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Résumé de l'article

L'aspect technique de l'histoire de la construction du canal de Welland (1913-1932) est amplement documenté. Nous avons à notre disposition des photographies, des documents écrits, des cartes et des plans dans divers dépôts d'archives. Par contre, il est plus difficile de saisir l'aspect social de cette saga car les ingénieurs, les entrepreneurs et les ouvriers ont laissé peu de traces de leurs expériences. Fort heureusement, le journal d'un des ingénieurs responsables, Alexander J. Grant, a récemment vu le jour. En y décrivant la plus longue période de construction, l'auteur y fait non seulement la chronique des problèmes quotidiens d'un professionnel intelligent et dédié à son travail, mais laisse aussi entrevoir sa vie sociale et émotionnelle. Ce journal sera une source précieuse de renseignements pour tout futur biographe de cet ingénieur remarquable.

ALEX GRANT AND THE BIG DITCH

BUILDING THE WELLAND SHIP CANAL

by Roberta M. Styrán and Robert R. Taylor

The Welland Ship Canal, still in operation after nearly ninety years and an essential part of the St Lawrence Seaway, is remarkable evidence of Canadian technological imagination and expertise.¹ Building this huge waterway took nearly twenty years and employed scores of engineers and contractors and thousands of labourers. Although the technology involved in the construction of the waterway is impressive, most readers of *Ontario History* today may be as much interested in the men who designed and supervised the excavation of the channel and construction of the locks as well as the labourers who toiled “on the ground.” So who were these men?

The files of Department of Railways

and Canals in the National Archives in Ottawa and at the headquarters of the St. Lawrence Seaway Management Corporation in St. Catharines provide a superfluity of documents and photographs relating to the technical aspects of the waterway’s construction. On the other hand, they offer relatively little on the experience of the men, whether engineers, contractors or labourers, who worked on the construction site. For researchers, students and historians, finding documentary evidence of the day-to-day lives of these men, therefore, has been difficult. Fortunately, the personal diary of Alexander J. Grant (1863-1955), Engineer in Charge of Construction of the Welland Ship Canal, has come to light and has proved invaluable.²

In his journal, Grant faithfully noted

¹ P.J. Cowan. *Welland Ship Canal*, London, Offices of *Engineering*, 1935, 241. This “ditch” replaced the Third Welland Canal, built 1871-81 which itself was a reconstruction of the Second Canal, built 1840-45—a replacement for the First Canal, opened in 1829.

² The St. Catharines Museum has recently come into possession of Grant’s diary. Much of this inval-

Abstract

The technological history of the building of the Welland ship canal (1913-1932) is well recorded with photographs, documents, maps and plans in various archives. On the other hand, the social history of this saga is harder for the reader to discover because the engineers, contractors, and labourers have left little trace of their experiences "on the ground." Fortunately, a diary kept by the engineer in charge, Alexander J. Grant, has come to life. Covering the longest period of construction, it chronicles the day-to-day problems of a hard-working, intelligent professional -- but also offers glimpses into the emotional and social life of the man. It will be a valuable source for a future biographer of this remarkable engineer.

Résumé: *L'aspect technique de l'histoire de la construction du canal de Welland (1913-1932) est amplement documenté. Nous avons à notre disposition des photographies, des documents écrits, des cartes et des plans dans divers dépôts d'archives. Par contre, il est plus difficile de saisir l'aspect social de cette saga car les ingénieurs, les entrepreneurs et les ouvriers ont laissé peu de traces de leurs expériences. Fort heureusement, le journal d'un des ingénieurs responsables, Alexander J. Grant, a récemment vu le jour. En y décrivant la plus longue période de construction, l'auteur y fait non seulement la chronique des problèmes quotidiens d'un professionnel intelligent et dédié à son travail, mais laisse aussi entrevoir sa vie sociale et émotionnelle. Ce journal sera une source précieuse de renseignements pour tout futur biographe de cet ingénieur remarquable.*

nearly every day's events on the onstruction site from 1919 to 1932. For professional reasons, he probably wanted to have a private record of his own and other people's decisions and actions affecting the construction of the canal. It is a fascinating window into the quotidien vicissitudes of an early twentieth century

working engineer with many responsibilities.³ As well, we learn something about this strong-willed, intelligent man's personal life and character. Excavating the "ditch" and erecting its locks, weirs, bridges and culverts becomes a personal as well as a technological achievement, an insight not usually gained from the

able handwritten journal was painstakingly transcribed by Dr. Styran. We were able to use some of Grant's entries in our book, *This Colossal Project. Building the Welland Ship Canal 1913-1932* (McGill-Queen's University Press, 2016) and her efforts have provided the data upon which we have based this article. Biographies of canal engineers are rare but in 2007 Madelein Muntz published *John Laing Weller. The Man Who Does Things* (St. Catharines: Vanwell), a useful biography of the Engineer-in-Charge of the Ship Canal's construction, 1913-1917. Although social historians have found little to document the lives of the labourers who worked on the Ship Canal's construction site, some progress in this field has been made recently. In St Catharines, Arden Phair, Alex Ormston and others have done useful research into the identities of men killed in accidents during construction.

³ His diary entries were not always contemporaneous with the events recorded. On 27 April 1930, for example, the entry reads, "wrote up diary for the past two weeks from notes."

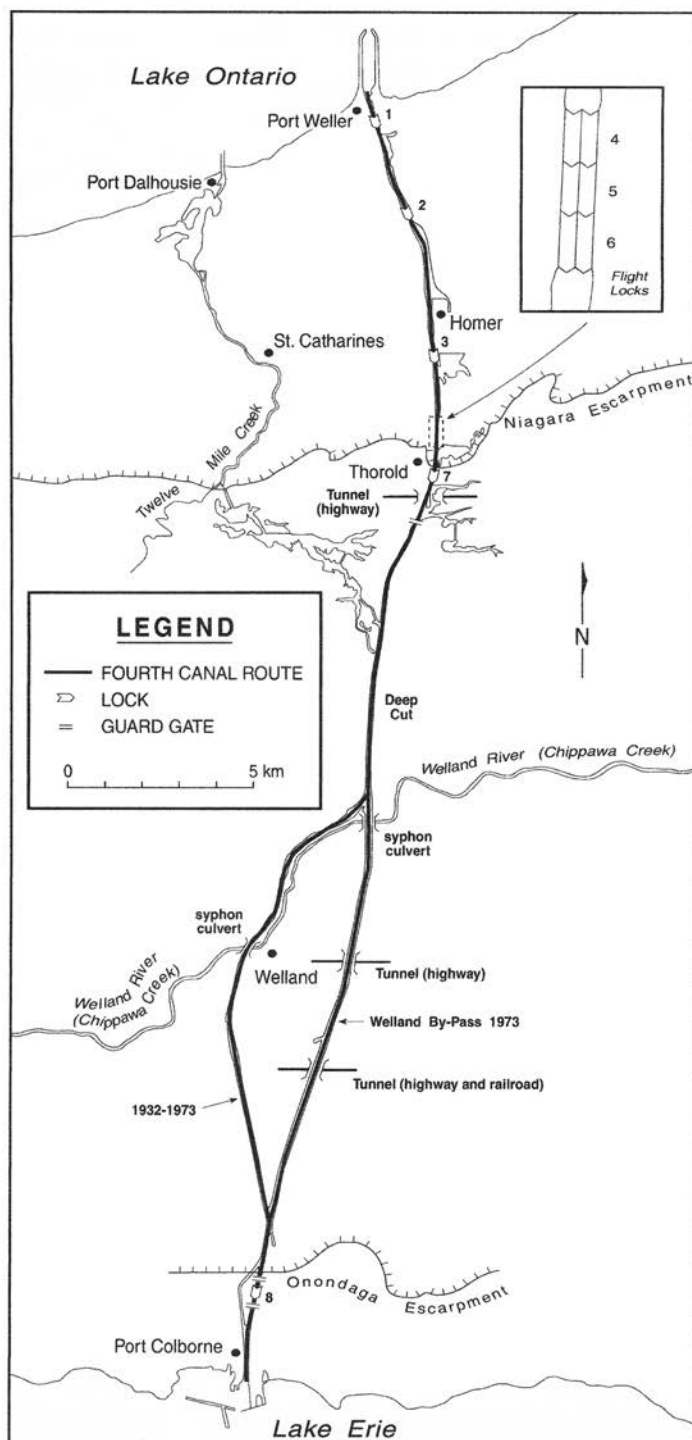
Right: Map of the Welland Ship (Fourth) Canal. (Loris Gasparotto, Brock University)

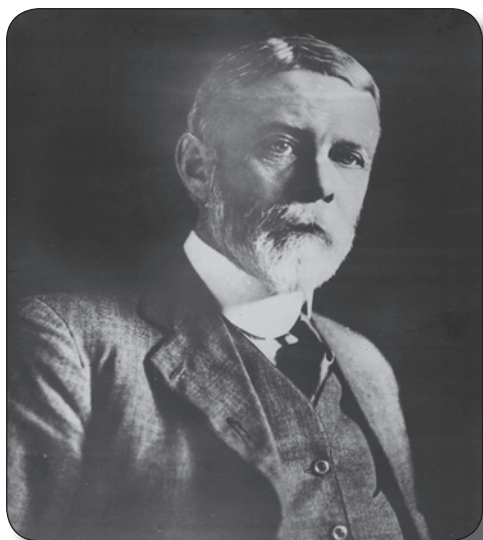
official record.⁴

In his entry for 8 August 1932, Grant referred to the new waterway as a “big ditch,” a rare sign of humour from this hard-working Scots-Canadian. Perhaps, on that date, when the tremendous effort of supervising the building of the new canal was finished, Grant believed he could allow himself some frivolity. At all events, he must surely have been aware that no other civil engineer of his time had been charged with a project of such magnitude. He could now relax a little.

Following the tenure of John Laing Weller, who was in charge of the initial stage of construction, 1913-1917, Grant had been appointed to the position in 1919 when post-war construction began. By 1932, he could look back on the successful construction of a huge man-made channel between Lakes Erie and Ontario, 41 km (25 miles) in length, as much as 9 m (30 feet) deep and often over 91 m (300 feet) wide, with 8

⁴ For the sake of clarity and uniformity of style, we have spelled out most of the abbreviations and contractions which Grant used.





Alexander J. Grant, Engineer in Charge of the building of the Welland Ship Canal 1919-1932. (St. Lawrence Seaway Management Corporation)

concrete locks and many weirs and associated structures. The disruptions of inflation, labour unrest, economic depression, climate and weather—and other crises—bedevilled Grant, his engineers and his contractors so that the work took another thirteen years to complete.

Alexander James Grant was born in Dufftown, Banffshire, Scotland, whence his father Peter emigrated to Canada in 1869, bringing his wife and family over in 1872. He attended St Mary's College, Montreal, and the University of Ottawa, beginning his career as an engineer on a survey for the Canadian Pacific Railway. In 1885 he joined the Department of Railways and Canals on the Cape Breton Railway (1887-91) after which he worked on the building of the Soulanges Canal

(1891-1903) under Thomas Monro.

In mid-December 1902 he was assigned to Port Colborne, the southern terminus of the (Third) Welland Canal, to take charge of harbour improvements there. Barely settled in the new post, he was recalled to the Soulanges to replace the late Monro. (Later he married Monro's nurse, Maude Kerr.)

In April 1906 Grant was appointed Superintending Engineer of the Trent Canal. By 1911, he was, said George Graham, Minister of Railways and Canals, on the way to becoming "one of the most efficient engineers in the whole department,"⁵ an estimate which probably contributed to his later appointment as Engineer in Charge of the Welland project.

Evidence of his impressive skills is the fact that, after only five years on the Welland, Grant was offered the position of Chief Engineer in the Department of Railways and Canals. His diary note reads: "I told him [the Deputy Minister] that I would not consider it at \$8000." The following day, the offer was repeated and again refused. The Minister himself offered him the position and, for the third time, Grant refused, on the grounds that an additional \$800 a year (he was earning \$7200) would not be sufficient compensation for the added responsibilities. (*Diary*, Monday 4, 5, and 12 February, 1924)

In 1930 his admiring colleagues elected him President of the Engineering Institute of Canada, a position in which he felt uncomfortable. (When, on 14 February 1930 he had to preside over the an-

⁵ George Graham, 28 July 1911, *Debates of the House of Commons*, 1910-1911. Vol. 5, 10476.

nual dinner of the Institute at the Chateau Laurier in Ottawa, he confessed to his diary that the role was “a position that I did not like.”) When the new waterway was formally opened in 1932, the *Engineering Journal* deemed Grant a “man of ripe experience and mature judgement.”⁶ His greatest professional reward came in 1934 when, on the occasion of his retirement, the Engineering Institute awarded him the Sir John Kennedy gold medal, the highest award given by the organization.

Describing the ideal qualities of a contractor, Grant once wrote that he must be:

still in early middle life, very active, and prepared to get up at five o'clock every morning and stay on the job until late at night every night, and at the same time employ lots of driving force, good judgement and horse sense.⁷

Such a man was Grant himself. Married to these attributes was his professional expertise. Grant had “engineering knowledge of a high order” said the *Montreal Gazette* in 1930.⁸ His diary entries reveal many examples of this quality. He understood, for example, the intricate operation of mitre gates on locks. (5 May 1920) Moreover, he never stopped learning. On 7 October 1921 he was closely studying the operation of bascule bridges

which were under consideration for the new Welland. Nor was he hidebound by tradition. On 3 September 1926, for example, he authorized a contractor to try out an experimental trench on the difficult site of the syphon culvert at the city of Welland.

His colleagues recognized his expertise, for he was occasionally asked to read papers at engineering conferences. (17 September 1920) Most important, his knowledge of canal operations was not “book-learned” but was based on his pre-Welland experience and on intimate knowledge of the Ship Canal construction site. Never office-bound, he regularly inspected the works, as on 5 February 1920, when he “spent the day... walking up and down the [Welland] river and canal for a mile below Welland and around the aqueduct studying the ground.” On 6 February 1923, he “walked up the east side of the Canal from Ramey’s Bend to Port Colborne investigating a proposed route for the Ship Canal west of the Grand Trunk Railway track”—and both of these events in the depths of an Ontario winter! When he castigated engineers or contractors for their inefficiency or mistakes, therefore, his position was based on personal experience and observation.⁹

⁶ *The Engineering Journal* (1930), quoted in the *St. Catharines Standard*, 5 August 1932, 6.

⁷ Grant to Colonel A.E. Dubuc (Chief Engineer in the Department of Railways and Canals), 13 November 1929 (Library and Archives Canada, RG 43, Vol. 2186, File 1101.4).

⁸ The newspaper went on to describe his “extraordinary resourcefulness as well as proficiency and technique”. (*Montreal Gazette* 14 February 1930)

⁹ His “hands-on” approach to the construction occasionally caused him grief. On 8 December 1927, he recorded, “On the way from Welland to Port Colborne Cameron Atkinson Sterns [Ship Canal engineers] and myself got marooned in our car on the new Welland Port Colborne highway due to high water in the canal. We were in a bad plight for nearly two hours before being rescued by a car and truck from Humberstone. S.W. gale with snow—Cold.”

A page from Alex Grant's private diary. (St. Catharines Museum)

Because the operation of any canal—especially one of the magnitude of the new Ship Canal—could entail danger to operators, ship crews and local people, Grant was a perfectionist, knowing that “the devil is in the details.” On 28 April 1919, for example, he would not accept a crane for Section 2 until it was “working mechanically correct [sic].” In 1921 he spent three whole days in Ottawa reviewing the specifications for the postwar construction program. (13-17 June 1921) On 19 July 1927, he rejected girders for a bridge over the canal because “they are badly twisted. I told the Hamilton Bridge Company that we [would] not accept them, even if repaired, as we consider them now as only scrap metal.” His powers of observation led him to order a sectional engineer (10 February 1921) “to change [the] switch man at lock 6 as he does not handle his trains with good judgement.”

Not surprisingly, Grant's professional standards for work done were high. Typical was an occasion on 13 January 1923, when he inspected Lock 3, “where sheet piling is being driven for west wall of lock—Bucyrus shovel No. 70 is work-

Journal St. Catharines
May THURSDAY 6 1920
Ottawa May 5th 1920
Went to the pits back from the west level
here.
Saw in new specification for Sand Control
elevation for addition of 125,000 cu ft.
as maximum in present cut for an
elevation.
Gave Cliff Day report on valves for locks.
Dinner at MacMillan & MacMillan Club
supper also at Chateau. Called on
Committee after lunch at MacKenzie's after
dinner. They have sold their Hotcliffe
house.
Left at 10.30 for Innis, Fine, very warm.
Innis 6th May St. Catharines
Spent at 7.25 am. Ketterick just arrived at the
Queens at 9 am. He came over for night with
Hawthorn, Mr. Sheehan, Manning & Starnes & we all
left at 8 PM for St. Catharines in the car.
Lunch & supper at the Innis. Called on Mr. Macdonald
at Innis. He is a very pleasant man.
At 11 am went out to the side of the pits with
Hawthorn, Mr. Sheehan, Manning & Starnes.
It has not been shipped to the Industrial Crane.
Lock 6 is still under the tank. It came in on from

ing at elev. 330, behind sheet steel-pile trench. Showed... where I wanted excavation taken out to behind Mons. [monoliths] 12W & 13W.” The following Monday he noted that “Mr. J.P. Porter [the contractor] is asking to be allowed to go ahead with excavation inside sheet pile trench at lock 3—I said no until all excavation above elev. 330 in rear of trench had been taken out to our satisfaction.” (13 and 15 January 1923) Clearly Grant understood the intricacies of the opera-

tion underway.

Because all aspects of the project were interdependent to one degree or another, his diary entries often record examples of contractors failing to meet deadlines. On 15 January 1924, for example, he laments J.P. Porter's "slow progress being made" in the construction of Lock 3. After touring the site on 5 July 1927 he recorded that:

The contractor has not begun cofferdams at ends of Creek Diversion... nor has he done any work recently at raising rear of bank.... The result is that he will have no place to work his shovels building watertight bank at 1st Sept. 1927. Porter's want of foresight in carrying on his work is amazing & inexplicable to me.

The following year (4 July and 17 November 1928), he was still urging Porter that it "must be speeded up" and that he, Grant, was "not satisfied with the condition of the excavation.... A lot desultory talk about what they were going to do about the W.T.B. [watertight bank] excavating etc. All the usual Porter bunk."

What he expected of others he expected of himself: his diary records that, in his late sixties, he often would be driven to one site, then would walk, sometimes for several kilometres, usually accompanied by one or more of his engineers and a contractor or his agent, from one area to another, even in bitter winter weather. When, in 1923, he admonished Porter at Lock 3, he had walked all the way from Lock 1, a distance of more than 7 km (over 3 miles). No canal-side road or walking trail existed.

On the construction site, Grant's closest colleagues were his or divisional

engineers, most of them talented, industrious, opinionated and occasionally fractious individuals. Dealing with them diplomatically was another challenge for Grant, one which he usually met. Despite reports of his occasionally explosive temper, Grant seems to have been a sociable person. His diary, as on 13 May 1919, records many instances of his having lunch or dining with his engineers. Although sometimes critical of these men, he made his approval of their actions known on occasion, for he had praise for F.C. Jewett, a man he occasionally reprimanded: "he has good ideas on the subject [of fitting Lock 1 for mitre gates]" (16 April 1920). He was capable of informed loyalty because when W.H. Waddell and Jewett, in charge of the canal's Forestry Project, were accused of irregularities, he noted "I do not believe in any such charges." (15 December 1930) On the day when Jewett was compelled by Departmental fiat to resign, moreover, he pointedly had dinner at his home with his wife Maude, Angus W. Robertson (a long-time friend), divisional engineer F.S. Lazier—and Jewett as well.

Despite his hard-driving nature, Grant was a congenial man with a gift for making and keeping friends. He maintained much more cordial relations with the Department of Railways and Canals than had his predecessor, John Weller. He considered that Chief Engineer William Bowden was "a real friend to me." (3 February 1924) They met comfortably on a number of occasions, both in the capital and on the construction site. For example, on 8 and 9 May 1919,

Grant was in Ottawa, consulting with Bowden. Later Bowden joined him in St Catharines, whence they motored out to Lock 2, then proceeded to visit several of the other lock sites, presumably enjoying each other's company. (Tuesday, 13 May, 1919)

On the other hand, his relations with Ship Canal contractors were often fraught with tension but again Grant, although he could be brusque in giving out orders, could also be gracious. Of course, when he had meals with contractors (as on 13 May 1919 with Baldry, & Hutchinson), he was having a "power lunch" when business was probably discussed and during which his sociability was partly calculated in order to oil the wheels of co-operation between the Department and its contractors. Luckily, his affability was natural attribute, so any extra efforts on his part—as to be friendly with the likes of Porter or the equally troublesome contractor Peter Lyall—were not overly taxing¹⁰ and must have overcome many professional hurdles.

Not that this affability was never tested. His difficulties with J.P. Porter have already been indicated. These had begun as early as 1921 but in November 1928 Grant was still critical of this contractor's work on Section 6: "the whole work of excavation and W.T. [watertight] Bank on the section is in dirty shape, very rag-

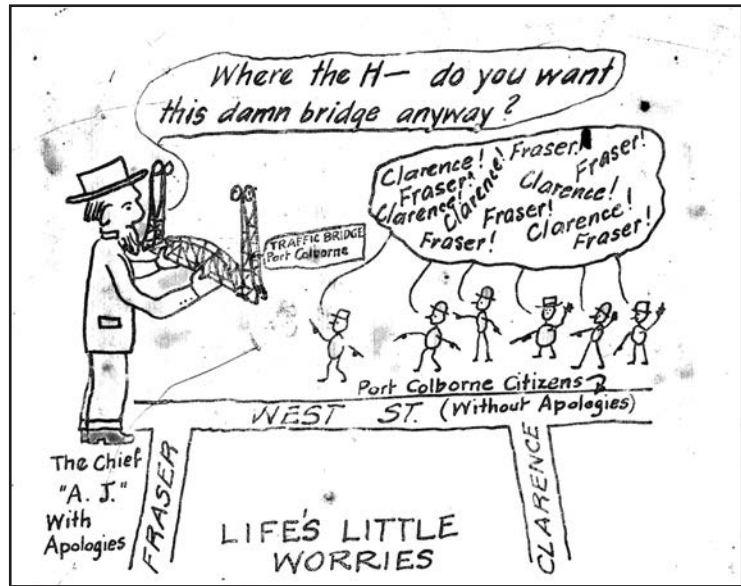
ged and badly managed." "A half-hearted attempt is being made to bring in material for the bank by narrow gauge cars." He never seems to have been satisfied with Porter's work but this did not prevent him from having supper with Porter and other engineers at the Chateau Laurier in Ottawa and having "a pleasant time" (5 February 1924) or from enjoying a lunch at the Lewiston, New York, golf club hosted by Porter. (31 May 1925) He was also invited to a dinner at Porter's at Lock 2 on the occasion of the forthcoming marriage of another contractor. (23 December 1926)

His habit of personal bridge-building was evident when he had lunch with the difficult contractor Peter Lyall (28 June 1922) who was also present at that Chateau Laurier meal. With Lyall, Grant had several problems, one of which was the contractor's claim that "mudstone" had inhibited the progress of his work at Lock 4, thus explaining delays in the construction. Grant was suspicious and engaged experts at the University of Toronto and at the Ottawa Museum of Natural History. (8 October 1925) He was not convinced but in 1927 Lyall was still pursuing his case, a thorn in Grant's side.

To some contractors, Grant's "driving force" might have seemed like lack of sympathy, even rudeness. When he encountered inadequate workmanship, he did

¹⁰ He was capable of outbursts of righteous indignation and was the sort of man about whom stories accumulate, many of them probably apocryphal. A Ship Canal office worker described Grant's "whiskers and a white wig. When he got mad, it would go crooked and he'd look rather strange, with his hair off to one side. He had a policy of bawling somebody out every day." (Fred Collins, a war veteran who worked as clerk and paymaster on the Ship Canal construction, quoted in the *St. Catharines Standard*, 7 August, 1982, 33.) Grant's diary records payments for a new "toupee" on a number of occasions, as well as the cost of having it cleaned.

A cartoon sketch by an anonymous contemporary, sympathetic to Grant and the problems he had with local communities on the route of his "big ditch". (Welland Canal Lantern Slide Collection 1914-1931, Special Collections, Brock University. RG 583, 1.69)



not mince words. In 13 December 1929, for example, he told contractors Steward and McDonald, who were working on the supply weir at Humberstone, that "they did not appear to be much exercised over the slow progress being made in construction of the cofferdam... I told them... had no faith in their use of their clay walls." Then on 22 February 1930 he gave McDonald "a piece of my mind on his management of this part of Section 8 Work."

Grant was even more critical when he encountered the requests of organized labour. During his work on the Soulanges Canal earlier in his career, he may have supervised with a pliable work force but, galvanized by the Great War and European revolutions—not to mention the Winnipeg General Strike of 1919—the "navvies" on the Ship Canal construction expressed a new militancy which probably scared Grant, as it did the political authorities and his fellow engineers. Typically, in 1921, he repeatedly denied representatives of a union the right to visit or have stewards on the canal sites. To be fair to Grant, however, in 12 May 1923

he reports his attempt to have salary increases for two of his office workers.

As with organized labour, Grant had little sympathy for the travails of the communities through which his "ditch" was being excavated. When local people would complain of the construction operations flooding their land, he would deny that any responsibility rested with the Department. He would refer to the old engineering adage, the "canal was on the ground first" and often noted that the waterway was designed to benefit the wider community, not just Niagara interests. (14 July 1920; 28 July 1920) When a Welland deputation went to Ottawa to see the Chief Engineer about water problems which they believed were caused by Ship Canal construction, Grant recorded, with evident satisfaction, that "they got no concessions on lifting and relaying the water mains and their canal road proposed extension was not listened to."

(24 Feb 1928)

Nevertheless, Grant was sometimes compelled to negotiate with local businesses whose needs could not be totally ignored. And so we find him attending to the situation of the Canada Furnace Co. at Port Colborne, which had to move its dock to accommodate the new canal. (23 April 1925) Moreover, he did not lack a sense of local history as, on 24 August 1930, he documented his concern for the conservation of a wooden lock of the First Welland Canal. "There is enough of it left so that it could readily be rebuilt very much as it was originally." (Nothing came of his suggestion to Ottawa.)

He was also concerned that the wider public should know about the great efforts being made in Niagara to build a great modern waterway and he did not complain (not at least in his diary) about his commitments to give tours of the site and talks on the subject. In short, he understood the importance of "public relations." On September 17 1920, for example, he read a paper on the canal to the Niagara Branch of the Engineering Institute. On 11 July 1921 he went "all over the canal" with the Great Lakes Tide Water Association. He met Herbert Hoover, the American Secretary of Commerce and members of the US St. Lawrence Commission. (14 June 1924) He took Governor General Lord Willingdon over canal on 4 July 1928.

Not only was Grant regularly present and active on all the Ship Canal construction sites but also he toured other canals. He visited Panama and European canals, as well as both the American and

Canadian Sault Canals, the Erie Canal at Black Rock, New York, as well as canals in Quebec and the Maritimes. Through such visits he kept up to date on canal engineering and did on-the-spot research into questions about bridges, locks, and water control.

He was often called to Ottawa for conferences with the Chief Engineer and others. According to his diary, he would take the overnight train from St Catharines via Toronto to the capital, a journey that in the 1920s could take over nine hours. (Presumably he took a berth.) Arriving in Ottawa before 8 a.m., he would have breakfast, spend the day at the Department of Railways and Canals with the Chief Engineer and, as often as not, after dinner with friends, return to St Catharines on the night train and head straight to work the next morning. A typical diary entry is that of 10 December 1927: "home... from Ottawa at 9:30 a.m. Office until noon." From 1919 to 1921 he averaged six trips a year to see the Chief Engineer, from a maximum of nine trips in 1919 (when he took over the Welland) and again in 1924, down to three in 1929 and 1932. Obviously, according to his own prescription for a contractor, he rose early and worked late.

Grant was not only highly intelligent but was a skeptical, shrewd judge of human character and motive, exhibiting his own version of "good judgement and horse sense." Early in 1922, for example, following a discussion on labour rates on Sections 1 with the contractor Porter, Grant wrote, "He claims he tendered on the work on the prospect of common

[labour] being 24¢ per hour early in the contract. The rate for common labour on the work today is 37 ½¢... Are these letters schemes of Porter to build up claims years hence on account of alleged high schedule rates?" (27 January 1922) When the problem of getting enough hydro-electric power for the canal arose in 1920, he opined that Sir Adam Beck (founder of Ontario's Hydro-Electric Power Commission) "is hoodwinking & playing rag tag with the Dominion Government." (27 October 1920). On 2 November 1922, after James Battle (a local manufacturer) and N.W. Gowan (inventor of "safety horns" for lock gates) came to his office to discover the Department's willingness to use their product, Grant noted "just a lot of desultory talk and sounding me out on [the] amount of royalty they might exact from the Ship Canal. Told them to do their own guessing." When his talented sectional engineer, F.C. Jewett was accused of irregular handling of Departmental funds, he did not believe the charges (as we have seen) and may have suspected a politically motivated witch hunt. (15 December 1930) These were, of course, his private opinions, confided, we presume, only to his journal, for Grant was usually conscious of the importance of "networking" and respect among colleagues.

As far as his diary reveals, despite professional dissatisfaction with certain individuals, he appears to have been happy to socialize with contractors and engineers however strained their on-the-job relations might be. The Grants frequently had dinner or played golf or

cards, with the J.P. Porters—despite his irritated comments on this contractor's "bunk." For example, on 31 December 1922, the Grants saw the New Year in at the Porters' home. Typical of Grant's friendships was a small dinner party following the funeral of Chief Engineer W.A. Bowden. Hosted by David Dick of Welland (president of the National Sand and Gravel Company, a supplier for the Ship Canal), the guests included contractors Lyall (another of Grant's *bêtes noires*), Porter (again!), Angus W. Robertson and engineers from Ottawa, the Trent Canal and the Ship Canal. "We had a pleasant time & drank a silent toast to the memory of our friend, W.A. Bowden." (5 February 1924)

Not unusually, his closest friends were engineers or contractors. The diary entries suggest that he was distressed by the death in 1927 of his friend, the contractor Hugh Quinlan of Montreal. (The firm of Quinlan & Robertson had worked with Grant on the Soulanges Canals and Robertson had a contract on Section 8 in 1924-1929.) After his friend's death he noted wistfully, "I have known Hugh since 1896." (9 May 1927) It was Quinlan who had driven the Grants about Montreal for temporary distraction during the last illness of Grant's brother John and who placed his car at their disposal to help them with the necessary funeral arrangements. Quinlan's partner, Angus W. Robertson, was also a close friend, whom Grant often visited when he was in Montreal or when they both happened to be in Ottawa or Toronto at the same time or on Robertson's frequent visits

to construction sites on the Ship Canal. Robertson also often chauffeured Grant about Montreal when the latter had a number of professional appointments. They would visit mutual friends together and were frequent companions on the golf course, at lunch or dinner, and at the card table.

Alex Grant was a practicing Roman Catholic, usually attending early Mass Sunday mornings, often at 8:00 a.m.,¹¹ leaving the rest of the day free, if necessary, for work. On 17 October 1920 (a Sunday), for example, he went to mass and then to the “Thorold [work]shops” and toured the concrete plant above Lock 7 with Angus Robertson. (See also 10 July 1921) From the diary, it is difficult to ascertain the depth of his religious conviction. When a colleague or professional acquaintance died, however, he would often comment, “May his soul rest in peace,” as when Graham Bell, Deputy Minister of Railways and Canals, passed away on 13 January 1929. On 7 August 1932 he wondered when “the Soulages [Canal] Contingent” will meet again, “I hope in Heaven.” Were these remarks thoughtless platitudes? The most we can conclude is that this busy, practical man probably had little time or inclination to ponder spiritual realities.

He did, however, have firm opinions about the people and places he visited outside Canada. He noted on 12 February 1926, when he was at Cristobal, Panama: “I do not like the tropics.” In Europe on 24 October 1928, he declared, “I do not

like Germany and its people.” Although he visited his birthplace in Scotland in 1928, upon returning he confided to his diary, “I am glad to be back in Canada. Walking around Montreal looks and feels natural.” (11 November 1928)

Of course, all this travel and hard work—including Saturdays and Sundays—was possible because of his continual good health and sturdy constitution. Not only did he go about on foot in all seasons inspecting the construction site, but indoors he worked long hours. On 1 September 1926, for example, he dined in Niagara Falls with Chief Engineer A.E. Dubuc and other engineers, and “after dinner we discussed many Ship Canal items until midnight when Cameron [a Ship canal engineer] and I left for St. Catharines.” Later, on 18 July 1929, when Dubuc again visited Niagara, he wrote that “After supper discussed various Welland Ship Canal matters in the Colonel’s room [in St Catharines] until 11 p.m.” “I worked from 8 to midnight” he recorded on 16 March 1932, “at Collingwood Shipyard claims.”

Although he obviously loved his work and rarely complained about its possible toll on his mental and physical health, his diary occasionally suggests on-the-job strain and tension. On 2 September 1921, for example, he recorded that:

This past month was the hardest & most strenuous work that I have ever experienced in the 35 years of my connection with the Department of Railways and Canals. Everyone in the office, engineers & draughtsmen

¹¹ His brother James was a Jesuit priest.

have been working 3 hours every evening on the plans & specifications for sections 3 & 4 Welland Ship Canal, and also several men in the Thorold office on the quantities.

(That his bureaucratic underlings seemed to have been willing to work these hours—we have no evidence of overtime pay—may suggest their own commitment to both the project and the man.) On 24 October 1924, after a morning meeting with Civil Service Commission representatives, he took Chief Engineer Bowden over the north end of the canal, then “returned to St. C. after a fatiguing & disagreeable afternoon.” It had rained all forenoon, and there was a high east wind, “cold & very raw.” Most telling is his lament in 1925 that modern life was filled with “too much telegraph, telephone and worry generally.”¹² On the other hand, despite his experience of professional stress, he rarely complained of ill health: on 3 October 1921, he notes that he had a “bad cold” but, if he had other bouts of illness, he never mentioned them in his journal.

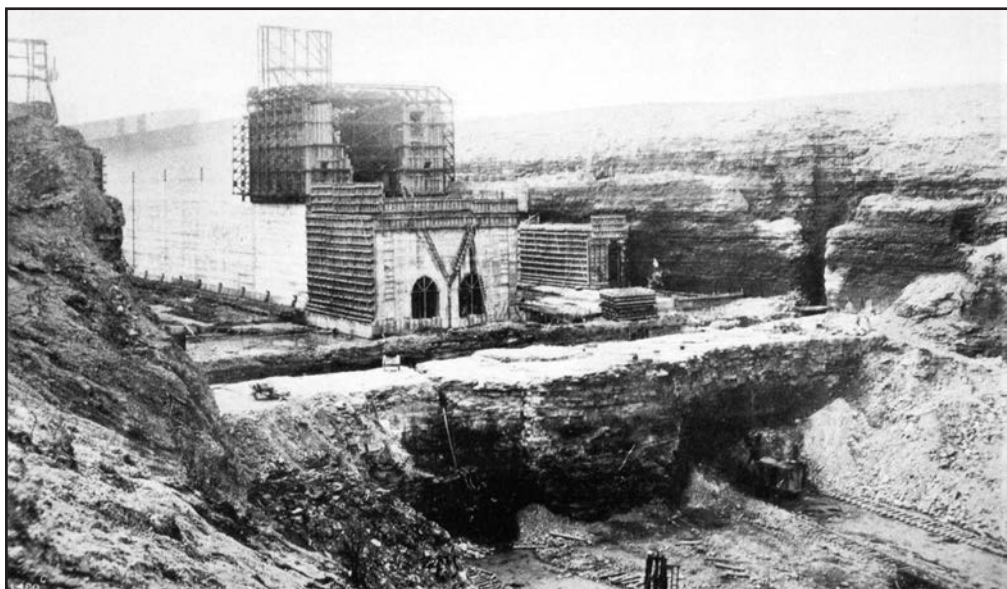
In St Catharines, he lived with his wife Maude and their children Alex Jr. and Helen. Maude may well have been the template for the perfect wife of a busy professional man who often travelled and, even when in the city, worked until late at night. As the children matured, however, the loyal Maude often accompanied Alex to inspect the canal site and on professional trips. She was at his side when on

6 November 1929 they watched as gate leaves were floated for the first time. On 10 September 1930 they both went to Thorold to see the new locks opened and Maude ceremonially opened the gates of Lock 7. Increasingly from 1927 on, she accompanied him to Toronto, New York, and Ottawa on quasi-professional trips. Closer to home, Maude and he were occasionally at the canal Medical Service’s hospital for dinner with Dr. John McCombe and the matron Miss Boulter (e.g. 14 October 1927).

Suppressing his irritation with some of the engineers and contractors, Grant did not hesitate to socialize with them. In fact, he managed to have a surprisingly active social life. His diary reveals that his favourite recreations were playing cards, golfing and curling with professional friends, visiting dignitaries, and members of what he described as the “St Catharines 400” (the social elite of the city). He does not indicate if the card-playing was bridge or some other popular game but he frequently indulged. For example, on 29 July 1922 he and Maude “played cards” “with Porter and Chief Engineer Bowden at the [Canal] Hospital after supper.” He seems to have particularly enjoyed Dr. McCombe’s skill and company for he was often at the latter’s card table.

He loved to golf, as on 24 June 1924 when he was on the links with his good friend Angus W. Robertson and one of

¹² This was after an hour spent at Mount Vernon in Virginia “with the memories of George Washington... The generation of Washington’s time knew how to live & take life leisurely & probably got more out of it in one year than we would in 10 today.” (18 December 1925) What would Grant think of 21st century professional life with its e-mail, faxes, computers, texting and tweeting?



*Thorold, Ont. c. 1925: construction of the paired flight locks, revealing the width and depth of the excavation and the size of the monolithic lock chambers. A locomotive is on a track on the lower right. (P.J. Cowan, *The Welland Ship Canal Between Lake Ontario and Lake Erie 1913-1932*, London: *Offices of Engineering*, 1935, 42.)*

Porter's sons. On 14-17 August 1926 he was on a golfing holiday "at Britannia" (a resort hotel in Muskoka). Between 24 March and 3 April 1932 he was in North Carolina, playing golf.

On 3 September 1925 he watched a softball game "between Porter and his team and Section no. 8." On 14 October 1927 the whole family was in Montreal for a weekend football game between McGill and Queen's Universities. Sometimes he was very active at social events. He confesses that, 17 September 1920, at the Engineering Institute's banquet in Niagara Falls, he danced until 1:30 a.m. and "Jack [Hogan, an engineer] and I made an exhibition of ourselves dancing a highland fling and marching around the ballroom with the pipers." On the following day he records that "Maude

[was] in bed all day. Too much dissipation last two days. We only got back at 3 am this morning from the Falls." Nevertheless, he got up to leave home at 8:45 a.m. to guide tours of the site and attend conference events!

This civil engineer does not fit the stereotype of the "dour Scot." On 17 December 1925 when visiting Baltimore on professional matters, he "went to see the 'Song of the Flame', a Russian musical play." Then on 14 February 1926, while in Chicago, he "took in a Burlesque show after supper." In Paris in October 1928 he attended two operas, the Folies Bergères, and the Moulin Rouge.

In his role as president of the Canadian Engineering Institute, Grant describes how he was feted at the Leonard Hotel in St. Catharines on 26 February



August 1932: Alex Grant (centre, front row) and his staff and their wives on the Ship Canal flight locks at the formal opening of the waterway. (Welland Historical Museum)

1930 when “180 of my friends, lay and engineering, gave me a banquet.” It is not inconceivable that he could call nearly 200 people his “friends.” One source of his success as an engineer must have been this remarkable gift for friendship: his devotion to his one-time boss, Thomas Monro, has been noted. He never lost touch with his fellow engineers on the Soulanges Canal and maintained long-term friendships with many former work colleagues, a phenomenon which does not seem to have been only the practice of “networking.” On 16 September 1929, for example, after the formal opening of

Lock 8, he lamented, “I missed my old friend Mr. M.J. Hogan who would have thoroughly enjoyed the occasion.” He lamented the passing of his “real friend,” Chief Engineer Bowden. At the death of Major Graham Bell, Deputy Minister of Railways and Canals, Grant wrote, “he was a good friend of mine.” (13 January 1929) When Charles Keefer (son of the pioneering engineer Thomas Keefer) died, Grant called him “an old friend of Maude’s and my own.” (10 April 1932) On 7 August 1932 he and Maude hosted a supper at his house for “the Soulanges Canal Contingent... first time that I have

had all the.. Soulanges men in our house all together since Coteau days. They enjoyed looking at the photos of those by-gone days....”

If Grant had a “best” friend, it may have been the contractor Angus W. Robertson whom he, often with Maude, regularly visited in Montreal. In fact, he seems to have made a point of meeting Robertson whenever the chance arose, as on 9 December 1927 when, in Ottawa, he “saw A.W. Robertson for a few minutes in the hotel” or again in the capital (24 September 1929), when he “arrived at 7:05 a.m... Breakfast with A.W. Robertson at the Chateau.” Although with typical reticence, he never refers to his friend as ‘Angus’, these meetings do not seem to have been professional meetings but were motivated simply by affection and empathy.

Despite his profound work ethic and his demanding schedule, Grant regularly took holidays, some of them extensive. For example, he spent three weeks in 1921 motoring in the Adirondacks and five days in New York City in 1924 with Maude. In 1924 and 1926 they enjoyed cruises on the Great Lakes. In January 1927 the couple were in the Maritimes where he met old friends but also gave talks at branches of the Engineering Institute (typically combining business with pleasure). He visited the house the Grant family had lived in on the Meta-

pedia River in New Brunswick in 1871-76. Starting on 26 July 1928, with Maude and their daughter Helen, he left for a tour of England, Scotland, and France. He “said goodbye to Canal Staff for three months,” noting later (27 July 1928) that this was his “first trip back to bonnie Scotland and home since I came out with Father Mother and Brothers in 1872.”

Grant formally retired on 31 March 1934, in his 71st year. His diary entry for that date reads:

At midnight tonight I ended my active life with the Department of Railways and Canals Canada after 48 years service in the Department. Tomorrow I begin six months leave of absence with pay, before being superannuated. I have no regrets leaving active life. I am tired mentally & physically and glad to rest and very thankful to Almighty God that I have good health and strength to enjoy the evening of my life in peace and contentment with my family.¹³

Although insightful, Grant’s diary is a document which contains teasing hints of other aspects of his life, about which he is taciturn. For example, on 23 October 1930 Maude and he had “Tea at Port Dalhousie cottage.” Was this a lake-side summer home of the Grants? The diary entries do not say. At one point in his career as Engineer in Charge, he had the services of one “Docherty,” a chauffeur. Who was this man? Did Grant always have a driver? Again the diary is obscure. Obviously, engrossing as this journal is,

¹³ Grant had earlier noted (24 March 1934). “My last day in the office as Engineer [in] Charge of the Welland Ship Canal since the 1st January 1919. A long time in which God has blessed me with good health & strength & also gave me good assistants without whom we could not have carried the work through to a successful issue. *Deo Grat*”

anyone who attempts a biography will have to do more extensive research, as in a scrapbook which Grant kept and other related documents now in the Niagara Collection at Brock University.

Alexander J. Grant awaits his biographer. This historian will find the man's di-

ary essential, for it reveals the professional challenges and the personal responses of a talented, dynamic man supervising a colossal construction project. The resulting biography will be a fascinating and important chronicle of the life on one of the builders of modern Canada.
