

CANADIAN
NATIONAL IN
NORTHERN
QUEBEC
THE EX-Q&LSJ
The EX -CNQ
RAILWAYS

Electric Railway Department

Electrical Equipment for Mount Royal Tunnel, Canadian Northern Railway.

Canadian Railway and Marine World, for Dec., 1913, contained a general description of the electric locomotives for Mount Royal tunnel and the Montreal terminal. Following is a more detailed account of some of the apparatus on the locomotives, and also a description of the 8 multiple unit car equipments and substation apparatus.

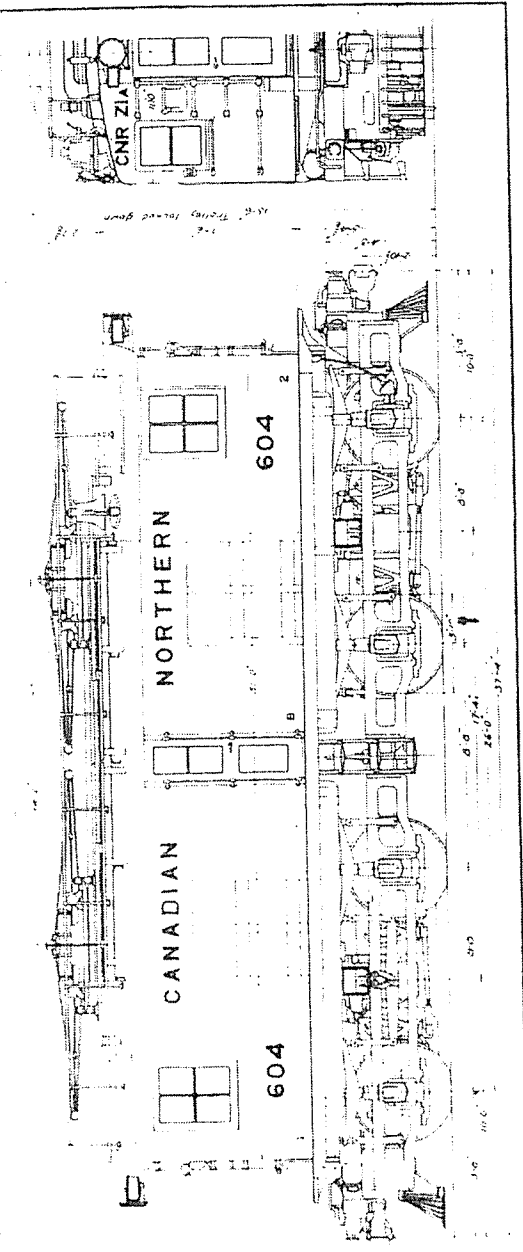
LOCOMOTIVES.—The motors on each locomotive will consist of 4 CNE-22s, commutating pole type motors. These have a standard rating of 315 h.p. each, or a total of 1260 h.p. per locomotive. The magnets of the box type construction. The frame is provided with bored openings at each end through which the armature pole pieces and field coils can be inserted or removed. The frame heads carrying the armature shaft bearings will be supported in the recess ends of the magnet frame, and will be held in

place by bearing metal with a thin layer of babbit sweated to the bearing shell. The armature bearings will be lubricated by means of oil and waste, and the waste will be held against the shaft on the low pressure side of the bearing. Waste oil from the armature bearing will be prevented from entering the interior of the motor by a series of oil deflectors which will throw it into grooves in the heads from which it is conducted away. Axle caps will be tongued and bolted to the chined surfaces on the frame, which will be inclined at an angle of 60 degrees to the horizontal. The bearings will be lubricated by means of oil and waste, and the caps will be provided with auxiliary oil wells. The motor will provide a 7 in diameter of axle in the motor bearings.

The field coils will be all wound with strip copper, the whole being mummified and insulated with varnished cambric and heavy

Each brush holder will rest on a support which will consist of two mica insulated studs pressed into a drop forging. The support will be secured to the frame against accurately machined seats by tap bolts accessible from the outside of the motor frame. The brush holder supports on accurately machined seats. The brushes will slide in finished ways and will be pressed against the commutator by fingers which will give a practically uniform pressure throughout the working range of the brushes. The arrangement of springs actuating the fingers is such that there will be but slight pressure on the pins on which the fingers pivot. This will prevent any tendency of the fingers to stick on the pins and will reduce wear to a minimum.

The magnet frame will carry an opening for a flexible connection to a low pressure



Side and End Elevations, Electric Locomotives, Mount Royal Tunnel.

place by tap bolts, which will be secured locked against turning. In each head will be two tap holes diametrically opposite, and when bolts are screwed into these holes the frame head will be forced off.

The armature bearing housings containing the bearing sleeves will have liberal sized pockets for holding oily waste, which will be held against the shaft on the low pressure side of the bearing. The heads will be provided with auxiliary oil wells for gauging the depth of the oil and inserting new oil

tape. The armature core will be built up of soft iron laminations and mounted on a steel spider. The laminations will be keyed to the spider, and the spider in turn keyed to the armature shaft. The armature will be so constructed that the shaft may be removed without disturbing the commutator or windings, as the commutator and armature heads will all be located on the spider. The armature is especially designed to give thorough ventilation, so that the forced draught will circulate through longitudinal holes in the armature and over the surfaces

blower. Air will be forced in at the opposite end from the commutator, through the field coils and over the armature, then under the commutator through the armature heads and punchings. Gears will be of rolled steel forgings and the pinions of special treated high grade steel. Each motor will have two pinions, one mounted on each end of the armature shaft. Each set of gears and pinions will have 4 in. faces and the teeth will be cut to a diametral pitch of 2 1/2 ins. The contactors which will handle the main current will have the operating coils

June, 1914.]

CANADIAN RAILWAY AND MARINE WORLD.

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The main motor and auxiliary fuse boxes will all be provided with a very effective magnetic blow out, which will be energized by the current passing through the fuse, and have hinged covers to facilitate fuse renewals. Fuses will be of the copper ribbon type, having a hole in the centre to localize the heating. These fuse boxes will be all

tributed of hot air secured. The heating equipment will consist of a heating unit, blower and regulating mechanism, the controlling switch and thermostat of the regulating mechanism being arranged for operation from the 600 v. supply. Air will be forced over the heating unit and distributed to the car through air ducts along the sides

direct connected to 11,000 v. synchronous motor. The generators will be provided with pole face windings, and will be capable of carrying extremely heavy overloads, the overload capacity of each set being 200% load for one half hour and 300% load for 5 minutes. Three bearing 125 v. motor generator exciter sets will be supplied, each 125 v. 50 k.w. compound wound commutating pole generator being driven by a 550 v. 3 phase induction motor. The switchboard will consist of 32 panels of natural black slate and be 58 ft. long over all. The switchboard will make provision for considerable future extension.

All the apparatus above mentioned is being furnished by the Canadian General Electric Co.

arranged to blow into a common chamber arranged to take care of the arc.

The motor generator set will consist of a 125 v. generator of suitable size to take care of lights, head light and control circuits, direct connected to and driven by a 2,400 v. motor having two 1,200 v. commutators. A fan for providing air to blow through the main motors will be direct connected to one end of the motor shaft.

MULTIPLE UNIT CAR EQUIPMENT.— Each of the 8 multiple unit cars will be supplied with 4 C.G.E.-239 motors, of the commutating pole type, fully ventilated, wound for 1,200 v. and insulated for 2,400 v. Two of these motors will be permanently connected in series for 2,400 v. operation. Their standard rating will be 125 h.p. each, or a total of 300 h.p. per car. In the construction of these fully ventilated motors, the pinion end frame will be provided with a ring which will divert the air discharge from the armature fan through the openings in the head, while the incoming air will be drawn through a screened intake. This construction will insure a definite longitudinal circulation of air through the whole interior of the motor.

The Sprague GE type M multiple unit control will be provided, the design arrangement and construction being such that it will be equally well adapted for either single-car or train operation. The control equipment will include a motor generator set for supplying 600 v. current for the control circuits, air compressor and lights. This set will consist of 2 1,200 v. motors, operating in series at 2,400 v., direct connected to a 600 v. generator.

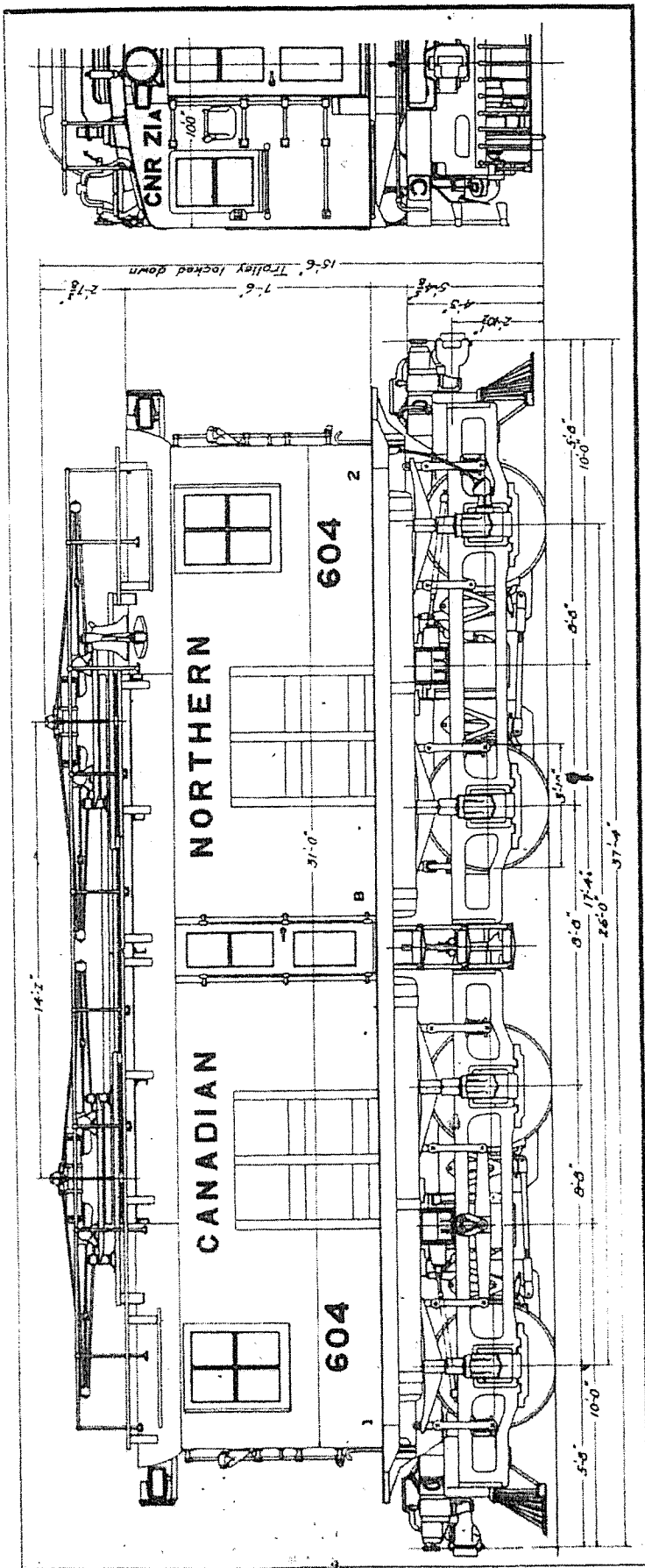
The construction of the motors and control apparatus will be essentially of the same general type as for the corresponding items used on the electric locomotive equipments. The method of heating the cars will be very satisfactory on account of the excellent dis-

of the car.

SUBSTATION EQUIPMENT.— Power will be purchased at 62½ cycles 11,000 v., and the present equipment of the substation, which will be located near the west portal of the tunnel, will consist of 2 1,500

End View, Electric Locomotive.

k. w. C.G.E. motor generator sets. Each of these sets will be four bearing, and consist of 2,750 k.w. compound wound commutating pole generators, wound for 1,200 v. and insulated for 2,400 v.,



Side and End Elevations, Electric Locomotives, Mount Royal Tunnel.

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CANADIAN
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September, 1922.

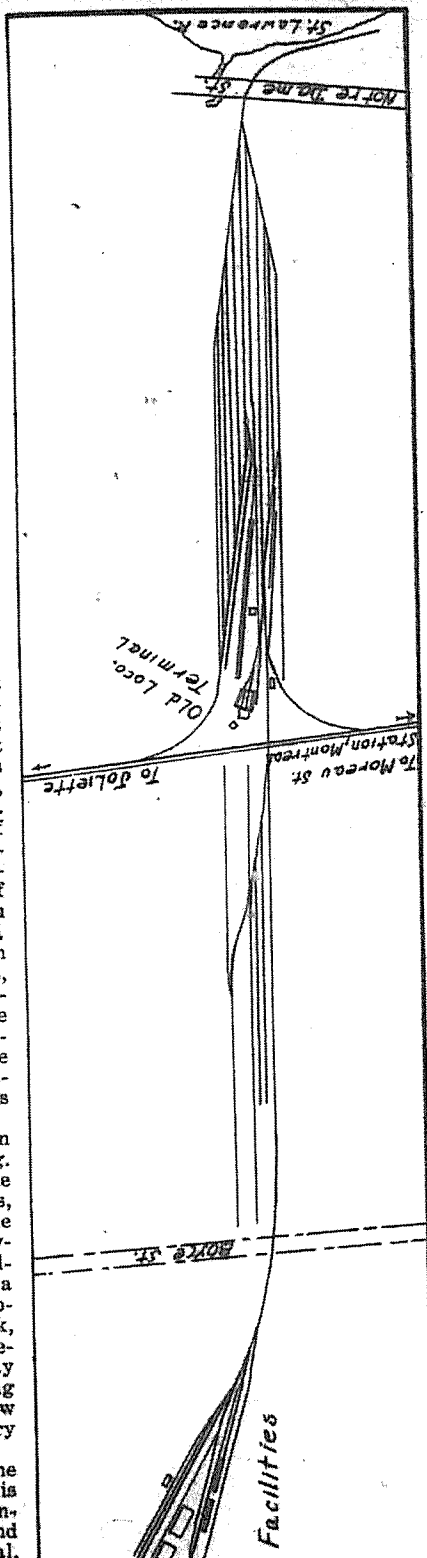
Canadian National Railways' Locomotive Terminal, Longue Pointe, Montreal.

Complete new locomotive terminal facilities for the Canadian National Rys. at Longue Pointe, Montreal, were finished early this year. They were made necessary by increasing business and the inadequacy of the original terminals, which consisted chiefly of a 4-stall frame locomotive house and a frame coaling trestle, built in 1903. The old facilities were located south of the C.N.R. L'Assomption Subdivision line, about 1,000 ft. east of First Ave., near the easterly end of Ontario St., while the new facilities have been constructed in a new location, north of Boyce St., practically in line with the old layout. The accompanying location plan, fig. 1, shows the new terminal facilities to the northwest of the L'Assomption Subdivision line, the old layout being shown southeast of that line. The yard to the right of the old locomotive terminal is used as a general classification yard, and the track at the extreme right connects with the Harbor Commission's tracks and industrial spurs. The new terminal, as shown in the accompanying layout plan, fig. 2, consists of locomotive house, turntable, and outside track arrangement, machine shop, coaling plant, water tank, stores building, bunkhouse, ash handling facilities, and passenger car yard.

The locomotive house, of the part circle type, is of brick, on concrete foundations, and has 10 stalls. Each stall is 14½ ft. wide at front, 21½ ft. wide at rear, and 100 ft. deep. The house is completely equipped with tender truck, locomotive truck and driver wheel pits. The locomotive pits, 58 ft. long, are of concrete, and sloped for adequate drainage, and the house is equipped with cinder-floor between pits. The roof is of 2-in. t. and g. sheathing, covered with felt, tar and gravel, and its slope is ¾ in. in 1 ft. The house is equipped with wood ventilators and wood smoke jacks, and is piped for steam, water and compressed air. The turntable is of the through type, 86 ft. long over all, carried on a concrete centre pier and circle wall. The table is operated by compressed air motor. The locomotive house is fitted with tin clad doors.

The machine shop, located in relation to the locomotive house, as shown in fig. 2, and connected thereto by tin clad fire doors, is of brick on concrete foundations, 21 in. thick. The shop is 53 x 127 ft. The roof, of 2-in. plank, tar and gravel covered, is supported by steel central columns set on concrete piers, and has a slope of ¾ in. in 1 ft. The shop is provided with a concrete floor, 6 in. thick, and the large window space affords adequate natural lighting. It is a one-bay structure and has a monitor, running longitudinally, fitted with large window area and ventilation facilities. Lavatory facilities are provided in the shop.

The boiler room portion of the machine shop is 52 ft. 9¾ in. x 37 ft., and is equipped with three boiler pits and concrete piers. Space for cold storage, and facilities for economical handling of coal,



and supplies steam to the lines used for heating passenger equipment occupying tracks in the car yard. Drainage in the machine shop and boiler room is provided by pipe laid in conduit. The machine shop is equipped with the usual complement of lathes, drills, shapers, etc., necessary for efficient handling of running repairs.

The stores building, 32 x 93 ft., is of brick veneer on concrete foundations, and equipped with roof covered with asbestos shingles. It has a basement, a portion of which is used for oil tanks, which are provided with pumps located on the main floor. The remainder of the basement is used for storage of material of the heavier class, and the main floor equipped with bins and shelving, is used for storage of locomotive supplies. The stores building also includes the locomotive foreman's office, and locomotive crew registering room, and lavatories.

The coaling plant, of 200 tons capacity, is of wood, on concrete foundations, and delivers coal to locomotives on two tracks. It includes an elevated trestle, up which the cars are run, and from which the coal is dumped to the hopper below and elevated by continuous chain buckets. The mechanism is operated by electric motor. The sandhouse is of frame and is equipped with a concrete firewall between the sand store room and the drying room. The sand is elevated to the sand pocket on the coal chute by compressed air pressure, and delivered to locomotives on either coaling track by the gravity system. The ash handling facilities are of the depressed track type. The locomotive tracks are supported on cast iron columns located 5½ ft. c. to c., set on concrete piers, and the ashpit tracks are 3 ft. 8 in. below the level of the locomotive tracks.

In addition to the outside tracks for locomotive handling and storage, the terminal includes 3 car tracks, with capacity for storage of 38 passenger cars. Each track is equipped with air, water, and steam connections, the air and steam being supplied from the boiler room in the machine shop.

The water supply is obtained from the City of Montreal, the connection having necessitated laying a main from St. Catherine St. to Boyce St., on First Ave., and along Boyce St. to the railway property, where a meter chamber has been built and a meter installed. From this point to the different buildings, 6-in. cast iron pipe, with lead joints, has been laid. In addition to the extension of the water mains, the city built a sewer on Boyce St., to which the C.N.R. connected an 18-in. vitrified tile sewer, running from the turntable pit to Boyce St., with connections from the different buildings. Manholes have been located 150 ft. apart. The water tank, consisting of wooden tub and framework, supported on concrete foundations, is of 60,000 imp. gal. capacity, and the standpipe, of the Sheffield-Johnson no. 10 type, is supported on concrete foundations.

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The boiler room portion of the machine shop is 52 ft. 9¾ in. x 37 ft., and is equipped with three boiler pits and concrete piers. Space for cold storage, and facilities for economical handling of coal, are provided. The boiler room is fitted with 2 locomotive type boilers, of about 60 h.p. each, fitted with automatic boiler feed, and the necessary pumps, compressors, etc., are also installed. The heating system for the terminal is of the sealed automatic type, supplied with steam from the boilers in the boiler room. In addition to heating the locomotive house and machine shop, the same system also heats the stores building and bunkhouse,

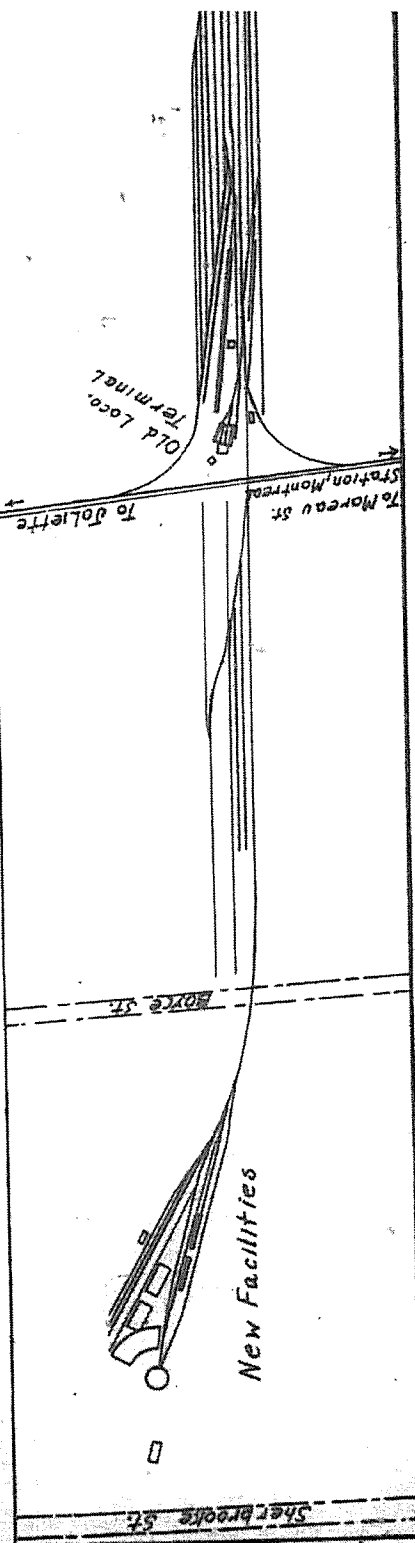


Fig. 1 Location of New and Old Locomotive Terminals, Canadian National Ry., Longue Point, Montreal.

which are provided with pumps located on the main floor. The remainder of the basement is used for storage of material of the heavier class, and the main floor equipped with bins and shelving, is used for storage of locomotive supplies. The stores building also includes the locomotive foreman's office, and locomotive crew registering room, and lavatories.

The coaling plant, of 200 tons capacity, is of wood, on concrete foundations, and delivers coal to locomotives on two tracks. It includes an elevated trestle, up which the cars are run, and from which the coal is dumped to the hopper below and elevated by continuous chain buckets. The mechanism is operated by electric motor. The sandhouse is of frame and is equipped with a concrete firewall between the sand store room and the drying room. The sand is elevated to the sand pocket on the coal chute by compressed air pressure, and delivered to locomotives on either coaling track by the gravity system. The ash handling facilities are of the depressed track type. The locomotive tracks are supported on cast iron columns located 5½ ft. c. to c., set on concrete piers, and the ashpit tracks are 3 ft. 8 in. below the level of the locomotive tracks.

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As shown by fig. 2, the terminal has two inbound and two outbound locomotive running tracks, in addition to the car yard tracks, elevated tracks to coaling plant and depressed tracks to ashpit. In addition to the construction of tracks in the terminal itself, it was necessary to rebuild the line between the C.N.R. main line and Boyce St., reducing the grade and relaying 80-lb. rail, which is also laid throughout the yard. The layout

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The boiler room portion of the machine

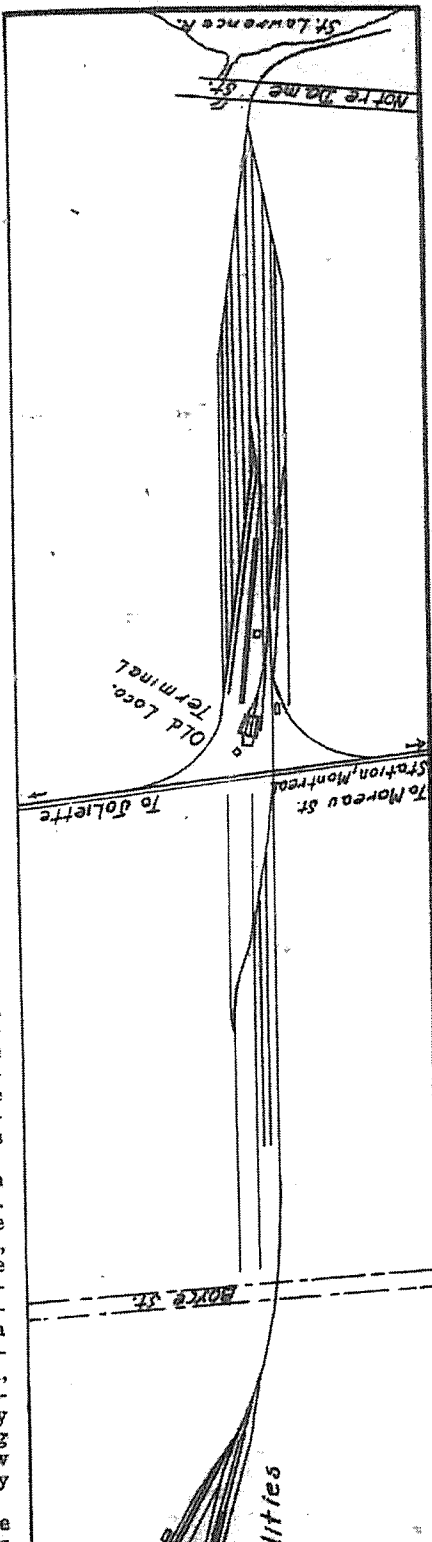


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contains approximately 11,000 ft. of trackage, of which 3,000 ft. are passenger car tracks. The grading for the tracks involved the handling of 7,000 cu. yd. of material, principally clay.

The terminal is used for handling of locomotives operating on the Quebec District, Montreal Division, L'Assomption Subdivision, which extends from the Moreau St. station, in the eastern end of Montreal, to Joliette, Que., 36.3 miles, and also for locomotives running past Joliette and operating on the St. Lawrence Subdivision, which extends from Joliette to Quebec, 140.2 miles. At present from 9 to 15 locomotives a day are handled at the terminal.

The construction of the new terminal was begun in Sept., 1920, and was completed in Jan., 1922. With the exception of the coaling plant, sandhouse and turntable, all of the work was done by the railway's own forces. The coaling plant was supplied by Williams & Wilson, Montreal, and the turntable by Canadian Bridge Co., Walkerville, Ont. The general layout of the terminal was designed under A. F. Stewart, then Chief Engineer, Eastern Lines, Canadian Northern Ry., Toronto, now Chief Engineer, Canadian Government Rys., Moncton, N.B. The buildings were designed by G. C. Briggs, then Architect, Eastern Lines, Canadian, National Rys., Toronto, now

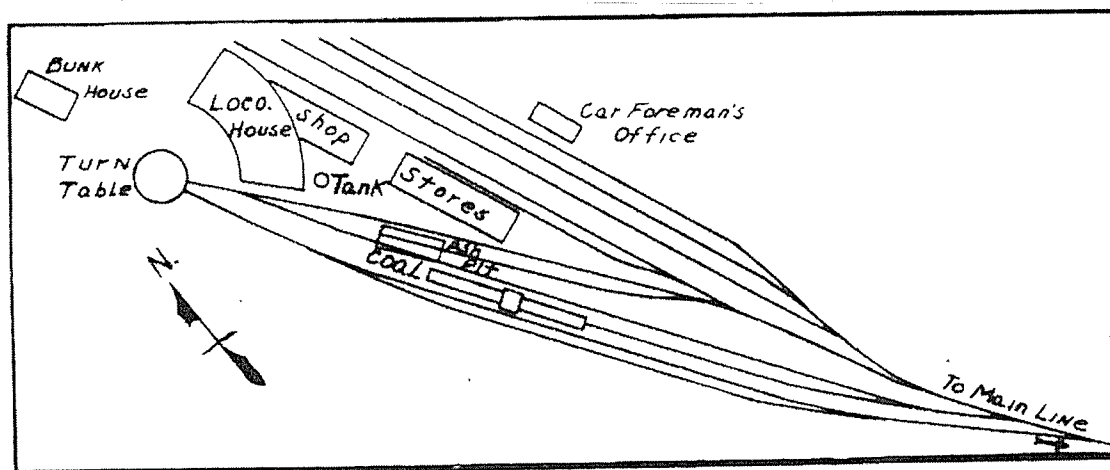


Fig. 2. Layout Plan, Canadian National Rys. Terminals, Longue Pointe, Montreal.

Architect, Western Lines, C.N.R., Winnipeg. The construction work was done under the direction of H. T. Hazen, acting Chief Engineer, Canadian Northern Ry. lines east of Port Arthur; R. A. Baldwin, District Engineer of Construction, being in direct charge of grading and track work, and E. Hedley, Superintendent of Buildings, being in charge of building construction.

AUGUST, 1911.]

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Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—We are advised that while the matter of the erection of shops at Limoilou, Que., has been under consideration for some time, no definite decision has been reached as to what will be done.

The matter of the company's terminals in Montreal is being widely talked of at present, owing to extensive purchases of land which have been made in the city, and between Montreal and the Back River by what is known at the Deayton-Shaw Syndicate. It is stated that these latter proposals will be developed for industrial plants along the route of the direct line of the C.N.Q.R. from Ottawa, and as sites for suburban residences. We are advised that it is proposed to obtain an entrance into the centre of the city by means of a tunnel under Mount Royal. The feasibility of this proposal is being investigated and plans are being prepared. So far as the laying out of terminals is concerned nothing has been decided, either as to whether the company will lay out terminals for itself or join with some other company, presumably the G.T.R.

August 1911

Cadorna-Chaudiere Block Signals Installation.—A press report states that automatic block signals are being installed at Cadorna and Chaudiere, Que., 11 miles, on the bridge and Drummondville Subdivision, Quebec District. They are style T 2, direct current, 25 signals.

Lachevrotiere and St. Marc Cut-Off.—The Board of Railway Commissioners has authorized the operation of trains over the cut-off between Lachevrotiere station on the Canadian Northern Ry., to St. Marc station on the National Transcontinental Ry., mile 47.9 to 50.1 from Quebec. This piece of line was described in Canadian Railway and Marine World, Oct. Jan. 1921, pag. 11.

October 1922

St. Charles River Bridge.—The Board of Railway Commissioners issued a judgment, Aug. 11, giving reasons for declining to make an apportionment of the cost of rebuilding the railway bridge over the St. Charles River at Quebec. It is owned by the old Quebec and Lake St. John Ry. and the Quebec Ry., Light, Heat and Power Co., and the latter company's application was to have the cost of rebuilding apportioned between the two companies and the Public Works Department. The Board found that there was no evidence to warrant it in forming an opinion that the bridge was unsafe so far as the weight of the electric railway rolling stock was concerned.

September 1923

January, 1924

Canadian Nationa

Saguenay Division Track Relaying.—
A ~~Quebec~~ press report of Dec. 14, states
that it has been decided to provide in
the appropriations for the year for re-
laying about 80 miles of track on the
Saguenay Division, Central Region, be-
tween Riviere a Pierre and Chicoutimi,

January 1924

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CANADIAN RAILWAY AND MARINE WORK

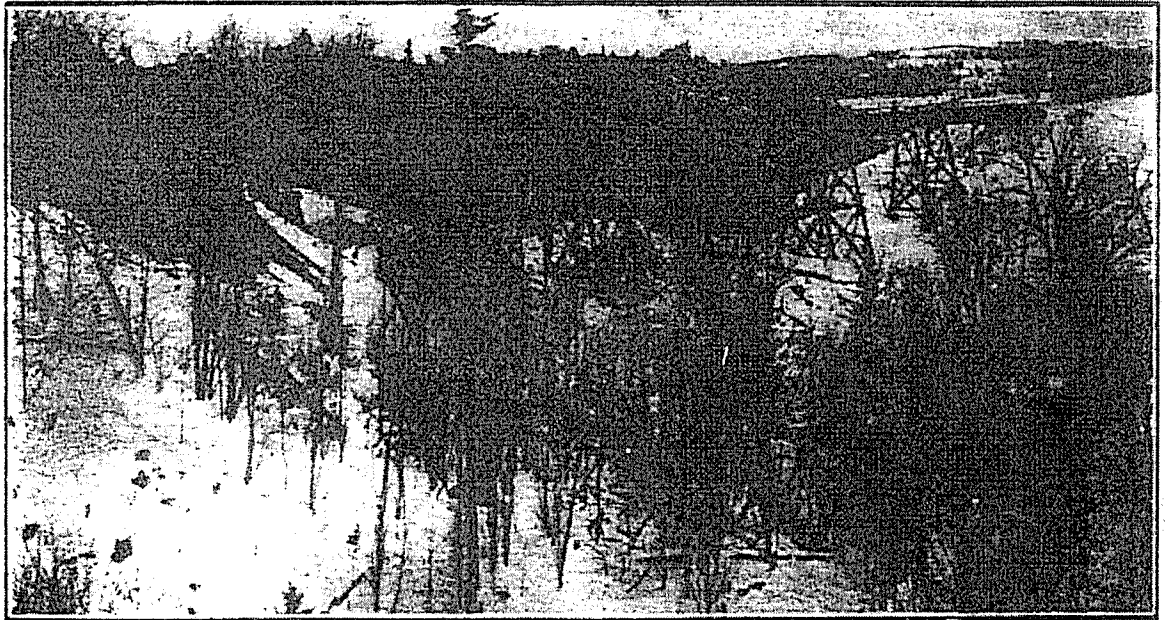
Canadian National Railways Construction, Betterments, Etc.

ture was manufacturer and erected by the McGregor, McIntyre Co., Toronto.

Canadian Northern-Grand Trunk Pacific Track Connections.—The Board of Railway Commissioners has authorized the connection of the Canadian Northern Ry. tracks with those of the Grand Trunk Pacific Ry. at the following points: mile 5.40 on the Clark Subdivision, mile 3.83 on Riverhurst Subdivision, near Regina, Sask.; mile 24.39 on the Brazeau Subdivision, and mile 79.06 on the Three Hills Subdivision, near Alix, Alta.; mile 20.98 on the Brazeau Subdivision, and mile 76.97 on the Three Hills Subdivision, near Alix, Alta.; the Drumheller branch with the Three Hills Subdivision at mile 197.13; in n.w. $\frac{1}{4}$ Sec. 13, Tp. 53, Range 24, west 4th Meridian, Vegreville Subdivision.

A press report states that it was expected to complete a track connection between the Canadian Northern Ry. and the Grand Trunk Pacific Ry. near Barlow, Alta., Dec. 15, and that all the G. T.P.R. freight and passenger trains will be run into the Canadian National Ry. yards, while the C.N.R.'s local freight shed will be closed, and all local freight

East Burrill Viaduct.—We are officially advised that the steel viaduct on the East Burrill deviation, between Glenalda and St. Boniface, mile 87.6 to 91.6, St.



East Burrill Viaduct, Canadian National Railways.

Lawrence Subdivision, Que., has been completed and traffic is being operated over it. The viaduct is at mile 89.7 west of Quebec, near St. Boniface, and crosses the Lavergne gully, through which the East Burrill Creek flows. It is a single

will be handled at the G.T.P.Ry. freight shed.

Saswatchewan Lines Opened. — The Board of Railway Commissioners has authorized the opening for traffic of the extension of the Thunderhill Branch from

AUGUST, 1911.]

THE

Canadian Northern Ry. Construction, Etc

Canadian Northern Quebec Ry.—We are advised that while the matter of the erection of shops at Limoilou, Que., has been under consideration for some time, no definite decision has been reached as to what will be done.

The matter of the company's terminals in Montreal is being widely talked of at present, owing to extensive purchases of land which have been made in the city, and between Montreal and the Back River by what is known at the Deayton-Shaw Syndicate. It is stated that these latter proposals will be developed for industrial plants along the route of the direct line of the C.N.Q.R. from Ottawa, and as sites for suburban residences. We are advised that it is proposed to obtain an entrance into the centre of the city by means of a tunnel under Mount Royal. The feasibility of this proposal is being investigated and plans are being prepared. So far as the laying out of terminals is concerned nothing has been decided, either as to whether the company will lay out terminals for itself or join with some other company, presumably the G.T.R.

Canadian Northern Ontario Ry.—The first section of the line from Toronto to Ottawa, viz., from Toronto to Trenton, 100 miles, has been completed with the exception of a few crossings of other lines, and it is expected to start a regular train service over it in August.

The Board of Railway Commissioners has approved the revised location of the line and station grounds in Belleville: of

The Quebec Development Co. is reported to have started work on the construction of a railway from Hebertville, mile 198 from Quebec, on the old Quebec & Lake St. John Ry., for use in the building of a dam at the Grande Descharge of Lake St. John. Contracts are reported to have been let for grading and trestlework on the line from Hebertville to St. Joseph D'Alma, for a bridge across the Little Descharge, and for another one over a small branch of the Saguenay River, as well as for piers, foundations and other works. Arrangements are also reported as being made for contracts for the construction of the dam at the Grand Descharge. Hebertville is three miles south of Hebertville station, so that the railway will run northerly from Hebertville station to St. Joseph D'Alma, which is on the shore of the Little Descharge. Alma Island separates the outflow of Lake St. John into two branches, the Little Descharge and the Grande Descharge, which farther on becomes the Saguenay River.

The Premier of Quebec is reported to have announced, Dec. 9, that an order-in-Council had been signed ratifying a contract between the Government and the Quebec Development Co. for the building of two dams at the Grande Descharge. The first part of the project would, it was stated, be started immediately and is expected to be completed in 1924. The first development is expected to produce 7,000 h.p., and

January 1923

Palais Station, Quebec.—In connection with a recent press report that the Canadian National Ry. was arranging to operate its trains on the old Quebec and Lake St. John Ry. into the Canadian Pacific Ry's Palais Station, Quebec, which would be extended so as to make it a union station for all traffic, we are advised officially that there has been no proposition made for adding an additional wing to the station, and no definite conclusion has been reached as to the operation of the trains of the old Quebec and Lake St. John Ry. into it. The station has ample accommodation for handling all trains running into Quebec. The Canadian National Ry., with a view of protecting future requirements has, from time to time up to two years ago, when the last purchase was made, acquired certain lands in and about the Quebec terminals, but no plans are under consideration for its immediate utiliza-

January 1926

March, 1926

Canadian National

Lake St. John Railway Accommodation.—A press report states that the Quebec Government is negotiating with the C.N.R. in regard to the building of a railway from Chicoutimi, encircling Lake St. John to St. Felicien, Que., about 70 miles. The Government is leasing large blocks of timber lands in the area through which such a line will pass, on one of which at least a large pulp and paper mill has to be erected. It is stated that the construction of the line would not be expensive as the grade is quite normal and topographical conditions are quite satisfactory.

MARCH 1926

Jonquiere Yard Extension.—We are advised, with regard to the proposed yard extension at mile 106-107, east from Jonquiere, Que., on the old Quebec and Lake St. John Ry., that the management's plans are not completed. The plans under consideration contemplate the construction of a 6-stall locomotive house, water tank, coal chute, track scale, the laying out of car repair tracks, and a small train yard with capacity for 400 cars.

Joliette Car Repair Shops.—A press dispatch of June 20 states that fire had destroyed two buildings, 200 x 40 ft., and 100 x 50 ft., respectively, at the car repair shops at Joliette, Que., the loss being estimated at \$75,000.

Montreal Property Bought

July 1926

Jonquiere Yard, Etc. We are advised officially that the grading and track work for the new yard at Jonquiere, Saguenay Division, Quebec District, 217.1 miles from Quebec, will be done by the railway's forces, that a contract for the buildings has been given to Atlas Construction Co., Montreal, and that it is expected that work will be started immediately. At first the yard will have a capacity for 250 cars, but will be arranged so that its capacity can be increased to 800 cars when required. The buildings will comprise a 6-stall brick locomotive house, 85 ft. turntable, frame store house, concrete ashpit, and a 200-ton coaling plant. (Aug., pg. 407.)

Rat River Bridge. We are advised officially in connection with the Board of Railway Commissioners' order 37,782 of June 22, approving revision of Rat River bridge, at Price St., Chicoutimi, Saguenay Division, Quebec District, that the work includes the complete removal of the existing structure, a timber framed trestle about 200 ft. long, built in 1892, and its replacement by a steel and concrete structure, and a fill. The new structure will consist of 3 spans of reinforced concrete slab construction each 28 ft. long, and 1 through plate girder 60 ft. span, all carried on new concrete piers and abutments. Under an agreement with Chicoutimi Town Council, provision has been made for a subway under the steel span, and by road diversion on Price and Morin Sts., both these tracks will be carried through the subway; upon completion of this work the present subway east of the bridge will be eliminated by filling. The plans also provide for the excavation of a new opening for Rat River, which at this point divides into 2 channels; and they will be turned into the one new bed, passing under the centre slab span. At the east abutment, to keep the north slope clear of Morin St., a concrete retaining wall, approximately 75 ft. long, will be built as part of the east abutment. Work

September 1926

Belle River Bridge.— We are advised officially in connection with the Board of Railway Commissioners' order 37,752 of June 18, authorizing the renewal of bridge over the Belle River, mile 190 from Quebec, Jonquiere Subdivision, Saguenay Division, Quebec District, that, as built originally in 1891, it consisted of a 153 ft. through Pratt truss span and 2 deck plate girder approach spans of 54 ft. each, carried on 2 masonry piers and 2 masonry abutments. The truss span was renewed in 1921 by the placing of a new truss complete. The present plans provide for the renewal of the north and south approaches. The existing girders at the north approach will be removed and replaced by a complete new span, and the south approach will be renewed by adding to it the 2 girders released from the north approach, thus making it a 4 girder span. All existing bracing is to be replaced with new material. No substructure work is involved.

Jonquiere Yard, Etc. We are advised officially that the grading and track work for the new yard at Jonquiere, Saguenay Division, Quebec District, 217.1 miles from

September 1926

PGE

mate cost of approximately \$200,000. Other work connected with this diversion would probably bring its total cost to about \$300,000. It is stated that on other parts of the line trestle bridges, which are approaching the replacement stage, would be scrapped and gravel fills or permanent bridges erected. (Aug., pg. 413.)
St. Paulian to Mississippi River

November 1926

Quebec Office Building.—We were advised officially, Jan. 8, in connection with a press report that construction was to be started in May on the erection of an 80 x 40 ft. office building at the end of the C.N.R. freight sheds at Parent Square, that nothing definite could be said about it as the estimates for the year were still under preparation, and had to receive the approval of the Government and Parliament.

February 1927

Additional Branch Lines to be Built by Canadian National Railway.

The Minister of Railways, Mr. Dunning, moved, on March 10, that the House of Commons go into committee to consider a resolution to provide for the construction of 15 Canadian National Ry. branch lines. This having been adopted, he said:—"It might facilitate matters if I made a brief general statement. As is well known, an effort was made three years ago to place Canadian National branch line construction upon a 3 years' basis in order that the management might be able to enter more intelligently upon its construction work from year to year and not be held up depending upon the progress of an individual session of parliament. The last 3 years' programme voted by the House has now been practically completed. Nineteen branch lines have been built, involving a mileage of 572 at an estimated cost of \$14,964,000 under the last programme completed this year. Two projects only were not proceeded with, one being the Kingsclear-Vanceboro line which was rendered unnecessary by reason of running rights being secured over the Canadian Pacific, and the other being the Rosedale-Bullpound Creek Line in connection with which I expect shortly to bring down a bill for an extension of time. With the exception therefore of one project the whole of the previous programme has been or will be completed prior to Aug. 31, 1927, when the 3 years' authority expires. The programme now presented by the management through me for the next 3 years is very comprehensive in character and it has been given wide publicity. It is recommended by the President and board of directors to the consideration of the House. When this resolution passes, I hope to introduce 15 separate bills based upon it, and later I hope to refer these bills to the standing committee on railways, canals and telegraph lines, in order that the details of the proposal may be examined by the committee and a report made thereon to the House."

In answer to a question, Mr. Dunning stated that the total mileage of the 15 branch lines would be 510.2, and the total estimated expenditure \$20,400,000, to be spread over 3 years. The resolutions were then taken up clause by clause, discussed at some length, and adopted without amendment, following which the Minister introduced 15 bills providing for the construction of the proposed branch lines, which were read the first and second time and referred to the standing committee on railways, canals and telegraphs. The following information in regard to the proposed branch lines is compiled from the resolutions adopted by the Commons, and statements issued by the C.N.R. management in regard to each line:—

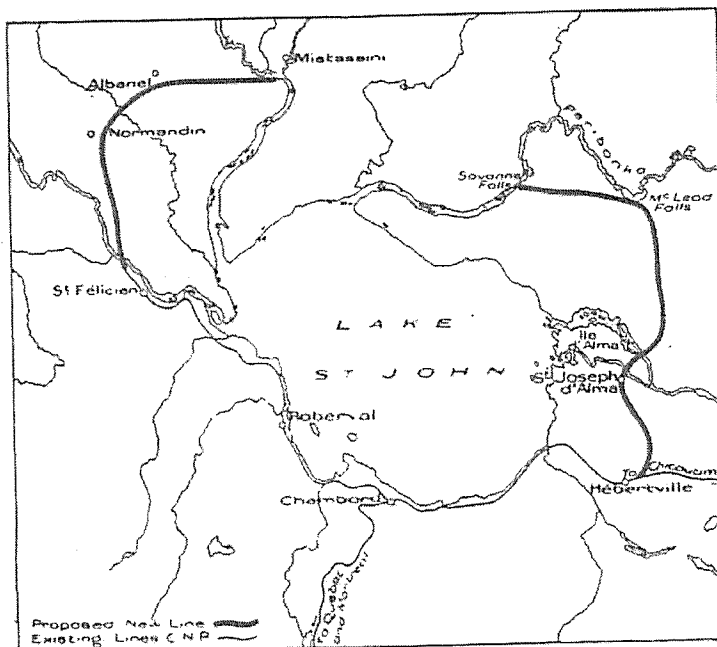
Hebertville to Ile d'Alma and Savanne.—1. From near Hebertville on the Quebec and Lake St. John Ry. to Ile d'Alma on the Saguenay River, estimated mileage 9.5; average expenditure per mile \$56,526; estimated cost \$537,000.—2. From Ile d'Alma to Savanne on the Peribonka River; estimated mileage 25; average expenditure per mile \$63,800; estimated cost \$1,595,000. Total mileage 34.5; average expenditure per mile \$61,797; estimated cost \$2,132,000. The first 9 miles on the route between Hebertville and Savanne Falls duplicates that of the Alma and Jonquiere Ry. and the construction of the 9 miles will not be undertaken if running rights are obtained over the A. and J.R. Savanne Falls is the site for the development of 120,000 h.p. of electrical energy from the Peribonka River. Ten miles east from Savanne Falls, where the line is planned to pass close to a bend in the Peri-

bonka River, near McLeod Falls, there is another power site and a good place for impounding logs and pulpwood, which will be produced from and floated down the Peribonka River and its tributaries. For practically the whole distance the line runs through good agricultural land, a large portion of which is already developed. Better rail communication will undoubtedly increase the farm production. The new line will give rail connection to water power sites and tap the foot of streams to where logs and wood will be water-driven for manufacture, thus producing long-haul traffic to the railway, as well as opening up agricultural land.

St. Felicien to Mistassini River, Que.—From about 3 miles west of St. Felicien on the James Bay and Eastern Ry., St. Felicien Branch, to the Mistassini River;

peault, a member of the Quebec Government, introduced a bill in the Legislative Assembly early in March to provide that the Lieutenant-Governor-in-council may grant subsidies towards the construction of the following railways, subject to such conditions as he may prescribe. (1) To a railway company, a subsidy of \$5,000 a mile for not more than 32 miles, starting from or near St. Felicien to or near Mistassini in Lake St. John County. (2) To a railway company, a subsidy of \$5,000 a mile for not more than 75 miles, starting from or near Mistassini, Lake St. John County, to or near Chute a Caron, Chicoutimi County, or to or near Hebertville station, Lake St. John County.

From near Grand Mere, Que., on the Canadian Northern Quebec Ry.; estimated mileage 7.9; average expenditure per mile



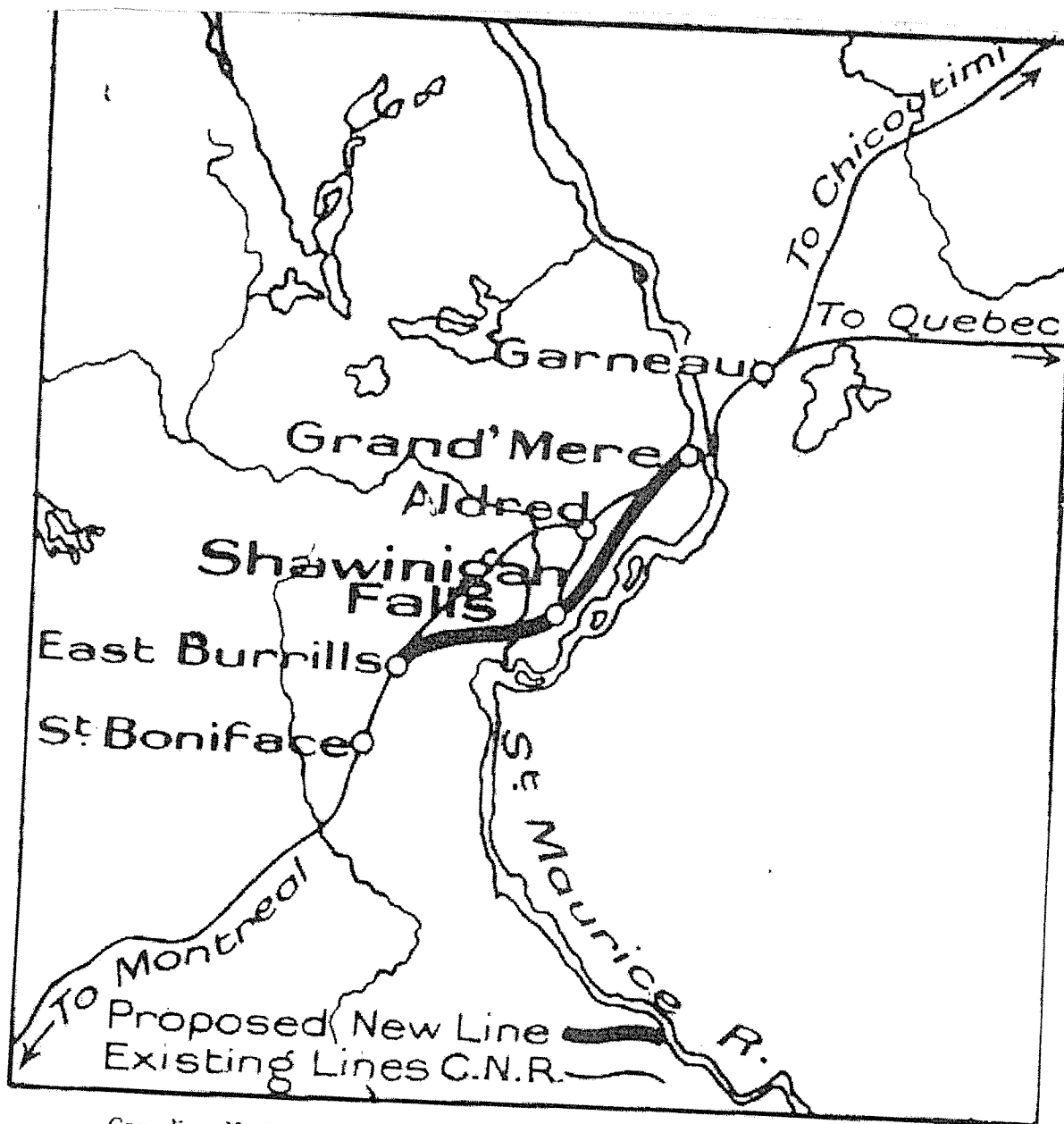
Canadian National Railway Branch Lines for Lake St. John District, Que.

bonka River, near McLeod Falls, there is another power site and a good place for impounding logs and pulpwood, which will be produced from and floated down the Peribonka River and its tributaries. For practically the whole distance the line runs through good agricultural land, a large portion of which is already developed. Better rail communication will undoubtedly increase the farm production. The new line will give rail connection to water power sites and tap the foot of streams to where logs and wood will be water-driven for manufacture, thus producing long-haul traffic to the railway, as well as opening up agricultural land.

Lake St. John District.—In connection with the two branch lines mentioned above, it is to be noted that Mr. Gali-

estimated mileage 27.5; average expenditure per mile \$53,589; estimated cost \$1,463,000.—It has long been felt that the C.N.R. St. Felicien branch on the west side of Lake St. John, should be extended to give better communication for the products of agriculture, and to serve the villages of Normandin and Albanel. Recently a large concession of pulp timber was made by the Quebec Government on the Mistassini watershed, imposing an obligation to build a pulp and paper mill near the confluence of the two branches of that river. The Lake St. John Power and Paper Co. has had for some months the construction of this mill under way, and it is expected that it will be ready for production some time next autumn, if transportation can be provided for the heavy pieces of machinery which cannot easily be taken in by the existing means of communication. The justification for this line is mainly the long-haul traffic that will be given to the C.N.R., from the products of the paper mill, which will have an initial capacity of 220 tons a day, and an eventual capacity of 440 tons a day, besides the advantage of improving the transportation facilities for the agricultural products of this district.

This line is to give the C.N.R. economic and operation advantages in the territory. The proposed branch would leave the C.N.R. tracks at Grand Mere and, keeping in the valley of the St. Maurice River, swing south of the present C.N.R. line into the town of Shawinigan Falls, then head generally northwest and rejoin the present main line at East Burrills, about 2½ miles west of Glenada station. The present line from Grand Mere to East Burrills and the spur, Aldred to Shawinigan Falls, would be abandoned. This branch will reduce the present steep gradient westbound out of Grand Mere, now 1.5%, to 0.6%, and give direct main-line connection to Shawinigan Falls. By having main-line connection to that important center, not only will the C.N.R. service to that place be improved, but it will obviate the expense of operation of the spur, Aldred to Shawinigan Falls. The big economy, however, will be in the reduction of gradients on the C.N.R. main line between Montreal and Quebec, north of the St. Lawrence River. An economic study indicates that the savings made in operation by the proposed line, on immediate business, will be considerably greater than the fixed charges involved, and that with increasing business the saving will continue to grow. It will



Canadian National Railway Branch Lines for Shawinigan District, Que.

April 1927

Canadian National

Jonquieres, Que., Yard.—The Board of Railway Commissioners passed order 37,436, March 29, authorizing Quebec and Lake St. John Ry. to take lands for additional tracks and terminal facilities at Jonquieres, Que. This station is at mile 217 from Quebec, on the old Quebec and Lake St. John Ry. to Chicoutimi, and is the starting point of the Alma and Jonquieres Ry., leading to the power development plant on the Saguenay River.

MAY 1926

Montreal Terminal Ry., which was acquired by the C.N.R. about 2 years ago, to give it a second track to Bout de l'Ile, was to be handed over to the C.N.R. as soon as the Montreal Tramways Co. built a new electrical line to serve the same area. This line has now been built, with the exception of the terminal loop at Bout de l'Ile. Some difficulty is reported to have arisen in connection with the crossing of the C.N.R. tracks at Hochelaga yards, which it is expected will delay the handing over of the line. However, the C.N.R. started at the end of May on the construction of a siding on the M.T. Co's line for the Imperial Oil Co.'s storage purposes.

July 1926

Hamilton Bridge Co., Hamilton, Ont.
(Jan., pg. 9.)

Quebec Station.—Plans are reported to be prepared for transferring the operation of trains for the Lake St. John and Joliette areas from the Parent Square station to the Palais station so as to concentrate in that station the whole of the C.N.R., and the Canadian Pacific train services. It is stated that the facilities at Parent Square

Palais Station, Quebec. — We are advised officially that the C.N.R., under the agreement between the Dominion Government and the Canadian Pacific Ry., has the right to run any of its constituent companies' trains into the Canadian Pacific Palais Station. For several years past the C.N.R. has been considering the possibility of concentrating all its passenger facilities at that station, but physical difficulties have prevented this, one of the obstacles being lack of space for a joint passenger car yard of sufficient capacity. A few months ago the Canadian National bought some additional property. The engineers of the two railways are jointly developing plans for the additional facilities and it is hoped that a conclusion will be reached so that construction may be started early in the spring. While there are other minor alterations involved, the principal feature is the construction of a new passenger car yard.

April 1927

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Hudson Bay Railway Reconditioning.

H. A. Dixon, Chief Engineer, Western Region, Canadian National Ry., is reported to have issued the following statement:—During 1927, from the end of May to the end of October, 1,200 to 1,500 men were employed in the rehabilitation, construction and operation of traffic of the Hudson Bay Ry. from The Pas, Man., to mile 356 and during the remaining months the force varied from 400 to 800. Approximately 12 train crews were in service during the summer and from 2 to 6 in the winter on the various work services and operation for revenue. Regular train service is now provided from The Pas to mile 356. The work included clearing of the right of way, grading and reconditioning of embankments, building bridges, laying tracks in yards and terminals, opening new ballast pits, ballasting track, filling bridges and widening embankments, clearing old ditches and excavating new ones, widening cuts for drainage and installing water supplies, both temporary and permanent. The telegraph line was built completely, and more than 13 miles of track were laid on the main line. Ballasting and trainfill entailed the movement of a large amount of material. Three shovels were in service during the greater part of the season from May 13 to Nov. 8, and 910,000 cu. yd. of clay and gravel were removed. One shovel and hauling equipment alone excavated and placed 472,000 cu. yd. The 430-ft. bridge over the Limestone River at mile 350 from The Pas consists of three 90-ft. and two 86-ft. deck girder spans on concrete piers and abutments. A number of trestles were rebuilt and some new ones completed. All bridge construction required between The Pas and mile 356 is finished. Divisional yards with terminal facilities, including a locomotive house, machine shops, coaling plants, sand houses and stores buildings, were built at The Pas and considerable progress was made at Bowden and mile 237.

The final location of the line to Port Churchill has been completed for 10 miles from mile 356, the location of the remainder north is in progress, and 1½ miles of track was laid on the Port Churchill line.

February 1928

From near Grand Mere, Que., on the Canadian Northern Quebec Ry.; authorized by Dominion Statutes, 1927, chap. 13; estimated mileage, 7.9; estimated cost, \$1,683,000; average expenditure per mile, \$213,038. On July 15, 1927, a contract for clearing, grading, bridging, culverts, fencing, etc., was given V. T. Bartram, who started work Aug. 13, and at Dec. 31 had completed 90% of clearing, 30% of grading, 15% of bridging and 40% of culverts. The expenditure during 1927 was \$459,034.25. It is estimated that \$1,000,000 will be expended during 1928.

April 1928

Quebec and Chibougamau Ry.—A report as to the progress of construction on the River Bend-Peribonka section of this railway was given at a recent meeting of the directors. It was stated that preliminary work had been completed between River Bend at Ile Maligne, Que., to the Grande Peribonka River, 25 miles, and that other work along that mileage was sufficiently advanced to warrant the expectation that the section would be completed early in 1929. (Nov. 1928, pg. 661.)

January 1929.

St. Leonard Station.—The Board of Railway Commissioners has ordered the establishment of a station at St. Leonard, Portneuf County, Que., and has directed the C.N.R. to continue to maintain its office at Allen's Mill as heretofore in charge of a competent employe. St. Leonard is at mile 39.1, and Allen's Mill at mile 42.1 from Quebec on the Batiscan Subdivision, Saguenay Division, Quebec District. Residents of both localities wanted to have a permanent station at the place now occupied by the

February 1929

St. Leonard de Portneuf Station.— The Board of Railway Commissioners passed order 42,265, March 1, approving details of proposed Canadian National Ry. station at St. Leonard Portneuf, Batiscan Sub-division, Saguenay Division, Quebec District, 39.1 miles from Quebec, Que. The station will be built east of the public highway, and will be approached by a new roadway on the railway's right of way, at the eastern end of which a 6-car siding will be built. The building will be a frame structure of the regular station type, 56 ft. 2 in. over all, with a depth of 20 ft. 10 in. except over the central portion where it will be 30 ft., and this will be 2 stories high. The ground floor will contain a general waiting room, agent's office, baggage room and freight room fronting on to the platform which will be 150 ft. long; to the rear of the agent's office and baggage room will be a living room and kitchen for the agent, and a stairway leading to 4 bedrooms and a storeroom. The building is to be erected during the summer by the railway's forces. The erection of the station was ordered by the Board of Railway Commissioners, in January (Feb. pg. 70).

Jonquiere Station. Tenders were received to April 29 for the erection of a station at Jonquiere, on Jonquiere Sub-division, Saguenay Division, Quebec District, mile 217.1 from Quebec.

Charlesburg Road Subway.— The Board of Railway Commissioners passed order 42,327, March 15, approving general plan of proposed subway under C.N.R. at Charlesburg Road, Quebec, Que. This matter was before the Commission in the early part of 1928, and on July 25, the Quebec City Council was advised that it might proceed with the construction of the approaches, road detour and other work for which it was responsible, and that the plans for the subway under the railway would be approved on their completion by

MAY 1929

Parent Square Freight Yard.—Fire, believed to be due to a short circuit in the lighting systems, caused the practical destruction of the freight sheds at Parent Square, Québec, and much of the contents, on the night of May 31. Only the eastern portion of the sheds was saved. Tenders were received to June 18 for paving roadways at these freight yards.

Point St. Charles Shops.—St. George and Garveau, Ltd., are reported to have been given a contract for the construction of roadways at Point St. Charles shops.

- July 1929

St. Leonard Station.—We are advised officially that a contract has been let to C. W. Bowlin, Woodstock, N.B., for the erection of a station at St. Leonard, N.B., a description of the building was given in Canadian Railway and Marine World for September, pg. 547.

Normandin Bridge.—Tenders were received, to Aug. 19, for the erection of concrete piers near Normandin, mile 42.6 from Chambord, Roberval Subdivision, Saguenay Division, Quebec District.

Shawinigan Falls Station.—A contract has been let to Stewart Construction Co., Sherbrooke, Que., for the erection of a station at Shawinigan Falls, mile 3.4, Shawinigan Subdivision, Montreal Division, Quebec District. (Press report).

Montreal Freight Warehouse.—A contract has been let to St. George and Gauvreau, Ltd., Rosemount, Que., for the erection of a single story freight warehouse in the north end of Montreal. (Press report).

Kingston.—We are advised officially

October 1929

on Jan. 1, 1911, while he was returning to Canada, after he had declined further re-appointment in Australia.

Palais Station, Quebec, Extension Plans.

The disappearance of the Canadian National Rys. passenger station on Parent Square, Quebec, Que., and other important changes in the layout of the railway yards of the Palais station have been decided on by the Canadian National and Canadian Pacific Rys. and are to be proceeded with immediately. Plans of the proposed changes have been submitted by the railways to the city authorities for their consideration and approval. The changes will provide new yard accommodation for all Canadian National passenger trains. It is intended to build new Canadian National and Canadian Pacific express buildings west of the Palais station and partly on the site of the present power house, and a new power house will be erected on the north side of the station. A post office building will be erected alongside of the projected express offices. An ice house, gas plant and oil house will be erected alongside of the new power house. The most extensive part of the proposed improvements will be the filling in of a large tract of low lying land on the shore of the St. Charles River, immediately adjoining the main portion of the present yard. The reclaimed land will be used for the construction of at least six railway tracks for the accommodation of Canadian National trains. A switching track will be built from the main portion of the Palais station to the old Canadian Northern Ry. station, to enable Canadian National trains to back up on to its proposed new yard tracks. It is said that work on the extensive changes is to be commenced at once, so that Canadian National passenger trains will be able to use their new yard with the least possible delay. The existing tracks, which cross Ramsay St., towards St. Andrew St., will in future be used exclusively for freight trains. The Canadian National freight sheds and offices will remain at Parent Square.

Canadian Railway and Marine World is advised officially that a contract has been let to Newton Construction Co. for the erection of a mail sorting building on the site of the present icehouse west of the present boiler house at the Palais station, the plans for which were approved by the Quebec Town Planning Commission. It will be a 3-story fireproof structure, with steel frame, reinforced concrete floors, faced with brick and stone, and with a copper sloping roof to match the exterior of the Palais station. The building will be of irregular shape, approximately 100 x 40 ft., and will be equipped with an electric freight elevator, conveying machinery and modern facilities for the speedy handling of mail. This structure is part of the general plan for extension to the terminal buildings. The contract calls for its completion by March 1, 1930.

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l Railways Construction, E

General Superintendent, Quebec District, C.N.R. The station is 148 x 30 ft., of stone and brick construction, fire-proof and of modern design throughout, and contains restaurant facilities. Cataraqui Bay Spur.—Some informa-

Shawinger

July 1930

Quebec Station.—Plans are reported to be prepared for transferring the operation of trains for the Lake St. John and Joliette areas from the Parent Square station to the Palais station so as to concentrate in that station the whole of the C.N.R., and the Canadian Pacific train services. It is stated that the facilities at Parent Square

Shawinigan Falls Station.—The new station at Shawinigan Falls, Que., on the Montreal-Quebec main line, was opened on June 6, C.N.R. officials and municipal and industrial representatives being present. It was blessed by Rev. Father J. R. Trudel, Parish Priest of St. Mary's. The station was thrown open for public inspection in the afternoon, and in the evening a dinner was held, presided over by J. E. Morazain.

July 1930

St. Felicien to the Mistassini River, Que.—From about 3 miles west of St. Felicien on James Bay and Eastern Ry., St. Felicien Branch, to the Mistassini River; authorized by Statutes of 1927, chap. 12; estimated mileage, 27.5; estimated cost, \$1,463,000; average expenditure per mile, \$53,589. On April 30, 1927, a contract for clearing, grading, bridging, culverts, fencing, etc., was given Cook Construction Co. On May 2 Dominion Bridge Co. was given a contract for the superstructure of the bridge over the Ashuapmuchuan River, a contract for the substructure having been given Foundation Co. of Canada previously. By July 21 work was sufficiently advanced to allow tracklaying by the railway's forces to start. The track reached the paper mill on Aug. 23, the line being opened for operation Nov. 22, and completed during the year, with the exception of some buildings. The expenditure during 1927 was \$1,236,385.98.

April 1928

Quebec and Chibougamau Railway Construction.

We are advised officially that while some preliminary discussion has taken place between representatives of the Q. and C. Ry. and the Alma and Jonquiere Ry. with respect to the purchase of the latter line from the Canadian National Ry. at Hebertville to Ile Maligne, Que., 7.50 miles, nothing definite had been done. However, no difficulty is anticipated in arriving at a satisfactory arrangement.

In regard to the construction of section B of the railway, which is under contract from Riverbend at Ile Maligne, Que., to the Grand Peribonka River, 25 miles, we were advised officially Oct. 11, that clearing has been completed, and that grading of the subgrade, with the exception of some big earth and rock cuts, was practically completed. The headquarters of the contractors, A. Deslauriers, Ltd., are at Chicoutimi, Que., C. V. Johnson being engineer in charge. The bridge to be built over the Saguenay River at Ile Maligne, will have a total length of 1,036 $\frac{1}{4}$ ft. from back wall to back wall, 658 ft. of which will consist of 3 truss spans, and crossing the river proper the spans from the Riverbend end will be 190 $\frac{3}{4}$ ft., 276 $\frac{1}{2}$ ft. and 190 $\frac{3}{4}$ ft. respectively. The approach at the Riverbend end will consist of 2 deckplate spans of 40 ft. each, and that from the other end will consist of 260 ft. of deckplate girder spans. The substructure will consist of concrete abutments and 2 concrete piers to carry the 3 central spans, with concrete pedestals carrying steel work for the support of the spans at the approaches to the central spans. Contracts for the excavation and substructure have been let to A. Deslauriers, Ltd., Quebec, and for the steel work to Dominion Bridge Co., Montreal. J. F. Grenon is Chief Engineer for the railway, Monsarrat and Pratley, Montreal being general manager.

November
1928

given notice that it will apply to the Quebec Legislature for an act changing the location of its principal place of business from Chicoutimi to Arvida, and extending the time for the continuation and completion of its authorized works, as provided for in the Statutes of 1922, chap. 121, sec. 1, the date provided for the completion of the same having been extended from March 1928 to March 24, 1930, by the Statutes of 1925, chap. 109, sec. 1. The act of 1922 authorized the company to build and operate by steam or electricity or by both at the same time the following lines:—From at or near Roberval running around Lake St. John on the northwest as far as

the Peribonka River, thence southeasterly crossing the Saguenay River to join the Quebec and Lake St. John Ry. and the Ha Ha Bay Ry. at, or near, their junction; a branch line north of the Saguenay River extending towards the south to St. Bruno on the Q. and L. S. J. R.; all sidings and branches provided for and authorized by the Revised Statutes of 1909, article 6474, par. 22, for 20 miles; all sidings and branches deemed useful for the conveyance of passengers, etc., in accordance with the aforesaid paragraph; and a branch from some point in Chicoutimi County to connect with the Quebec and Saguenay Ry. at La Malbaie, Charlevoix County.

February 1929

April, 1929

Betterments, Etc.

to the excellent preparatory work which has been undertaken, our engineers count on laying a mile of rails a day. As for the big bridge over the Saguenay River which we are to build, the Dominion Bridge Company sent 50% of the superstructure to the scene on Feb. 1, and the remaining 50% will be soon sent along. As the piers have already been sunk, the erection of the bridge is a foregone conclusion. According to calculations made by our engineers, trains will start circulating on July 1 between Alma and Peribonka. The second section, which is to link Peribonka with Mistassini, will have to be completed by Jan. 1, 1930, according to the terms of our contract. The rapidity with which the first section has been completed is a good sign, and we will soon have the satisfaction of seeing an excellent railroad threading its way through one of the most interesting, and at the same time one of the richest, regions of the province." (March, pg. 132.)

April 1929

Quebec, Saguenay and Chibougamau Ry.—We are advised officially that work is proceeding on the section under construction from Riverbend, Ile Maligne, to the Grande Peribonka River, 25 miles. The line has been ballasted as far as the Peribonka River. At River Bend a bridge has been practically completed by the Dominion Bridge Co. This bridge, over the Saguenay River, has a total length of 1,036 $\frac{1}{4}$ ft. from back wall to back wall, 658 ft. of which consists of 3 truss spans, and crossing the river proper the spans from the Riverbend end are 190 $\frac{3}{4}$ ft., 276 $\frac{1}{4}$ ft. and 190 $\frac{3}{4}$ ft. respectively. The approach at the Riverbend end consists of 2 deckplate spans of 40 ft. each, and that from the other end consists of 250 ft. of deckplate girder spans. The substructure consists of concrete abutments and 2 concrete piers to carry the 3 central spans, with concrete pedestals carrying steel work for the support of the spans at the approaches to the central spans. The contract for the superstructure was carried out by A. Deslauriers, Ltd., Quebec. When the bridge is completed it is intended to proceed with the laying of ties and rails across it. The spring was rather late in

November 1929

Que., authorized by Statutes of 1927, chap. 12: (a) From about 3 miles west of St. Felicien, on the James Bay and Eastern Ry., St. Felicien Branch, to the Mistassini River; estimated mileage 27.5; estimated expenditure \$1,463,000; average per mile \$53,589. (b) Section (1). From near Hebertville, on Quebec & Lake St. John Ry. to Ile d'Alma, on the Saguenay River; estimated mileage 9.5; estimated expenditure \$537,000; average per mile \$56,526. Section (2) From Ile d'Alma, on Saguenay River, to Savanne Falls, on the Peribonka River. Estimated mileage 25; estimated expenditure \$1,696,000; average per mile \$63,800. The construction of these lines was subject to the condition that in the event of running rights being secured over the Alma and Jonquiere Ry from near Hebertville to Ile d'Alma, the part of the line authorized between Hebertville and Ile d'Alma shall not be built, nor shall securities be issued or guaranteed in respect of it. (a) From near St. Felicien to the Mistassini River. There was expended to Dec. 31, 1929, \$1,387,633.40, of which \$22,615.20 was expended during 1929. The line is completed and in operation. It is expected that \$10,000 will be expended on it during 1930. (b) Hebertville-Savanne Falls. No work was done or expenditures made during 1929. It is not expected that any expenditures will be made during 1930.

From near Grand'Mere, Que., to near East Burrills, both on Canadian Northern Quebec Ry., authorized by Statutes of 1927, chap. 13, and of 1929, chap. 23; estimated mileage 7.9; estimated expenditure \$2,326,000; average per mile \$294,430. There was expended to Dec. 31, 1929, \$2,583,458.75 of which \$871,812.89 was expended during 1929. The line has been opened for operation, being completed with the exception of some buildings, including station at Shawinigan Falls, which was under construction when the report was made. It is estimated that \$75,000 will be expended during 1930.

Pilkington to Niagara Jct., Ont. From near Pilkington to near Niagara Jct., both on C.N.R., authorized by Statutes of 1927, chap. 14; estimated mileage 16.7; estimated expenditure \$1,164,000; average per mile \$69,700. Expenditures of \$5,489.68 made for surveys were charged to 1929 operating expenses. The project has been abandoned, at least for a period, as final surveys indicated costs which the saving expected would not justify.

Brantford to Cainsville, Ont.—From about 1½ miles east of Brantford, a

JUNE 1930

Quebec and Chibougamau Railway Construction.

We are advised officially that while some preliminary discussion has taken place between representatives of the Q. and C. Ry. and the Alma and Jonquiere Ry. with respect to the purchase of the latter line from the Canadian National Ry. at Hebertville to Ile Maligne, Que., 7.50 miles, nothing definite had been done. However, no difficulty is anticipated in arriving at a satisfactory arrangement.

In regard to the construction of section B of the railway, which is under contract from Riverbend at Ile Maligne, Que., to the Grand Peribonka River, 25 miles, we were advised officially Oct. 11, that clearing has been completed, and that grading of the subgrade, with the exception of some big earth and rock cuts, was practically completed. The headquarters of the contractors, A. Deslauriers, Ltd., are at Chicoutimi, Que., C. V. Johnson being engineer in charge. The bridge to be built over the Saguenay River at Ile Maligne, will have a total length of $1,036\frac{1}{4}$ ft. from back wall to back wall, 658 ft. of which will consist of 3 truss spans, and crossing the river proper the spans from the Riverbend end will be $190\frac{3}{4}$ ft., $276\frac{1}{2}$ ft. and $190\frac{3}{4}$ ft. respectively. The approach at the Riverbend end will consist of 2 deckplate spans of 40 ft. each, and that from the other end will consist of 260 ft. of deckplate girder spans. The substructure will consist of concrete abutments and 2 concrete piers to carry the 3 central spans, with concrete pedestals carrying steel work for the support of the spans at the approaches to the central spans. Contracts for the excavation and substructure have been let to A. Deslauriers, Ltd., Quebec, and for the steel work to Dominion Bridge Co., Montreal. J. F. Grenon is Chief Engineer

Quebec and Chibougamau Ry. Co. has given notice that it will apply to the Quebec Legislature for an amendment to its charter to change the name from the Quebec and Chibougamau Ry. Co. to the Quebec, Saguenay and Chibougamau Ry. Co., and to authorize it to extend its previously authorized railway from at, or near, Lake Chibougamau to, at, or near, the southeast shore of James Bay, Que. Its act of incorporation, Statutes of 1920, chap. 114, authorized the company to build from Quebec northerly to Chicoutimi on the Saguenay River, from Chicoutimi northwesterly to Lake Chibougamau, and from near Mistassini on the proposed railway, southwesterly for about 20 miles to the James Bay Ry. in Demeules Tp. The James Bay Ry. Co. is the title of the charter under which the extension of the Quebec and Lake St. John Ry. from Roberval to Ste. Felicien was built.

The company has under construction a section of the line from River Bend, Ile Maligne, Que., to the Grande Peribonka River, and we have been advised officially that the subgrade on it was practically completed at the end of 1928.

Ce communiqué ne mentionne pas les noms de toutes les personnes qui furent choisies pour former le premier Bureau de Direction de la Caisse Populaire de la Cité de Shawinigan. Outre le président, M. l'abbé Trudel, et le gérant, M. Polydore Beaulac, ce furent: M. Jean-Baptiste Trudel, copropriétaire de la Laiterie Shawinigan; M. le Dr J.-R. Hébert, dentiste; M. Lucien Bourassa, marchand et futur maire de la Ville; M. Jos. Paradis, contremaître; M. J.-A. Richard, entrepreneur-plombier et échevin; M. Amédée Boulanger, menuisier; M. L.-A. Leclerc, fonctionnaire municipal; M. le notaire Georges-Émile Ladouceur; M. Thomas Laliberté, épicier; M. Urgel Lebeau, rentier et échevin, ainsi que M. Armand Dumaine, épicier. Tous ces administrateurs sont maintenant décédés; M. Thomas Laliberté, décédé en 1986, fut le dernier du groupe à disparaître.

On aura noté dans tout ce qui précède qu'il n'a pas été question de la ville de Shawinigan-Sud. Il est intéressant de souligner que dans le domaine des caisses populaires cette municipalité avait une forte avance sur Shawinigan. C'est en effet en septembre 1916 que fut fondée la Caisse Populaire d'Almaville dans la paroisse Notre-Dame de la Présentation, par nul autre que le curé de cette paroisse, M. l'abbé Hormidas Trudel. M. J.-Omer Beaumier en fut le premier gérant et il occupa cette fonction durant de nombreuses années.

Le rayonnement des caisses populaires dans le grand Shawinigan

dans la ville de Shawinigan:

La Caisse populaire de la Cité de Shawinigan, établie en 1929 sur la 5^e rue, s'est fixée définitivement sur la rue Saint-Marc en 1932.

La Caisse Populaire Les Chutes, (rue) Frigon, a été fondée en 1942 sous le nom Caisse populaire du Christ-Roi.

La Caisse populaire Mauricienne, fondée en 1943, n'a jamais quitté la 5^e rue.

La Caisse populaire de la paroisse Saint-Charles-Garnier (rue Garnier), a été fondée en fin d'année 1951.

La Caisse populaire de Sainte-Croix de Shawinigan (rue Beaudry-Leman) a ouvert ses portes en 1952.

La Caisse populaire des Hêtres (rue des Hêtres) a été fondée en 1958 sous le nom Caisse populaire l'Assomption de Shawinigan.

La Caisse populaire du CEGEP de Shawinigan.

dans la ville de Shawinigan-Sud:

La Caisse populaire de la ville de Shawinigan-Sud, fondée en 1916 sous le nom Caisse populaire d'Almaville et établie dans la paroisse Notre-Dame-de-la-Présentation, a quitté cet endroit pour la 5^e avenue en 1973 tout en gardant un comptoir dans sa paroisse d'origine.

La Caisse populaire Val-Mauricie (5^e avenue) a été fondée en 1945 sous le nom Caisse populaire Sainte-Jeanne-d'Arc d'Almaville. En 1974, elle ouvrait le comptoir J.-P. Tremblay, à l'angle de la 117^e rue et de la 12^e avenue.

à la Baie-Shawinigan:

La Caisse populaire Sacré-Coeur de la Baie-Shawinigan, fondée en 1942.

Le petit train du "Y"

Dans Shawinigan depuis 75 ans, j'ai consacré une dizaine de pages à l'histoire des chemins de fer à Shawinigan et dans la région avoisinante. Faute d'espace, je n'ai accordé que quelques lignes à un tronçon de voie ferrée qui aurait mérité beaucoup plus d'attention à cause de son importance et des immenses services qu'il a rendus aux Shawiniganais pendant une trentaine d'années. Il s'agit de la "ligne du Y" qui, dès la fin de 1899, relie la ville naissante de Shawinigan à la voie ferrée du Grand-Nord qui traversait la paroisse Sainte-Flore, un peu plus au nord. Elle fut durant cinq années la seule route ferroviaire à la disposition des voyageurs qui désiraient se rendre à Québec ou à Montréal, pour ne désigner que ces deux endroits.

Les travaux de construction, au cours de l'année 1899, de la première centrale électrique et, quelques mois plus tard, des usines de la Belgo et de la Northern Aluminium, nécessitaient un moyen de transport efficace pour l'acheminement sur les lieux des gros matériaux de construction et de la lourde machinerie. Le chemin de fer était alors la seule solution possible et, heureusement, il était déjà disponible à quelques milles seulement. De fait, depuis février 1895, la voie ferrée du "Canada-Nord-Québec" ou "Grand-Nord" avait atteint la jeune localité de Grand-Mère pour être ensuite prolongée à la fin de l'été 1898 jusqu'aux abords de la paroisse Saint-Boniface, afin d'accommoder les frères Vivian et Charles Burrill qui venaient d'installer une scierie "au troisième rang", en prévision des immenses travaux qui s'annonçaient aux chutes de Shawinigan". Il suffisait de se raccorder à la nouvelle voie qui mettrait le centre de la Mauricie en communication avec l'Est du Canada et des États-Unis et, depuis 1899, avec les villes de Joliette et de Saint-Jérôme avant d'atteindre directement Montréal en décembre 1903.

La construction de l'embranchement Shawinigan débuta au printemps de 1899, à partir du rang des Marchand dans la paroisse Sainte-Flore et, à la fin de l'automne, il était inauguré pour le transport du fret. Le premier avril 1900, c'était le départ du premier train pour les voyageurs. Le point de jonction de ce tronçon fut officiellement désigné "Shawinigan Junction" mais il ne fut plus bientôt reconnu que sous le vocable "Aldred Junction". Pour diminuer le coût de construction, il fut décidé de réduire au minimum les remblais et tranchées et la voie fut mise en place avec "force tortillements (au moins une douzaine) en épousant toutes les courbes du terrain montueux" qu'elle devait traverser. C'est ainsi que Shawinigan fut dotée en moins d'une année d'un tortillard d'une longueur de moins de quatre milles depuis la tête des chutes jusqu'à la jonction du "Y".

Pourquoi le nom populaire "Y" ou "Wye" à cet embranchement? En regardant son tracé sur la carte, il suffit d'observer son point de raccordement à la ligne principale pour connaître la réponse: nous y distinguons en fait trois Y. On aurait pu tout aussi bien le désigner "trois Y". Il faut préciser qu'il ne fut jamais question d'adopter la prononciation française de la voyelle Y: c'est toujours l'anglaise qui a prévalu en prononçant à peu près "ou-ail".

Dès la fin de 1899 la Shawinigan Water & Power fit construire une petite gare temporaire, en fait une humble cabane en bois qui servit de bureau et de hangar jusqu'en avril 1902. M. Sam St-Arnaud, le premier chef de gare, l'a un jour décrite en ces termes au cours d'une entrevue avec un journaliste: "une minuscule cabane en planches comprenant deux pièces: un bureau de 7 pieds par 17 pieds et une salle à bagages dont la superficie doublait celle du bureau. La bâtisse était chauffée par un poêle à charbon". M. St-Arnaud, qui était encore célibataire, y dormait la nuit sur un petit lit qui s'escamotait sous une table de travail durant le jour.

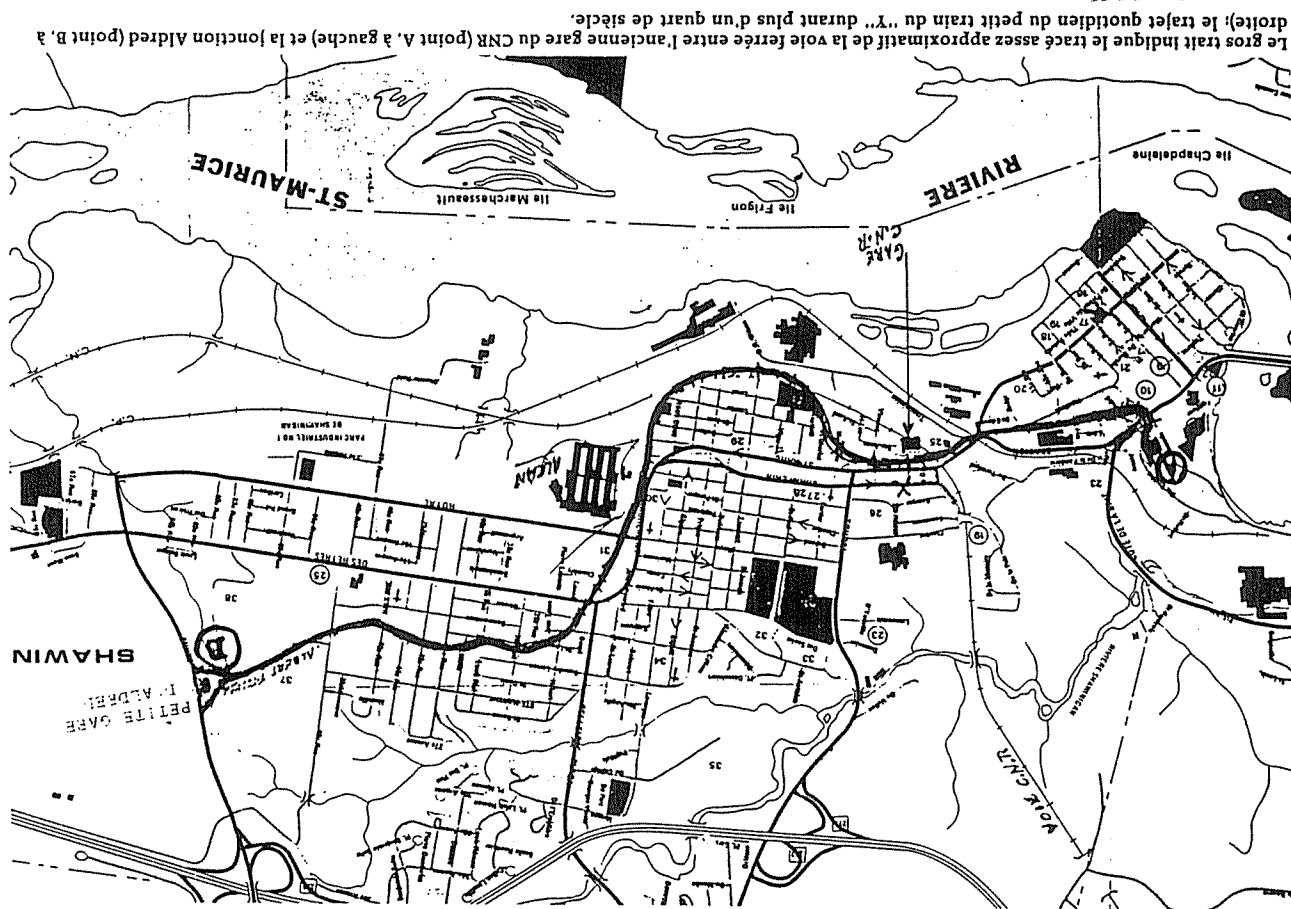
En fin d'année 1901 on entreprit, tout à côté de la cabane, la construction d'une gare digne de ce nom. Toute en bois avec un toit en bardeaux de cèdre, elle était spacieuse pour l'époque et elle comprenait un logement pour le chef de gare à l'étage supérieur. M. St-Arnaud l'habita durant plusieurs années et trois de ses enfants y sont nés. Achevée au début de l'été 1902, elle fut mise en service sans tarder. Comme elle est maintenant disparue depuis plusieurs années, il est nécessaire de préciser, pour ceux qui n'ont pas vécu cette période, qu'elle s'élevait sur la rue Cascade, à proximité de l'avenue de la Station, tout au bas de la côte qui conduit au sommet de la colline Saint-Pierre. Son site est depuis longtemps occupé par les bureaux et entrepôts d'un commerce de matériaux de construction.

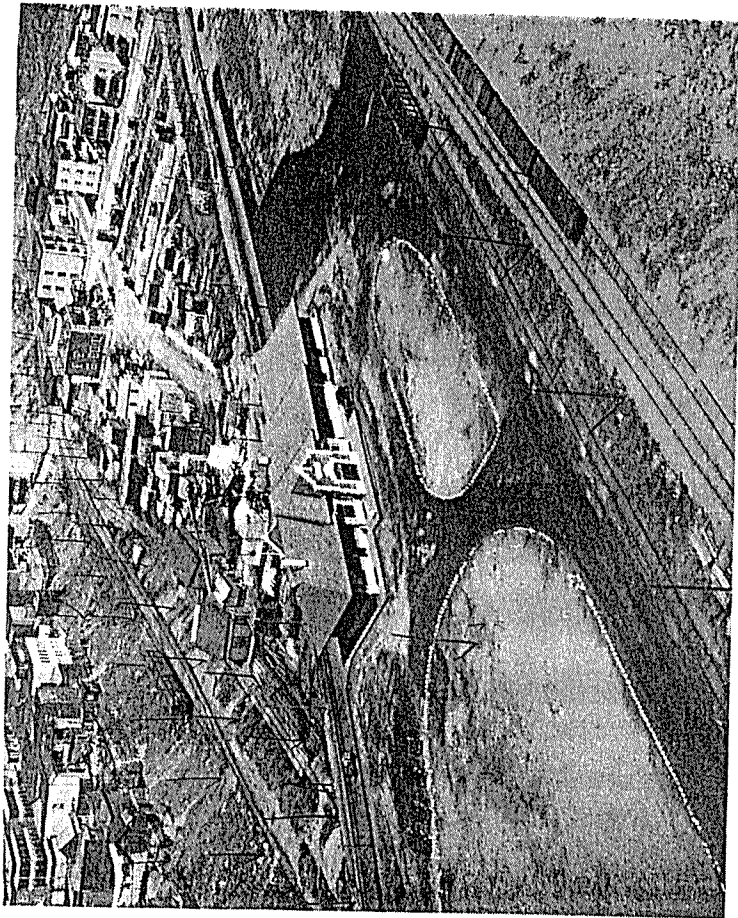
Si la gare était le point d'arrivée et de départ du petit train, la voie ferrée se prolongeait cependant jusqu'aux usines de l'Aluminium Co. et aux entrepôts de la pulperie Belgo, pour les wagons de fret. Le train pour les voyageurs comprenait normalement la locomotive et son tender, un wagon combiné pour les bagages et les voyageurs de seconde classe et, pour ceux et celles qui avaient le moyen et le goût de voyager plus confortablement, un wagon plus luxueux, dit de première classe, avec ses banquettes de velours rouge, un éclairage plus sophistiqué et un fumoir. En hiver, les wagons étaient chauffés avec une fournaise à l'eau chaude qu'on alimentait au charbon. Lorsqu'il y avait affluence de voyageurs, à l'occasion d'excursions ou de pèlerinages à l'Oratoire Saint-Joseph de Montréal ou à Sainte-Anne-Beaupré, ce qui était assez fréquent durant la saison estivale, on ajoutait des wagons supplémentaires. En temps normal, il n'était pas rare que soient ajoutés un ou deux wagons de fret à ceux des passagers.

Il y avait chaque jour de la semaine un départ à destination de Québec, le midi, et deux pour celle de Joliette et Montréal dans l'avant-midi et en fin d'après-midi. Il y avait autant de retours quotidiens en provenance de la métropole et de la capitale.

Effectuons maintenant un retour dans le passé, vers 1925 par exemple. Rendons-nous à la gare du Canadien National, rue Cascade, et montons à bord du petit train du "Y" pour accompagner les voyageurs de l'époque. Nous observerons le trajet qu'il devra parcourir pour nous conduire jusqu'à la jonction Aldred où nous arriverons dans 15 ou 20 minutes.

Quittant la gare, voici immédiatement deux courbes accentuées pour atteindre le petit viaduc qui chavauche l'avenue de la Station et, bientôt, après avoir longé l'avenue Lévis, nous rencontrons à notre gauche la filature de coton de la Wabasso. Voici maintenant un autre viaduc au bas de la côte de l'avenue Hemlock qui permet au train de passer au-dessus de la voie du Canadien Pacifique. Immédiatement, nous tournons à gauche pour longer la côte Saint-Marc. Après une autre courbe, à droite, nous circulons dans le flanc de la colline, en ligne parallèle avec la rue Saint-Marc. Tiens! voilà que le train s'arrête au bas de la "côte de la malle" (rue Vincent); sur une petite plate-forme en bois, nous observons un groupe d'adultes et d'enfants qui habitent sans doute le quartier Saint-Marc. Ils ne sont pas tous des badauds venus là pour voir passer le train; certains sont des voyageurs qui ont évité de se rendre à la gare et profitent de cet arrêt pour monter à bord. À l'intérieur, ils sont bientôt rejoints par le conducteur qui perçoit le prix de leur passage. Le train repart, tourne à droite puis à gauche et circule bientôt à proximité des usines de la **Shawinigan Carbide** et de la **Canadian Carborandum**. Le train effectue, ensuite une longue courbe à gauche pour remonter vers le nord, en passant à l'extrémité des rues Saint-Marc et Champlain. Aucun des voyageurs ne peut s'imaginer que plusieurs années plus tard seront construits ici la grande usine de l'Alcan et le centre commercial de la Plaza.





En avril 1932, un tronçon de la voie ferrée Shawinigan/Aldred occupait encore le flanc de la colline, parallèlement à la rue Saint-Marc; il a servi durant quelques années comme voie d'évitement ou de remisage pour les wagons de fret. Au centre, la nouvelle gare du CNR, inaugurée en 1930.

Le reste du trajet est sans histoire et s'effectue en pleine campagne. Nous traversons quelques chemins de terre, dont le rang des Hêtres et, de chaque côté de la voie, ce sont des champs en culture, des boisés, des terrains en friche et, ici et là, les habitations et dépendances de quelques cultivateurs. Nous voici enfin à destination. Le train s'arrête devant la petite gare d'Aldred qui a été construite entre les deux branches du "Y". Tout le monde descend pour changer de train! Dans l'attente de l'autre convoi qui les transportera dans la direction de Québec, les voyageurs explorent les alentours du regard: ils remarquent un gros tas de charbon pour la locomotive et, un peu plus loin, un immense réservoir cylindrique, construit en bois et ceinturé de bandes de métal. On nous dit qu'il contient plus de 10.000 gallons d'eau pour abreuver les locomotives.

Aujourd'hui, il y a peu d'activités dans le secteur. On nous informe que le train en provenance de Montréal n'a pas de retard et qu'il entrera en gare dans quelques minutes. Certains habitués, qui n'en sont pas à leur premier voyage, affirment que ce n'est pas coutumier et que bien souvent, les voyageurs ont à maugréer et trépingner d'impatience devant les retards plus ou moins prolongés du train. Ce n'est pas surprenant qu'on ait surnommé le Grand-Nord le "Grand retard" ou le "Grand traînard". Les anglophones, un peu

moins respectueux, l'ont ridiculisé en transformant son nom anglais "Great Northern" en "Great Nothing". L'auteur de L'Épopée de Shawinigan écrira quelques années plus tard que "dès le début du siècle, les trains circulaient suivant des horaires les plus fantaisistes et que c'était presque un événement quand ils entraient en gare conformément à l'horaire".

Voilà enfin le train attendu qui s'arrête. Plusieurs passagers en descendent, les bras chargés de valises et de colis et se groupent sur le quai de la gare: avec eux, nous observons les employés qui s'affairent à transborder les bagages d'un train à l'autre. Nous comprenons pourquoi notre petit train s'est placé à peu près en ligne parallèle avec le grand convoi, de façon à ce que les wagons à bagages soient côte à côte: on glisse une passerelle d'une porte à l'autre et l'opération de transbordement s'effectue rapidement et sans trop de fatigue pour les cheminots. Nous avons remarqué la manutention d'un grand nombre de bidons de lait qu'ont expédiés les cultivateurs des paroisses de Charette et de Saint-Boniface et qui sont destinées à la Laiterie Shawinigan: le train est pour eux le mode de transport le plus pratique pour l'expédition quotidienne de cet approvisionnement.

Lorsque les opérations de transbordement sont terminées le petit train revient prendre place devant la gare et les passagers sont invités à y monter. Nous entreprenons alors le voyage de retour à Shawinigan. Fait surprenant, nous constatons que la locomotive s'est placée à reculons à l'avant du train. Devant notre étonnement, des habitués nous informent que cette inversion est fréquente car il n'y a pas de plaque tournante à Aldred et l'encombrement des voies d'évitement ou secondaires par des wagons de fret empêche la locomotive de manoeuvrer pour se remettre d'avant. Pour parer à cette éventualité, on l'a pourvue à l'arrière d'un chasse-pierres et d'un éclairage suffisant pour circuler en sécurité pendant la nuit.

Nous venons à peine de quitter la petite gare d'Aldred que le train s'arrête un instant et il entreprend des manoeuvres d'avant et de reculons pour accrocher quelques wagons de fret qui sont en attente sur une voie secondaire. Ces déplacements et arrêts subits ne sont pas sans nous secouer quelque peu et mettre à l'épreuve l'équilibre de quelques passagers qui n'ont pas encore rejoint leur siège. Enfin, nous filons lentement vers Shawinigan où notre voyage se termine sans autre histoire. En cours de route, le train s'est de nouveau arrêté au bas de la "côte de la malles" où sont descendus quelques passagers tandis que d'autres sont montés à bord, pour une balade d'à peine quelques minutes.

Continuons maintenant l'histoire de cet embranchement: elle ne manque pas d'une certaine saveur folklorique.

La gare d'Aldred, moins spacieuse que celle de Shawinigan, était aussi construite en bois et son responsable habitait le second plancher. Le rez-de-chaussée comprenait une salle d'attente d'environ 20 pieds par 25, une chambre pour les bagages et un petit bureau pour les opérateurs et le télégraphiste. La gare n'était pas isolée dans le secteur: quelques employés du chemin de fer, particulièrement ceux qui travaillaient aux installations de la jonction, habitaient à proximité. Quelques petits cultivateurs résidaient également dans les environs.

Vers 1926, le Canadien National fit construire une bicoque à l'arrêt de la "côte de la malles" pour ceux qui devaient y attendre le train. En hiver, plus particulièrement, ils s'y trouvaient plus confortables que sur une plate-forme exposée aux intempéries. En saison froide, on y installait une petite fournaise au charbon et on avait confié aux constables, municipaux qui étaient en service dans le quartier Saint-Marc la responsabilité de la garder allumée. À cette époque, c'était à pied, jour et nuit, hiver comme été, que les policiers effectuaient leur ronde dans les rues de la ville. On m'a raconté un fait amusant concernant

En 1927, les autorités du Canadien National se rendirent finalement au désir fréquemment exprimé, depuis plusieurs années, par les autorités municipales, les chefs d'industries et les hommes d'affaires de Shawinigan. La construction d'une nouvelle voie avait été planifiée et les travaux débutèrent la même année. Voici ce que raconte à ce sujet M. Thomas Boucher dans **Mauricie d'autrefois**:

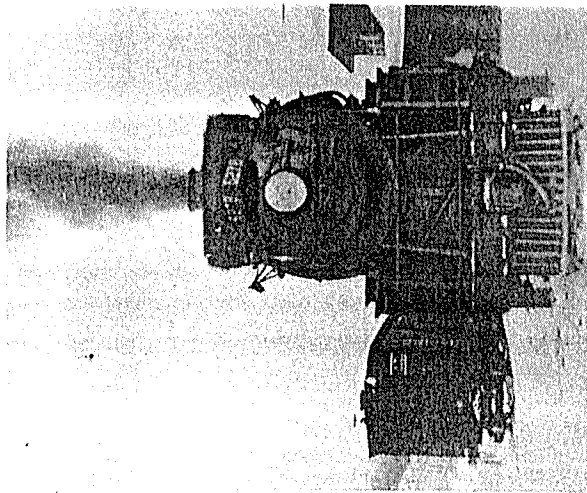
"La nouvelle voie fut construite à partir du deuxième rang de Saint-Boniface en passant directement par Shawinigan pour atteindre la station de Grand-Mère. Elle permit d'abandonner l'ancienne qui passait à Sainte-Flore et qui contenait assez de courbes pour former trois grands cercles. Pour l'observateur superficiel la nouvelle voie paraît beaucoup plus longue que l'ancienne mais elle n'en a en réalité qu'un quart de mille de plus. Elle fut réunie à l'ancienne voie à Grand-Mère en novembre 1928". (L'auteur fait ici une erreur, ce fut plutôt en novembre 1929). L'embranchement Aldred/Shawinigan fut alors abandonné. La paroisse Sainte-Flore perdit six milles de voie ferrée qu'elle possédait depuis 1898 ainsi que les deux stations qui s'y trouvaient: "Aldred et Glenada".

La nouvelle voie, elle n'a pas changé depuis, pénétrait dans la ville à proximité du cimetière Saint-Joseph et longeait ensuite l'emplacement où devait être érigée, quelques années plus tard, la nouvelle usine de la **Canadian Industries**. Sa construction imposa des aménagements importants pour son passage sous la rue de la Paix et sous le sommet de la côte Saint-Marc en plus d'un petit viaduc au bas de la rue Saint-Charles. Lorsque la nouvelle voie fut mise en service à l'automne 1929, on venait à peine d'entreprendre la construction d'une nouvelle gare à environ 200 pieds de la côte Saint-Marc. Pour accommoder les voyageurs et surtout les employés du chemin de fer, en attendant qu'elle soit terminée, on construisit tout près une petite baraque qui servit de gare temporaire pendant six mois.

Le quotidien **Le Nouvelliste**, dans son édition du 20 novembre 1929, raconte que l'inauguration de la nouvelle voie de chemin de fer eut lieu sans apparat dans la journée du 17 novembre. C'était un dimanche et environ 2.000 personnes se massèrent aux abords de la côte Saint-Marc pour voir l'arrivée du premier train de passagers en provenance de Montréal; il entra en gare dans la soirée, quelques minutes après 21 heures. Il avait été précédé en fin d'après-midi par un convoi de 41 wagons de fret, provenant aussi de Joliette et Montréal, et tiré par la plus grosse locomotive que possédait le CN dans la division de Québec.

La nouvelle gare fut inaugurée officiellement et mise en service le 5 juin 1930. La cérémonie s'est déroulée en présence de nombreux invités et fut suivie par un banquet offert par le CN dans la grande salle à dîner de l'hôtel Cascade. Les journaux de l'époque, principalement **La Revue de Shawinigan**, ont accordé beaucoup d'espace au compte rendu de cette inauguration. Dans la description de la gare qu'on y présente on mentionne "un spacieux restaurant, un comptoir superbe où il y a place pour 20 personnes et une grande cuisine attenante". Les Shawiniganais qui fréquentent cette gare depuis sa mise en service savent qu'il y a plusieurs années que ce restaurant est disparu et que les voyageurs n'ont plus accès à la vaste salle d'attente principale qu'on y avait aménagée. Ils doivent maintenant s'accommoder d'une petite salle qui avait été auparavant réservée pour les dames. Il y a déjà plusieurs années que l'entrée principale, côté stationnement, est fermée à la circulation.

L'inauguration de la nouvelle voie sonna le glas de l'embranchement du "Y" et de son petit train. Sans égards pour les services qu'ils avaient rendus, on les écarta sans pitié dès le lendemain et on entreprit bientôt d'en démolir l'infrastructure.



La locomotive du train du "Y" à Aldred et une vue partielle de la petite gare incendiée quelques temps plus tard.

l'arrêt de la "côte de la malle". Au cours des premières années d'existence de cette ligne, il était fréquent pour les résidents de Saint-Marc de monter à bord du train lors de son voyage de retour à la gare de la rue Cascade. Sans rien déboursier, ils profitaient de cette occasion pour "descendre en ville" ou à la "Pointe à Bernard", comme on disait fréquemment. Mais, il y eut bientôt de l'abus et, pour y remédier, on obligea ces passagers de dernière heure à déboursier 5 cents pour la randonnée. Un tel montant peut maintenant sembler ridicule mais, à l'époque, il était plus qu'important, surtout pour les jeunes dont les allocations hebdomadaires étaient les plus souvent inexistantes. Pour contourner la situation, les plus hardis n'hésitaient pas à s'agripper aux wagons: ce qui était défendu parce que dangereux. Cette façon d'agir ne fut pas facilement éliminée. Comme le train circulait fort lentement dans ce secteur, il était facile pour les resquilleurs de sauter à terre et de s'esquiver s'ils étaient pris en flagrant délit par les policiers ou les employés du train.

C'est la locomotive de ce train qui servait à l'acheminement des wagons de fret jusqu'à la jonction Aldred depuis le secteur des usines de carbure et de carborandum qui servait de terminus à la "punaise" du **Shawinigan Terminal**. Celle-ci, fonctionnant à l'électricité, y rassemblait les wagons de fret qu'elle avait recueillis aux usines locales; elle ne pouvait se rendre plus avant vu que, depuis cet endroit jusqu'à Aldred, la voie ferrée n'était pas électrifiée. Il fallait donc que la locomotive assure la relève pour le reste du trajet.

Un petit lac, sur la montagne voisine, approvisionnait le réservoir à eau de la jonction Aldred. Une pompe, actionnée en premier lieu par un engin à vapeur et plus tard par électricité, assurait l'opération d'emmagasinage. N'en pouvant plus sous le poids des années, le réservoir s'est subitement effondré en 1928 en inondant tout le secteur de son contenu. Il fut décidé de ne pas le reconstruire et, par la suite, la locomotive dut se rendre à la jonction Garneau pour faire le plein.

La bicoque de la "côte de la malle" fut donnée et transportée ailleurs. La gare d'Aldred, dont le dernier responsable fut M. Ernest Fréchette, connu un sort particulier. Elle avait été tout simplement donnée à un des résidents des environs qui en avaient fait la demande, ce qui ne manqua pas de susciter des mécontentements parmi ceux qui la convoitaient. Par jalousie ou par dépit, quelqu'un y mit le feu durant la nuit et elle fut entièrement consumée. Au cours de l'été suivant, on procéda à l'enlèvement des rails sur une grande partie de la voie abandonnée. La gare de la rue Cascade servit durant plusieurs années comme centre pour les opérations du fret; on l'abandonna définitivement en 1954 et elle fut démolie.

Un demi-siècle plus tard, quelques vestiges de l'embranchement Aldred/Shawinigan existent encore. Il s'agit de trois tronçons de la voie ferrée. Le plus long se prolonge depuis la Belgo jusqu'au viaduc, au pied de la côte Saint-Marc, envahi par la végétation, il n'est que très rarement utilisé par les locomotives du **Shawinigan Terminal Railway**. Un petit tronçon d'environ 200 pds de longueur, à proximité du viaduc de la rue Saint-Charles, est définitivement oublié; à son extrémité, fermée par des butoirs, on laisse en permanence un vieux wagon de fret, probablement en souvenir d'un glorieux passé. Le troisième tronçon, à l'extrémité Est des rues Saint-Marc et Champlain, dessert l'usine Alcan pour la réception des wagons de bauxite et l'expédition des lingots d'aluminium.

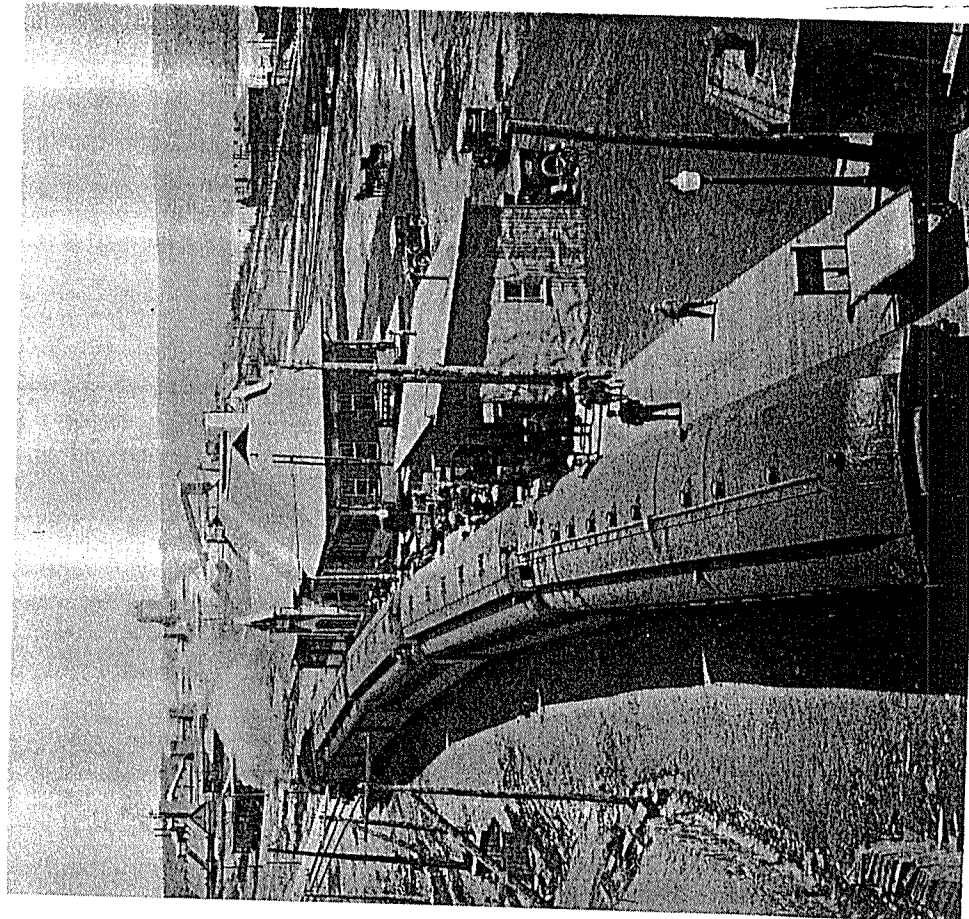
La rue Albert-Tessier qui relie la 49^e rue au boulevard Biermans, à la fois derrière le Séminaire Sainte-Marie et devant l'École polyvalente les Chutes, peut être considérée comme un dernier vestige de l'embranchement disparu, dans cette partie de la ville. Elle occupe sur tout son parcours l'ancien emplacement de cette voie ferrée et c'est à son point de rencontre avec le boulevard Biermans que se trouvait la gare d'Aldred. Rappelons enfin qu'on avait donné le nom "montagne du "Y" au piton rocheux qui s'élève en ce lieu.

On ne saurait parler de chemin de fer sans qu'il soit question d'accident. Ce petit embranchement n'a pu échapper à cette fatalité; il a été le théâtre d'au moins deux graves accidents au cours de ses quelque trente années d'existence.

Le premier s'est produit tôt le matin, en octobre 1923, alors qu'une brume épaisse recouvrait la ville. Une locomotive du CN, venant d'acheminer une vingtaine de wagons chargés de bois du pulpe à l'usine Belgo, remontait vers Aldred en poussant devant elle un fourgon de queue (wagon réservé aux cheminots et placé habituellement à l'extrémité d'un convoi de wagons de fret). À proximité de la rue Saint-Charles, elle percuta violemment trois wagons chargés de charbon que la "punaise" du Terminal venait d'immobiliser sur la voie principale. Le serre-frein, un M. Vigneau de Montréal, venait de pénétrer à l'intérieur du wagon lorsque la collision se produisit; il fut tué instantanément.

Le second, s'il ne causa pas de blessures ni perte de vie, fut beaucoup plus spectaculaire. Il survint tôt en soirée, au cours de l'automne 1929, quelques semaines avant l'abandon de l'embranchement. Pour mieux comprendre les circonstances, il convient de préciser qu'entre Aldred et Shawinigan la voie ferrée accusait une dénivellation d'une trentaine de pieds, le point le plus élevé étant Aldred. Un fourgon de queue et une rame de cinq wagons chargés de ballots de pulpe provenant de la Belgo avaient été momentanément immobilisés sur une voie de service dans la cour de triage de la jonction Aldred. Par inadvertance, les freins du wagon de tête n'avaient pas été appliqués correctement par un serre-frein manquant d'expérience. Sans que personne ne s'en aperçût à temps, les wagons se mirent lentement en mouvement et ne rencontrant aucun obstacle, s'engagèrent sur la voie principale. Accélérant graduellement leur mouvement, ils en-

treprirent leur descente vers Shawinigan. Ne pouvant être immobilisés par une locomotive qui tenta de les rejoindre, ils poursuivirent leur folle équipée jusqu'à proximité du département d'expédition de la Belgo, rue Cascade. Le déraillement appréhendé, qui aurait pu se produire beaucoup plus tôt, survint au point de croisement de la voie du CNR avec celle du CPR. Tous les wagons allèrent se fracasser sur les entrepôts de la Belgo. L'impact survenait quelques minutes avant l'arrivée du train de passagers du CPR en provenance de Trois-Rivières. On eut le temps de l'avertir avant qu'il ne vint ajouter à l'ampleur de la catastrophe en y ajoutant des victimes, car la voie qu'il devait franchir en cet endroit était obstruée par les débris des wagons et de leur contenu.



1929 — La nouvelle gare du CNR, quelques jours avant son inauguration. La bicoque qui servait de gare temporaire était encore en usage.

AN RAILWAY AND MARINE WORLD.

Canadian Northern Railway Construction,

Canadian Northern Quebec Ry.—Press reports state that the company is preparing to erect a large coal discharging plant at Quebec and to extend its coal wharf 150 ft.

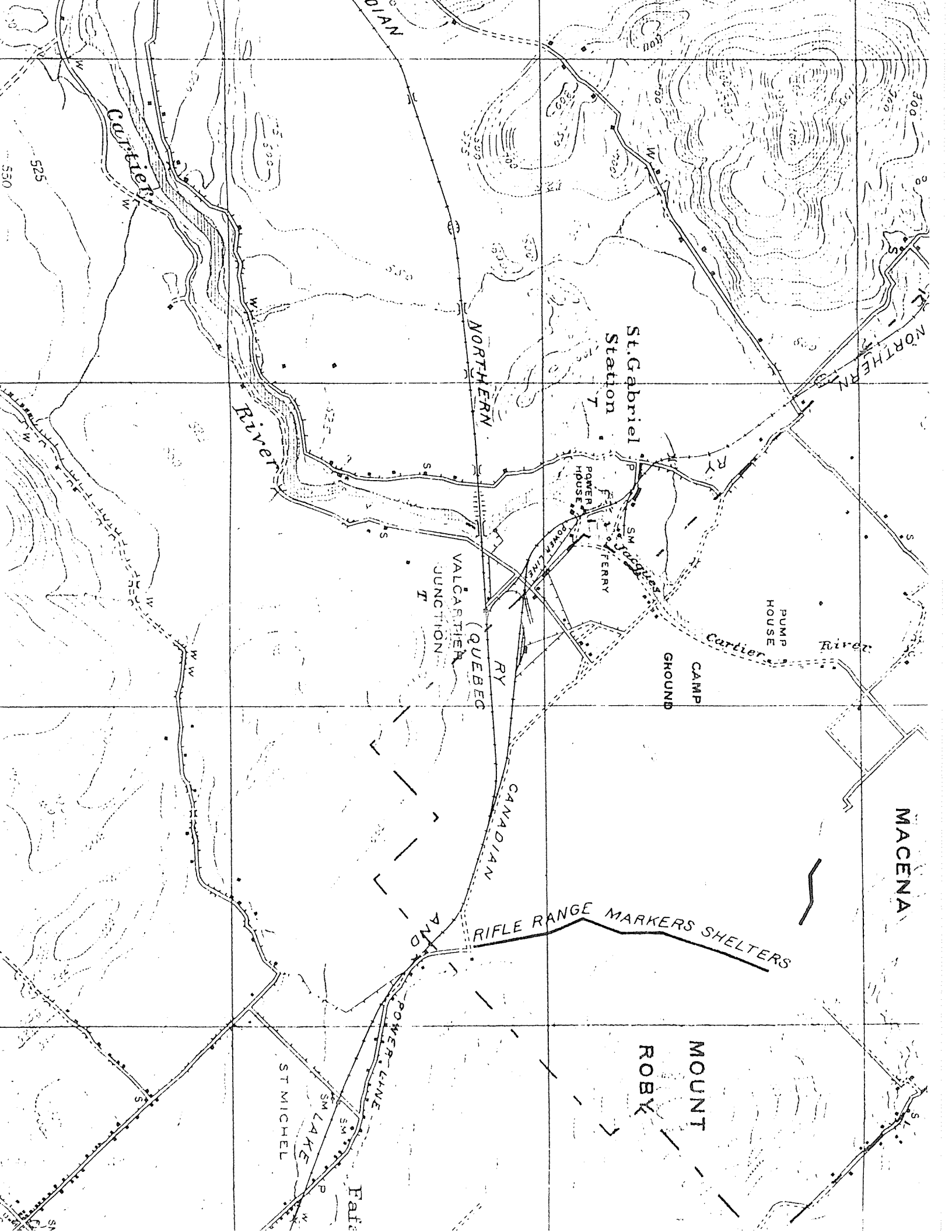
4 April
1914

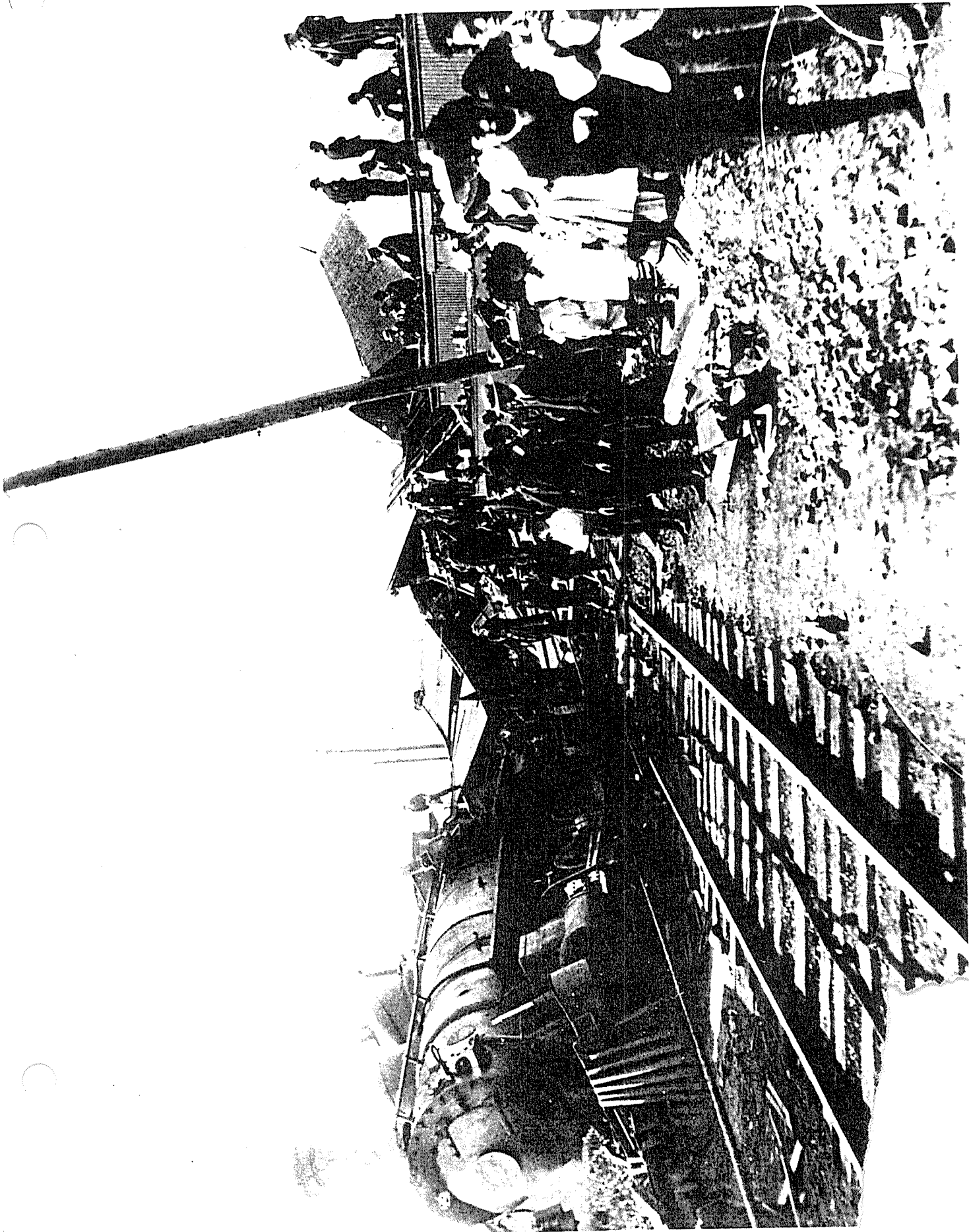
Canadian Northern Railway Co

Canadian Northern Quebec Ry.—The locomotive house at Longue Pointe, Montreal, was destroyed by fire Oct. 30, with three locomotives, and a quantity of machinery. The loss is placed at \$150,000.

Montreal Tunnel and Terminal Co.—It is reported that about a mile of the excavation necessary to complete the tunnel to its full depth has been done and that

December 1914





5-5 #17 à Meolleville, ca

LE SOLEIL

ORGANE DU PARTI LIBERAL

TARIF DES AN

Première insertion (par li
Deux fois par semaine...
Trois fois par semaine...
Avis de naissance, mariage

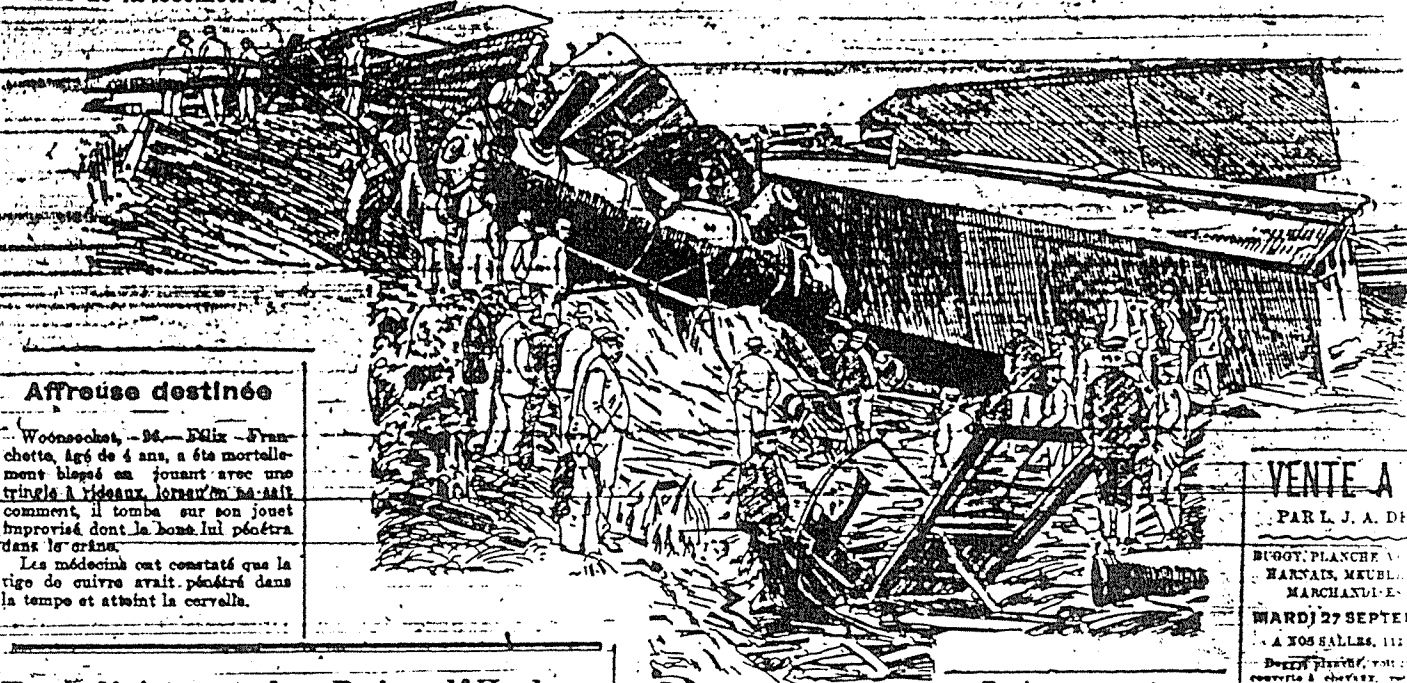
DEUX ÉDITIONS PAR JOUR—MIDI ET SOIR

Bureau 93-91 C
93-93

LA CATASTROPHE DE CHICOUTI

Vue prise par M. J. A. Côté, photographe

La croix indique l'endroit où les cadavres du mécanicien Duquât et du serre-frein Bouchard ont été trouvés ense-
débris de la locomotive.



Affreuse destinée

Woonaschoot, 24.—Edix Fran-
chetto, âgé de 4 ans, a été mortelle-
ment blessé en jouant avec une
tringle à rideaux, lorsqu'il se ba-
comment, il tomba sur son jouet
improvisé dont la pointe lui pénétra
dans le crâne.
Les médecins ont constaté que la
tige de cuivre avait pénétré dans
la tempe et atteint la cervelle.

Expedition a la Baie d'Hudson

NOUVELLES DE L'ARCTIC

Notre ami, le major Lervasseur,
a la complaisance de nous commu-
niquer les nouvelles suivantes de
"l'Arctic", qui en ce moment doit
se diriger vers le nord du côté du
détroit de Davis et de la baie de
Baffin, et de la baie d'Hudson, et
vraiment, il peut y arriver à cette
époque avancée de la saison.
Premièrement, c'est une car-
te postale du capitaine Bernier, ainsi
rédigée.

North Sydney, Cap Breton,
22 sept. 1904.

Mon cher ami,

Nous sommes rendus ici, tous
très bien. Nous sommes en bonne
voie de nous rendre encore plus
loin. Votre fils Paul et moi nous
vous disons "au revoir." Bien des
amitiés à tous nos amis de Québec.

J. E. BERNIER.

"Arctic".

Deuxièmement, c'est une lettre

poste. En ce moment, nous som-
mes à environ deux heures de Syd-
ney-Nord, Cap Breton, où nous ne
serons que rester deux heu-
res, le temps de prendre un hom-
me ou deux et les malles, s'il y en
a, et c'est tout. Après cela, au lar-
ge, et à la grâce de Dieu, pour trois
ans. Je profite de quelques mo-
ments de loisir pour te dire que
nous sommes tous bien. Il y bien
ou loi et là un peu de boue, mais,
à part d'un jeune garçon qui a eu
quelques inquiétudes du côté de
l'estomac, tout le monde a parfaite-
ment subi l'épreuve; moi-même
je n'ai pas eu la moindre sensa-
tion de malaise. Aujourd'hui, nous
jouissons d'un soleil radieux, et la
mer est calme. Hier soir, nous
avons un magnifique clair de lune
qui argentait presque toute la mer.
Il y a déjà quelque temps que nous
ne voyons plus terre; j'oserais dire
même que toutes les côtes sont
idéalement de nous depuis Cap Breton.

Etincelles Electriques

Pendu à 15 ans

Holyoke, Mass., 26.—Eugène Bou-
cher, un garçonnnet de 15 ans, s'est
pendu à la porte de sa chambre à
coucher, parce qu'il avait perdu sa
position dans la fabrique Hadley,
de l'American Thread Company.

Tuyau de poêle

vs nez

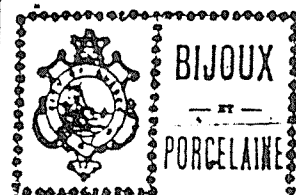
Worcester, 26.—Joseph W. La-
marche, 26 ans, a reçu accidentelle-
ment un tuyau de poêle sur le nez,
à la boutique Norcross Bros, le
tuyau lui a coupé un morceau de
l'appendice nasal.

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MARCAIS, MEUBLES
MARCAIS, ETC.

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bureau, en bois massif,
cuviers, etc. etc. etc.
à nos salles, 112

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A.—Fonds de commerce

travaux, etc.

Amusement de la

B.—Credence, etc.

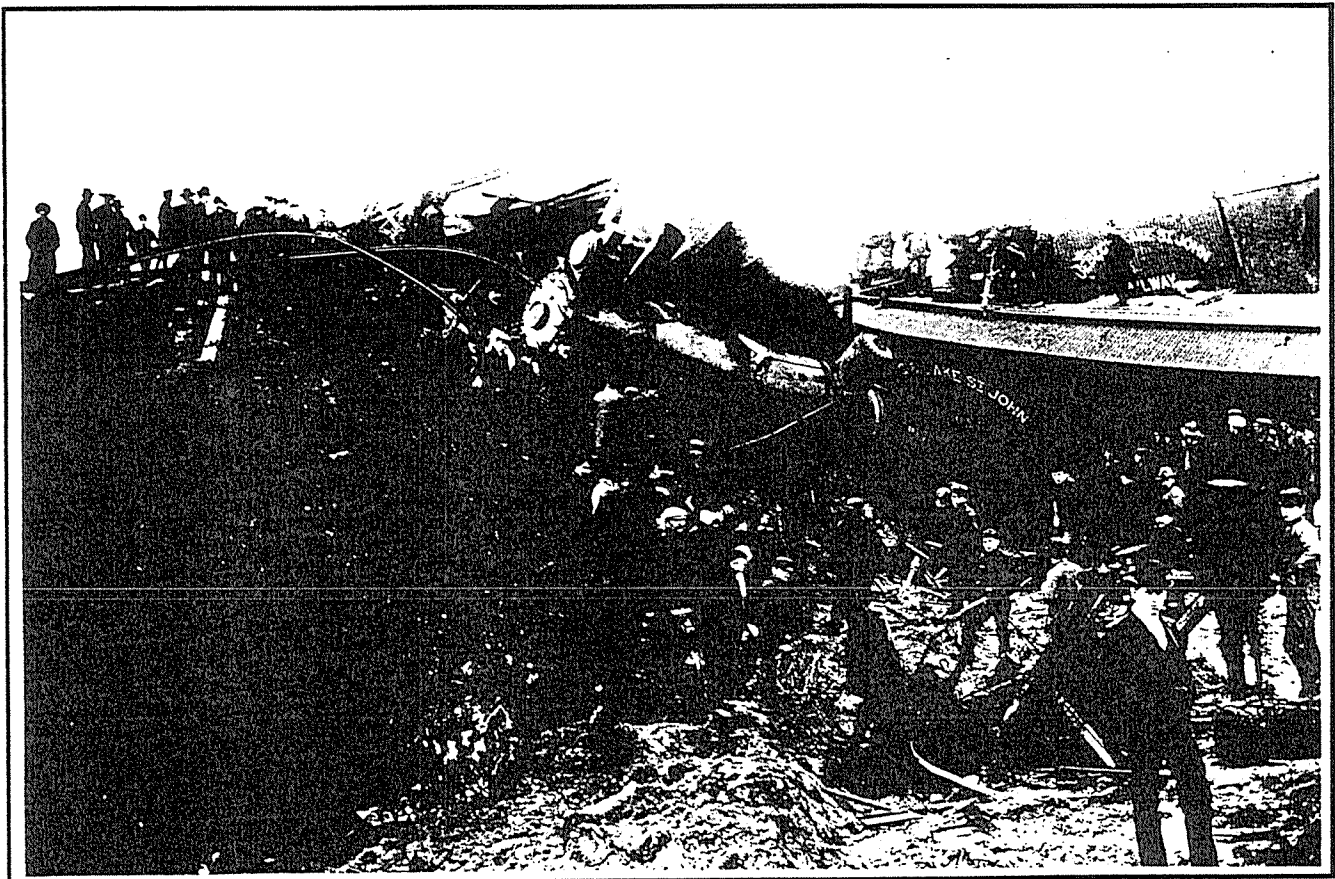
C.—Régence, etc.

D.—Légère, etc.

La table de la

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A picture exist.

CANADIAN RAILROAD HISTORICAL ASSOCIATION, Inc.

NOVEMBER 1950

Announcement of Meeting.

The November meeting of the Association will be held on Wednesday, November 8th, 1950 at the Associated Screen News, 1330 Sherbrooke West, near Mountain Street. The entertainment is being arranged by Mr. J. Norman Lowe, our Publicity Chairman, who has arranged an interesting programme of moving pictures, slides, etc. It is hoped that there will be a good turnout for what promises to be an interesting evening's entertainment. A short business meeting at 8 PM will precede the moving pictures.

O.S.A. Lavallee, Secretary.

Items of Interest

The assignment of two diesel locomotives to the Shawinigan Falls Terminal Railway in September, brought the use of electric engines to an end, after fifty years of juice operation. The SFTR was recently taken over jointly by the Canadian National Railways and the Canadian Pacific Railway. One 1000-HP diesel switching locomotive from each railway has been assigned. These engines are:

CPR #7010	B-B type.	1000 HP	American Loco Co. (#70239) 1943
CNR #8010	"	"	Montreal Loco Co. (#76498) 1949

A roster of the electric locomotives and a history of the Shawinigan Falls Terminal Ry., appeared in our July - August issue.

The Sudbury - Copper Cliff Street Railway ceased operation of its electric rail lines on Saturday, September 30th, 1950. All rolling stock, including 11 electric passenger cars (nos. 29-39 incl.), a locomotive-pow, and a rotary plow, were sold to Greenspoon Bros., Sudbury scrap dealers. Through the efforts of Mr. Clegg and Mr. Lavallee of the CRHA, the whistle of SCCSR Car #30 was donated to the Association by Greenspoon Brothers.

The Algoma Central & Hudson Bay Ry., are awaiting delivery of five diesel road switchers from General Motors Diesel Ltd., London, Ont.

British Columbia's famed Pacific Great Eastern Ry. has placed an order for a number of road diesel engines with the Montreal Loco Works.

THE QUEBEC & GOSFORD RAILWAY COMPANY

O.S.A. Lavallee

The success attaining the completion of the Saint Lawrence & Industry Village Railway in 1850 prompted many enterprising suggestions for railway construction during the Fifties. Not the least of these was the formation of a Company in 1854 to build a line of railway from Quebec to the River Ste. Anne, for eventual northward extension. The project was allowed to lapse, however, and was not revived until 1868, when a United States railway contractor named Hulbert arrived on the scene with a "get-rich-quick" scheme to build wooden railways in various parts of the Province. Politicians of the time were not slow to realize the potentialities of Hulbert's idea, with the result that on April 5, 1869, the Legislature of the Province passed an Act for public aid to a number of wooden railways, for completion by July 1st, 1872.

On the same date, April 5, 1869, the Quebec & Gosford Railway was incorporated to build between those two localities, under the terms of the Act respecting aid to wooden railways. It was considered expedient to commence building from the inland terminus at Lac a l'Île, 26 miles from Quebec, and carry construction outward. This was begun in September 1869, and the grading and much tracklaying was completed within a year. The line was fairly straight as the wooden-rail construction did not allow of much curvature and to keep the costs as low as possible, several miles of track were laid on a low trestlework, especially the section just outside of Quebec. A notable engineering feature was a bridge over 1500 feet long, including approaches, over the Jacques-Cartier Rivér, and an inspection trip was made in the summer of 1870 to view the construction of this structure. As Engine No.1, the "Jacques Cartier" had been delivered by the Rhode Island Works in June of that year, it was used on this trip, coupled to several flat cars,

Several weeks before the contract lapsed, the Quebec & Gosford was opened with due ceremony of church and state, on the 26th of November, 1870, and after an excellent repast at the St. Louis Inn, the shareholders and their guests made a round trip on the line. The station in Quebec was located in the St. Malo section of the city. On the 4th of December following, the name of the company was changed to the "Quebec and Lake St. John Ry. Co.". The line was successfully operated during December 1870, and for a part of the season of 1871. In 1872, a constant service was offered from May to November, and the traffic far exceeded the expectations of any of the company's incorporators.

Repairs after each successive season did much to discredit the wooden-rail type of construction, and it seems evident that had iron rail been used from the beginning, the line might have continued in successful operation constantly from that time forward. In 1873, the financial outlay for repairs and the resultant delay in the line's opening did much to discredit it in the eyes of the patrons of the railway, and very little traffic was carried. In 1874 operations came to a standstill and the locomotives, which had been increased to three by that time, and some of the equipment, were stored at Quebec. This equipment lay unused until 1881, when it was taken out of retirement to be used in the building of the Quebec & Lake St. John Railway towards the Upper Saguenay. In June of 1888, the Q&LStJ Ry. reached Chambord on Lake St. John, 176 miles from Quebec. Eighteen years were thus required to build this first main link of the line whose instrumentality in the colonization of the north country stands prominently in the recent history of the Province of Quebec.

During its period of active operation, the Q&G included about five dozen small cars in its roster, and three locomotives:

#1 "Jacques Cartier"	Rhode Id.	#172	1870	14x24" cyls.	54" dri.
#2 "Quebec"	"	#274	"	"	"
#3 "Gosford"	"	#275	"	"	"

The "Gosford" was later renamed the "J.B. Renaud" and was leased in 1885-86 to the Pontiac Pacific Junction Ry. for construction use. It was later returned to the Q&LStJ Ry. The "Jacques Cartier" and the "Quebec" were also later renamed - the former becoming the "Frank W. Ross", the latter, the "Col. M. W. Baby". The three engines eventually became nos. 28, 29 and 30 of the Canadian Northern Railway Co., and were scrapped in 1912.

QUEBEC DISTRICT

Joffre Locomotive House, Yards, Etc.

Joffre is the junction point between the Diamond and Bridge Subdivisions, Levis Division, Quebec District, Canadian National Rys. The Bridge Subdivision extends from Quebec via the Quebec bridge to Joffre, 14.6 miles, and the Diamond Subdivision extends from St. Charles Jct. west to West Jct., being what was known as the Intercolonial freight line, cutting out Levis from a through east and west haul. Joffre is 16.04 miles west of St. Charles Jct., on the Diamond Subdivision. As shown by the inset on the accompanying map, the National Transcontinental Ry. main line leaves the joint I.C.R. and N.T.R. line at Diamond, and the recently built Quebec Central Ry. line from Scotts Jct. connects with the Canadian National lines at that point. The name Joffre Terminals is commonly applied to the system of yards and tracks west of Diamond and centering on Joffre, West Junction and Charny.

Consequent on the Canadian National Rys. management's decision to consolidate at Joffre the locomotive house work carried on previously at the National Transcontinental locomotive house at Bridge, the Grand Trunk house at Point Levis, and the Intercolonial house at Joffre, in order to effect economies in

heating the locomotive house is carried under ground, in a main concrete duct, with branch ducts of tile pipe to the locomotive pits.

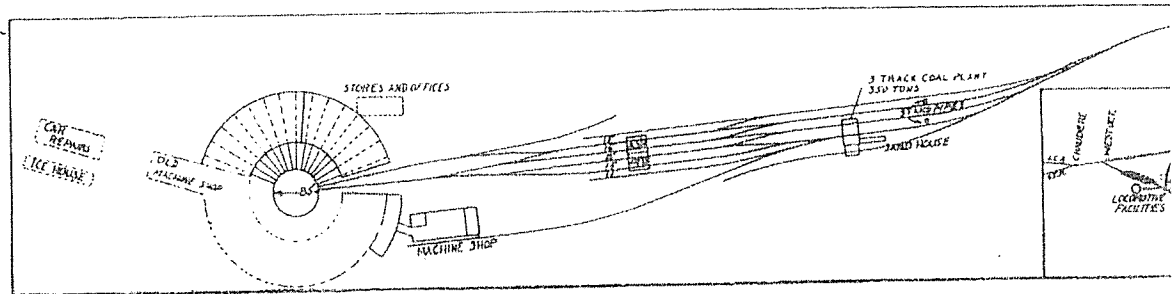
All buildings have tar and gravel roofing.

A new ash pit, having a total capacity of 100 cu. yd. of cinders, has been located 650 ft. east of the center of the turntable. This consists of two separate pits, 50 ft. long, built of concrete, and strengthened by old steel rails, and lined with firebrick.

A new coaling plant, 350 tons capacity, has been located 400 ft. east of the ash pits. Two new standpipes were installed east of the new coaling plant.

Four new main locomotive tracks, two cinder sidings, one storage siding and one hopper track were built, involving the laying of 20 turnouts and more than 10,000 ft. of track. A subway, of concrete abutments and steel girders, was built over St. John St. An additional 10,000 ft. of track was laid to serve coal piling grounds. The east cluster of Joffre yard, which consisted of 15 body tracks, with a capacity of 775 cars, is being extended by building three new long tracks which will raise the total capacity of the yard to 985 cars.

The work was carried out by railway



Locomotive terminal layout at Joffre, Que., showing location of terminal.

operation, it was necessary to provide additions to the terminal facilities at Joffre. The old locomotive house, which consisted of 24 stalls, was enlarged by the addition of 15 stalls, making the house a complete circle, with the exception of the openings for inbound and outbound tracks. Four stalls in the old house were extended to a total length of 120 ft. each, and drop pits, with pneumatic wheel jacks, were installed. The 76 ft. turntable was replaced by an 85

forces, under the supervision of L. Brousseau, District Engineer, Quebec District, and J. E. Gibault, Division Engineer, Levis Division, Quebec District, Canadian National Rys.

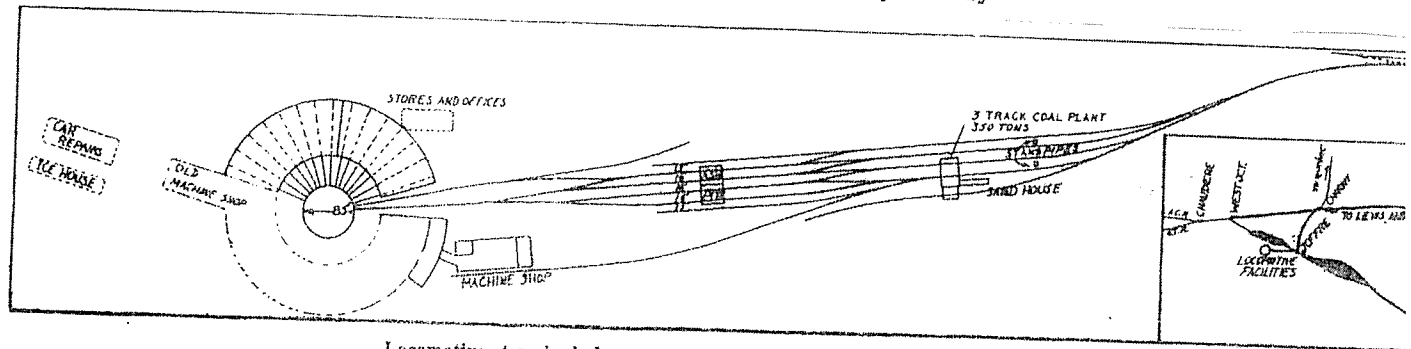
Railway Accidents Throughout Canada. The total number of accidents, during November, reported to the Board of Railway Commissioners was 142, resulting in 20 persons being killed and 144 being injured. Of the killed 10 were employees

January 1922

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The locomotive house and machine shop are heated by hot air supplied by one 90 in. Planoidal Canadian Buffalo fan, which will work in conjunction with the Sturtevant fan in the old portion of the locomotive house. The hot air for heating the machine shop is carried to distributing points in galvanized iron pipes, located overhead. The hot air for

forces, under the supervision of L. Brouseau, District Engineer, Quebec District, and J. E. Gibault, Division Engineer, Levis Division, Quebec District, Canadian National Rys.

January 1922

Cadorna-Chaudiere Signals.—We are officially advised that on account of the volume of traffic being moved over the Cadorna-Chaudiere section of the line in Quebec, it has been arranged to instal automatic signal protection on the 11 miles of track. The installation will consist of 25 T2 D.C. signals, 74 model 12 and 13 D.C. relays, 12 tower indicators, electric locks, switch boxes and other accessories. The signal protection will be carried through existing mechanical interlockings, to which electric locking will be added. The signals will be controlled by the absolute permission scheme, in accordance with the railways' standard circuit arrangement. The installation will be made by the railways' signal and electrical department staff and will do away with the necessity of stopping trains, as at present, to take up and give back staffs under the present system of staff operation between Cadorna and Cap Rouge.

Montreal Station, Quebec, M.L. 1923

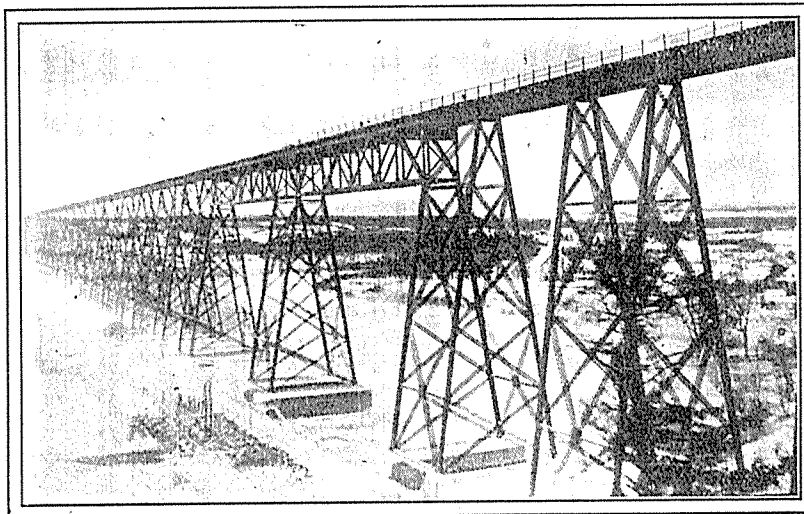
January 1923

Cap Rouge Viaduct, N. T. Ry.

The Cap Rouge viaduct, which has been built on the National Transcontinental Railway near Quebec, is a single track structure about 3,345 ft. long over all with a maximum height of nearly 173 ft. from low water to base of rail. It contains about 4,500 tons of steel and has thirty-one 40 ft. towers and one single bent supporting thirty-three 40 ft. and twenty-nine 60 ft. plate girder spans and one 150 ft., one 160 ft., and one 125 ft. riveted truss deck spans.

Several comparative estimates were made considering the longitudinal force specified, and indicated that the maximum rigidity and minimum total cost would be secured by the adoption of comparatively wide towers and moderate length connecting spans, which were finally fixed of the dimensions already stated, but which it was considered by the contractors would have been substantially as economical if the lengths of the towers had been increased 10 ft. more. The standard of 40 ft. was, however, adopted in deference to the general attitude taken by the engineers of proportions of high viaducts and it has proved very satisfactory in construction and operation.

The towers are of special construction and are interesting on account of the make up of the columns and the system of bracing, which avoids all intermediate horizontal transverse struts and eliminates them from the centre panels in the longitudinal faces of the towers. This column design has been somewhat modified in subsequent structures proportion-



CAP ROUGE VIADUCT, NATIONAL TRANSCONTINENTAL RAILWAY.

ed by the same designers to provide better for the transportation and erection stresses and to reduce the wide painting area in the interests of maintenance.

The structure is designed for dead loads of 1,350 lbs., 1,500 lbs.; and 3,000 lbs. per linear foot of the 40 ft., 60 ft. and 150 ft. spans respectively, and for the "class heavy" live load and unit stresses conforming to the Dominion government specifications of 1905 which

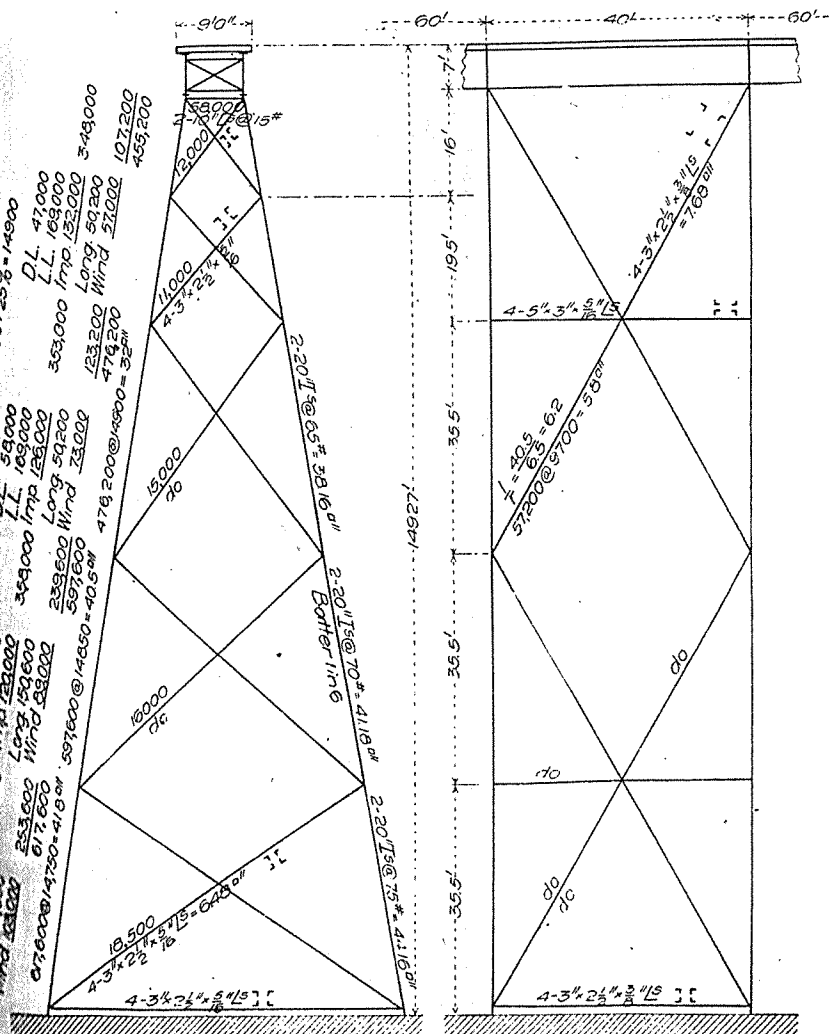
provide for two 180 ton engines 48 ft. long followed by a train load of 4,750 lbs. per linear foot. Wind pressure is assumed at 30 lb. per square foot of exposed train and viaduct surface and impact is allowed for by the formula $(l. l.)^2 \div (d. l. + l. l.)$.

All plate girders have a uniform depth of 6 ft. and sustain maximum calculated stresses of 158,800 lbs. direct shear plus 115,000 lb. impact increment, equals 273,800 lb. for the 60 ft. span, requiring a sectional area of 27.38 sq. in. The corresponding moments give a net flange stress of 2,119,000 lbs., which, increased by the impact increment, 1,465,000 lbs. gives a total of 3,584,000 lbs., for which gross cross sections of 44.26 and 40.12 sq. in. are provided in the top and bottom flanges respectively. For the 40 ft. spans, the shear plus increment is 226,800 lbs. with a 22.68 sq. in. net web section and the flange stress 1,963,400 lbs. with net and gross sections of 21.5 and 23.06 sq. in. respectively to both top and bottom flanges.

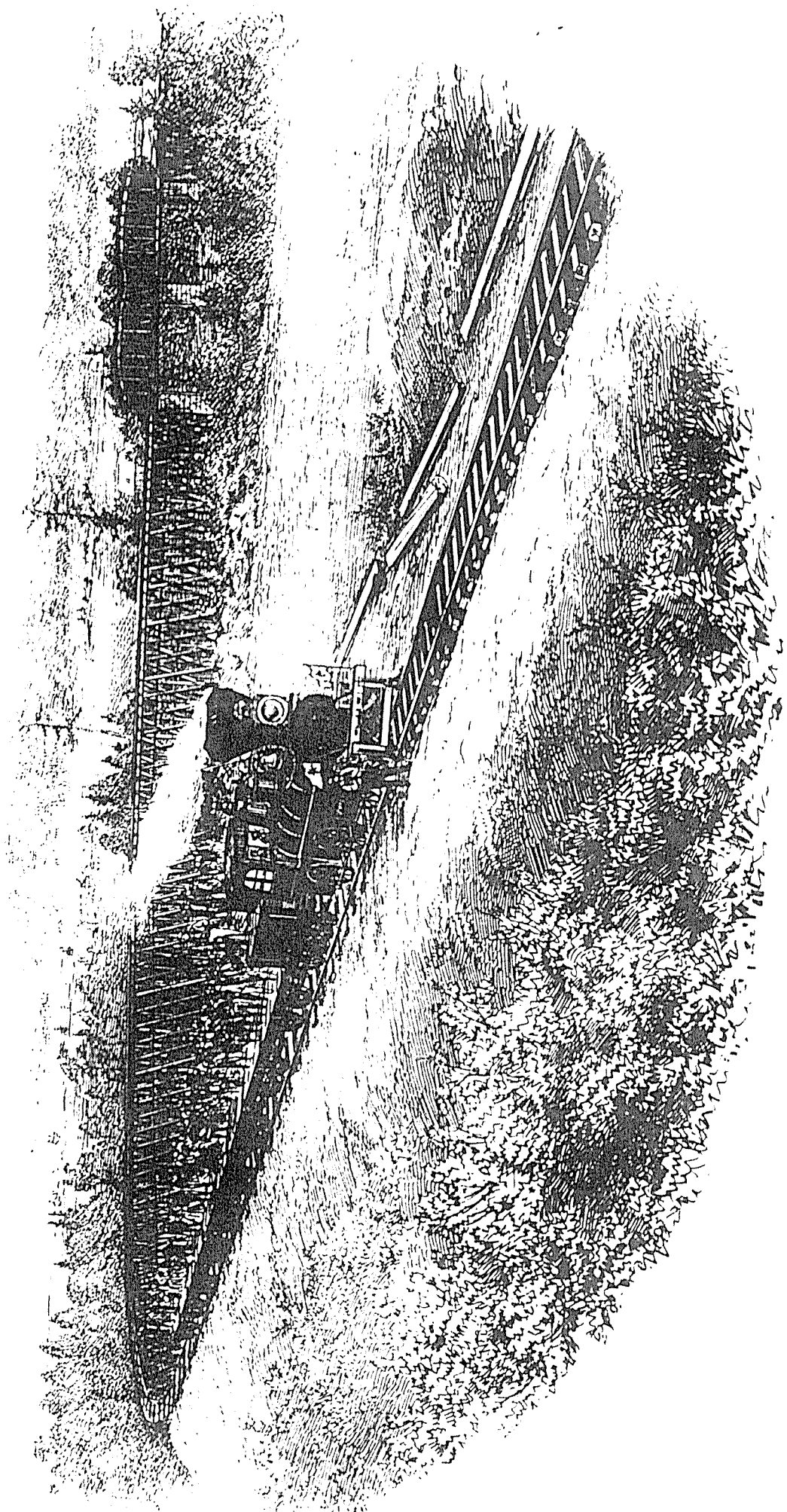
The maximum stresses in the tallest bents are given in the accompanying diagram, which also shows the materials used for the members. In bents 110 ft. high to base of rail, the maximum column stress is reduced to 557,300 lbs. with a required sectional area of 34.1 sq. in., and the columns are made with 18 in. I-beams weighing 60 lbs. for the two lower stories and 55 lbs. for the upper stories. The horizontal and diagonal bracing is the same as for the maximum bent.

The height of the viaduct does not fall below 100 ft., except near the ends, at one of which is located the 125 ft. span and the single bent. At the other end there are three towers with their pedestals from 53 to 95 ft. below the base of rail. In all of them the columns are made with 18-in. 55 lb. I-beams. The columns are battered 1:6, which increases the uniform transverse distance 9 ft. apart on centres at the top to from 24 ft. 4 in. to 56 ft. 4 in. at the base.

The column posts are made in lengths of about 32 ft. for the upper stories, which are uniform and vary according to the irregularity of the ground for the lower story. Each section is made with a pair of 18 in. I-beams spaced 15 in. apart on centres with their webs transverse to the axis of the viaduct and their flanges connected by double latticing with flat bars. Successive sections are spliced with double web and flange cover plates, the latter being made about 3 ft. long and extending beyond the inner edges of the columns to serve as jaws receiving the field riveted ends of the horizontal and diagonal longitudinal



TYPICAL STRAIN SHEET OF TALL TOWER, CAP ROUGE VIADUCT.



GOSFORD RAILWAY BRIDGE OVER THE JACQUES CARTIER RIVER.—SEE PAGE 379.

Levis, Que., Station Addition.—The addition to the station at Levis, Que., for the construction of which tenders were received to Aug. 29, is to replace the portion of the original building destroyed by fire recently. The new portion will be 148½ ft. long by 43½ ft. wide, and will be a 2-story structure. It will be of brick and steel construction, on a concrete foundation carried to rock. The ground floor will be of reinforced concrete beams and slab construction; the upper floor will be of steel joist construction with reinforced concrete slab, and finished floor will be covered with heavy linoleum. The steel roof joists will be covered with Gypcrete slab and finished with asbestos built-up roofing, and all plastering will be done on metal lath. On the ground floor, there will be connection by a passage with the existing building, flanked on the track side by a news stand and on the other by the men's lavatory, and opening into the smoking room, 29 ft. 4½ in. by the width of the building. Adjoining the smoking room, will be the baggage room, 29¼ ft. by the width of the building, and fitted with office and public space, scales, etc., and with brick walls. Adjoining the baggage room will be the express room, 29¼ ft. by the width of the building, with office, public space, and on-hand room. Adjoining the express room will be a locker room, 9¼ ft. x 19 ft. 9½ in., and the stair hall, of the same dimensions. Adjoining them will be a room 14¼ ft. by the width of the building, with office space about 9 ft. square, for the use of the Quebec Central Ry., and at the end of the building furthest removed from the existing structure will be the mail room, 19 ft. 1½ in. by the width of the building. The second floor will be divided, at the end adjoining the existing structure, into a vault room 26¼ ft. x 13½ ft., separated by a corridor 6 ft. 2 in. wide from a filing room 26¼ ft. x 20 ft. The corridor will open on the general office, which will be the width of the building and will occupy 45 ft. of its length. A corridor, 4 ft. 8 in. wide, will extend from the general office to the end of the building furthest removed from the existing structure; on its track side, adjoining the general office, will be the division engineer's office, and, adjoining, in turn, the bridge and building master's and roadmaster's office, the upper stair hall, and a bunkroom 34 ft. 1¼ in. x 25 ft. On the side of the corridor furthest from the track, adjoining the general office, will be the blue print room, 14 ft. 7½ in. x 15 ft., and, adjoining, in turn, lavatory accommodation for office staff and trainmen, a kitchen, and a writing and lounge room. The bunkroom, kitchen, and writing and lounge room will be for the accommodation of the trainmen. The stairs will be of steel construction. The building will be

October 1930