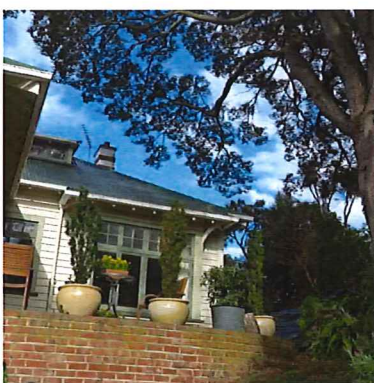
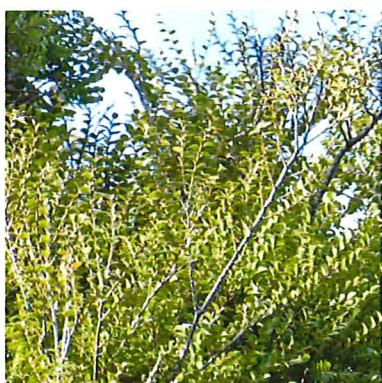
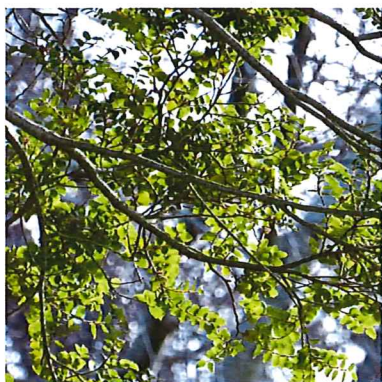
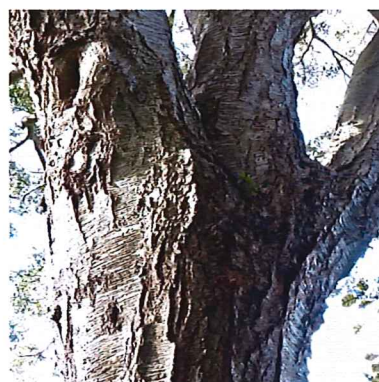
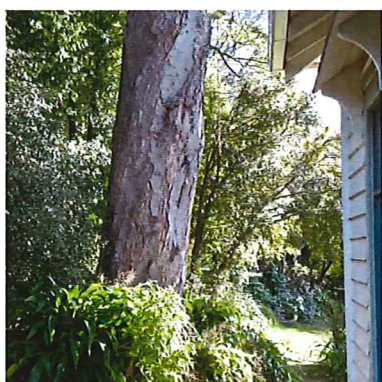






A Solitary Tree? STEM assessment method.



Figure 2 A Standard Tree Evaluation Method - Ron Flook

STANDARD TREE EVALUATION FORM						
Date	20-3-2001					
Tree	Noble Fir <i>Abies</i>					
Address	8 Mills St					
Height (m)	6.51					
Radius (m)			Circumference (m) @ 1.2m			
CANOPY EVALUATION						
Points	3	9	15	21	27	Score
* Form	Poor	(Moderate)	Good	Very Good	Specimen	9
* Occurrence	Predominant	Common	(Infrequent)	Rare	Very Rare	1.5
* Vigour & Vitality	Poor	Some	(Good)	Very Good	Excellent	1.5
* Function	Minor	Useful	(Moderate)	Significant	Major	1.5
* Age (Yrs)	10 Yrs+	20 Yrs+	40 Yrs+	60 Yrs+	100 Yrs+	2.1
Double Under					Subtotal Points	7.5
ANALYSIS EVALUATION						
Points	3	9	15	21	27	Score
* Stature (m)	3-8	9-14	(15-20)	21-29	27+	1.5
* Visibility (m)	0.5	(1.0)	2.0	4.0	6.0	9
* Prominence	Forest	Parkland	Group 10+	Group 3+	(Solo)	2.7
* Role	Minor	(Moderate)	Important	Significant	Major	1.5
* Climate	Minor	(Moderate)	Important	Significant	Major	1.5
					Subtotal Points	7.5

Figure 1 STEM evaluation form showing 1991 assessment

• Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	27
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What does “Proximity” mean?

“The rationale in the broadest terms is that one tree in a street or in a bare rural field draws attention to itself, meaning the fewer trees the more they are valued”

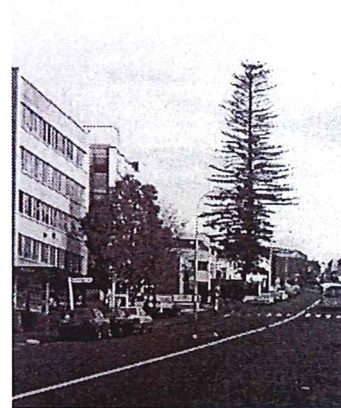


Figure 3 Solitary 27 points

Flook. Figs 11a-c



Figure 3 Group 3+ trees 21 points

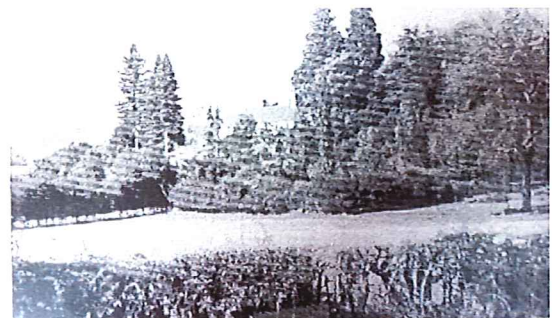


Figure 5 Group 10+ trees 15 points



Figure 6 Parkland 9 points



Figure 7 Forest 3 points

A Solitary Tree? T790 and surrounding vegetation.

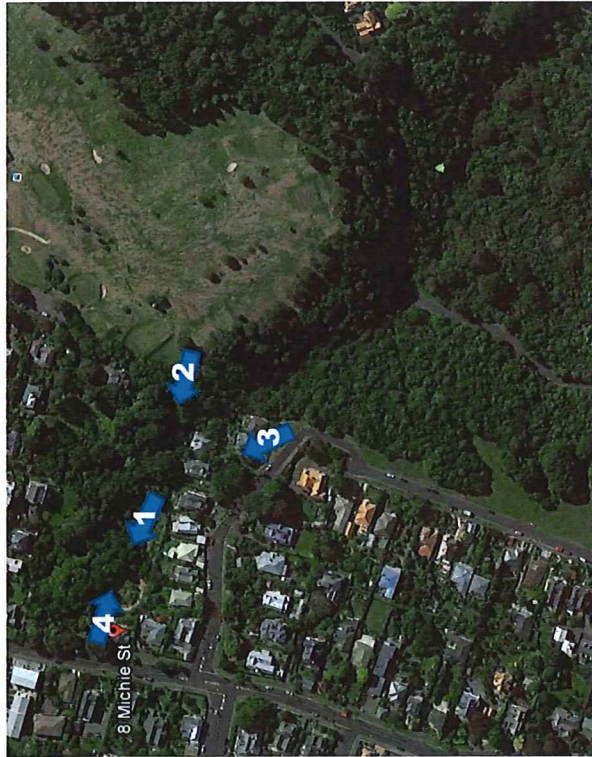


Figure 8 A 2015 Google Earth image showing location of 8 Michie St relative to the Town belt, showing Queens drive in the lower right and the Belleknowes golf course in the upper right. Also shown are approximate locations (1-4) of photos in Fig. 12.

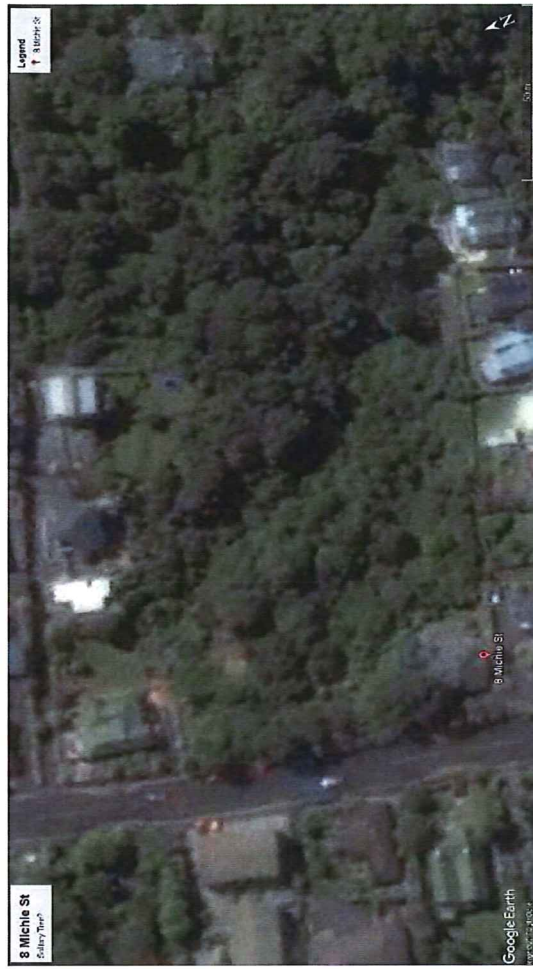


Figure 9 A 2005 Google Earth image of the valley containing T790, 4 years after the existing STEM assessment.

Figure 8 Google Earth Image 2015 showing how the 8 Michie St section is connected to the nearby town belt. Wikipedia describes the town belt thus: "Covering a total of 200 hectares the town belt was originally a combination of native bush and scrubland, but is now largely replanted forest and open parkland."

Figure 9 Google Earth Image 2005, 4 years after the initial STEM assessment of T790. The visible bush covers almost all of the 0.45 ha of 8 Michie St. The 2/3 of the 8 Michie St section in the centre of the image is included in Urban Landscape Conservation Area 01 in the Dunedin District Plan i.e. The Town Belt.

Figure 10. A Solitary Tree? A walk South down Michie St. Photos at 10m intervals

1)



2)



3)



4)



5)



6)



7)



8)



9)



Figure 11. A Solitary Tree? A walk North up Michie St. Photos at 10m intervals

1)



2)



3)



4)



5)



6)



7)



8)



9)



Figure 12. A solitary tree? View of T790 from other locations, showing also position of T790. See Fig. 8 for locations of these photos.

Location 1 Bottom of 8 Michie St section.



Location 2. Belleknowes golf course.



Location 3 Roadside Alison Cr.



Location 4 View from T790 down the valley to the town belt.



A solitary Tree?

The initial STEM assessment in 2001 identified T790 as a solitary tree, scoring a maximum 27 points.

• Proximity	Forest	Parkland	Group 10+	Group 3+	Solitary	27
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It seems from the Planner's Report that there may be an opinion that this assessment is still appropriate.

Para [45] Mr Roberts suggests that "the application and interpretation of the 1991 (2001?) STEM assessment is consistent with current use and practice".

Para [47] "Based on the assessment above it is considered that the existing STEM assessment is still current with the overall assessment of the tree today"

If Mr Roberts maintains that this assessment of Proximity is "consistent with current use and practice" I can only conclude that current use and practice differ markedly from the method described by Flook in his 1995 monograph STEM - A Standard Tree Evaluation Method. This is the method specified in the District Plan as that used when assessing trees for inclusion in Schedule 25.3.

I maintain that scoring T790 as Solitary was not only inappropriate at the time it was first made in 2001, but that it is still inappropriate!

Wikipedia describes the town belt thus: "Covering a total of 200 hectares the town belt was originally a combination of native bush and scrubland, but is now largely replanted forest and open parkland."

Because it is included in Urban Conservation Landscape Area 01 and is continuous with the town belt, the vegetation on 8 Michie St, including T790, is part of this forest. My challenge to those assessing the tree is to describe on what basis they separate it from that forest.

It is apparent from figures 8 and 9 that the road reserve was densely vegetated in 2005. It is reasonable to assume that this was the case also in 2001 when the initial STEM assessment was made. The road border was planted following widening of Michie St in 1971-1972 so the trees apparent in the 2005 aerial photo were close to 30 years old then.

The photos in Figures 10 and 11 show the disposition of trees in the road reserve today. It is apparent that if one were using Flook's method, and given that we can be sure that many of these trees existed in the 2005 photo, it was unreasonable to call T790 "Solitary" then.

This apparent disconnect between the method for rating Proximity described by Flook and the method used by the 2001 assessor, who saw in T790 a solitary tree, contrary to all evidence of the senses, can perhaps be explained by a tendency that Flook himself was aware of, and pointed out in his monograph.

I have included Flook's section on Proximity to highlight the warning he felt it necessary to impart to would be STEM assessors.

Proximity (Flook p25-26)

"This criterion recognises the potential significance of a lone tree in an urban situation. The rationale in the broadest terms is that one tree in a street or in a bare rural field draws attention to itself, meaning the fewer trees the more they are valued. A stand or group makes a block. A tree could be lost in a block without dramatically changing the overall impact in the composition of a vista.

However it follows that continued losses of trees on a regular basis would ultimately deplete the block. This fact assists in an incremental way, meaning the fewer the trees the higher the points given. Blocks of trees are given higher values in other criteria ***and should not cloud a judgement in this part of the assessment.***" (my italics)

"Should a situation arise where a single tree dominates its many smaller neighbours, this tree would lose merit points in this section, but would gain high points in e.g. stature, visibility, role in setting, and climatic influence, as well as possibly in the section on notable criteria."

If I may paraphrase his last paragraph on Proximity, offered as an explanation for his warning on clouded judgement!

"Fellow tree lovers, I know you want to score this fine tree as highly as possible, but don't let that desire cloud your judgement in this section, for even though there are many trees in the company of this giant, and you must give this otherwise dominant tree a low score because of this, you will make that back, with interest, in other categories!"

I am suggesting that the STEM assessors of T790 have fallen into the trap warned of by Flook - the tendency to over-score a tree when it dominates its many smaller neighbours because of a reluctance to downgrade it simply based on the number of other smaller trees in the vicinity.

The desire to add trees to the register to ensure their protection is commendable. But there are consequences of overzealousness, particularly for residents who find themselves afflicted by trees included inappropriately on schedule 25.3.

Regardless of the suggestion in paras [45] and [47] quoted above, there is some preparedness by others who have reassessed T790 to decrease its score for Proximity.

Mr Knox's STEM reassessment of Proximity in the Planner's report (Appendix 1 – P79) considers that T790 is accompanied by 3-9 trees.

Mr Waymouth, the applicant's arborist, considers that there are at least 10 trees accompanying T790.

If I list the trees just in the roadside reserve, I find there are over 30. This alone justifies inclusion of the tree in the 10+ category (15 points). The fact that it is not possible to draw a line between these 10 + trees and town belt itself, means that an even lower score is justified.

Nevertheless, a change in score for Proximity from 27 points (Solitary) to 15 points (10+ trees) is sufficient a reduction to justify removal on T790 from Schedule 25.3.

Schedule 25.3

The current district plan indicates “The schedule will be reviewed by the Council on a regular basis and amended (if required) by way of a plan change.”

I see one or two flaws in this system that could be remedied

1. The Schedule is infrequently updated, so is relatively un-responsive to changes in circumstances. This requires resource consent applications to remove trees, where in some cases a simple STEM reassessment might make this expensive process unnecessary.
2. The DCC plan does not suggest any provision for residents, aware of a change in circumstances, to seek a review of Schedule 25.3 trees (Section 15.4.1)
3. Resident initiated reviews of individual trees, and updating of the schedule on a continuous basis would provide a way of reducing the number of expensive Resource Consent applications for removal of trees included inappropriately on the schedule, whether through error, over-zealousness on the part of assessors, or because of a change in amenity value or condition of the tree.

Resource Consent Application LUC-2017-372

Michie St Road Reserve, Dunedin

G A Parmenter

Comments on the Planner's Report by the applicant.

19 November 2017

[Paragraphs in the report]

1. [35] "The lean appears to be a phototropic response."

How Mr Roberts can conclude that the lean is more likely to be caused by a phototropic response than from a gradual trunk movement I cannot understand. Nevertheless, the result is a clear lean, measured by me as 7 degrees, enough to ensure that if it falls, the tree's most likely "target zone" will be the living area of the house.

2. [36] "The ponding of water may be as a result of part of the path being lifted by tree roots or a section of the path settling over time".

The former is suggested by the elevation of a section of concrete 20mm above the sections adjacent to it. (Photo 6B). The ponding of water south of this section may indeed have contributed to settling of the path, exacerbating the problem.

3. [36] "The same can be said for the patio"

See evidence in builder's report (P2) where the damage to the patio is attributed to "Incremental growth of underground tree roots" and not to settling.

4. [36] "Correct selection of materials may have prevented this from happening."

Are homeowners to be held culpable for the selection of building materials that might give the wrong signals to plants growing outside of their property? The concrete path appears to have been there for at least 50 years and I imagine that had the owner of the house found the tree damaging his handiwork he would have expected to have been able to take steps to remove it.

5. [38] "It is unlikely that the falling deadwood would cause any actual damage to the ... rain gutters."

Falling deadwood has previously broken guttering on the corner of the house adjacent to the tree.

6. [41] Mr Roberts comments: "I cannot see how the removal of one tree and replacing it with a potentially larger one will reduce the dangers caused ... to those who use the path and patio"

I did not advocate removing T790 in order to replace it with a larger tree.

My comment was "The removal of T790 and allowing the existing smaller trees beneath its canopy to grow, (totara, fuchsia, five-finger, broadleaf, lacebark, pittosporum, marble leaf, cabbage tree, lophomyrtus) could be seen as contributing to this goal" (i.e. enhancing bird life).

I made this point in my application to indicate that there were already several species of tree growing beneath the canopy of T790 that were more likely to enhance bird life in the area than the silver beech tree itself.

I would hope that when the owners of the trees consider which of these trees to retain, they will take into account Mr Robert's concern that some have the potential, over the course of 100 years or so, to become quite large, and consider whether the location is appropriate for a large tree!

7. [42] The tree poses a danger to the house and its occupants.

There is an obvious structural weakness, as pointed out by Mr Waymouth in his report "a seam running down the trunk for 0.5m which may conceal a split between the co-dominant leader". Mr Waymouth's report suggests a moderate risk which needs to be mitigated by cabling and pruning if this risk is to be lowered.

8. [43] The garden is adversely affected by low light and water levels

"This is an inconsistent argument."

I am unsure of the point Mr Robert's is making here.

In past summers, the grassed area to the north of the house has dried out considerably more than other grassed areas on the property. I attributed this both to the rain shadow effect of the tree, blocking rain from the predominant south-westerlies and to the extraction of water by the tree from beneath the lawn area. The fact that there are several trees growing beneath T790 does not seem inconsistent with this. These trees are growing on the southwest side of the tree and receive rainfall from that direction.

Mr Robert's, in para 36, may have provided his own explanation for the trees growing beneath T790, sitting as they do between the tree and the adjacent roadway:

"If a surface has low or no permeability, moisture can be drawn to the under-side of the surface. As a result of moisture being present, roots may be attracted."

9. [44] "The tree restricts vehicle access to the slip in the same way as the house and patio also restrict vehicle access."

I find this comment fatuous.

Obviously removing the house, or part of it, to provide access to build a retaining wall to protect the house, would be pointless.

The question is whether allowing access to repair a slip threatening the house can be considered when assessing whether permission to remove a significant tree should be granted. This is unclear to me.

Considerations in the Property Law Act 2007 Section 335 1(c), specifying the issues the court may take into account when considering an application to remove a tree include:

“a refusal to make the order would cause hardship to the applicant ... that is greater than the hardship that would be caused to the defendant ... by the making of the order.”

No equivalent consideration of hardship to the applicant of refusing to make an order, appears to be offered in Section 15 of the District Plan or in Section 7 of the 2GP.

10. [45] The STEM assessment of the tree is incorrect in several aspects.

See my separate submission on the STEM assessment where I argue that STEM assessors of T790, specifically in the Proximity section, have fallen into a trap warned of by Flook - the tendency to over-score a tree when it dominates its many smaller neighbours because of a reluctance to downgrade it simply based on the number of other lesser trees in the vicinity.

11. [46] Mr Robert's opines “I do not agree that restoration and revegetation of a private valley and bush, more than compensates for the removal of a road side tree on public land.”

I am unaware of any distinction made in the RMA or District Plan between the amenity provided by trees on public and private land. There are 3 properties opposite the roadside reserve on Michie St. There are at least 18 properties adjoining the vegetation in the valley. Is Mr Robert's suggesting that the amenity provided to these 18 properties of having in the valley a well maintained natural bush area, replanted over the years with native species, is outweighed by the amenity afforded the 3 Michie St properties by the existence of T790, accompanied as it is by a solid bank of other trees in the road reserve?

12. [70] “The argument for removal of the tree in order to gain access to the rear of the site to undertake remedial work in a slip in my view should be given little weight. The applicant has alternative locations where the access could be formed without removing the tree.”

I wish to argue against this proposition and insist that the issue of access for repair of the slip is an important consideration.

Of course there are always alternatives! Helicopters are an alternative. Large cranes are an alternative. The best of these alternatives will cause the least disturbance to others, be safe, be affordable and provide long term benefits for the property. I have considered several options prior to making this application.

OPTION 1: 6 Michie St driveway

This option is addressed in my application and was rejected on several counts.

- a) Poses a risk of further collapse of the slip face, which in this area, is composed of unstable fill. Should this occur, the slip area may extend onto the neighbouring property of 6 Michie St. and almost certainly continue to damage the foul sewer that passes through this area.
- b) Neighbours object to the disturbance to their lives entailed by the use of their drive by trucks for several months. They would lose privacy, and be required to park in the street for the duration of the wall build.
- c) The destruction of the Lophomyrtus hedge between the two properties would affect the privacy of the neighbours for several years, until a replacement regrows.
- d) The drive is likely to be destroyed by heavy vehicles using it and would need to be resealed.

OPTION 2: Temporary access from the roadway immediately north of the tree.

This is the option offered by the Ms Young in para [62].

- a) This option was considered and dismissed on the grounds that the point of entry for such access would be at least 3m above that involved in the proposed alternative i.e. extending the existing driveway. This would increase the gradient over the 45m of accessway from 1:5 to 1:3.5 which is considered an unreasonably steep gradient for safe vehicle access.
- b) It would also require substantial retention of the accessway, which was considered both impractical and expensive.
- c) It would not provide a long term solution to the need for access of machinery and materials for the extended task of landscaping the area affected by the slip.
- d) Access at other points further north of the tree would only increase the gradient of the accessway.

OPTION 3: Dump materials on the road reserve and move from there to the construction site

This option was also rejected based on contractor estimates of additional cost, inefficiency and reduced disturbance and damage. See information provided by Dane Steffensen, Contract Manager, Clearwater Civil Ltd.

- a) If trucks were able to gain access to the base of your property we would not require the use of the tracked dumper or the smaller excavator for loading material.

- b) This would greatly improve efficiency and we estimate a potential cost saving of approximately \$18,000 over the projects total value. These savings come from lower plant operating and labour costs.
- c) We expect we would also cause less disturbance to the Michie St residents if we did not have to load/unload from the carriageway. While we always endeavour to follow best industry practice, removing our workspace from the public road corridor would also reduce risk of third-party safety incidents.

To summarise, I perceive the benefits of having access to your property suitable for trucks are as follows:

- Reduced plant and labour costs (I estimate an \$18,000+GST saving)
- Reduced construction timeframe through improved efficiency.
- Reduced congestion, hazards and noise for other Michie St users.
- Reduced level of traffic management required.
- Reduced risk of damage to DCC assets from having to unload rock onto the carriageway.

OPTION 4: The proposed accessway, including removal of the tree.

- a) This option provides a 1:5 gradient to the area below the site of the wall providing a safe accessway for vehicles to deliver materials to the construction site.
- b) It avoids the additional double-handling and H&S costs outlined in OPTION 3.
- c) It provides permanent access to the area below the wall, saving costs on future landscaping, which is expected to last for several years. Costs will be saved on hiring professionals to negotiate the road batter to being diggers onto and off the property. It will also save on the double handling of materials needed for landscaping e.g. retaining wall materials, drainage fill etc.
- d) Access will also make future management of the bush area easier. e.g. Removing the wood of felled sycamores. Mulching the waste material of weed species. Carting gravel for tracks.

Of all these options only OPTION 4 appears practical, safe, affordable and provides long term benefits to the property. Of all these options OPTION 4 represents the least hardship to the applicant.

The district plan

As planner Amy Young points out in her report (p21. Reasons for Recommendation b)), the district plan does not make any policy provision for significant trees that anticipate their removal. This obviously leaves it very difficult to make a determination on whether removal is justified, at least within the framework provided by the district plan.

Issue 15.1.3 recognises

“Trees can have adverse effects on people living in close proximity to them. The reasonable expectations of adjacent residents to a satisfactory living environment must be recognised and provided for.”

Yet no Policies or Objectives appear to address this issue.

Consequently, it is encouraging to see from the recommendation in the planner’s report, that although the request to remove the tree appears to be inconsistent with all relevant Objectives and Policies of the District Plan, there is still room for the exercise of common sense.

However, I would like to suggest that granting permission to remove T790 is consistent with some of the objectives and policies of the current District Plan and the proposed District Plan, though only by the use of a little non-intuitive logic.

Objective 15.2.1 “Maintain and enhance the amenity and environmental quality of the city by encouraging the conservation and planting of trees.”

Policy 15.3.1. “Ensure that landowners and developers are aware of the environmental benefits of trees and encourage them to conserve trees and undertake new plantings whenever possible.”

Removing T790 is consistent with this Objective and Policy.

I am a resident who has spent 30 years removing invasive exotics from the valley, and replanting native species in order to restore this patch of much abused forest.

Granting permission to remove T790, a tree planted, I have no doubt, by an early resident of 8 Michie St with a similar affection for our native flora, recognises that sometimes in our enthusiasm for tree planting, we put them in the wrong place.

When we do that and they subsequently become a nuisance, we need to have some means of rectifying that mistake. Before the RMA we could just cut them down! But since the advent of Schedule 25.3, that has become a little difficult.

By providing a mechanism within the District Plan to rectify those mistakes, even when trees are considered significant, we encourage the planting of trees. Or I should rather say we remove a discouragement to the planting of trees – namely the fear that some day a score card will be filled in that makes it impossible to remove a tree should it become a nuisance.

Allowing the removal of T790 recognizes that all those years ago a Michie St resident may have planted a little too close to their house, and now, at a time when the current residents need relief from the inconvenience of that placement, in order to protect their home, that tree can be removed.

For my money that sends a clear message that we need not fear the consequences of tree planting, because our district plan offers solutions to residents who in later years might find themselves afflicted by those trees.

Objective 15.2.1 “Protect Dunedin’s most significant trees”

Policy 15.2.2. “Identify and protect trees that make a significant contribution towards amenity and environmental quality.”

That permission to remove T790 is consistent with this objective is justified I believe given the need for a reassessment of the STEM score for T790.

By ensuring that trees in Schedule 25.3 are justifiably placed there, we build confidence that these trees really should be valued highly. Every tree on the list that ought not to be there undermines that confidence, both in the list and those who put them there, and diminishes the sense that, undeniably, these trees do warrant protection.

I have suggested that the original scoring of T790 was in error, certainly in its assessment of Proximity, and consequently that its inclusion in Schedule 25.3 was unjustified in 2001.

Since then it’s Proximity score has been revised downwards and its increase in nuisance justifies a revision of its Function score, as suggested by Mr Waymouth in his reassessment.

Policy 7.2.1.2 Avoid the removal of a scheduled tree unless:

- 1. There is a significant risk to personal/public safety or property; or**
- 2. The tree is shading existing residential buildings to the point that the access to sunlight is significantly compromised; or**
- 3. The removal of the tree is necessary to avoid significant adverse effects on public infrastructure; and these adverse effects cannot reasonably be mitigated through pruning and the effects outweigh the loss of amenity from the removal of three.**

Point 2 above applies to T790. “Significantly” is a slippery word but I regard loss of sunlight over most of the house during the afternoon qualifies as “significantly compromised” access to sunlight.