



Michael Hayden, P.Eng.

Civil/Structural Engineer; Principal

Education

B.Sc. (Civil Engineering) 1993 University of Calgary

Affiliations

Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)

Association of Professional Engineers and Geoscientists of British Columbia (APEGBC)

Canadian Society for Civil Engineering (CSCE)

Experience (1998 – Present)

BECK ENGINEERING (1992) LTD.

Since joining Beck Engineering, Mr. Hayden has worked on a variety of civil and structural engineering assignments in the oil & gas industry as well as projects in the light industry and commercial fields. Recent projects he has been involved in have included:

- Design and analysis of structures, including buildings, modular packages, skid packages, pipe racks, pipeline anchors, vessel supports, stacks, and miscellaneous equipment.
- Design of foundations for buildings, skid packages, storage and process tanks, horizontal vessels, compressors and flare stacks, including analysis and design of foundations subject to dynamic loads.
- Inspection and field supervision for industrial facilities, including underground tank and pipeline installations, pile installations, excavations and site dewatering.
- Geotechnical design of shoring systems, retaining walls, roads, slopes and retention ponds.
- Structural assessment of underground pipeline crossings at highways and railroad crossings with consideration of non-highway vehicle loads.
- Inspection, review, and assessment of concrete structures such as bridges, sulphur pits and other commercial, light, and heavy industrial facilities.

PROJECTS OF INTEREST

Kinder Morgan Canada

Structural analysis and design services for pipe rack expansion including the design of a new pipe bridge within the heavily utilized utility corridor. Coordinated scope development, engineering design, drafting and scheduling. Provided technical engineering services for proposed new 200,000bbl tank foundations within the existing tank farm.

StatoilHydro Canada Partnership

Civil and structural engineer and design services for the Solvents Pilot DBM and the Leismer Lodge Utilities. Activities included preliminary civil/structural design to support estimating and coordination of civil/structural design criteria for DBM development, foundation and structural design.

Hatch-Optima Ltd.

Lead civil/structural engineer for the PetroCanada MacKay River Expansion DBM. Activities included preliminary civil/structural design to support estimating and coordination of civil/structural design criteria for DBM development. Coordination of critical path activities to suit construction execution.

Sherritt Power

Provided concrete and steel engineering and design services for the Varadero Plant modifications.

Tundra Engineering Associates Ltd.

Inspection, assessment and rehabilitation of an existing pipe bridge within the Vermilion Energy Utikuma facility. The replacement of the existing structure had to occur within the shut down window without modifying any of the existing piping and electrical conduit.

Newalta

Provide civil and structural engineering service for the design, construction and modification of the waste management facilities across Alberta and Saskatchewan.

Altagas Services Inc.

Review and assessment of the structural properties of an oil heater damaged by fire. Provided structural advice on the repairs necessary to safely demolish one boiler and provided recommendations to allow another boiler to remain in service.

Beck Drilling & Environmental Services

Design of micro-piles for a variety of commercial and industrial projects including pile cap design to accommodate vertical and horizontal loads.

Acres Parsons E&C Ltd.

Lead civil and structural engineer for the design and construction of the Conoco Phillips Surmont SAGD Plant.

Suncor Voyageur Upgrader

Provided civil and structural engineering services including the review of Owner specifications. Liaised with the technical groups of selected EPC contractor's.

Gemini Engineering Inc.

Civil and structural design and review of several oil & gas facilities including compressor stations, oil batteries, gas plants and waste disposal facilities for clients such as Suncor, Canadian Crude Separators, Encana and NAL Resources.

Norud-Kazakhstan Engineering

Civil and structural engineering for oil and gas facilities to be constructed in Kazakhstan and Russia.

Central Alberta Midstream

Review, inspection, and assessment of the structural properties of 30 year old, concrete sulphur pits.

Nordic-Acres Engineering

Civil and structural engineer for the design of the steam assisted gravity drain thermal facilities for the AEC Foster Creek Commercial Plant.

Titan-SNC Lavalin

Lead civil and structural engineer for the design and construction of the PennWest Wildboy Gas Plant expansion.

TransCanada Pipelines

Civil and structural design for 5 compressor station upgrades, including foundation analysis and design for turbine compressors using DYNA5 software. Structural design of concrete pipe supports, vessel supports, platforms, and skid packages.

BP Canada Energy Company

Review, inspection, and assessment of steel and timber bridges on an on-going basis and providing recommendations for repairs and upgrades as necessary.

1993-1998

THURBER GROUP – Project Engineer

Prior to joining BEL in 1998, Mr. Hayden was involved in a wide variety of geotechnical investigations, laboratory testing programs, field inspection/supervision and materials inspection, review and project testing.