A New Airport and the Second World War, 1939-1945

Building the Airport

In 1935 the voters defeated the federal Conservatives of R.B. Bennett and returned the Liberals of W.L. Mackenzie King, a government which "proved to be the most aviation-minded government the country has seen." C.D. Howe, initially Minister of Harbours and Railways, took civil aviation from the Department of National Defence and placed it within a new Department of Transport in 1936. Similarly, he pushed on construction of the Trans-Canada Airway, with airports across the county every 100 miles (160 kilometers) and emergency landing fields every 50 miles (eighty kilometers). By 1938 a framework of 94 airfields was nearing completion.

Red Deer, midway between the metropolises of Calgary and Edmonton and at that time with a population of 2,377 was a logical location for an airport. In 1938 the City considered purchase of 240 acres for an airfield, but the Department of Transport selected a site at 14-37-38-W4th, centered on the farm of the Hives brothers, Tom, Jack and Sid, northwest of the village of Penhold. Construction leveled runways in 1938 and completed the Department's few buildings, radio range and a nearby beacon in the summer of 1939. A storehouse and garage were moved from the old radio range site.

The British Commonwealth Air Training Plan

The Canadian government signed an agreement with Britain and other members of the Commonwealth in December 1939 which stipulated that Canada's chief contribution to the war effort would be the training of aircrew through the British Commonwealth Air Training Plan (BCATP). The Plan operated 107 schools and 184 ancillary units in Canada and produced 131,553 aircrew, nearly half those employed by the entire Commonwealth air forces throughout the war. With their flat terrain, open spaces and generally favourable flying weather the prairie provinces became home to many of the BCATP schools.

In March 1940 the RCAF's Aerodrome Development Committee considered the Penhold site for a possible Elementary Flying Training School (E.F.T.S). The Department of Transport airfield was available and would be suitable for training at relatively slight cost (E.F.T.S.'s used grass runways). The Committee felt that central Alberta should be represented within the Plan and that any improvements would benefit civil aviation after the war. At a subsequent meeting in July the Committee endorsed a Department of Transport recommendation to develop a Service Flying Training School (S.F.T.S.), and the E.F.T.S. instead was established farther south at Bowden.

Construction began at Penhold in the fall of 1940 and continued throughout the winter. F/Sgt Heywood, a Red Deer resident and construction worker on the site, remembered:

The winter of 1940-41 was cold. Drains and water mains were laid in temperatures of 35 "below" F. Thousands of tons of gravel had to be thawed out for the making of concrete for the hangars. Gravel was tipped onto dumps which were constantly

heated by a system of underlying hot pipes. Water for mixing the concrete had to be pre-heated. Concrete was mixed in the present [1943] drill hall, carried to hangars in covered trucks, and laid there, with the warmth of many braziers to prevent it from freezing before it set. Owing to the fumes in the hangars, many of the workmen were unable to work for more than short periods there. Often snow had to be swept from the roofs of unfinished buildings before the wooden shingles – or tiles – could be laid.

In spite of many difficulties, the bulk of the building was completed in six winter months. The work was carried out by an Edmonton construction company employing about 700 men, most of whom lived in a temporary camp just outside the station boundary.

The future sergeants' mess was the first building to be occupied in November 1940. By August 1941 construction on five doubly hangars and 31 other buildings was complete. Six hard-surfaced runways, 900 to 1,075 meters long made up the airport.

In the spring of 1941 accommodation at the airport was pressed into service to ease a shortage caused by an additional influx of RCAF basic trainees and an epidemic at No. 1 Manning Depot in Toronto. No. 2A Manning Depot (Temporary) formed at Penhold on 28 April and disbanded on 28 July when personnel were absorbed into No. 3 Manning Depot in Edmonton. In June 1941 a cloudburst caused a flood in which the newly-installed underground gasoline tanks, not yet covered in, floated away and clothing and bedding from the Manning Depot, stored on a hangar floor, were inundated by thirty centimeters of water.

No. 36 Service Flying Training School, 1941-1944

Early in the Second World War it became obvious in Britain that operational pressure on airfields left little scope for aircrew training. In the BCATP negotiations the British proposed to send a number of training schools to Canada. After the fall of France in May 1940 much British airspace became unsafe, yet expansion of the RAF demanded more aircrew training, and the British increased the number of schools to be sent to Canada. These were part of the BCATP, but paid for by Britain, manned largely by the RAF and intended for RAF trainees.

As part of this programme the nucleus of No. 36 Service Flying Training School assembled at West Kirby in England in August 1941, sailed from the Clyde to Halifax aboard HMT Stratheden, then travelled to Penhold aboard two special trains. On 23rd August G/CW.B. Farrington, DSO, RAF, assumed command of the station.

The purpose of the school was to train future pilots of multi-engine aircraft to wings standard. The trainees already had learned basic flying on light aircraft at an E.F.T.S. and now undertook more advanced flying and navigation on the relatively high-performance Airspeed Oxford. Four courses each of about sixty students trained at once, on a course which was lengthened several times over the course of the war, but ran about twenty weeks. Problems of aircraft serviceability and weather could delay the prospective pilot's progress. With the equipment of the time, snow removal or compaction could be a

problem and, if compacted, wet, soft runways during the spring thaw could cause training interruption. The strength of the school reached a high of 1,496, including both trainees and staff, in early 1944.

A total of 1,284 pilots graduated from No. 36 S.F.T.S., over a thousand of them members of the RAF. Inevitably, there were fatal accidents, the fist a crash on 24 December 1941, from which one student, LAC D.A. Phillips, succumbed in hospital. He, like most of the twenty fatal casualties at the school, was buried in Red Deer Cemetery. In an unfortunate occurrence on 4 May 1944, the station daily diary reported:

A *heavy pall of smoke from forest fires, five of which were burning some 40 miles north of Edmonton, descended on the Penhold area in the middle of the night following a change of wind direction. Aircraft engaged in night flying were compelled to land at airfields south of Penhold, some as far away as Calgary. All aircraft except one were eventually accounted for and, as the missing aircraft had not been located by morning, a standard search was put into operation. No.2 A.O.S. Edmonton and No. 3 S.F.T.S., Calgary, also carried out area searches. Pilots were greatly handicapped by the smoke from numerous forest and bush fires. Later in the day No. 13 S.F.T.S., North Battleford, and No. 34 S.F.T.S., Medicine Hat, were requested to search the areas allotted to their stations. The missing aircraft carried an instructor and a pupil pilot and was last reported at 23.35 hours.*

Six days later the aircraft was found, burnt out, both occupants dead, in woods less than three kilometers from the airfield.

No. 36 S.F.T.S. received its first Airspeed Oxford on 25 August 1941, but until mid-1942 a shortage of aircraft hampered training. The first winterized Oxford was received on 10 February 1942. By July 1942 aircraft strength reached over a hundred, where it remained until late 1944. From mid-1943 two de Havilland Menasco Moths were used as utility aircraft and, when these became unserviceable, the school received two North American Harvard II’s, the first of a type which would dominate the Penhold skies in the 1950’s.

From time to time the airport played its original role as an intermediate airfield where aircraft might seek haven in bad weather. Its location midway between Calgary and Edmonton, on a feeder route to the North West Staging Route brought in aircraft being ferried to Alaska and the Soviet Union. Some even landed on the inviting white surface of the gravel before the runways were completed and had to be rescued. On 29 December 1942 two Bell P-39 Airacobras and a Douglas C-47 (military DC-3), carrying Soviet markings but flown by U.S. Army Air Forces personnel, landed in bad weather en route to Edmonton. Similarly, from time to time, Trans Canada Airlines machines used the airport.

The physical facilities of the airport were not yet completed when No. 36 S.F.T.S. arrived. The RAF took over the water and sewage system only on 9 September 1941, the maintenance yard, works and buildings workshops and the heating plant on 9 January 1942, and the Link Trainer and radio building on 30 July 1942. The contractors completed a runway extension and a perimeter taxi track in October 1943. In March 1944

the chaplains dedicated a new Station Church, replacing the previous Chapel in the back of a hangar. On 10 April 1944 a bowling alley, constructed from non-public funds, opened.

Two fires occurred at No. 36 S.F.T.S.. The first was minor, in a night equipment storage behind the watch office in the old tower. The second was more serious. On 18 February 1944 a fire started in the kitchen section of the airmen's mess from spilled cooking fat and was only extinguished after nearly four hours. It burned out the kitchen interior and the refrigeration unit.

By mid-1944, Allied air supremacy in Europe and declining aircrew losses, particularly in the RAF's Bomber Command, reduced the need for newly trained aircrew and the BCATP began to wind down. In the spring, the RCAF announced the closure of No. 36 S.F.T.S. in December 1944, but by the end of October the last of the Oxfords had been ferried away and nearly all the RAF personnel had departed.

No. 2 Technical Signals Unit, 1944-1945

To facilitate maintenance of ground signals installations and airborne electronic equipment, In November 1944 the RCAF formed two Technical Signals Units, one in eastern and one in western Canada. No. 2 Technical Signals Unit was placed in the recently vacated Penhold station. Until the summer of 1945 about two hundred technicians from the station worked at Penhold and throughout western Canada installing and servicing electronic equipment. At Penhold itself the main job was repair of radar and radio equipment. About 3,500 instruments were stored there that summer, and were being repaired at a rate of sixty a day. In August 1945 the RCAF announced that it would move the work of No. 2 Technical Signals Unit to Calgary and reduce the station to a care and maintenance basis. A controversial incident followed, in which a considerable amount of the stored electronic equipment was destroyed by sledgehammer and bulldozer to prevent any salvage. When this was questioned in the Alberta legislature, Air Force Headquarters responded that the material was not economically repairable, but that no vacuum tubes were destroyed. It is not known if this material was scrapped of discarded on site.

The RCAF declared Penhold surplus on 31 August 1945 and on 30 November the federal Department of Transport took over the base.

Utilities

During the Second World War, most of the base was heated from a central plant (Building no. 48), from which coal-fired boilers provided steam heat through a system of underground piping. In additions, Hangars nos. 2, 4 and 6 had their own boilers and in turn supplied steam to the other hangars. A nine-bay coal compound held the heating supply on plank floors. Nine hundred tons of coal were at Penhold at war's end.

Until the central heating plant came on line in the autumn of 1942, rudimentary stoves heated each building.

Water came from two wells, pumped by 5hp. Electric motors driving turbine pumps, into two 455,000-litre concrete storage tanks. The water was aerated and chlorinated at the pumphouse, then pumped into 15-centimetre iron mains throughout the station. Two V8 gasoline engines drove these pumps. A 225-litre underground fuel tank for these engines could have been a possible soil contamination source.

The Department of Transport's initial airport buildings caused the first known environmental problem at the Penhold site. During the course of building it was proposed to dispense with a septic system, because of wet soil in the spring, and discharge sewage directly into a roadside ditch. However, the radio range building and residence were completed with a septic tank, but by 1942 the disposal bed was saturated and the buildings had to be connected to the recently-constructed base sewer mains.

The BCATP station boasted a complete sewage system, with 15- to 38-cm. trunk sewer lines draining into a sewage disposal plant, consisting of clarigester dosing tanks, two distributors, two filter plants and a settling tank. The water from the plant discharged into a ditch which ran into Waskasoo Creek and thence to the Red Deer River.