

Surveying Railway Boundaries

by W. J. Quinsey

The following article, which may be of interest to students of land surveying, is an extension of an information page entitled "Suggestions to Ontario Land Surveyors for the Re-Establishment of CNR Operated Right of Way Boundaries", dated 15 April 1975, which was prepared in response to the frequent enquiries received by CNR's staff surveyors at Toronto.

Since 1950, though possibly earlier, but with the odd exception until about 1956, the boundaries of new CNR rights of way in Ontario have been defined by monuments set in the original surveys. This article does not deal with these more recent surveys, but only with the older rights of ways in which there was no original boundary monumentation.

1. Tracks were originally constructed either on the centre line of the right of way or on a line having a constant offset to the centre line. Limit fences were positioned by measurements from the tracks and were, therefore, subject to errors in this measurement. The tracks were originally, and in many cases may still be, considered as primary evidence of the position of the right of way. Also, tracks have the advantage over fences of better continuity, or precision of position.
2. Tracks have the disadvantage over fences in that frequently they may have been shifted from their original positions. This occurs increasingly around the curves in the course of time due to centrifugal forces exerted by trains, and may have occurred along any area for engineering purposes with no record of the change being preserved.
3. Due to the ever increasing number of situations where shifting of the tracks has occurred, it is necessary to suspect all tracks of having been moved, until it can be determined from other evidence that the tracks have not moved a significant amount.
4. Railway fences were constructed in most cases at the same time the railway was constructed, or shortly thereafter (R.S.C. 1970-Chapter R2 Section 214 (1) and (4)).
5. These fences were constructed by Railway work crews under the direction of a section foreman or engineer who had a sketch or plan (if needed) showing distances to the limits at plus stations, and who had a tape for measuring from the tracks or

from a marked survey line. Possibly there may have been some cases where wood markers were set by the surveyor for fencing purposes, but we have no records of this.

6. The opinion held by Mr. S. G. Smith, O.L.S., a former Regional Land Surveyor of CNR, who in 1953 completed 36 years of surveying railways in Ontario, was that fences were generally constructed about one foot inside the Railway's deed limit as a precaution against encroachment on the part of the Railway. Lesser systematic errors such as measuring off level or off square probably have resulted in sections of the fence being constructed within the deed limits.
7. When portions of fences on opposite sides of the right of way seem nearly as old as, or can be dated from, the original construction of the railway, and when these portions are found by measurement between them to nearly contain the original plan or deed width, we now consider these portions to be primary evidence for determining the original position of the right of way.
8. Alternative methods of checking the reliability of old limit fences are by checking the depth of adjacent subdivision lots on a registered plan which is nearly as old as the railway, and might be by checking the distances to the tracks.
9. When good evidence of the position of the original right of way is not convenient to the survey being made, then a more extensive investigation of the right of way in both directions should be made to find other evidence such as previous surveys, the centre of bridges which have not been rebuilt (but even in some cases have been buried) when the tracks were moved or realigned, and the lot corner ties if given in the railway deeds.
10. Errors in the Railway's positioning and construction of fences have been made, some increasing and some decreasing the occupied width of the right of way. In some cases, fences have been moved back into the right of way by lessors of adjoining Railway lands which were subsequently sold without survey. In other cases, the Railway has constructed, or re-constructed, fences using the original plan distance from tracks which had previously been moved from their original positions.

11. There are a few cases where there may be good evidence that the old existing limit fence was originally built by the Railway within their deed limits, and where the resulting strip of land between fence and deed limit has subsequently been both occupied by the adjoining owner and included by description in his registered ownership. Examples of these are where either small severances of properties, or additional right of way widths for support of the track embankment across gulleys or streams, were acquired by deed although often not shown on the original plan, and present day fences exclude these severances or widenings, or portions thereof, from the right of way.
12. In these cases, the provisions of Section 4 and 15 of the Limitations Act may conflict with those of former Railway Acts as now contained in Section 164(1), paragraphs (c) and (q) of the Railway Act R.S.C. 1952, Chapter 234, as slightly modified by the Railway Act R.S.C. 1970, Chapter R-2, Section 102(1). Certain court decisions have ruled in favour of the Railways. In the case of *Main to McMahon* (12 O.W.R. 324) the ruling by Chief Justice Falconbridge of the Ontario Court was to the effect that the Railway cannot be dispossessed of lands which are necessary for the purpose of the Railway.
13. Accordingly, when we are asked for our approval of a plan of survey showing the Railway's boundary in these cases, we usually refer the matter to our Area Manager for his opinion as to whether he considers the said strip of land to be necessary for the purposes of the Railway, and (or) to our Law Department for their opinion. Based on previous rulings, we have found that some small severances may not be required, but that many widenings may still be necessary for their original purposes.
14. In other cases, there may be conflicting evidence and uncertainty as to the original position of the Railway's deed or plan limit. In these cases, where your method of re-establishment results in any portion of the Railway's fence being outside of the Railway's deed or plan limit, we suggest that your plan of survey should show the said portion as being the Railway boundary by occupation.
15. We consider that the construction of a fence by the Railway work crew

can be deemed an act of open notorious possession on the part of the Railway in regard to any portions of the fence which might have been constructed outside of the deed limit.

16. Even in cases where there is no uncertainty as to the Railway's deed limit, and yet the Railway fence is outside of that limit, we suggest the fence be shown as the Railway boundary by occupation. However, in some of these cases, if there is uncertainty as to the probable effects of the Limitations Act and the Railway Act, and if the surveyor may wish to avoid making a decision on the matter, then these portions of land where possession and title are in conflict should be shown as PARTS on the plan of survey.
17. The purpose for our use of the Limitations Act (see Sections 4 and 15) is to protect the Railway's occupational limits when the Railway fence is found to be outside of the deed limits. Even when the amount of encroachment is less than one foot, we may act by objecting to a plan of survey, not for the sake of acquiring ownership for the Railway of a narrow strip of land, but to prevent the possibility of future expense to the Railway in the cost of moving its own fence to the deed limit.
18. The radius or degree of curve, as recorded on the original plan of survey, or sketch attached to the deed, is only one item of evidence which is usually accepted as correct (although it may be lacking in precision) if it is in fair agreement with evidence as found on the ground.
19. If the radius is not in fair agreement, then either a calculated radius should be used, or between found and acceptable survey monuments (see next paragraph), the radius shown by the plan of survey may be used. In either case, the fence should be checked for agreement with the curved limit. Since the original plan usually shows only simple unbroken curves, it would seem appropriate that the size of the "accidental bumps", or non-tangential junction points of the curved boundary, should be kept at a minimum.
20. "A found and acceptable survey monument" (see reference in above paragraph) is one;
 - a. for which the name of the surveyor who planted it is known (presumably on the said plan of survey)
 - b. and which is planted either in or outside of the fence and is found to be in fair agreement
21. With regard to lands adjacent to the Railway, prints of draft plans of subdivision or of condominium, and prints of proposed reference plans attached to notices of application under the Land Titles Act or the Boundaries Act, are received by CNR from the Ministry of Housing, Plans Administration Division, and from the Director of Titles, or his assistants, or Land Registrars, and are forwarded to CNR's Surveys Section for comments or objections in respect to the Railway boundaries.
22. Often the results of this plan checking is the correction of errors or omissions. Except in those cases of insufficient time prior to the deadline date for filing objections, we try to deal in the first instances directly with the surveyors who signed the plans. Frequently, we do not have sufficient time, and it is then necessary for us to file a formal objection to the proposed plan.
23. There is sometimes a pending land deal with closing date optimistically set for the day following the said deadline date. In order that our filed objection may not disrupt the closing date required by the surveyor's client, we suggest that proposed reference plans under application be sent directly to us by the surveyor as early as possible.
24. In regard to all other surveys adjoining CNR lands, which may at a later date be used for application under LTA or Boundaries Act, we request the surveyor to send us a print of the plan prior to the plan being deposited as a reference plan.
25. The information we usually require for our plan checking is;
 - a. the perpendicular or radial distances from present centre of main line tracks to boundary monuments,
 - b. the position of Railway fences relative to the boundary,
 - c. the method of re-establishment of the Railway boundary.
26. The Railway Act and the Limitations Act affect not only the CNR but all operated Railway rights of way. We are not aware of any additional legal rights that CNR has acquired for the protection of its boundaries as a result of CNR being a Crown Corporation.

with Railway deed in regard to width of the right of way,

- c. or which is planted in the Railway fence if this fence is found to be outside of the Railway's deed limit.

27. Abandoned railways are not protected by the Railway Act. Generally, in surveying these, the fences should be accepted as the limits in accordance with the Limitations Act.

We would appreciate receiving comments from Ontario Land Surveyors to these suggestions. Telephone numbers are 365-3314 (L. J. Gelbloom) and 365-3313 (W. J. Quinsey), Area 416, and address is:

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AN OPEN LETTER FROM RALPH SMITH

Ed. Note: Ralph Smith, after many years of dedicated service, resigned from Council in late 1975. The following letter, sent to Council at the time, will clarify the matter for the Association as a whole.

Mr. G. T. Rogers, President
and
Members of Council of Management
Association of Ontario Land Surveyors,
Gentlemen:

I sought permission from the membership to serve on Council because I felt the Association needed to face a number of issues. I have tried to analyze these issues, to draw ideas and opinions from others and to present solutions. I was not looking for expedient solutions. Rather, I defended my convictions, pushed for decisions and was prepared to face conflict.

I have used a hostile style to ensure the issues were faced. However, this has turned a number of people off and created an atmosphere where others did not listen for the purpose of comprehending and evaluating my viewpoint.

Most of the issues are now before the membership or Council and final judgement must be made. These judgements should not be coloured by emotion. For the next few years the Association will need leaders who are warm, even tempered and unprejudiced. I cannot fill these criteria and I am therefore resigning my seat on Council.

The Association has leaders of this calibre. They must assist the membership to make sound, creative decisions based on involvement, mutual understanding and commitment.

In leaving, I wish to thank my fellow Councillors, and the membership, for an interesting and rewarding experience.

Yours very truly,
R. A. Smith, O.L.S.