

TIM HORTON CHILDREN'S FOUNDATION

Table of Contents

EXECUTIVE SUMMARY E.1

1.0 INTRODUCTION1.1

1.1 PROJECT OVERVIEW..... 1.1

1.2 THE PROPONENT 1.3

2.0 BACKGROUND.....2.1

2.1 TIM HORTON CHILDREN'S FOUNDATION.....2.1

 2.1.1 Youth Leadership Program 2.1

 2.1.2 Community Partnership Program..... 2.2

2.2 PROJECT NEED AND PURPOSE 2.2

2.3 PROJECT ALTERNATIVES 2.2

 2.3.1 Alternative Approaches to Development..... 2.3

 2.3.2 Alternative Development Locations 2.3

3.0 REGULATORY FRAMEWORK.....3.1

3.1 PROVINCIAL 3.1

3.2 FEDERAL 3.2

3.3 OTHER REGULATORY REQUIREMENTS AND RELATED GUIDANCE..... 3.2

4.0 PROJECT DESCRIPTION4.1

4.1 PROJECT SUMMARY..... 4.1

 4.1.1 Project Site Location 4.1

 4.1.2 Site Selection..... 4.2

 4.1.3 Site Plan..... 4.2

 4.1.4 Collateral Developments..... 4.4

4.2 PROJECT COMPONENTS 4.6

 4.2.1 Site Buildings and Other Facilities 4.6

 4.2.2 Wastewater-Treatment System 4.13

 4.2.3 Potable Water System 4.16

 4.2.4 Dry Fire Hydrant..... 4.18

 4.2.5 Roads and Associated Components..... 4.18

 4.2.6 Docks 4.20

 4.2.7 Electrical Distribution System 4.20

4.3 PROJECT ACTIVITIES..... 4.21

4.4 PROJECT CONSTRUCTION 4.23

 4.4.1 Workforce..... 4.23

 4.4.2 Construction 'Footprint' 4.23

 4.4.3 Clearing Requirements 4.23

 4.4.4 Excavation Requirements 4.25

 4.4.5 Traffic 4.25

 4.4.6 Fuel Handling and Equipment Servicing..... 4.25

ENVIRONMENTAL IMPACT ASSESSMENT FOR A YOUTH LEADERSHIP CAMP AT SYLVIA LAKE, MANITOBA

TIM HORTON CHILDREN'S FOUNDATION

Table of Contents

4.4.7	Temporary Storage Facilities	4.28
4.4.8	Waste Management.....	4.28
4.5	PROJECT OPERATION	4.28
4.5.1	Workforce.....	4.28
4.5.2	Participants	4.29
4.5.3	Fuel Storage	4.29
4.5.4	Waste Management.....	4.30
4.5.5	Operations Activities	4.30
4.6	PROJECT DECOMMISSIONING	4.30
4.7	PROJECT PHASES AND SCHEDULE	4.30
4.8	ACCIDENTS AND CONTINGENCY EVENTS.....	4.32
4.8.1	Medical Emergencies.....	4.32
4.8.2	Fire.....	4.33
4.8.3	Power Outage.....	4.33
4.8.4	Spill Response.....	4.33
<hr/>		
5.0	PUBLIC CONSULTATION	5.1
5.1	PUBLIC INFORMATION AND OUTREACH	5.1
5.2	GOVERNMENT LIAISON.....	5.2
5.3	ABORIGINAL COMMUNICATION.....	5.2
<hr/>		
6.0	DESCRIPTION OF EXISTING ENVIRONMENT	6.1
6.1	PHYSICAL ENVIRONMENT.....	6.1
6.1.1	Climate.....	6.1
6.1.2	Ambient Air Quality	6.1
6.1.3	Geology.....	6.1
6.1.4	Physiography	6.1
6.1.5	Soils	6.2
6.1.5.1	Soil Conditions in the Project Area	6.3
6.1.5.2	Soil Suitability for Septic Field.....	6.3
6.1.6	Surface Water	6.4
6.1.6.1	Water Quality	6.4
6.1.7	Groundwater	6.5
6.2	TERRESTRIAL ENVIRONMENT.....	6.5
6.2.1	Vegetation.....	6.5
6.2.1.1	Species at Risk	6.6
6.2.2	Terrestrial Mammals	6.7
6.2.2.1	Species at Risk	6.8
6.2.3	Birds.....	6.8
6.2.3.1	Species at Risk	6.9
6.2.4	Amphibians and Reptiles	6.9
6.3	AQUATIC ENVIRONMENT	6.11

ENVIRONMENTAL IMPACT ASSESSMENT FOR A YOUTH LEADERSHIP CAMP AT SYLVIA LAKE, MANITOBA

TIM HORTON CHILDREN'S FOUNDATION

Table of Contents

6.3.1	Fish Habitat.....	6.11
6.3.2	Fish Species	6.13
6.3.2.1	Species at Risk	6.13
6.4	SOCIOECONOMIC ENVIRONMENT	6.14
6.4.1	Population and Demographics.....	6.14
6.4.2	Income	6.14
6.4.6	Land Ownership.....	6.20
6.4.7	Economy.....	6.20
6.4.8.1	Roads.....	6.21
6.4.8.2	Airport	6.22
6.4.8.3	Utilities	6.22
6.4.9	Medical and Emergency Services.....	6.23
6.4.10	Resource Use	6.23
6.4.10.1	Forestry.....	6.23
6.4.10.2	Mining	6.23
6.4.10.3	Hunting	6.23
6.4.10.4	Trapping.....	6.24
6.4.10.5	Berry Picking.....	6.24
6.4.11	Outdoor Recreation.....	6.24
6.4.12	Fishing	6.25
6.4.13	Campsites.....	6.25
6.4.14	Aboriginal Communities	6.25
6.4.15	Heritage Resources	6.25
<hr/>		
7.0	ENVIRONMENTAL EFFECTS AND MITIGATION	7.1
7.1	DETERMINATION OF SIGNIFICANT ENVIRONMENTAL EFFECTS	7.1
7.1.1	Assessment Parameters.....	7.1
7.1.2	Approach to Determining “Significance”	7.2
7.2	PRECONSTRUCTION PHASE	7.5
7.3	CONSTRUCTION PHASE	7.6
7.3.1	Air Quality	7.6
7.3.1.1	Particulates	7.6
7.3.1.2	Odour.....	7.6
7.3.1.3	Emissions.....	7.7
7.3.2	Geology.....	7.7
7.3.3	Soils	7.7
7.3.4	Hydrology and Water Quality	7.8
7.3.5	Terrestrial Flora and Fauna	7.9
7.3.7	Socioeconomic Effects.....	7.12
7.3.7.1	Employment.....	7.12
7.3.7.2	Traffic.....	7.13
7.3.7.3	Nuisance.....	7.13
7.3.8	Resource Use and Recreation.....	7.16

ENVIRONMENTAL IMPACT ASSESSMENT FOR A YOUTH LEADERSHIP CAMP AT SYLVIA LAKE, MANITOBA

TIM HORTON CHILDREN'S FOUNDATION

Table of Contents

7.3.8.1	Heritage Resources	7.17
7.4	OPERATIONAL PHASE	7.18
7.4.1	Air Quality	7.18
7.4.1.1	Odour	7.18
7.4.2	Soils	7.18
7.4.3	Hydrology and Water Quality	7.19
7.4.3.1	Water Withdrawal.....	7.19
7.4.3.2	Nutrient Loading.....	7.20
7.4.4	Terrestrial Flora and Fauna	7.20
7.4.5	Aquatic Flora and Fauna.....	7.21
7.4.6	Socioeconomic Effects.....	7.22
7.4.6.1	Employment and Economic Development	7.22
7.4.6.2	Municipal/Park Services.....	7.22
7.4.6.3	Noise and Light.....	7.23
7.4.6.4	Traffic.....	7.24
7.4.6.5	Heritage Resources	7.24
7.4.6.6	Resource Use and Outdoor Recreation.....	7.24
7.5	DECOMMISSIONING	7.25
7.6	ACCIDENTS AND MALFUNCTIONS	7.25
7.7	GREENHOUSE GAS EMISSIONS.....	7.25
7.7.1	Construction Phase.....	7.25
7.7.2	Operation Phase.....	7.26
<hr/>		
8.0	CUMULATIVE EFFECTS.....	8.1
8.1	CONSTRUCTION PHASE.....	8.1
8.2	OPERATION PHASE.....	8.1
8.2.1	Water Use.....	8.1
8.2.2	Outdoor Recreation.....	8.2
8.2.3	Goods and Services.....	8.2
<hr/>		
9.0	RESIDUAL EFFECTS	9.1
10.0	ENVIRONMENTAL INSPECTION, MONITORING AND FOLLOW-UP.....	10.1
11.0	CONCLUSIONS	11.1
12.0	CLOSURE	12.1
13.0	REFERENCES	13.1
13.1	LITERATURE CITED.....	13.1
13.2	PERSONAL COMMUNICATIONS.....	13.5

ENVIRONMENTAL IMPACT ASSESSMENT FOR A YOUTH LEADERSHIP CAMP AT SYLVIA LAKE, MANITOBA

TIM HORTON CHILDREN'S FOUNDATION

Table of Contents

List of Appendices

- APPENDIX A – Public Consultation Materials
- APPENDIX B – Soil Technical Report
- APPENDIX C – Water Quality Data
- APPENDIX D – Vegetation Technical Report
- APPENDIX E – Wildlife Technical Report
- APPENDIX F – Aquatics Technical Report
- APPENDIX G – Heritage Technical Report
- APPENDIX H – Definitions Used in the Environmental Impact Assessment

List of Figures

Figure 1-1	Location Plan.....	1.2
Figure 4-1	Site Plan	4.3
Figure 4-2	Collateral Developments	4.5
Figure 4-3	Road Cross Sections.....	4.7
Figure 4-4	Conceptual Representation of the Project.....	4.11
Figure 4-5	Typical Central Campfire Area	4.11
Figure 4-6	Typical Outdoor Challenge Area	4.11
Figure 4-7	East Shoreline and Beach.....	4.12
Figure 4-8	Wastewater Schematic Flow Diagram.....	4.14
Figure 4-9	Water Treatment Schematic Flow Diagram.....	4.17
Figure 4-10	Dry Hydrant	4.19
Figure 4-11	Clearing Requirements.....	4.24
Figure 4-12	Area of Potential Blasting Requirements.....	4.26
Figure 4-13	Blasting Setbacks	4.27
Figure 4-14	Anticipated Timelines for Planning and Construction Phases.....	4.31
Figure 6-1	Aquatic Habitat and Bathymetry	6.12
Figure 6-2	Population Pyramids, R.M. of Whitemouth and L.G.D. of Pinawa.....	6.15
Figure 7-1	Decision Tree for Determining Significance of Short- and Intermediate-term Effects	7.3
Figure 7-2	Decision Tree for Determining Significance of Long-term Effects.....	7.4
Figure 7-3	Typical Earth Vibrations due to Construction	7.16

ENVIRONMENTAL IMPACT ASSESSMENT FOR A YOUTH LEADERSHIP CAMP AT SYLVIA LAKE, MANITOBA

TIM HORTON CHILDREN'S FOUNDATION

Table of Contents

List of Tables

Table 4-1	Description of Buildings, Facilities and Infrastructure, THCF Sylvia Lake Leadership Camp	4.10
Table 4-2	Septic Tank, Treatment System and Distribution Piping Setbacks	4.13
Table 4-3	Effluent Parameters for Treatment System	4.15
Table 4-4	Major Project Activities Anticipated to Construct the THCF Sylvia Lake Leadership Camp	4.21
Table 6-1	MBCDC Recorded Observations of Rare Plants in the Pinawa Region, MB	6.7
Table 6-2	Median Personal, Family and Household Incomes in the L.G.D. of Pinawa, R.M. of Whitemouth and the Province of Manitoba, 2006	6.16
Table 6-3	Education Levels in the L.G.D. of Pinawa, R.M. of Whitemouth and Province of Manitoba	6.16
Table 6-4	Whiteshell Provincial Park Zones and Permitted Uses	6.19
Table 6-5	Industries in the L.G.D. of Pinawa, R.M. of Whitemouth and Province of Manitoba	6.21
Table 7-1	Examples of Sound Attenuation with Distance	7.14