Functional Planning Study – Volume 1

Report No. 939
Calgary Southwest Ring Road (Highway 201)
Glenmore Trail/Stoney Trail Interchange to Highway 22X/Sarcee Trail Interchange

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CORPORATE AUTHORIZATION

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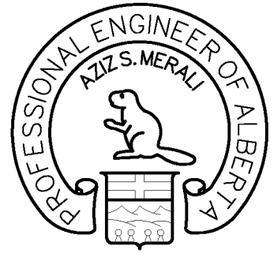

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EXECUTIVE SUMMARY

E-1 INTRODUCTION

The Calgary Ring Road System was conceived in the 1970's when a restricted development area (RDA) was established around the city. Subsequently several conceptual level plans for the corridor were developed which defined the widths of the specific components including roadway, pipelines, power transmission lines, service access roads, roadway buffers and municipal services. The resulting right of way containing the roadway and utility components is called the Transportation & Utility Corridor (TUC).

Recently the Province of Alberta entered into an agreement with the Tsuu T'ina Nation to determine the process and schedule of transferring nation lands to the Province of Alberta for the construction of the Southwest Calgary Ring Road (SWCRR). An Agreement in Principal Relating to Tenure (AIP) was signed in 2004 and defined the process of determining the land area required for the TUC. It also included details of the roadway standards to be used and nominal widths of the utility and road corridor.

The Province and the Tsuu T'ina Nation executed a framework agreement in March 2005 that outlined additional details of the land transfer process and compensation.

This report documents the study process, planning parameters & design requirements, public consultation completed, recommends a corridor plan and identifies the right of way required for the TUC, interchanges and storm water facilities.
A complimentary environmental study was undertaken simultaneously with this study to investigate and address environmental issues coordinated by Canadian Environmental Assessment Agency (CEAA). The study was completed by AMEC Earth & Environmental and is published as a separate report.

An investigation of the risk of hazardous material spill associated with the movement of commercial goods on the SWCRR across the Elbow River was undertaken by The Bercha Group and published in a separate report titled *" Southwest Calgary Ring Road Dangerous Goods Spill Risk Analysis" (March 29th, 2007)*

E-2 STUDY LIMITS

The limit of this study includes:

- Portion of Glenmore Trail between 101st Street SW (west City limits) and east of 37th Street SW
- SWCRR between Glenmore Trail and Highway 22X (Spruce Meadows Trail) SW.
- Intersecting Roads on the City of Calgary road system, within the boundaries of the SWCRR Interchanges.

E-3 STUDY OBJECTIVES

The primary objectives for this study were:

A. Based on the recommended route from the SWCRR Regional Network Study (Draft Report), develop Ultimate Stage (2.1 million population Horizon) and Initial Stage (2033 Horizon) Functional level plans.

B. Identify Right of Way requirements for the TUC, Interchanges and Storm Water Facilities.

E-4 DESIGN PARAMETERS

In 2004, the Tsuu T'ina Nation and Alberta Infrastructure and Transportation signed an Agreement in Principal for the planning design and construction of the southwest portion of the Calgary Ring Road through Tsuu T'ina Nation lands. This agreement defined a nominal width of the roadway and utility corridors and the design standards to be used in the development of the Ring Road corridor

This study complies with the design standards listed in the Agreement in Principal

E-5 RECOMMENDED ULTIMATE STAGE PLAN

The Ultimate Stage planning for the SWCRR has been completed based on several assumptions including accommodating the Calgary Ring Road (Inner Ring Road) and the Regional Ring Road (Outer Ring Road) and the traffic demands generated from the expected land uses when Calgary's regional population reaches 2.1 million people and the Tsuu T'ina Lands west of SWCRR at Buffalo Run, east of SWCRR near 90th Avenue and former DND lands north of Elbow River and east of Discovery Ridge are fully developed.

The recommended roadway designs should accommodate the projected traffic demands expected during the Ultimate Stage when the Calgary regional population exceeds 2.1 million people. The recommended corridor design will provide efficient flow of traffic while providing effective connections to the adjacent road network

The recommended horizontal alignment is similar to the alignment developed during the Southwest Calgary Regional Network Study in 2004. Revisions were required to minimize and in many cases avoid the impacts to adjacent communities and other sensitive areas. In addition, alignment revisions were required to provide more efficient designs of the Elbow River and Fish Creek bridges and the SWCRR interchanges.

The proposed vertical profile for the SWCRR, between Highway 22X at the south end of the project and Stoney Trail at the west end of the project, has been developed with the intent of providing a balance of earthworks while containing the construction within the limits of the proposed TUC.

Consideration was also given to the following:

- Integrate the requirements and recommendations of the storm drainage plan, geotechnical assessment, historical resources assessment and environmental stakeholders group.
- Profile restrictions, earthwork volumes, materials management plan and right of way constraints.
- Approved access, alignment and connections on both sides of the corridor.
- Evaluation and integration of the comments received through the public consultation process.
- Allowance for other TUC components.

Existing connections of roadways such as Lower Springbank Road to 101st Street SW and to Glenmore Trail as well as Spruce Meadows Trail (Highway 22X) connection to 37th Street SW and to 24th Street SW, occurring at the edges of the SWCRR study area, will need to be closed to accommodate the proposed SWCRR roadway and interchanges. Vehicles currently using these intersections will need to use alternate routes to access the SWCRR roadway system. Since the impacted existing intersections are at the edge of the SWCRR study area, they will need to be reviewed during subsequent planning of the West and South Calgary Ring Road Study.

E-6 RECOMMENDED STAGE 1 – PLAN (2033 HORIZON)

The City of Calgary had recently developed an EMME/2 model using the land uses and road network expected in 2025. The Tsuu T'ina land uses and development rates were added to this model to complete the SWCRR stage 1 model that will most closely represent Alberta Infrastructure and Transportation's "base" requirement for the planning of Stage 1. With the addition of the Tsuu T'ina land uses, the planning horizon is estimated to be about year 2033.

The 2025 EMME/2 model used to forecast the traffic demands for Stage 1 of the SWCRR is based on the following key parameters:

	Population	Employment
City of Calgary	1,287,600	749,600
Areas outside the City	263,600	100,400
TOTAL	1,551,300	849,900

The horizontal alignment for stage 1 coincides with the ultimate stage SWCRR horizontal alignment. The stage 1 horizontal alignment for all cross roads also coincides with the Ultimate stage alignments except for the Highway 22X EB alignment.

Similar to the horizontal alignment, the vertical alignment coincides with the Ultimate stage profiles.

During that SWCRR study, Alberta Infrastructure and Transportation advised that the stage 1 plan should be created with the assumption that all of the earthworks grading for the Ultimate stage designs will be completed in stage 1. Future upgrades should require very little additional grading.

This approach will minimize future impacts on communities adjacent to the SWCRR corridor

In general terms the Collector roads with specific number of lanes are recommended to be constructed in Stage 1. Future upgrades will include adding more lanes on the collector roads followed by paving of the express lanes –since all grading will be completed in stage 1. All drainage facilities are assumed to be constructed during Stage 1.

E-7 COST ESTIMATES

Construction costs have been developed to assist in the budget and programming process.

Costs have been developed using the average 2006 unit prices published by Alberta Infrastructure and Transportation and DO NOT INCLUDE Inflation. Unit costs were developed for key components such as earthworks, pavement & bridges. Utility costs were estimated in conjunction with the individual utility company.

The approximate cost to construct the **Ultimate stage plans** and designs, within the study limits, using the approach suggested in this study is $ 1.74 Billion. This cost does NOT INCLUDE land acquisition costs.

The approximate cost to construct the **1st stage plans** and designs, within the study limits, using the approach suggested in this study is $ 1.3 Billion. This cost does NOT INCLUDE land acquisition costs.

E-8 PUBLIC CONSULTATION

Stakeholder engagement was a significant component of the functional planning study. Due to the complexity of this project, the three partners - the Province, City, and Tsuu T'ina Nation - agreed to undertake a more extensive public consultation process than usual.

A comprehensive communications/engagement plan was developed in consultation with the partners. It included project stakeholders, as well as communications/consultation objectives and activities.

Four sets of public open houses were held between June 2005 and December 2006, as well as several consultation meetings with community leaders and communities directly affected by the SWCRR, meetings with regulatory representatives and meetings with other stakeholders, individually or in groups.

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