

<b>Assignment Name:</b> Balzac Interchange at Highway 2 and Highway 566 – Highway Drainage Design		<b>ID#: 16</b>
<b>Country:</b> Canada <b>Location within Country:</b> Alberta	<b>Approx. value of the contract:</b> Not available.	
<b>Name of Client:</b> Alberta Transportation	<b>Approx. value of the professional services provided under the contract:</b> US\$ 400,000	
<b>Address:</b>	<b>Total No. of staff-assigned to Project:</b> 3	
<b>Start date (month/year):</b> April 2012	<b>Total No. of staff-months of the assignment:</b> 5	
<b>Completion date (month/year):</b> February 2014	<b>Duration of assignment (months):</b> 23	
<b><u>Narrative description of Project:</u></b> Preliminary and final design of the stormwater design for the Balzac Interchange and obtained all environmental approvals for the project.		
<b><u>Description of actual services provided by professional engineering staff within assignment:</u></b> The Balzac Interchange project area is substantially flat and comprises agricultural land with some urban development to the southeast. The area is drained by three natural water courses, Nose Creek an unnamed tributary of the Creek, and a natural depression streaming into the tributary in high rain intensity events. The water table in this area is between 0.5 m and 6.5 m below the ground surface.  The stormwater runoff from the existing road layout is conveyed through ditches and culverts to follow the topography of the area. The majority of the runoff then discharges directly into Nose Creek, it's tributary or the natural depression, some of the runoff goes into two existing stormwater management ponds.  Stormwater management is required for the interchange to mitigate the impacts of the interchange on the existing drainage pattern and to control the quality and volume of the stormwater discharge. Stormwater management will be facilitated through the use of wet stormwater ponds to collect runoff from the impervious areas, to attenuate flows, and to improve the quality of the discharge back to the natural water course.		
<b><u>Description of Activities provided by RWI</u></b> Project Director and civil design QA support to the civil and stormwater modelling engineers.  Design and construction sequence planning of the primary culverts crossing under the new interchange was revised (from the original concept) to allow for a two-stage process with minimal traffic disruption and allowed for the use and installation of a larger culvert size, resulting in less backwater flooding upstream of the culvert in the high-flow design case.  A number of secondary culverts on the feeder roads to the IC required modifications and upgrades to prevent localized flooding, and all had to take into consideration the possibility of fish passage.  Significant input into the environmental permitting requirements for approvals for both fish species and existing river habitat preservation.		

