CANADIAN PACIFIC
RAILWAY
COTE ST LUCYARD,
MONTREAL
1949JANUARY 1949

Transportation

J.P.R. Hump-Retarder Yard Near Montreal

One year after the beginning of work, the Canadian Pacific Ry. large and modern freight yard at Cote St. Luc, on the Montreal outskirts, is progressing favorably, with much of the excavation and train filling done, 20 miles of track laid, and construction well under way on six buildings.

(Editor's Note.—The information in the following, in regard to the large and thoroughly modern yard being built for the CPR. in the Montreal area, was provided by W. F. Koehn, General Superintendert, Ontario District, CPR., and previously Superintendent, Montreal Terminals Division, in an address before the Quebec Division of the Canadian Industrial Traffic League, at Montreal.)

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The new facility really consists of five yards, with central operation, the individual yards being as follows:—

Receiving Yard—This yard contains 15 tracks, the longest of which will accommodate 100 cars and the shortest 50. The yard has a total capacity of 1,197 cars. This is the yard into which all trains arrive for the Montreal Terminals area.

Classification Yard—This yard consists of 40 tracks grouped in five groups of eight tracks each; the longest track will accommodate 58 cars and the shortest 23. The total capacity of this yard is 1,552 cars.

Departure and Storage Yard—The departure yard contains 35 tracks, the longest of which will accommodate 100 cars and the shortest 35 cars. This yard has a total capacity of 1,720 cars. Car Repair Yard—This yard will con-

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There are to be 80 miles of track in the complete yard, with 339 switches. The undertaking will require, 13,000 tons of rail, 240,000 track ties, 925,000 cubic yards of filling and 200,000 cubic yards of ballast.

Description of Hump Yard

A hump yard is, as the word implies, one with a hump located at the beginning of the incline on the entrance to the classification yard. The hump is necessary in order that the slack in the train line couplings may be bunched, to permit the pulling of the uncoupling lever, to release the car and allow it to run down the opposite side of the hump by gravity.

The advantage of a hump yard is that the switching is carried out by gravity and through the momentum of the car itself; in flat switching, the momentum has to be given to the car by the locomotive.

There are two types of hump yard, viz., the rider hump and the retarder hump. The rider type of yard is one in which men ride each individual cut of cars down the hump and control same by applying hand brakes. This type of yard has not been successful due to the occasional defective hand brake resulting in heavy impact when the moving car couples with a standing one, often with consequent damage to

Car Retarders—The car retarders replace the men on the rider hump and

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Repair Yard

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Shop and Engine Pacifities

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consist of the train and will know exactly what carr, with their destinations, are contained in the train. This will permit the yardmaster to know what track he chooses to yard this train on the will, therefore, advise the towerman at the entrance of the yard, the track that this train is to enter upon. As soon as the finin armves in the yard, the conductor's way bills will be taken to the yard office, where the staff will che yard office, where the staff will check the bills and note the care for diversion and carr for reciphing and



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The lighting of this entire yard will be taken care of by means of batteries of floodlights, erected on the top of steel fowers varying from 80 ft. to steel towers varying from 80 ft. to 120 ft. in height. These floodlights are to be arranged very much the same way as the floodlighting system used in the ball parks for night games of baseball. The intention as that the doodlighting will enable employees to read switch lists, etc., during the night, in any por-tion of the yard, as clearly as in the daytimes was Appropried Switches

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Electrically operated switches with push button control are being provided

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Teletype Machines
There will be a local set of teletype machines, used to make up switch lists of the trains arriving in the terminal. These switching lists show the train number, its arrival time, and, in the following order, the position of the car in the train, numerically starting from the head end; the car initial, the car number, its contents, weight and destination. These switch lists will be beletyped from main, yard office to the yardmaster's office, to the hump office and to the retarder tower. It is from this list that the cars are switched over the musp into the classification yard, and the weight of the car is shown on this list in order that the retarder operator may be in a position to judge the amount of retardation which is yardmatter, hump randmatter, the re-tartier tower and also the other rangus departments in the yard. Likewise, the city telephone, lines will be connected to the various offices in the yard.

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Train movements into and out of the yard will be governed by signal indication, which will be controlled by the centralized traffs control system. Engines pushing sars over the hump for machine to be presented by characteristics will be governed by a hump signal. Due to the currature on receiving pard tracks, ergore crews vision of this signal will of necessity the obscirced from certain parts of the vard. To everyome this feature there will be eab signalling apparatos installed in four yard engines, so that a repeat indication of the hump signal motives at all times during humping operations (more than of the

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This inspection is exceled out first in the receiving yard, and as the car moves ferward over the himp, oil is applied under pressure to the journal boxes. This can be done in two ways, either manually, or by means of an automatic machine which applies a predetermined adaptity of oil to each

bux.
In addition to the inspection carried on in the receiving pard, it is proposed to provide a depressed inspection bit for examination and inspection of the underside of the cars as they pass over the hump. This inspection pit will consist of a small concrete chamber wherein the car inspector will sit, and by means of floodlights will have a clear view of the underside of the car. By this means, he can readily defect split sills, cracked busters, defective draw-bar peckets, and many other de-fects which are difficult to be seen from the aide of a car. Noting these defects, he will have a telephone connecting with the hump master and car will be routed onto repair track.

Type of Power to be Used

It is proposed to use 1,000 h.p. Diesel switch engines on all the internal operations in the gard. These engines are

types, the electric retarder the electro-pneumatic. The control and operating of the retarders is the mechanically operated switches to carried out by men located in elevated These men likewise control the various tracks in the classification COWETS. Value

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Weighing of Cars

The weighing of cars will be carried out automatically on a scale located

necessary to be applied through the various retarders in order to control the speed of the car.

Communication Systems

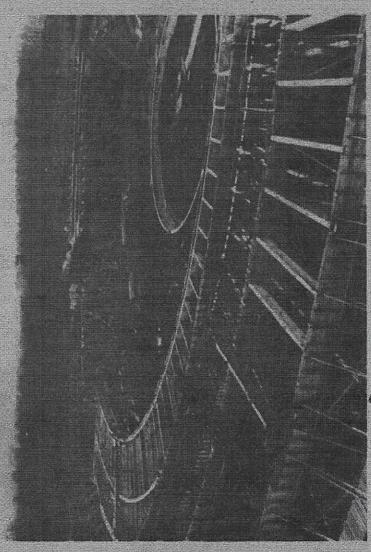
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The Practically-completed 1.197-car Receiving Yard, One of the Five Units which Will Make up the Complete New Yard in Subarban Montreal.

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in length of locomotives.

A 400-ton, three-truck concrete coal-

A 400-ton, three-track concrete coaling plant will be provided for the fueling of steam loomorives, as well as a depressed, three-track, mechanical chain pan underfeed cinder plant. This type of plant consists of hoppers located in the center of the track, wherein the cinders from the homorives are dumped and carned from the hoppers and elevated, so that they are auto-

locomotive is dispatched. The direct The engine muse will be equipped standing in the shop under fire, but that the fire will be killed as the locosteaming means that before the loco-motives moves out of the engine house, pressure built up in same. This results in the engine leaving with a full head where the lighting-up is carried out with diffect steaming arrangement for beemotives will not be and will again be lit up before the steam is admitted to the boiler and steam for the lighting-up plant, motive comes onto the cinder plant matically dumped into waiting cars. the lighting up of locomotives. by means of oil torches. means that



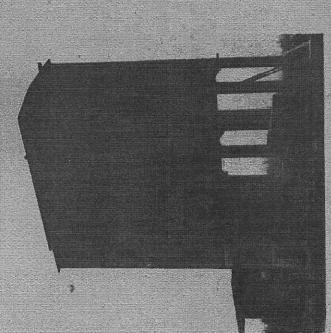
Building the Hump in the C.P.R. New Yard at Cote St. Lac, near Montreal.
A trainload of gravel fill is being dumped, in the course of the work of forming the hump for gravity switching. The grade of the hump is indicated by the vertical curve in the string of balant care.

frigerator cars. In order to supply this ice, a 10,000-ton mechanically cooled ice house is proposed, as well as a 200-ton per day artificial ice manafacturing plant.

Operation of Train Entering Yard Before a train arrives at the yard, those in charge will have received a

the yardmaster, hump office and the the journal boxes have been opened and inspected for signs of heating, defective icing, and will compile a switch or cut immediately this has been done, a copy of this list will be teletyped to retarder tower. While this has been taking place, the road engine which brought the train in has been cut off and sent to the engine house. Likewise, a staff of car inspectors in the receiving yard have been inspecting the train and marking off any cars with defects which require to be placed on the rehat so that the train can be switched. pair track. A eard is applied to side of the car, stating the defect. brasses and any other defects.

he impossible to provide a track for hump foreman, in possession of the switch list, directs the pin puller to session of a copy of this switch list, ine up the switches to which track minals run well over 100, and it would to De the car retarder operators, also in posthese cars are to be switched, and control their speed through the hump. As classification tracks in this yard, but the classification in the Montreal ter-This train is now ready to be switched and the hump engine is now placed behind same and the train is pushed up on the hump. Here, the make the necessary cuts as the cars move down over the hump. Likewise, already stated, there are to be Therefore, classification. each



New Coaling Plant under Construction.

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There are two types of hump yard, viz., the rider hump and the retarder hump. The rider type of yard is one in which men ride each individual cut of cars down the hump and control same by applying hand brakes. This type of yard has not been successful due to the occasional defective hand brake resulting in heavy impact when the moving car couples with a standing one, often with consequent damage to

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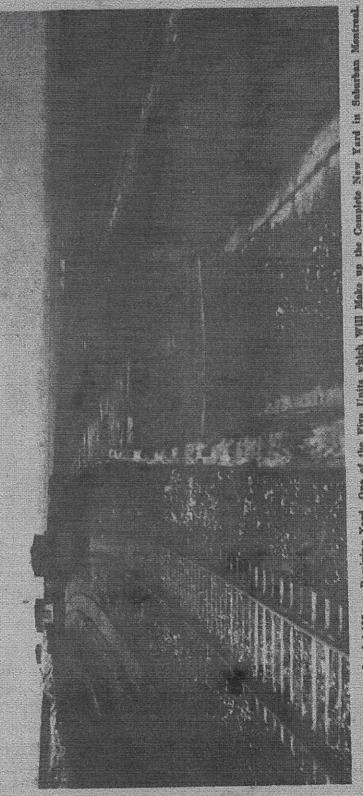
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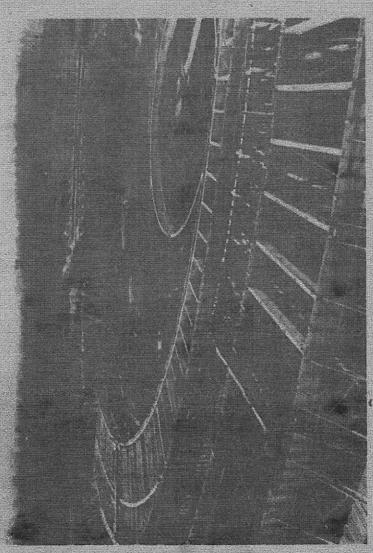
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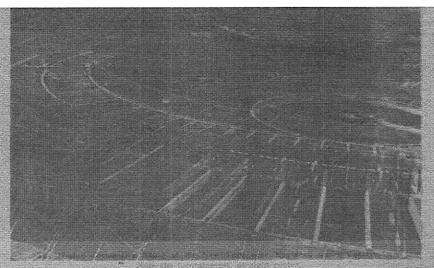
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feing of Cars

in a terminal such as Montreal, a considerable amount of leing of refrigenciator cars, containing perishable committee, takes place. It is proposed to install two leing tracks with a capabocated between these tracks will be an elevated platform with a conveyor through the chitice length. A third track with platform and conveyor will serve nine cars. This will permit the conveyor will serve nine cars. This will permit the

actly what cars, with their destinations are contained in the train. This will permit the yardmaster to know what track he chooses to yard this train on the will therefore, advise the towerman at the purerness of the yard, the track that this train is to enter upon. As soon as the train arraves in the track the conductor's way bills will be taken to the yard will be taken the yard will be taken to the yard will will be taken to the yard the wars for the taken and the taken to the yard will be taken to the yard will be taken to the yard the wars for the taken the yard th

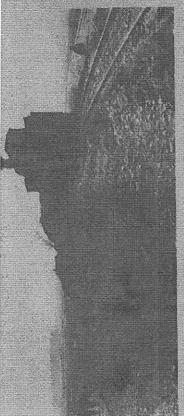


Building the Edung in the CP-R New Yard at Gate Bt. Lat., near Mantenal and of gravel fill is being dimpel, in the graves of the work of lorating the wall-bring. The grade of the burns is tribunated by the sertical carrie in the

in length of locomotives.
A 400-ton, three-track concrete coal-

A 400-ton, three-track concrete coaling plant will be provided for the fueling of steam homotives, as well as a
depressed, three-track mechanical
cham pan, underfeed cinder plant. This
type of plant consists of hoppers beated
in the center of the track, wherein the
cinders, from the boomotives are
dumped and carried from the hoppers
and elevated, so that they are auto-

with direct steaming arrangement for the lighting up of lucomotives. This The direct This results where the lighting-up is carried out The engine house will be equipped becometives will not be standing in the shop under fire, but that the fire will be killed as the locosteaming means that before the locomotives moves out of the engine house, steam is admitted to the boiler and in the engine leaving with a full head and will again be lit up before the of steam for the lighting-up plant, motive comes onto the cinder plant matically dumped into waiting cars. ocomotive is dispatched. pressure built up in same. by means of oil torches. means that



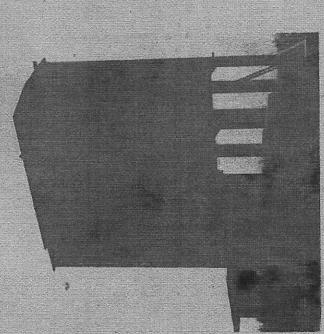
Building the Hump in the C.P.R. New Yard at Cote St. Lac. near Moniteal.
A trainload of gravel fill is being dumped, in the course of the work of forming the hump for gravity switching. The grade of the hump is indicated by the vertical curve in the string of ballast care.

frigerator cars. In order to supply this ice, a 10,000-ton mechanically cooled ice house is proposed, as well as a 200-ton per day artificial ice manufacturing plant.

Operation of Train Entering Yard Before a train arrives at the yard. Those in charge will have received a

ing yard have been inspecting the train and marking off any cars with defects copy of this list will be teletyped to the yardmaster, hump office and the list so that the train can be switched. Immediately this has been done, a taking place, the road engine which side of the car, stating the defect. All inspected for signs of heating, defective cing, and will compile a switch or cut retarder tower. While this has been brought the train in has been cut off and sent to the engine house. Likewise, a staff of car inspectors in the receivwhich require to be placed on the rethe journal boxes have been opened and pair track. A card is applied to prasses and any other defects.

This train is now ready to be switched and the hump engine is now placed behind same and the train is switch list, directs the pin paller to trol their speed through the hump. As classification tracks in this yard, but the classification in the Montreal terminals run well over 100, and it would he impossible to provide a track for to be possession of the move down over the hump. Likewise, the car retarder operators, also in possession of a copy of this switch list, line up the switches to which track hese cars are to be switched, and conalready stated, there are to be 40 up on the hump. Here, the make the necessary cuts as the cars Therefore, each classification. hump foreman, in pashed



New Coaling Plant under Construction.

CANADIAN TRANSPORTATION, JANUARY, 1949