



Corporate

 NO: L008

Report

 COUNCIL DATE: May 13, 2002

REGULAR COUNCIL – LAND USE			
TO:	Mayor & Council	DATE:	May 10, 2002
FROM:	General Manager, Planning & Development	FILE:	7901-0137-00
SUBJECT:	Preservation of Existing Rock Tree Rezoning By-law No. 1452312192 & 12218 – 92 Avenue		

RECOMMENDATION

It is recommended that Council:

1. Receive this report as information; and
2. Adopt Option 1, removal of the tree and development of a rock garden in Kennedy Park, as documented in this report.

INTENT

The intent of this report is to advise Council of the efforts of staff and the applicant toward determining the feasibility of preserving the existing tree (the "rock tree") within a proposed single family development at 12192 and 12218 – 92 Avenue, to discuss options that were considered and to recommend a proposed direction for Council's consideration.

BACKGROUND

The subject development project involves a rezoning of the 1.8-hectare (4.6-acre) site from RF to CD to allow subdivision into approximately 32 small single-family lots. The subject site is bounded by a mix of acreage parcels and townhouse developments to the north, Kennedy Park to the south, Kirkbride Elementary School to the west and a single family subdivision to the east (See Appendix "I"). The subject site is heavily treed. This prompted many of the neighbourhood residents to oppose the project and request that the existing trees be preserved.

After considerable discussion with the applicant and residents of the neighbourhood in the vicinity of the development site, staff submitted

Corporate Report No. R231 to the Regular Council meeting on November 19, 2001, that outlined the results of the dialogue with the community and the applicants and presented several options for Council's consideration. Council passed a resolution accepting the subdivision layout as shown in Appendix "II" and gave the Rezoning By-law Third Reading. The layout reflects a voluntary park dedication by the developer equivalent to 2% of the total site area to achieve the objective of preserving some large trees in the southwest corner of the development site. The proposed dedication is over and above the required 5% cash-in-lieu payment that the applicant will provide as a condition of subdivision approval.

Staff issued the Preliminary Layout Approval ("PLA") for the subdivision on November 27, 2001, based on the revised layout as approved by Council.

Subsequent to the issuance of the PLA, staff received a number of calls from residents of the neighbourhood who advised staff that a cedar tree had been discovered on the development site that was unique, in that it was growing out of a huge boulder and who requested that the tree be preserved through the development process. Staff reviewed the matter and determined that the subject tree was not reflected in the applicant's original tree survey and related arborist report, dated August 18, 2001.

A resident of the neighbourhood in the vicinity of the subject development made application to the City to have the subject tree placed on the List of Significant Trees. This application was reviewed with the Heritage Tree Sub-Committee of the Heritage Advisory Commission and, subsequently, the matter was taken to the Heritage Advisory Commission ("HAC") for review. At its meeting on April 17, 2002, the HAC adopted the following motion:

"That the Heritage Advisory Commission recommends to Council that the tree located at 12218 - 92 Avenue be preserved as per the City Landscape Architect's recommendations, and that staff work with the developer to find ways to incorporate the tree in its natural setting within the subdivision."

At its Regular Meeting on April 29, 2002, Council directed staff to review whether the tree can be preserved safely over the long term and whether there will be any significant reduction in the usability of the lot on which the tree is located and that a report on the matter be prepared for Council's consideration by May 13, 2002.

Staff have worked with the applicant and the consultants to determine if the said tree can be saved and under what circumstances. At the same time, the applicant has completed the conditions precedent to rezoning, including the approval of the requisite Servicing Agreement to allow them to complete the project prior to the May 22, 2002 School Site Acquisition Charge ("SSAC") deadline.

DISCUSSION

The Rock Tree

The City Arborists have confirmed that the existing 20 metre (65 ft.) tall Western Red Cedar is approximately 60 years old. The tree is growing out of a split in a huge boulder that is about 2 metres (6.5 ft.) tall and 4 metres (13 ft.) across and, because of this it was referred to by the neighbourhood as the Rock Tree. The seed, from which this tree grew, originally fell within debris that collected within a crack in the boulder. It managed to survive on whatever nutrients it could derive from this debris until its roots were long enough to penetrate down through the split in the rock to the soil 2 metres (66 ft.) below.

While the tree is considered very healthy, at this point, there will come a point when the roots will no longer be able to support its growth. At that time, the tree will go into decline and eventually die. This could take 30 to 40, or more, years to occur.

The most recent survey, submitted by the applicant's consultant, indicates that the Rock Tree is located partly within the front yard of Lot 10 in the proposed subdivision and partly on the 91A Avenue boulevard, with a small portion of the boulder encroaching on the west side yard of the proposed Lot 9 (See Appendix "III").

Assessment by the Applicant's Arborist

Staff requested that the applicant provide a new tree survey and tree assessment for the subject site, including the Rock Tree and several other protected trees that were missed in the original tree survey and arborist report. A revised arborist's report, submitted on April 25, 2002, states that the Rock Tree is hazardous. The same report noted that the rock could split further, thereby destabilizing the tree. The arborist contends that the tree would pose too great a threat to leave in place after the completion of the development if there are any homes within striking distance from the base of the tree. The building envelopes of three of the proposed lots are within striking distance of the tree.

Assessment by the City Arborists

Two arborists from the Planning and Development Department and two arborists from the Parks, Recreation and Culture Department conducted separate assessments of the tree. The four staff arborists agreed that, in its present condition, the tree is not considered hazardous. They suggested that, if the tree and an area with a 6 to 8 metre (20 to 26 ft.) radius around the base of the tree was protected from any disturbance, the risks associated with preserving the tree could be minimized.

A resident in the neighbourhood nominated the Rock Tree to be put on the City's List of Significant Trees. Once Council declares a tree to be a Significant Tree, the tree cannot be removed without Council first removing it from the List of Significant Trees. On evaluation of the tree was undertaken by staff based on the Great Tree Hunt Evaluation Form (which is the standard form used to evaluate trees when they are nominated for designation as Significant Trees). The tree did not score well enough for it to be recommended by staff for inclusion on the List of Significant Trees. The evaluation form concentrates primarily on the heritage value of the tree, as well as on the aesthetic and environmental contributions the tree makes to the existing site. The Rock Tree's value lies primarily in its uniqueness, a factor that is not covered by the evaluation form.

Despite the fact that the tree did not score well in the standard evaluation process, the City Arborists recognized the uniqueness of the tree and took their findings to the Heritage Advisory Commission. As mentioned in the Background Section of this report, the Commission recommended that "the tree, located at the subject property, be preserved as per the City Landscape Architect's recommendations and that staff work with the developer to find ways to incorporate the tree, in its natural setting, within the subdivision".

Applicant's Response

At a meeting with the applicant and their consulting engineer on May 7, 2002, two options were presented by the applicant's consultant on how the subject tree could be addressed:

Option 1:

This option calls for the removal of the tree and the boulder. Under this option the developer would relocate the salvaged pieces of the boulder to a location within Kennedy Park and would develop a rock garden out of the salvaged boulder. The applicant would also install four heritage trees at Kennedy Park. This work would all be undertaken in consultation with the City's Parks, Recreation, and Culture Department.

This option, which is the applicant's preference, will allow the developer to proceed, based on the approved Servicing Agreement without amendments.

Option 2:

This option calls for the retention of the Rock Tree and the establishment of a minimum 6-metre (20-ft.) wide "no disturbance" zone around the base of the tree. An additional 2 metre (6.5-ft.) protection zone is also

defined beyond the no disturbance zone (See Appendix "III"). According to the developer's consultants, the ramifications of saving the tree on the proposed subdivision and the associated servicing requirements are as follows:

- The driveway on proposed Lot 10 will be limited to a maximum width of 4 metres (13 ft.), thereby impacting the future homeowner's ability to park side by side at the entrance of the driveway;
- The Rock Tree will limit the homeowners' use of the front yards of Lots 9 and 10, with the Rock Tree and the "no disturbance" zone occupying a significant portion of Lot 10;
- The servicing corridor currently proposed between Lots 9 and 10, will have to be relocated as it will encroach on the "no disturbance" zone and a right-of-way may have to be secured instead along the east property line of Lots 9 and 8 to accommodate servicing; and
- The "no disturbance" zone will occupy the north boulevard of 91A Avenue. As a result, the sidewalk will be eliminated or re-designed and the travelling lane on 91A Avenue will be reduced, requiring lower driving speeds to achieve safe manoeuvring on the re-aligned road. The encroachment of the "no disturbance" zone on 91A Avenue will also require a modification of the location of utilities such as hydro, telephone and gas. The relocation of these utilities will require another round of approvals from the respective utility companies. However, it is anticipated that the utility companies would approve these modifications. (The proposed servicing plan modification is presented in Appendix "IV")

In a nutshell, while this option will require modifications to the engineering servicing plans and will impact the building envelopes for Lots 9 and 10, the servicing modifications are feasible and the affected lots remain very useable from the perspective of house construction.

Assessment by An Independent Arborist

Since the most significant concern about preserving the Rock Tree is whether the tree can indeed be preserved safely over the long term and since the conclusions between the applicant's arborist and the City's arborists were not fully consistent, it was decided that the City would engage the services of an independent arborist to assess the Rock Tree. Susan Murray was subsequently engaged by the City in this regard (Ms. Murray is a Registered Professional Agrologist with memberships in the British Columbia Institute of Agrologists and the Canadian Institute of Agrologists and is a Certified Arborist with the International Society of Arboriculture. She received her M.Sc. and B.Sc. degrees in Agriculture from UBC. She has been teaching horticulture and arboriculture at the post-secondary level since 1979 and is currently teaching at the Kwantlen University College in Langley. She is the co-author of the book "Arboriculture and the Law in Canada", which is widely used in the field. She is frequently engaged as an expert witness in court cases and hearings.). On May 8, 2002, the arborist undertook a careful examination of the tree and submitted a report to the City, dated May 9, 2002. The report concludes and recommends that the *Thuja plicata*, Western Red Cedar, be removed prior to construction. The hazard assessment of the tree is determined to be a score of 9 out of a possible score of 12.

As additional background information, the independent arborist, Susan Murray, used the standard International Society of Arboriculture Tree Hazard Evaluation Form, which is the standard method in the industry. Using this method of evaluation, a hazard rating is calculated using three separate criteria: the potential of the tree to fail within the next 12 months, the size of the part that is likely to fail, and the type of target it would hit if it did fail. Each of these three criteria are given a rating of 1 to 4 points, if the combined points add up to 9 or more the tree is generally considered to be too hazardous to retain. Ms Murray's report states that the tree's potential to fail was very low and gave it the minimum score of only 1 out of 4. However, the size of the part that is likely to fail is the entire tree so it was given a score of 4. Also, if the tree failed the target would likely be a house which also required a score of 4 points (as opposed to a target like a pathway or a seldom used park

where the target is only intermittent, which would only receive a score of 1 or 2). The combined score in this case was 9 out of a possible 12 points. Therefore, even though the tree is in good health and the potential to fail is low, the size of the tree and the fact that the target would be houses, the tree has to be considered too hazardous to retain if homes are constructed within striking distance of this tree. The height of the tree is approximately 20 metres tall, so the striking distance would be 20 metres. The road and three of the lots fall within this 20 metre radius.

Although the general health of the tree is good, in summary, the reasons leading to the conclusion of high hazard rating are:

- The Rock Tree root connection to the soil, while superficially appears solid, is suspect;
- As the tree grows, the root system increases in size as well, acting as a lever and prying the boulder apart. The end result is a softening of the root-rock attachment, becoming "more like a top heavy pointed pole in the loosened rock"
- The tree is now protected from winds as the native stand around it offers some buffering. When the construction of the subdivision is complete, the wind buffering effect will be gone. In a catastrophic storm, an event such as the area experienced last fall, strong winds increase the potential for tree's failure in the short term; and
- There is an obvious defect that indicates decay at the root crown on the northeast side as the roots that have attempted to penetrate the soil, cover the top of the rock only.

From the independent arborist's assessment, it appears that there is a high risk associated with the preservation of the Rock Tree in the context of the subject development. However, in a conversation with staff, Ms Murray added that she felt the tree was unique and could be saved if the area within striking distance of the tree could be left undeveloped.

Options

Given the information as provided above, the following is an evaluation of three options including the two options suggested by the applicant and presented earlier in this report. The pros and cons associated with each of these options are given below:

Option 1: Remove the tree and the boulder, relocate the salvaged boulder within Kennedy Park, as a rock garden and plant four heritage trees in Kennedy Park

Pros:

- No risk to the adjacent home owners and the community within the striking distance (about 20 metres or 66 feet) of the Rock Tree;
- Does not impose any reduction in frontyard usability on Lots 9 and 10;
- Does not require modification and re-alignment of the road, sidewalk and servicing in the proposed subdivision; and

- Added amenity in Kennedy Park with the installation of the rock garden and additional trees by the applicant.

Cons:

- The unique and special natural feature will not be preserved; and
- Contrary to the wishes of the neighbourhood residents.

Option 2: Preserve and protect the Rock tree and establish protection zones around the tree

Pros:

- The unique and special natural feature will be preserved and protected and will become a landmark feature in the community;
- The wishes of the community are fulfilled; and
- The preservation of the Rock Tree could become a marketing feature for the subdivision.

Cons:

- Although the tree is considered generally healthy now, the City may be inheriting both short and longer term risks associated with the preservation of the Rock Tree;
- Three homes will be within the striking distance (about 20 metres) of the tree;
- The usability of Lots 9 and 10 will be reduced, although not significantly and the servicing plans will need to be modified.

Option 3: Acquire Lots 9, 10, and 11 by the City in order to preserve and protect the Rock Tree and to reduce the risks of property damage should the tree fall

Pros:

- All of the advantages as presented in Option 2 above;
- The risks associated with the possible falling of the tree will be greatly reduced; and
- Although there is an up-front acquisition cost, the lots could be sold for building construction when the Rock Tree eventually decays and is removed. However, the community may object to the loss of the open space at that time.

Cons:

- The cost to the City to acquire the three lots will be in excess of \$300,000. There is no City policy or program related to acquiring property to preserve significant trees nor is there an identified funding source and it would be difficult to justify such an acquisition in consideration of the limited resources available to the City and other higher priorities to which available resources should be directed;
- Such an acquisition would set a significant precedent in relation to preserving significant trees in the City; and
- The acquisition of the site for preservation and protection of the tree will add to the responsibility of the Parks, Recreation and Culture Department in relation to the on-going maintenance of the site.

CONCLUSION AND RECOMMENDATION

It is understood that there is a great deal of community sentiment in favour of preserving the Rock Tree, a relatively unique natural feature in Surrey. City staff has been working diligently to find ways to preserve and protect the tree. The applicant has also been very co-operative in submitting proposed modifications to the engineering servicing and road plans related to the proposed development to achieve tree preservation. However, based on the assessment of the expert arborist hired by the City, the tree has a high hazard rating. This means that the City would probably be taking on a significant risk should injury or losses occur as a result of the tree failing in the future. With the removal of the surrounding tree buffers there is a high short-term risk of the tree falling when a high wind occurs. On this basis, Option 2 (Preserving the tree) is not recommended. Acquisition of the three lots (Option 3) within striking distance of the tree to reduce the risk associated with the tree falling is not recommended, due to the City's limited financial resources and the need for the use of such funding in relation to other higher priorities and the significant precedent that such acquisition would set. Therefore, based on the above analysis and evaluation, it is recommended that Council authorize staff to implement Option 1, that is to allow the tree and rock to be removed from the development site and the developer place the rock pieces in Kennedy Park in the form of a rock garden and plant 4 heritage trees in Kennedy Park all to the satisfaction of the Parks, Recreation and Culture Department.

It is recommended that Council grant final adoption to the relevant by-laws and instruct staff to take the appropriate actions to implement the chosen option.

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HYL:saw

- Appendix I Subject Site
- Appendix II Approved Subdivision Layout, Location of the Rock Tree
- Appendix III Proposed No Disturbance and Protection Zones
- Appendix IV Proposed Road Design for Rock Tree Preservation
- Appendix V Independent Arborist Report

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