445.4
865	CONCESSION 2 SDR	Maple Hill Rd	SDR 30	1229	HCB - 1 lift	500-999	Rural Full depth pulverize and pave	2023	2022	8.8	287.9
179	MELVIN ST	Union St.	High St., Riversdale	94	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave	2022	2022	8.3	16.7
187	UNION ST N	Bridge St	Melvin St, Riversdale	277	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave	2022	2022	8.3	49.3
184	UNION ST S	Hwy 9	150m south of Hwy 9	150	LCB - 2 lifts	0-49	Semi-Urban Full depth pulverize and pave	2022	2022	8.0	26.7

**Appendix D1 - Road Construction Needs
Sorted by Proposed Year of Need and Priority Score**

**Municipality of Brockton
Road Management Study**

Section ID	Road Name	From	To	Section Length (m)	Surface Type	Traffic Range (vpd)	Road Construction Needs	Theo. Year of Need	Proposed Year of Work	Priority	Probable Costs (\$,000)
186	BRIDGE ST	Union St N	SDR 20	218	LCB - 2 lifts	50-199	Semi-Urban Full depth pulverize and pave	2022	2022	6.8	38.8
35	CONCESSION 10 BRANT	SDR 5 Brant	0.4 km east of SDR 5 Brant	412	LCB - 2 lifts	200-499	Rural Full Reconstruction - Gravel Surface	2023	2023	12.2	210.8
831	SIDEROAD 20 SOUTH BRANT	Con 2 SDR	Carrick Boundary	1032	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2023	2023	9.8	223.3
850	PLEASURE VALLEY RD	Bruce Road 4	Bruce Road 4	399	HCb - 1 lift	50-199	Rural Full depth pulverize and pave	2024	2023	9.8	121.8
809	SIDEROAD 30 NORTH	Con 4	Lake Rosalind Rd 5	1069	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2027	2024	10.0	255.9
810	SIDEROAD 30 NORTH	Lake Rosalind Rd 5	Con 2 NDR E	1018	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2027	2024	9.3	245.5
842	MAPLE HILL RD	Hwy 4	Con 2 SDR	2056	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2026	2024	9.3	453.1
357	CHEPSTOW RD	SDR 5 Greenock	Doerr SDR	2085	HCb - 1 lift	500-999	Rural Full depth pulverize and pave	2026	2024	8.3	458.9
945	CHEPSTOW RD	Con 4 - Greenock Brant	Bruce Rd 3 (Chepstow Rd)	2087	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2026	2024	7.3	459.4
385	CHEPSTOW RD	Doerr SDR	Greenock-Brant	933	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2026	2024	7.3	228.6
412	CONCESSION 12	Greenock-Brant	Cty Rd 3	2029	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2027	2025	10.3	447.9
791	SIDEROAD 30 SOUTH	Con 2 SDR	Carrick Boundary	1028	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2026	2025	8.3	247.7
411	ONCESSION 4 EAST GREENOC	SDR 5	Greenock-Brant	2971	LCB - 2 lifts	50-199	Surface Treatment - Single surface	2023	2025	6.8	121.0
51	SIDEROAD 5 GREENOCK	Con 14	Bruce Rd 15	2036	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2027	2026	10.3	424.2
350	SIDEROAD 5 GREENOCK	Bruce Rd 15	Con 10	2041	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2026	2026	9.3	425.3
165	SIDEROAD 5 GREENOCK	Con 16	Con 14	2041	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2027	2026	9.3	425.2
218	SIDEROAD 5 GREENOCK	Con 18	Con 16	1077	HCb - 1 lift	200-499	Rural Full depth pulverize and pave	2026	2026	8.8	232.3
943	CONCESSION 6	John Cr	Ann St	261	HCb - 2 lifts	500-999	Urban Partial depth cold planing and resurfacing	2029	2029	9.3	116.5
942	CONCESSION 6	John Cr	SDR 5 Greenock	282	HCb - 2 lifts	500-999	Urban Partial depth cold planing and resurfacing	2029	2029	9.3	122.4
6550	CONCESSION 6	Ann St	John Cr	13	HCb - 2 lifts	500-999	Urban Partial depth cold planing and resurfacing	2027	2029	9.3	45.7

APPENDIX D-2

RECOMMENDED ROAD MAINTENANCE NEEDS SORTED BY TRAFFIC RANGE AND SECTION NUMBER

**Appendix D2 - Recommended Road Maintenance Needs
Sorted by Traffic Range and Section Number**

**Municipality of Brockton
Road Management Study**

Section ID	Road Name	From	To	Surface Type	Traffic Range (vpd)	Recommended Spot Road and Drainage	Recommended Specific Maintenance	Total Maintenance Cost (\$,000)
16	CONCESSION 8	SDR 10	Bruce Rd 19	HCB - 1 lift	1000-1999		Crack Sealing	16.4
283	CARGILL RD	Greenock-Brant	0.3km east of Greenock-Brant	HCB - 2 lifts	1000-1999	Patching (<60 m)	Crack Sealing	19.3
352	CARGILL RD	Greenock-Brant	Greenock-Brant	HCB - 2 lifts	1000-1999	Patching (<60 m)	Crack Sealing	17.2
550	CONCESSION 8	Cty Rd 3	SDR 10	HCB - 1 lift	1000-1999	Patching (<60 m) Paved Road Spot Repair (<60 m)	Crack Sealing	75.5
6765	CARGILL RD	0.3km east of Greenock-Brant	Cty Rd 3	HCB - 1 lift	1000-1999	Patching (<60 m)	Crack Sealing	29.4
286	CONCESSION 2	SDR 5	Greenock-Brant	LCB - 2 lifts	500-999	Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	128.9
344	CONCESSION 10 GREENOCK	SDR 5	0.15 km west of Greenock/Brant	LCB - 2 lifts	500-999		Surface Treatment - Single Surface	98.9
368	SIDEROAD 5 GREENOCK	Con 4	Con 2	LCB - 2 lifts	500-999		Surface Treatment - Single Surface	71.7
383	CARGILL RD	Queen St Brant	King St	HCB - 2 lifts	500-999	Patching (<60 m)	Crack Sealing	17.5
386	CARGILL RD	King St	Greenock-Brant	HCB - 2 lifts	500-999	Patching (<60 m)	Crack Sealing	18.0
492	DURHAM RD	Greenock-Brant	Cty Rd 3	LCB - 2 lifts	500-999		Surface Treatment - Single Surface	71.5
556	CONCESSION 4 EAST BRANT	Emke Rd	Bruce Rd 10	LCB - 2 lifts	500-999	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	81.0
628	CONCESSION 2 NDR EAST	SDR 20	SDR 25	HCB - 1 lift	500-999	Patching (<60 m) Patching (<60 m)	Surface Treatment - Single Surface	105.4
638	CONCESSION 8	SDR 20	SDR 25	LCB - 2 lifts	500-999		Surface Treatment - Single Surface	71.2
639	CONCESSION 2 SDR	SDR 15	SDR 20	LCB - 2 lifts	500-999	Patching (<60 m) Shoulder and Slope Repair (<100 m)	Surface Treatment - Single Surface	93.0
734	SIDEROAD 15 BRANT	Bruce Rd 4	Con 2 SDR	HCB - 1 lift	500-999	Patching (<60 m) Ditching Improvements (<200 m)	Crack Sealing	35.8
755	CONCESSION 2 NDR EAST	Bruce Rd 19	SDR 20	HCB - 1 lift	500-999	Patching (<60 m) Paved Road Spot Repair (<60 m)		42.0
817	CONCESSION 8	SDR 25	SDR 30	LCB - 2 lifts	500-999		Surface Treatment - Single Surface	70.9
819	SIDEROAD 30 NORTH	Con 12	Con 10	LCB - 2 lifts	500-999	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.4
820	CONCESSION 2 SDR	SDR 25	Maple Hill Rd	LCB - 2 lifts	500-999	Patching (<60 m)	Surface Treatment - Single Surface	45.4
829	CONCESSION 2 SDR	SDR 20	SDR 25	LCB - 2 lifts	500-999	Patching (<60 m)	Surface Treatment - Single Surface	88.9
841	SIDEROAD 30 NORTH	Conc 10	Conc 8	HCB - 1 lift	500-999	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.4
848	CONCESSION 2 NDR EAST	SDR 25	SDR 30	HCB - 1 lift	500-999	Patching (<60 m) Paved Road Spot Repair (<60 m)		42.0
858	SIDEROAD 30 NORTH	Con 14	Con 12	HCB - 1 lift	500-999	Patching (<60 m)	Surface Treatment - Single Surface	88.5
924	SIDEROAD 30 NORTH	Bruce Rd 19	Con 14	LCB - 2 lifts	500-999	Patching (<60 m) Shoulder and Slope Repair (<100 m)	Surface Treatment - Single Surface	62.5

**Appendix D2 - Recommended Road Maintenance Needs
Sorted by Traffic Range and Section Number**

**Municipality of Brockton
Road Management Study**

Section ID	Road Name	From	To	Surface Type	Traffic Range (vpd)	Recommended Spot Road and Drainage	Recommended Specific Maintenance	Total Maintenance Cost (\$,000)
931	CONCESSION 8	SDR 30	Cty Rd 10	HCB - 1 lift	500-999	Patching (<60 m)		17.0
6740	LAKE ROSALIND RD 1	Marl Lakes Rd.	Lake Rosalind Rd 2A	HCB - 1 lift	500-999		Crack Sealing	1.6
6741	LAKE ROSALIND RD 1	Lake Rosalind Rd 2	Lake Rosalind Rd 6	HCB - 1 lift	500-999		Crack Sealing	9.8
6743	LAKE ROSALIND RD 1	Lake Rosalind Rd 2A	Lake Rosalind Rd 2	HCB - 1 lift	500-999		Crack Sealing	0.5
6769	CONCESSION 10 GREENOCK	0.15 km west of Greenock/Brant	Queen St Brant	HCB - 2 lifts	500-999	Patching (<60 m)	Crack Sealing	18.2
50	CONCESSION 14	SDR 5	Baseline South	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	71.5
63	CONCESSION 4 EAST GREENOCK	Cty Rd 20	SDR 5	HCB - 1 lift	200-499	Patching (<60 m)		17.0
65	CONCESSION 10 GREENOCK	Cty Rd 20	SDR 5	LCB - 2 lifts	200-499		Raise Road Surface Treatment - Single Surface	437.7
201	SIDEROAD 5 GREENOCK	Bruce Rd 1	Con 18	HCB - 1 lift	200-499		Crack Sealing	16.4
208	BRUCE-GREENOCK SOUTH	Bruce Rd 1	Concession Rd 8	HCB - 1 lift	200-499		Surface Treatment - Single Surface	5.8
215	CONCESSION 14	Cty Rd 20	SDR 5	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	148.7
271	CONCESSION 2 NDR WEST	Greenock-Brant	Bruce Rd 3	HCB - 1 lift	200-499	Patching (<60 m)	Surface Treatment - Single Surface	89.4
274	GREENOCK-BRANT	Con 2	Durham Rd	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	71.6
348	SIDEROAD 5 GREENOCK	Con 10	Con 8	LCB - 2 lifts	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.2
351	GREENOCK-BRANT	Cheptow	Conc 6	HCB - 1 lift	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.6
367	SIDEROAD 5 GREENOCK	Conc 2	Hwy 9	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	73.6
369	SIDEROAD 5 GREENOCK	Chepstow Rd	Mill St	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	4.0
371	SIDEROAD 5 GREENOCK	Mill St	Conc 4	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	66.7
372	SIDEROAD 5 GREENOCK	Con 8	Con 6	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	71.3
373	CONCESSION 14	Baseline South	Banting Line	HCB - 1 lift	200-499	Patching (<60 m) Patching (<60 m)	Surface Treatment - Single Surface	48.7
375	CONCESSION 14	Banting Line	Greenock - Brant	HCB - 1 lift	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	59.8
410	GREENOCK-BRANT	Conc 2	Cheptow	LCB - 2 lifts	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	112.2
420	GREENOCK-BRANT	Hwy 9	Durham	HCB - 1 lift	200-499	Patching (<60 m)		17.0
495	SIDEROAD 5 SOUTH	Con 2 NDR W	Bruce Rd 2	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	71.4
549	SIDEROAD 5 SOUTH	Bruce Rd 2	Hwy 9	HCB - 1 lift	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.5
624	CONCESSION 12	SDR 25	SDR 30	HCB - 1 lift	200-499		Surface Treatment - Single Surface	70.3
629	CONCESSION 4 EAST BRANT	SDR 20	SDR 25	HCB - 1 lift	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.5

**Appendix D2 - Recommended Road Maintenance Needs
Sorted by Traffic Range and Section Number**

**Municipality of Brockton
Road Management Study**

Section ID	Road Name	From	To	Surface Type	Traffic Range (vpd)	Recommended Spot Road and Drainage	Recommended Specific Maintenance	Total Maintenance Cost (\$,000)
642	CONCESSION 10 BRANT	SDR 20	SDR 25	LCB - 2 lifts	200-499	Patching (<60 m)	Surface Treatment - Single Surface	88.4
704	CONCESSION 2 NDR EAST	SDR 10	Bruce Rd 19	HCB - 1 lift	200-499	Patching (<60 m) Patching (<60 m)	Crack Sealing	50.2
705	CONCESSION 10 BRANT	Cty Rd 19	SDR 20	LCB - 2 lifts	200-499	Patching (<60 m)	Surface Treatment - Single Surface	89.1
735	SIDEROAD 20	Con 10	Con 8	Gravel	200-499		Raise Road	142.9
743	SIDEROAD 15 NORTH	Bruce Rd 19	Brant-Elderslie	LCB - 2 lifts	200-499	Patching (<60 m)	Surface Treatment - Single Surface	21.8
752	CONCESSION 12	SDR 20	SDR 25	HCB - 1 lift	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.5
811	AIRPORT RD	Saugeen Airport Rd	Marl Lakes Rd	HCB - 1 lift	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)		42.0
827	SIDEROAD 30 NORTH	Conc 6	Conc 8	HCB - 1 lift	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.4
840	CONCESSION 10 BRANT	SDR 25	SDR 30	LCB - 2 lifts	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	112.5
846	CONCESSION 12	SDR 30	Cty Rd 10	HCB - 1 lift	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	104.4
849	CONCESSION 4 EAST BRANT	SDR 25	SDR 30	HCB - 1 lift	200-499	Patching (<60 m) Patching (<60 m)	Surface Treatment - Single Surface	105.4
852	SIDEROAD 30 NORTH	Con 6	Con 4	LCB - 2 lifts	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.5
857	CONCESSION 14 EAST	SDR 30	Cty Rd 10	Gravel	200-499	Raise Grade Line - Gravel 150mm (<100 m)		8.6
862	CONCESSION 4 EAST BRANT	SDR 30 N	Emke Rd	LCB - 2 lifts	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	64.9
863	AIRPORT RD	Cty Rd 22	Conc. 2 Ndr E	HCB - 1 lift	200-499	Patching (<60 m) Patching (<60 m)		34.0
929	CONCESSION 22	Cty Rd 1	Wilkinson	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	0.9
930	CONCESSION 22	Bruce Greenock S	Cty Rd 1	LCB - 2 lifts	200-499		Surface Treatment - Single Surface	70.2
2607	BRUCE-GREENOCK SOUTH	Concession Rd 10	SDR 5	LCB - 2 lifts	200-499	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	77.5
21	CONCESSION 6 EAST	SDR 10	Bruce Rd 19	HCB - 1 lift	50-199	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.6
37	BRANT-ELDESLIE	SDR 10	Cty Rd 19	LCB - 2 lifts	50-199	Patching (<60 m)	Surface Treatment - Single Surface	88.9
44	SCHMIDT LAKE RD	SDR 5	1.4 km west of SDR5	LCB - 2 lifts	50-199	Patching (<60 m)	Surface Treatment - Single Surface	67.1
114	CONCESSION 10 GREENOCK	SDR 20 North Greenock	Bruce Road 20	HCB - 1 lift	50-199	Patching (<60 m)	Surface Treatment - Single Surface	88.6
130	CONCESSION 18	Cty Rd 1	SDR 15	LCB - 2 lifts	50-199		Surface Treatment - Single Surface	1.1
209	BRUCE-GREENOCK SOUTH	Concession Rd 8	Concession Rd 10	HCB - 1 lift	50-199	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	108.7

**Appendix D2 - Recommended Road Maintenance Needs
Sorted by Traffic Range and Section Number**

**Municipality of Brockton
Road Management Study**

Section ID	Road Name	From	To	Surface Type	Traffic Range (vpd)	Recommended Spot Road and Drainage	Recommended Specific Maintenance	Total Maintenance Cost (\$,000)
291	GREENOCK-BRANT	Bend in Road	Cargill Road	HCB - 1 lift	50-199	Patching (<60 m)		17.0
292	GREENOCK-BRANT	Con 10	Bend in Road	HCB - 1 lift	50-199	Patching (<60 m)		17.0
359	GREENOCK-BRANT	Con 12	Con 10	HCB - 1 lift	50-199	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.3
360	SIDEROAD 5 GREENOCK	Hwy 9	0.4km south of Hwy 9	LCB - 2 lifts	50-199		Surface Treatment - Single Surface	14.0
382	QUEEN ST BRANT	King St.	Cargill Rd.	HCB - 2 lifts	50-199	Patching (<60 m)	Crack Sealing	19.6
384	KING ST	Cargill Rd.	Queen St Brant.	HCB - 2 lifts	50-199	Patching (<60 m)	Crack Sealing	20.4
499	MAPLE CREEK DR	Cty Rd 3	Woodland Ct	HCB - 1 lift	50-199	Patching (<60 m)		17.0
500	CONCESSION 4 WEST BRANT	Bruce Rd 3	SDR 5	HCB - 1 lift	50-199	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.4
520	MAPLE CREEK DR	Highland Cr	east end	HCB - 1 lift	50-199	Patching (<60 m)		17.0
522	MAPLE CREEK DR	Woodland Ct	Highland Cr	HCB - 1 lift	50-199	Patching (<60 m)		17.0
533	SIDEROAD 5 SOUTH	Con 4	Con 2 NDR	HCB - 1 lift	50-199	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.5
619	SIDEROAD 20	Cty Rd 4	Conc 2	Gravel	50-199	Culvert <750 mm diameter		7.5
630	CONCESSION 14 EAST	SDR 25	SDR 30	Gravel	50-199	Gravel Road Spot Repair (<60 m)		18.0
723	CONCESSION 4 EAST BRANT	SDR 10	Bruce Rd 19	HCB - 1 lift	50-199	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.4
777	LAKE ROSALIND RD 4	Marl Lakes Rd.	Lake Rosalind Rd 4A	HCB - 1 lift	50-199		Crack Sealing	7.1
832	SIDEROAD 25 NORTH	Con 2	Hwy 4	HCB - 1 lift	50-199	Patching (<60 m) Paved Road Spot Repair (<60 m)	Surface Treatment - Single Surface	113.5
853	CONCESSION 6 EAST	SDR 30	Holme Ln	Gravel	50-199	Gravel Road Spot Repair (<60 m)		18.0
928	BRUCE-GREENOCK NORTH	Conc 12	Bruce-Saugeen Townline	LCB - 2 lifts	50-199	Patching (<60 m) Paved Road Spot Repair (<60 m)		42.0
6744	LAKE ROSALIND RD 2	Lake Rosalind Rd 1	Lake Rosalind Rd 2A	HCB - 1 lift	50-199		Crack Sealing	2.9
6745	LAKE ROSALIND RD 2A	Lake Rosalind Rd 1	Lake Rosalind Rd 2	HCB - 1 lift	50-199		Crack Sealing	1.7
305	HILL ST	Cty Rd 15	south end	HCB - 2 lifts	0-49	Patching (<60 m)		17.0
379	DONNELLY CR	Cty Rd 15	Cty Rd 15	HCB - 1 lift	0-49	Patching (<60 m) Paved Road Spot Repair (<60 m)		42.0
403	ZETTEL LN	Cty Rd 15	east end	HCB - 1 lift	0-49	Patching (<60 m) Paved Road Spot Repair (<60 m)		42.0
534	CONCESSION 14 EAST	Saugeen River	SDR 10	Gravel	0-49		Raise Road	87.3
535	SIDEROAD 10 NORTH	Conc 14	Brant-Elderslie	Gravel	0-49	Raise Grade Line - Gravel 150mm (<100 m)		8.6
547	CONCESSION 2 NDR WEST	SDR 5	Saugeen River	LCB - 2 lifts	0-49		Surface Treatment - Single Surface	37.7
643	KINGMA CT	SDR 15	west end	Gravel	0-49	Ditching Improvements (<200 m)		2.5

**Appendix D2 - Recommended Road Maintenance Needs
Sorted by Traffic Range and Section Number**

**Municipality of Brockton
Road Management Study**

Section ID	Road Name	From	To	Surface Type	Traffic Range (vpd)	Recommended Spot Road and Drainage	Recommended Specific Maintenance	Total Maintenance Cost (\$,000)
644	SIDEROAD 15 BRANT	Con 2 SDR	Carrick Boundary	Gravel	0-49	Ditching Improvements (<200 m)		2.5
728	SIDEROAD 20	Con 12	Con 10	Gravel	0-49		Raise Road	145.7
767	LAKE ROSALIND RD 4	Lake Rosalind Rd 4A	West End	HCB - 1 lift	0-49		Crack Sealing	1.8
815	CONCESSION 6 EAST	Holme Ln	east end	Gravel	0-49	Patching (<60 m)		17.0
938	WILLI ST	John Cr.	East	LCB - 2 lifts	0-49		Surface Treatment - Single Surface	3.7
941	ANN ST	Concession 6	South End	HCB - 1 lift	0-49	Patching (<60 m)		17.0
1261	WELLINGTON ST	Bruce Rd 1	Balaklava St. (Paisley)	HCB - 1 lift	0-49	Patching (<60 m)		17.0
1262	WELLINGTON ST	Balaklava St	End (Paisley)	HCB - 1 lift	0-49	Patching (<60 m)		17.0
1779	LAKE ROSALIND RD 4A	Lake Rosalind Rd 4	North End	HCB - 1 lift	0-49	Patching (<60 m)		17.0
6739	LAKE ROSALIND RD 2	Lake Rosalind Rd 2A	south end	HCB - 1 lift	0-49		Crack Sealing	0.7
6742	LAKE ROSALIND RD 6	Lake Rosalind Rd 1	south end	HCB - 1 lift	0-49		Crack Sealing	1.9
6767	CARRICK-BRANT WEST	Cty Rd 3	0.25km west of Cty Rd 3	Gravel	0-49			5.2
Total:								6679.5

APPENDIX D-3

ROAD NEEDS PRIORITY SCORE SORTED BY PRIORITY SCORE

Municipality of Brockton
Road Management Study

Section ID	Road Name	Section Length (m)	Surface Type	Roadside Environment	Traffic Range (vpd)	Probable Costs (\$,000)	Road Class	Platform Width	Width Value	Drainage Value	Performance Grade (Drainage + Width Value + Alignment/3)	Road Structural Rating	Road Surface Rating	Probability of Failure (Surface + Drainage + (Structure*2))/4	Consequence of Failure (From Traffic Range, 1-5)	Level of Service (Performance Grade + Probability of Failure)	Risk (Probability Failure + Consequence of Failure)	Priority Score (Level of Service + Risk)	Theo. Year of Need	Proposed Year of Work
1106	QUEEN ST W	441	LCB - 2 lifts	Urban	200-499	662.1	Collector	9	1	3	2.0	6	6	3.8	3.0	5.8	6.8	12.5	2021	2020
35	CONCESSION 10 BRANT	412	LCB - 2 lifts	Rural	200-499	210.8	Local	8	1	3	2.7	6	8	3.3	3.0	5.9	6.3	12.2	2023	2023
753	CONCESSION 4 EAST BRANT	2034	HCB - 1 lift	Rural	200-499	1268.1	Local	9	1	1	2.3	6	6	3.3	3.0	5.6	6.3	11.8	2023	2022
785	CONCESSION 10 BRANT	1223	LCB - 2 lifts	Rural	200-499	794.4	Collector	9	1	3	1.3	6	6	3.8	3.0	5.1	6.8	11.8	2021	2020
1107	QUEEN ST W	118	LCB - 2 lifts	Urban	200-499	225.3	Collector	9	1	3	1.3	6	6	3.8	3.0	5.1	6.8	11.8	2021	2020
944	CONCESSION 6	3484	LCB - 2 lifts	Rural	500-999	738.8	Collector	9	1	3	1.3	6.5	7	3.0	4.0	4.3	7.0	11.3	2022	2021
493	CONCESSION 10 BRANT	2058	LCB - 2 lifts	Rural	200-499	459.5	Local	9	1	3	1.3	6.5	6	3.3	3.0	4.6	6.3	10.8	2021	2021
51	SIDEROAD 5 GREENOCK	2036	HCB - 1 lift	Rural	200-499	424.2	Collector	9	1	3	1.3	7	7	3.0	3.0	4.3	6.0	10.3	2027	2026
732	CONCESSION 8	2052	LCB - 2 lifts	Rural	500-999	427.4	Collector	9	1	3	1.3	7.5	7	2.5	4.0	3.8	6.5	10.3	2022	2021
412	CONCESSION 12	2029	HCB - 1 lift	Rural	200-499	447.9	Local	9	1	3	1.3	7	7	3.0	3.0	4.3	6.0	10.3	2027	2025
809	SIDEROAD 30 NORTH	1069	HCB - 1 lift	Rural	200-499	255.9	Collector	9	1	3	2.0	7.5	7	2.5	3.0	4.5	5.5	10.0	2027	2024
768	LAKE ROSALIND RD 5	483	LCB - 2 lifts	Semi-Urban	50-199	103.0	Local	9	1	3	1.3	7	6	3.3	2.0	4.6	5.3	9.8	2021	2021
766	LAKE ROSALIND RD 5	408	LCB - 2 lifts	Semi-Urban	50-199	89.6	Local	9	1	3	1.3	7	6	3.3	2.0	4.6	5.3	9.8	2021	2021
850	PLEASURE VALLEY RD	399	HCB - 1 lift	Rural	50-199	121.8	Local	9	1	3	1.3	7	6	3.3	2.0	4.6	5.3	9.8	2024	2023
831	SIDEROAD 20 SOUTH BRANT	1032	HCB - 1 lift	Rural	200-499	223.3	Local	9	1	3	1.3	7.5	6	2.8	3.0	4.1	5.8	9.8	2023	2023
183	UNION ST N	201	LCB - 2 lifts	Semi-Urban	50-199	35.8	Local	9	1	3	1.3	7	7	3.0	2.0	4.3	5.0	9.3	2022	2022
810	SIDEROAD 30 NORTH	1018	HCB - 1 lift	Rural	200-499	245.5	Collector	9	1	3	1.3	7.5	7	2.5	3.0	3.8	5.5	9.3	2027	2024
165	SIDEROAD 5 GREENOCK	2041	HCB - 1 lift	Rural	200-499	425.2	Collector	9	1	1	1.3	7	7	2.5	3.0	3.8	5.5	9.3	2027	2026
181	HIGH ST	201	LCB - 2 lifts	Semi-Urban	50-199	35.7	Local	9	1	3	1.3	7	7	3.0	2.0	4.3	5.0	9.3	2022	2022
842	MAPLE HILL RD	2056	HCB - 1 lift	Rural	200-499	453.1	Collector	9	1	3	1.3	7.5	7	2.5	3.0	3.8	5.5	9.3	2026	2024
942	CONCESSION 6	282	HCB - 2 lifts	Urban	500-999	122.4	Collector	9	1	1	1.3	7.5	7	2.0	4.0	3.3	6.0	9.3	2029	2029
6550	CONCESSION 6	13	HCB - 2 lifts	Urban	500-999	45.7	Collector	9	1	1	1.3	7.5	7	2.0	4.0	3.3	6.0	9.3	2027	2029
943	CONCESSION 6	261	HCB - 2 lifts	Rural	500-999	116.5	Collector	9	1	1	1.3	7.5	7	2.0	4.0	3.3	6.0	9.3	2029	2029
552	CONCESSION 2 SDR	2057	LCB - 2 lifts	Rural	500-999	445.4	Collector	9	1	1	1.3	7.5	7	2.0	4.0	3.3	6.0	9.3	2022	2022
350	SIDEROAD 5 GREENOCK	2041	HCB - 1 lift	Rural	200-499	425.3	Collector	9	1	1	1.3	7	7	2.5	3.0	3.8	5.5	9.3	2026	2026
1104	DIRSTIEN ST S	287	LCB - 2 lifts	Semi-Urban	50-199	169.2	Local	9	1	3	1.3	7.5	6	2.8	2.0	4.1	4.8	8.8	2021	2020
1105	DIRSTIEN ST S	210	LCB - 2 lifts	Semi-Urban	50-199	124.5	Local	9	1	3	1.3	7.5	6	2.8	2.0	4.1	4.8	8.8	2021	2020
1103	PARKER ST	119	HCB - 1 lift	Semi-Urban	50-199	94.7	Local	9	1	3	1.3	7.5	6	2.8	2.0	4.1	4.8	8.8	2024	2020
865	CONCESSION 2 SDR	1229	HCB - 1 lift	Rural	500-999	287.9	Collector	9	1	1	1.3	8.5	6	1.8	4.0	3.1	5.8	8.8	2023	2022
1111	DAVID ST	117	LCB - 2 lifts	Semi-Urban	50-199	94.0	Local	9	1	3	1.3	7.5	6	2.8	2.0	4.1	4.8	8.8	2021	2020
1110	DAVID ST	66	HCB - 1 lift	Semi-Urban	50-199	53.8	Local	9	1	3	1.3	7.5	6	2.8	2.0	4.1	4.8	8.8	2024	2020
1109	DIRSTIEN ST N	138	LCB - 2 lifts	Semi-Urban	50-199	124.0	Local	9	1	3	1.3	7.5	6	2.8	2.0	4.1	4.8	8.8	2021	2020
218	SIDEROAD 5 GREENOCK	1077	HCB - 1 lift	Rural	200-499	232.3	Collector	9	1	0	1.3	7	7	2.3	3.0	3.6	5.3	8.8	2026	2026
1112	CHURCH ST W	75	LCB - 2 lifts	Semi-Urban	50-199	75.0	Local	9	1	3	1.3	7.5	6	2.8	2.0	4.1	4.8	8.8	2021	2020

Municipality of Brockton
Road Management Study

Section ID	Road Name	Section Length (m)	Surface Type	Roadside Environment	Traffic Range (vpd)	Probable Costs (\$,000)	Road Class	Platform Width	Width Value	Drainage Value	Performance Grade (Drainage + Width Value + Alignment/3)	Road Structural Rating	Road Surface Rating	Probability of Failure (Surface + Drainage + (Structure*2))/4	Consequence of Failure (From Traffic Range, 1-5)	Level of Service (Performance Grade + Probability of Failure)	Risk (Probability Failure + Consequence of Failure)	Priority Score (Level of Service + Risk)	Theo. Year of Need	Proposed Year of Work
357	CHEPSTOW RD	2085	HCB - 1 lift	Rural	500-999	458.9	Collector	9	1	1	1.3	8.5	7	1.5	4.0	2.8	5.5	8.3	2026	2024
179	MELVIN ST	94	LCB - 2 lifts	Semi-Urban	50-199	16.7	Local	9	1	3	1.3	7.5	7	2.5	2.0	3.8	4.5	8.3	2022	2022
187	UNION ST N	277	LCB - 2 lifts	Semi-Urban	50-199	49.3	Local	9	1	3	1.3	7.5	7	2.5	2.0	3.8	4.5	8.3	2022	2022
791	SIDEROAD 30 SOUTH	1028	HCB - 1 lift	Rural	200-499	247.7	Local	9	1	1	1.3	7.5	7	2.0	3.0	3.3	5.0	8.3	2026	2025
184	UNION ST S	150	LCB - 2 lifts	Semi-Urban	0-49	26.7	Local	7	1	3	1.0	7	7	3.0	1.0	4.0	4.0	8.0	2022	2022
1108	DIRSTIEN ST N	72	LCB - 2 lifts	Semi-Urban	0-49	29.9	Local	9	1	3	1.3	7.5	6	2.8	1.0	4.1	3.8	7.8	2021	2020
945	CHEPSTOW RD	2087	HCB - 1 lift	Rural	200-499	459.4	Collector	9	1	1	1.3	8.5	7	1.5	3.0	2.8	4.5	7.3	2026	2024
385	CHEPSTOW RD	933	HCB - 1 lift	Rural	200-499	228.6	Collector	9	1	1	1.3	8.5	7	1.5	3.0	2.8	4.5	7.3	2026	2024
411	CONCESSION 4 EAST GREENOCK	2971	LCB - 2 lifts	Rural	50-199	121.0	Local	9	1	1	1.3	8	8	1.8	2.0	3.1	3.8	6.8	2023	2025
186	BRIDGE ST	218	LCB - 2 lifts	Semi-Urban	50-199	38.8	Local	9	1	0	1.3	7.5	7	1.8	2.0	3.1	3.8	6.8	2022	2022

APPENDIX E-1

MAPS – PROPOSED YEAR OF WORK

