

## WINTEC BUILDING SERVICES

# PORTABLE ASPHALT PLANT PROPOSAL



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### **EXECUTIVE SUMMARY**

Wintec Building Service is a growing heavy construction civil contractor. We currently provide asphalt paving services for private clients, municipalities through Manitoba, and Manitoba Infrastructure. Steady growth, derived from excellent project execution has pressed the requirement for Wintec to purchase a portable asphalt plant to produce and supply asphalt in southern Manitoba.

#### **INTRODUCTION AND BACKGROUND**

Wintec has been expanding its asphalt division to meet the needs of clients in Winnipeg and the surrounding area, however Wintec's current supplier can not meet the increasing demand for asphalt. For continued sustainable growth, Wintec requires a mobile asphalt plant to be competitive in the southern Manitoba's heavy construction industry.

Wintec recognizes the growing demand for asphalt paving in the Province of Manitoba. 2020 is forecasted to have a significant increase in government tender from Manitoba infrastructure, and as demonstrated below, the City of Winnipeg is currently experiencing a major infrastructure deficit that will be required to be addressed.

As stated in the 2018 State of the Infrastructure Report, the City of Winnipeg is experiencing substantial population growth, represented in the chat below.

"Winnipeg is Growing. The City is in the early stages of a cycle of strong growth, a pace not seen for decades as evidenced by the table below. This momentum is showing no signs of slowing down"



#### **City of Winnipeg Annual Population Change**

It should be noted as well that Winnipeg has a relatively low population density, 1518 people/square km. Winnipeg has expanded its area by 80 per cent since 1970, but its population only grew by 33 per cent. Inexpensive property and large scale developments have encouraged urban sprawl, increasing the demand for new infrastructure. The chart below compares the 10 highest population densities among municipalities in Canada. Winnipeg is ranked 53rd on the list.

	Census metropolitan area	Population size	Population density
	name	number	people per square kilometre
Vancouver, B.C.	Vancouver	631,486	5,492.6
Westmount, Que.	Montréal	20,312	5,024.9
Côte-Saint-Luc, Que.	Montréal	32,448	4,662.5
Montréal, Que.	Montréal	1,704,694	4,662.1
New Westminster, B.C.	Vancouver	70,996	4,543.4
North Vancouver, B.C.	Vancouver	52,898	4,465.1
Victoria, B.C.	Victoria	85,792	4,405.8
Toronto, Ont.	Toronto	2,731,571	4,334.4
White Rock, B.C.	Vancouver	19,952	3,893.1
Hampstead, Que.	Montréal	6,973	3,884.2

Source(s): Census of Population, Highlights Tables (98-402-X2016001).

The City of Winnipeg conducted an annual citizen satisfaction survey to solicit opinions on its performance. The overwhelming majority was an improvement is required in our roads and infrastructure.

#### Top 3 Actions to Improve Quality of Life\*



The residents of Winnipeg maintain that their highest priority to improve quality of life is infrastructure improvements. Winnipeg is continuing to expand in area and population, as well as the existing requirement to upgrade existing instruction at or near its end of life. The factors are the major contributing to the infrastructure debt growing to \$6.9 Billion, as indicated in the City of Winnipeg 2018 State of the Infrastructure Report. Given the large infrastructure deficit, the City recognizes the current funding model is not sustainable. They report goes on to detail a variety of strategies in order to effectively address the infrastructure deficit. Wintec identifies that the demand to renew and expand infrastructure is limited by the current construction workforce. It is anticipated that when the funding is in place, there will be a shortfall of service providers. As such Wintec is ramping up to be able to provide

service to be able to provide competitive pricing during an uptake in investment into infrastructure spending.

The requirement for upgrading existing infrastructure extends beyond the city limit of Winnipeg. Within the Province of Manitoba, 2020 is forecasted to have substantial increases bituminous paving projects. The 2018-2019 Manitoba Infrastructure Annual Report forecasts 1.15 million tonnes to be placed in 2020, approximately 160% more then 2019. As Wintec's mobile plant is very efficiently moved from different sites, it allows for a better product being produced closer to site in area without asphalt plants readily available.

### **DESCRIPTION OF PROPOSED DEVELOPMENT**

The location of the mobile plant is set to vary and will ultimately be determined by the location set out in government tenders, and the work awarded to Wintec. The initial location of the plant will be at 727 Mission Street, Winnipeg, MB. This land is currently operated by United Concrete, and is to be rented by Wintec to complete work within the City of Winnipeg already awarded to Wintec.

Currently, United Concrete operates their concrete ready-mix batch plant on the site. The area is largely commercial, industrial, and manufacturing based. Neighbouring properties include Borland's asphalt plant >900m, Bituminex's asphalt plant is located 1.5km south and Bison Rock Asphalt located 1.8km away.

The property at 727 Mission Street is zoned M3, Manufacturing Heavy as stated in the zoning by law:

The Manufacturing Heavy (M3) district is intended to provide light or heavy industrial development, including heavy manufacturing, storage, major freight terminals, waste and salvage, resource extraction, processing, transportation, major utilities, and other related uses, particularly those that require very large building, frequent heavy truck traffic for supplies or shipment, or that may require substantial mitigation to avoid sound, noise, and odour impacts to neighbouring properties.

The initial location requires no site development, as the location already supports a similar operation. The plant will be moved, as required to meet project needs. Future mobile plant locations will vary based on the site location. Any site development required will be considered prior to moving the plant. Typical site development includes removing topsoil and preparing granular base for the trailers. Mobile plant locations would typically consist of privately-owned aggregate pits, or Manitoba Infrastructure owned aggregate pits. Site development in an existing aggregate pit would be minimal, but would typically include preparing a granular foundation for the trailers.

Wintec's ADM DM149 Portable Parallel Drum Plant is capable of producing 160 tonnes per hours. The plant has been recently refurbished and incorporates the latest technology in asphalt production and emission controls.

Wintec has purchased the plant as an investment for continued sustainable growth in the heavy civil construction in southern Manitoba. It is Wintec's intent to have the asphalt plant will be set up for the 2020 construction season.

Wintec is currently drafting a Development Permit Application to be submitted to the City of Winnipeg.

### **DESCRIPTION OF EXISTING ENVIRONMENT IN THE PROJECT AREA**

The initial location of 727 Mission St, Winnipeg, MB is an urban manufacturing setting, with many industrial type manufacturing facilities near by. The existing site is flat, with a granular surface and contained by a fence. There is an existing building on site with office space and shop for the ready-mix concrete operation. The existing site has many aggerate piles for the production of ready-mix concrete. Aggerate will continue to be trucked in for the production of asphalt. There is no aquatic environment on the property and there are no animal habitats on the property.

The socioeconomic impact related to the setup of the ADM DM149 portable plant will be negligible. The initial location at 727 Mission Street is an existing heavy manufacturing site, with other asphalt plants nearby. Future locations will be determined to suit future projects. Plant specific locations will be governed by local planning laws and by best practice guidelines. Consideration to future locations will incorporate conditions from previous licences issued from mobile plants. Identification of parks, heritage resources and Indigenous communities will be completed prior to selecting a new location for the plant. Wintec would seek permission from the Province prior to selecting a new site, and obtain necessary permits, including an operating permit if operating on Crown Land as per The Crown Lands Act.

Selected sites will meet minimum critical criteria outlined in past EAP's including but not limited to the most recent approved licence 3216:

The Licencee shall not operate the asphalt plant within: a) 100 meters of any surface watercourse or surface water body b) 400 meters of any water well, other than the water well of the land owner where the asphalt plant is located c)100 meters of the water well if the land owner where the plant is located d)Three kilometers if a developed area of a provincial park, or e)Five kilometers of an ecological reserve on other protected area

## DESCRIPTION OF ENVIRONMENTAL EFFECTS AND HUMAN HEALTH EFFECTS OF THE PROPOSED DEVELOPMENT

The ADM DM149 is a modernized mobile plant, designed and constructed to minimize any effects asphalt production may have on the environment. There is no requirement for water to operate the plant.

The plant is equipped with a Barber-Greene Portable Pulsejet baghouse dust collector. The bag house captures air from the drum dryer and is cleaned by filtering out dust and pollutant prior to the air being released. The diagram below illustrates how the bag house effectively filters the air.



The ADM DM149 also incorporates Reclaimed Asphalt Pavement (RAP) into the asphalt mix to reduce the demand for production of new aggregates and as well lessen the Asphaltic Cement content.

Furthermore Wintec's plant will be capable of producing Warm Mix Asphalt (WMA). This allows the asphalt to be produced at a lower temperatures, using approximately 20% less fuel. Consuming less fuel equates to fewer emissions, and a more sustainable product.

As the plant is designed to be mobile, the plant is self contained, does not require water or electricity. The plant requires #2 diesel fuel for the aggregate drier. AC tanks are heated electrically, powered by diesel generators. On site storage of diesel will be in a double wall tank trailer accompanied with a petroleum storage permit for the site. The plant does not produce any hazardous waste. Approximately 50L of used oil will be produced annually from the diesel generators that will be disposed of at a licensed facility.

Emissions produced from plant operation producing 45,000 tonnes of asphalt, and using #2 burner fuel are estimated as follows:

Carbon Monoxide – 2.99t Sulphur Dioxide – 1.334t Oxides of Nitrogen – 1.267t Volatile Organic Compounds – 0.743t Particulate Matter – 0.675t

Wintec's asphalt plant produces less than 10,000 tonnes of carbon dioxide per year and is therefore a report to the federal "greenhouse Gas Emission Reporting Program" is not required. Furthermore, incorporation of WMA will further reduce the stated omissions.

Heritage Resources will be protected. A thorough site investigation prior to mobilizing the plant will be completed to assess the site for sign of historic impacts and sensitive environmental area. Sites identified as potential to contain Heritage Resources will be avoided. In the unlikely event that heritage resources are encountered a stop work order will be executed and the Historic Resources Branch and the Rural Municipality will be contacted immediately.

Wintec is committed to ensuring public health and safety. Prior to commissioning the plant, an Emergency Management Plan and a Hazardous Spill Procedure will be developed. Emissions from the plant are considered negligible and are not a risk for human health.

The proposed asphalt plant would not have any impact on Indigenous communities. The mobile plant is not expected to be set up or operated within Indigenous communities. In the event that the mobile plant is to be operated within close proximity to an Indigenous community, Wintec will complete consultations with the community to address any potential concerns. Wintec realizes the potential positive employment and economic impact a mobile asphalt plant could bring to any community, and these impacts would extend to any community near plant locations.

# **MITIGATION MEASURES TO PROTECT THE ENVIRONMENT AND HUMAN HEALTH, AND RESIDUAL ENVIRONMENTAL EFFECTS**

Wintec will have in place an Emergency Management Plan and a Hazardous Spill Procedure to mitigate environmental and human health risks. Wintec will work with governing municipality to incorporate additional mitigation measures based off site specific requirements.

Used oil and lubricants produced from plant operation will be safely handed on site, and disposed of at appropriate facilities.

Environment restoration will occur following decommissioning of the plant at each location. Restoration will include removing gravel/ other materials used in site development. Each location will be restored to its pre-construction condition.

Mitigation measures to protect the environment are as follows;

- Pollution control devices on asphalt plant
- Double walled fuel storage tanks
- Plant operator safety and environmental training program; including Emergency Management Plan and Hazardous Spill Procedure

It is expected that there will be no residual environmental effects following demobilization of the asphalt plants. All sites will be restored to a pre construction condition.

ADM manufactures high-quality asphalt plants and components for asphalt producers worldwide. The DM149 is equipped with the latest in pollution reduction technology available, including a baghouse, Reclaimed Asphalt Pavement recycling system and a warm mix asphalt production capability.

### FOLLOW-UP PLANS, INCLUDING MONITORING AND REPORTING

Wintec will complete all regular and preventative maintenance to the plant at the manufacturer's recommended intervals. Maintenance records and logs will be filed. Daily monitoring of the plant will be performed by plant operation crew members.

### **CONCLUSION**

Based off an analysis of the anticipated increase in tender asphalt work from MI, infrastructure debt in Winnipeg, and the importance of infrastructure to tax payers, Wintec anticipates and influx of upcoming projects. To meet industry demands and provide our clients with competitive construction rates, Wintec requires a mobile asphalt plant. The end result is a better product, more employment opportunities in Manitoba, and a more competitive construction market.

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