

# CONCRETE HIGHWAYS

## ANTHONY HENDAY WIDENING - EDMONTON, AB



### PROJECT TEAM

#### OWNER

Alberta Transportation

#### GENERAL CONTRACTOR

Carmacks Enterprises Ltd.

#### MAJOR SUB-CONTRACTOR

Proform Concrete Services

#### CONCRETE SUPPLIER

Heidelberg Materials

#### ENGINEER

CIMA +

### THE OPPORTUNITY

The South-West section of Edmonton's ring road, Anthony Henday Drive, is a major artery for the city. In 2018, Alberta Transportation consulted with Tetra Tech Canada to conduct an investigation of the pavement condition on South-West Anthony Henday Drive. The report suggested that the pavement required rehabilitation due to compromised drainage. In 2019, Alberta Transportation issued a tender for this portion of the Anthony Henday focusing on widening the road from 2 lanes to 3 lanes and rehabilitating many PCCP panels throughout the South-West corridor as part of a three-year project.

### THE SOLUTION

The existing concrete pavement was widened to 3 lanes and repairs were completed utilizing full and partial depth repair technologies. The existing shoulder was a full lane width at 3.7m so a new 3.0m shoulder was all that was required for the widening. The repairs to the existing PCCP consisted of full and partial depth repairs to address the existing pavement conditions.

#### ABOUT THE CEMENT ASSOCIATION OF CANADA (CAC)

The CAC is the voice of Canada's cement industry. A vital contributor to the country's economy and infrastructure, the industry provides a reliable, domestic supply of cement required to build our country's sustainable communities and is committed to the environmentally responsible manufacturing of cement and concrete products. Visit [www.cement.ca](http://www.cement.ca) for more information.

#### ABOUT CONCRETE ALBERTA

Concrete Alberta represents over 90% of the concrete producers in Alberta, and is fully funded by the membership of Producers, Associates and Affiliates. Concrete Alberta has been servicing the industry since 1962. Visit [www.concretealberta.ca](http://www.concretealberta.ca) for more information.

### PROJECT DETAILS

#### Widening

- 3m of widening of the PCCP was completed for a total of 14kms.
- A Gomaco Commander III 4-Track Slipform Paver was used.
- Paving was completed at night utilizing ready-mix concrete and diverted over traffic barriers with a Gomaco GT9500 Placer.
- Curing and texturing was completed with a Gomaco TC 600 Texture Cure machine.
- Concrete was specified to achieve 30 MPa at 28 days, with a flexural strength of 4.2 MPa at 28 days.
- Epoxy coated 15M x 800mm tie bars were placed along the longitudinal joints at a 300mm O.C. (on center) spacing.
- 32mm x 450mm dowels were installed along transverse joints with 300mm spacing O.C.
- Transverse joint spacing 4.5m.

#### Full Depth Repairs

- Full depth repairs were 230mm of concrete pavement and over 11,000 m<sup>2</sup>.
- Concrete was specified to achieve 30 MPa at 28 days, with a flexural strength of 4.2 MPa at 28 days.
- Tie bars at longitudinal joints 15M x 800mm epoxy coated dowels at 900mm spacing O/C.
- 32mm x 450mm dowels were installed along transverse joints with 300mm spacing O.C.
- Transverse joint spacing 4.5m.

#### Partial Depth Repairs

- Partial depth repairs addressed joints that had damage from spalling and raveling for a total of 1,250 m<sup>2</sup>.
- Mapei Planitop 18 ES was used as a rapid-hardening repair mortar.



**CONCRETE**  
even smarter than you think™