



Ministry of Forests, Lands and  
Natural Resource Operations  
Omenica Region  
Prince George Resource District

Chuchinka-Colbourne FSR  
Roadway Widening and Upgrade  
Geometric Alignment  
Km 31 to Km 33.6

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Stations: 32+647.50 to 33+287.50

ROAD DESIGN SPECIFICATIONS

Design Speed: 30 km/h  
Avg. Stab. Road Width: 6.0m  
Fav. Grade Max. 10%  
Adv. Grade Max 10%

Plan Scale 1:1000

Profile Vert Scale 1:100  
Profile Horz Scale 1:1000

Project Location Coordinates

Latitude: 51-15-03  
Longitude: -119-53-14  
Elevation: 610m  
Datum: NAD83  
UTM Combined Scale Factor:  
n/a

Notes:

- Ground model data obtained by Lidar Survey method by McElhanney Survey Consulting Ltd. Oct. 2013  
-30km/h Speed Limit through the Canyon, remainder designed to minimum 60km/h.

Survey Control Stations

| Point Name | Northing | Easting | Elevation | Description |
|------------|----------|---------|-----------|-------------|
|            |          |         |           |             |
|            |          |         |           |             |
|            |          |         |           |             |
|            |          |         |           |             |

Plan Legend (all may not be applicable)

L-line Location

Road Edges

Clearing Limits

Culverts

GPS Base Station

Old Iron Bar found (tied)

Old Pipe Post found (tie)

Survey Control Points tie

Benchmark

Edge of Wetland

Existing Road Edges

Breakline

Powerline

Draw

Test Pit

Stream

Tension Crack

Timberline

Cut / Fill limits

Powerpole

Finished Road Surface

Profile Subgrade

Cut / Fill limits

Original Ground

1st Stratum

2nd Stratum (Rock)

Ditch Invert Right

Ditch Invert Left

Curve Table (Da = deflection angle for a 10m arc.)

|              | 22, C21    | 23, C22    | 24, C23    | 25, C24    | 26, C25    | 27, C26    | 28, C27    |
|--------------|------------|------------|------------|------------|------------|------------|------------|
| IP Stn.      | 32+089.19  | 32+803.98  | 32+924.51  | 32+975.83  | 33+022.44  | 33+084.69  | 33+155.68  |
| IP X         | 526865.54  | 526599.14  | 526600.88  | 526575.04  | 526572.36  | 526558.03  | 526565.13  |
| IP Y         | 6056957.80 | 6057053.97 | 6057177.75 | 6057223.27 | 6057270.47 | 6057331.08 | 6057402.03 |
| BC Stn.      | 32+649.27  | 32+752.89  | 32+902.79  | 32+957.12  | 33+015.41  | 33+067.94  | 33+132.57  |
| Arc. Len.    | 77.79      | 98.93      | 42.41      | 36.75      | 14.03      | 33.18      | 45.80      |
| EC Stn.      | 32+727.05  | 32+851.82  | 32+945.21  | 32+993.87  | 33+029.44  | 33+101.12  | 33+178.38  |
| Radius       | 140.00     | 160.00     | 80.00      | 80.00      | 100.00     | 140.00     | 140.00     |
| Angle        | -31°50'02" | 35°22'36"  | -30°22'36" | 26°19'21"  | -10°03'01" | 19°00'40"  | -18°44'42" |
| Tangent      | 39.92      | 51.10      | 21.72      | 18.71      | 16.74      | 23.11      | 23.11      |
| Da, a=10.00  | 4°05'33"   | 3°34'52"   | 7°09'43"   | 7°09'43"   | 7°09'43"   | 5°43'46"   | 4°05'33"   |
| Design Speed | 40.00      | 40.00      | 40.00      | 40.00      | 40.00      | 40.00      | 40.00      |

EARTH WORK VOLUMES ( Bank cubic meters)

| L-Stn<br>m. | Strip V.<br>Cu. m. | SG Cut V.<br>Cu. m. | SG Fill V.<br>Cu. m. | B/W Vol.<br>Cu. m. | Srf1 Fill V.<br>Cu. m. |
|-------------|--------------------|---------------------|----------------------|--------------------|------------------------|
| 32+800.00   |                    |                     |                      |                    |                        |
| 33+000.00   | 250.2              |                     | 113.1                | -1315.0            | 517.5                  |
| 33+200.00   | 216.1              |                     | 261.8                |                    | 517.5                  |
| 33+400.00   | 386.1              | 2057.4              | 1955.3               |                    | 534.6                  |
| Pg. Tot.    | 852.5              | 3356.6              | 2330.2               |                    | 1569.6                 |
| Cum. Tot.   | 3490.2             | 10500.7             | 5361.3               |                    | 6792.7                 |

CULVERT TABLE

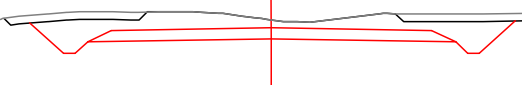
| L-Stn<br>m. | Cul DIA<br>mm. | Cul Len<br>m. | Cul Len L<br>m. | Cul Len R<br>m. | Cul Skew<br>deg. | Cul Cmt |
|-------------|----------------|---------------|-----------------|-----------------|------------------|---------|
| 32+706.14   | 600            | 12.00         | 7.00            | 5.00            | 90.00000         | xdrain  |
| 32+853.80   | 600            | 11.00         | 6.00            | 5.00            | 90.00000         |         |
| 32+922.63   | 600            | 13.00         | 7.50            | 5.50            | 110.00000        |         |
| 33+100.10   | 600            | 12.00         | 6.50            | 5.50            | 91.00000         | xdrain  |
| 33+200.14   | 600            | 12.00         | 6.50            | 5.50            | 90.00000         | xdrain  |

SOIL TYPES

ROAD TEMPLATES

OB - Overburden  
OR - Organics  
SL - Silt  
FS - Fine Sand & Silt  
SA - Sand  
SG - Sand & Gravel  
CG - Sand & Course Gravel  
SC - Sand/Cobbles/Gravel  
GR - Gravel  
BO - Boulders  
FR - Fractured Rock (Talus)  
RR - Riprapable Rock  
SR - Solid Rock

TP = Taper template  
TO = Turnout Template  
8M = 8.0m wide finished running surface  
8WS = 8m wide finished running surface with retaining wall  
  
Surfacing depth = 0.3m  
Ditch Slopes = 1.5:1 Ditch Depth = 0.3 Width = 0.3  
F Slope = Final Slope Left or Right



Prepared by:

Celtic Engineering Ltd.  
DESIGN & CONSTRUCTION

Dwg Num: 110-022-003

Survey By: see Notes above  
Design By: Edward Folk, P.Eng.  
Approved By:

Plot Date: 16/06/29

Design File Name: Colbourne FSR Road upgrade\110-022-003- Road Design\Design File\Road Eng\Chuchinka-

