



Client A&H Steel, Edmonton, Canada +++ **General Contractor** Ellis-Don Construction, Calgary, Canada +++ **Consulting Engineers** RJC Calgary, Calgary, Canada
DSI Unit DSI Canada Ltd., Eastern Division, Gormley, Canada
DSI Scope Supply of bonded DYWIDAG Post-Tensioning Systems; 658 type 9x0.6", 15x0.6" and 19x0.6" anchorages as well as 64,000m of corrosion protected strand; rental of equipment, on-site supervision of installation



DYWIDAG Post-Tensioning Systems stabilize Bankers Court Project, Calgary

Downtown Calgary, Canada, features two impressive skyscrapers rising in its very center: the Bankers Hall towers. A third building is currently being built as an addition to the two high rise buildings, which were completed in 1989 and 2000 respectively and are considered to be one of the city's landmarks. The Bankers Court building will make the shopping center even more attractive by diversifying the existing leisure facilities. Bankers Court, with its modern design, will be directly connected to the towers' shopping floors via an enclosed pedestrian bridge.

Since post-tensioned slabs are considerably thinner than conventional slabs, Bankers Court features especially large open spaces with high ceilings. In addition, the selected bonded system has excellent long-term corrosion protection.

All in all, DSI supplied approximately 64,000m of strand as well as 658 type 9x0.6", 15x0.6" and 19x0.6" anchorages for Bankers Court Project. The slabs were built using a bonded post-tensioning system consisting of flat slabs with an integrated beam system underneath. Each beam includes a single 9x0.6" multistrand Post-Tensioning Tendon that is fully encased and grouted after stressing. At each end of the building, there are two perpendicular beams that are post-tensioned with type 15x0.6" bonded DYWIDAG Multistrand Tendons. Type 19x0.6" DYWIDAG Tendons were installed into the roof slab due to increased loads and the architectural shape of the upper floors.

Since the building was constructed during the cold winter months, the strands were supplied with corrosion protection oil that allowed grouting of the tendons many weeks after the stressing operation. This option permitted grouting when the weather warmed up in the spring and saved having to heat the slab. In addition, the grouting could be done independently of the construction progress. Grouting of all of the DYWIDAG Tendons that were installed at Bankers Court was completed in only three separate operations using a special cement grout with thixotropic properties and grouting multiple floors in a single operation.

One of the challenges for this site was the lack of experienced crews for the tensioning work. For this reason, DSI provided an onsite supervisor to oversee every aspect of the post-tensioning operation and coordinate deliveries and schedules.

Work was also made difficult by the fact that the access road leading to the site had to be closed completely for each delivery. The resulting limited street usability in Calgary's downtown core and the lack of onsite storage meant deliveries had to be coordinated with the manufacturing plant just-in-time.

As a result of the excellent co-operation of everyone involved in this demanding project and of the chosen materials and methods, construction was successfully completed according to the initial construction schedule.

