

March 17, 2021

#### **Agricultural Land Commission**

201 – 4940 Canada Way Burnaby, British Columbia V5G 4K6

Tel: 604 660-7000 Fax: 604 660-7033 www.alc.gov.bc.ca

ALC File: 59957 and 59958

# Anne Burdett DELIVERED ELECTRONICALLY

Dear Anne Burdett:

# Re: Reasons for Decision - ALC Applications 59957 and 59958

Please find attached the Reasons for Decision of the Island Panel for the above noted applications (Resolution #106/2021 for Application 59957 and Resolution #105/2021 for Application 59958).

Please note that the submission of a \$150 administrative fee may be required for the administration, processing, preparation, review, execution, filing or registration of documents required as a condition of the attached Decision in accordance with s. 11(2)(b) of the ALR General Regulation.

Under section 33.1 of the ALCA, the Chair of the Agricultural Land Commission (the "Commission") has 60 days to review this decision and determine if it should be reconsidered by the Executive Committee in accordance with the ALCA. You will be notified in writing if the Chair directs the reconsideration of this decision. The Commission therefore advises that you consider this 60 day review period prior to acting upon this decision.

Under section 33 of the *Agricultural Land Commission Act* (ALCA), a person affected by a decision (e.g. the applicant) may submit a request for reconsideration. Please be advised however that on March 12<sup>th</sup>, 2020 the ALC Amendment Act (<u>Bill 15 – 2019</u>) was brought into force and effect, changing the reconsideration process.

A request to reconsider must now meet the following criteria:

- No previous request by an affected person has been made, and
- The request provides evidence not available at the time of the original decision that has become available, and that could not have been available at the time of the original decision had the applicant exercised due diligence, or
- The request provides evidence that all or part of the original decision was based on evidence that was in error or was false.

The amendments also propose a change to limit the time period for requesting a reconsideration to 90 days from the date of this decision – this change has not been brought into force and effect yet. As a result, a person affected by this decision will have one year from the date of this decision's release as per <u>ALC Policy P-08: Request for Reconsideration</u> to request reconsideration of the decision <u>or</u> 90 days from the date the legislative change takes effect (date unknown at this time), whichever comes sooner.

Please refer to the ALC's <u>Information Bulletin 08 – Request for Reconsideration</u> for more information.

Please direct further correspondence with respect to this application to ALC.Island@gov.bc.ca.

Yours truly,

Aimee McGowan, Land Use Planner

Aimee McGowan

Enclosures: Reasons for Decision (Resolution #106/2021 for Application 59957 and

Resolution #105/2021 for Application 59958)

Schedule A: Decision Map

Schedule B: ALC Landscaped Buffer Specifications (1998)

cc: Islands Trust (File NP-ALR-2019.1(Burdett)). Attention: Phil Testemale

59957d1 & 59958d1



# AGRICULTURAL LAND COMMISSION FILE 59957 and 59958 REASONS FOR DECISION OF THE ISLAND PANEL

Exclusion Application 59958 was Submitted Under s.30(1) of the Agricultural Land Commission

Act as it was written immediately prior to September 30, 2020 and

Inclusion Application 59957 was Submitted Under s.17(3) of the Agricultural Land Commission Act

Applicants:	Anne Burdett Michael Burdett
Agent:	Anne Burdett
Property:	Parcel Identifier: 003-689-417 Legal Description: The Fractional North West ¼ of Section 11, Pender Island, Cowichan District, Except the South 26.364 Chains, and Except Parcel A (DD 1438081), and Except Those Parts Shown Outlined Red on Plans 5632 and 262R, and Except Those Parts in Plans 5856, 7982 and 20898 Civic: 4606 Razor Point Road, Pender Island, BC Area: 8.9 ha (8.1 ha within the ALR)
Panel:	Linda Michaluk, Island Panel Chair

Honey Forbes



#### **OVERVIEW**

- [1] An 8.1 ha portion of the Property is located within the Agricultural Land Reserve (ALR) as defined in s. 1 of the *Agricultural Land Commission Act* (ALCA) and 0.8 ha is located outside the ALR.
- [2] ALC Application 59958 was submitted pursuant to s. 30(1) of the ALCA as it was written immediately prior to September 30, 2020. The Applicants are applying to the Agricultural Land Commission (the "Commission," the "ALC") to exclude an approximately 0.4 ha area of the 8.1 ha ALR portion of the Property (the "Proposed Exclusion Area") for use as boat storage (the "Exclusion Proposal").
- [3] ALC Application 59957 was submitted pursuant to s. 17(3) of the ALCA and the Applicants are applying to the Commission to include an approximately 0.4 ha area of the 0.8 ha non-ALR portion of the Property (the "Proposed Inclusion Area") into the ALR for agricultural purposes and so there would be no net-loss of ALR (the "Inclusion Proposal").
- [4] The first issue the Panel considered is whether the Proposed Exclusion Area should be excluded from the ALR.
- [5] The second issue the Panel considered is whether the Proposed Inclusion Area would be appropriate to include into the ALR.
- [6] The Applicants submitted ALC Applications 59957 and 59958 as joint applications, however the Panel has the discretion to approve both applications, refuse both applications, or grant one while refusing the other, as the ALCA does not contain an application type for, or refer to the concept of a dependent application intended to offset the other (i.e. "land swap"). Further, the Commission does not have a "no net loss" policy that incentivises off-setting ALR land.
- [7] The Proposal was considered in the context of the purposes and priorities of the Commission set out in s. 6 of the ALCA:



- 6 (1) The following are the purposes of the commission:
  - (a) to preserve the agricultural land reserve;
  - (b) to encourage farming of land within the agricultural land reserve in collaboration with other communities of interest; and,
  - (c) to encourage local governments, first nations, the government and its agents to enable and accommodate farm use of land within the agricultural land reserve and uses compatible with agriculture in their plans, bylaws and policies.
  - (2) The commission, to fulfill its purposes under subsection (1), must give priority to protecting and enhancing all of the following in exercising its powers and performing its duties under this Act:
    - (a) the size, integrity and continuity of the land base of the agricultural land reserve;
    - (b) the use of the agricultural land reserve for farm use.

#### **EVIDENTIARY RECORD**

- [8] The Proposal along with related documentation from the Applicants, Agent, local government, third parties (e.g. public correspondence), and Commission is collectively referred to as the "Application." All documentation in the Application was disclosed to the Agent in advance of this decision.
- [9] On December 17, 2020, the Panel conducted a meeting with the Applicants via teleconference (the "Exclusion Meeting"). An exclusion meeting report (the "Exclusion Meeting Report") was prepared and certified as accurately reflecting the observations and discussions of the Exclusion Meeting by the Agent on December 24, 2020.



#### **BACKGROUND**

- [10] There is an extensive history of ALC applications, changing land uses and compliance records on the Property. The Panel reviewed the history and summarizes the pertinent history below to provide context.
- [11] In 1976, Application ID 00423 was submitted by a previous landowner to the Commission to use a 0.46 ha non-ALR portion of the Property for the placement of a petroleum products tank farm. The tanks were proposed to lie outside of the ALR, but the trucks transporting goods to and from the Property would require access via the ALR portion of the Property. The application was approved by Resolution #3893/76 on the basis that the area used for road access be minimized. Subsequent to approval, the petroleum tanks were ultimately constructed by the previous landowner on the ALR portion of the Property which is now the Proposed Exclusion Area.
- [12] During the Exclusion Meeting, the Applicants explained that the Property was used as a sawmill prior to it being converted to a petroleum tank farm in ~1976. The Applicants explained that both the sawmill and former tank farm were previously located on the Proposed Exclusion Area and that this area had been scraped and all the topsoil was removed to facilitate construction of the former tank farm. The Applicants also noted that a significant amount of fill had been previously placed on the Property to create a stable base on which to place the fuel tanks. Applicant Anne Burdett noted that while the tank farm operated only until 1993, the single walled fuel tanks on the site continued to contain fuel until 2011, when they were finally emptied. Applicant Anne Burdett further explained that they purchased the Property in September 2012 and completed extensive cleanup and renovations on the Property in the following months.
- [13] In 2013, Application ID 53097 was submitted by the Applicants to the Commission to conduct the following uses on the Proposed Exclusion Area:
  - Construct and operate a waste transfer facility;



- Construct and operate an in-vessel composting facility for the collection of commercial organic waste; and
- Approve the existing boat storage.

The Commission stated it had no objection to the development of the waste-transfer facility and in-vessel compost on the 0.4 ha area subject to conditions. The request to continue using the area for boat storage was refused (Resolution #413/2013).

- [14] In 2016, the ALC received a third-party reconsideration request to Resolution #413/2013 (the "Original Decision") to reverse the approval (the "Reconsideration Request"). As a result, the Executive Committee modified the conditions of Resolution #413/2013 to require documentation from Islands Trust identifying the Property as the most suitable site for a waste transfer facility (the "Study") and if that documentation does not confirm the location as the most suitable site the decision will immediately expire.
- [15] In 2017, The Executive Committee received the Study submitted by the Island's Trust and after reviewing the findings of the Study, the Executive Committee determined that the submission was not conclusive that the Property was selected as the location for the waste transfer facility; therefore, the approval from ALC Resolution #413/2013 expired.
- [16] Between 2018 and 2020 ALC Compliance and Enforcement (C&E) staff were notified of on-going use of the Property for a waste transfer facility, composting and recycling, and boat storage. During this time, ALC C&E Officer issued a Stop Work Order and advised the Applicants that no unauthorized activities related to the waste transfer facility were to be conducted on the ALR portion of the Property. Subsequently, the Applicants informed ALC C&E staff that the waste transfer facility equipment had been moved to the non-ALR portion of the Property and that the waste transfer facility would be relocated to another non-ALR property. The use of the non-ALR portion of the Property for waste management remains an active file with Islands Trust Bylaw Enforcement.



# **EVIDENCE AND FINDINGS**

- [17] The Applications were initiated online but subsequently submitted to Islands Trust via paper print-out on November 15, 2019.
- [18] On September 30, 2020, the ALCA was amended and changes were made to its regulations; specifically, s. 30(1) of the former ALCA, which previously enabled private landowners to apply to the Commission to exclude their property from the ALR, was repealed. Section 61 of the ALCA provides transitional procedures for matters commenced prior to September 30, 2020. Section. 61(5) of the ALCA states: "The Provincial Agricultural Land Commission may take up and carry on to completion all proceedings or other matters commenced under any enactment that were, immediately before the coming into force of this section, before the Land Reserve Commission."
- [19] The Applications were received by the Islands Trust prior to September 30, 2020 and forwarded to the Commission by Islands Trust on November 9, 2020. For this reason, the Panel finds that the Applications were processed in accordance with the ALCA and its regulations as they were written immediately prior to September 30, 2020.
- [20] The Panel reviewed the Property's application and compliance history as well as public correspondence submitted both in support and opposition of the Exclusion and Inclusion Proposals. The Panel is aware that the cumulative impact of land uses over time have resulted in the current state of the Property. The following paragraphs outline the Panel's findings based on the evidence that the Panel considered to be pertinent and within the scope of the Application and the Commission's mandate.

# Issue 1: Whether the Proposed Exclusion Area should be excluded from the ALR.

[21] The Property currently contains a principal residence, several farm accessory buildings, fenced pens for chickens and other livestock, several sheds, a metal silo for equipment storage, and metal waste storage bins. Additionally, a ~0.4 ha area (i.e. the Proposed Exclusion Area), characterized by large amounts of fill, is used for boat storage and a waste



transfer facility. The agricultural activities currently occurring on the Property include a meat bird operation (during the summer seasons), 80 laying hens, a market garden, 6 horses, and an orchard.

- [22] During the Exclusion Meeting, Applicant Michael Burdett explained that the boat storage on the Proposed Exclusion Area currently contains the Applicants' boat and two additional boats, owned by the Applicants' clients. Applicant Michael Burdett also explained that the only objects that remain on the Proposed Exclusion Area are the boats and one petroleum tank that has been cut in half and is used for agricultural purposes. Applicant Michael Burdett clarified that no maintenance is conducted on the boats; the boats are simply placed under cover during the winter months because the Applicants' customers' driveways are too steep to store their boats on their own properties.
- [23] Applicant Michael Burdett explained that the Applicants have tried to operate the waste transfer facility on the 0.8 ha non-ALR portion of the Property and that the Applicants are currently in the process of relocating the waste transfer facility to a non-ALR property.
- [24] The Applicants submit that the Proposed Exclusion Area and Proposed Inclusion Area would result in no net-loss of ALR land as each area is ~0.4 ha.
- [25] The Applicants further submit, that the Applications will address a long-standing zoning discrepancy where a 0.4 ha portion of the Property within the ALR (i.e. the Proposed Exclusion Area) is currently zoned Industrial One (I1(b)). The Panel wishes to clarify that the Property's zoning does not compel the Panel to exclude it from the ALR.
- [26] The Panel considered the agricultural capability on the Property, and referred in part to agricultural capability ratings. The ratings are identified using the Canada Land Inventory (CLI), 'Soil Capability Classification for Agriculture' system. The improved agricultural capability ratings applicable to the Property are Class 2, Class 5 and Class 6, more specifically 75% (8:5RM– 2:6RT), 15% (6:5RM-4:2WD), 7% (8:2WD-2:5RM), 3% (2WD).



Class 2 - land is capable of producing a wide range of crops. Minor restrictions of soil or climate may reduce capability but pose no major difficulties in management.

Class 5 - land is capable of production of cultivated perennial forage crops and specially adapted crops. Soil and/or climate conditions severely limit capability.

Class 6 - land is important in its natural state as grazing land. These lands cannot be cultivated due to soil and/or climate limitations.

The limiting subclasses associated with this parcel of land are A (soil moisture deficiency), C (adverse climate), D (undesirable soil structure), E (erosion), F (low fertility), I (inundation), M (moisture deficiency), N (salts), P (stoniness), R (bedrock near the surface), S (a combination of undesirable soil structure, low fertility, moisture deficiency, or salts), T (topographic limitations), W (excess water), and X (a combination of soil factors).

[27] In addition, the Panel received a Land Capability for Agriculture Assessment, dated October 16, 2020, prepared by Madrone Environmental Services Ltd. (the "Madrone Report"). The Madrone Report includes an assessment of existing biophysical conditions (climate, landform, geology and wildlife) on the Property, existing soils and land capability for agriculture.

With respect to the Proposed Exclusion Area, the Madrone Report states that:

- the area contains Class 7A and Class 5P, neither of which are improvable with land management practices due to the amount of fill (gravel) found in the area;
- though nutrient analyses were not conducted, based on the land use and characteristics of the soil, nutrient deficiency would severely restrict crop production;
- remediation and restoration of the area would involve retaining a Qualified
  Professional to design a remediation plan and undertake lab analyses to test for
  contamination. Contractors would need to be hired to remove and/or recontour
  the widespread anthropogenic fill, facilitate importation of additional fill with



- acceptable water-holding capacity to improve the agricultural capability, import topsoil to improve agricultural capability, and supervise nutrient and amendment planning and ongoing monitoring; and,
- the Exclusion and Inclusion Proposal, which would result in no net-less of land from the ALR, aims to benefit agriculture and will facilitate increased agricultural production on the Property.
- [28] The Panel agrees with the Madrone Report findings regarding the condition of the Proposed Exclusion Area given that the area has been exposed to ~44 years of non-agricultural activities including a sawmill, petroleum tank farm, waste transfer facility equipment, and fill. The Panel finds that the adverse impacts of these activities have compromised the agricultural potential of the Proposed Exclusion Area to the extent that the land can no longer contribute to soil-based agriculture.
- [29] The Panel also considered the Proposed Exclusion Area's relatively small size and whether excluding the area would negatively impact any adjacent properties and agricultural uses within the ALR. The Proposed Exclusion Area is bound by the ALR portion of the Property to the north and west, the marina to the east and non-ALR land to the south. The Panel finds that the exclusion of the Proposed Exclusion Area will not negatively impact the Property's ALR land provided an appropriate fence and buffer is placed along the north and west portions of the Proposed Excluded Area. After reviewing the Application materials, the Panel finds that the Proposed Exclusion Area is not suitable for agricultural use due to the cumulative impacts of previous unauthorized activities on the land. In this case, the Panel finds that there is no agricultural rationale for the retention of the Proposed Exclusion Area in the ALR.

# Issue 2: Whether the Proposed Inclusion Area would be appropriate to include into the ALR. circumstance.

[30] The Applicants propose to include a non-ALR portion of the Property (i.e. the Proposed Inclusion Area), which the Applicants state is of comparable size to the Proposed Exclusion Area and has agricultural capability. During the Exclusion Meeting, the Applicants stated



that the Proposed Inclusion Area has always been used as a pasture and for growing fruit trees.

- [31] The Panel considered the Madrone Report and its assessment of the Proposed Inclusion Area, which indicates:
  - ~0.3 ha (75%) of the area is within Class 2AP (best improved) lands; ~0.1 ha (25%) is Class 2A, Class 4T and Class 3P;
  - with proper irrigation, the Class 2AP land will be capable of supporting all climatically adapted crops; and,
  - the lands that are currently rated Class 2A, Class 4T and Class 3P, can be cleared and prepared as potential areas for grapes and stone fruits.
- [32] Based on the Property's agricultural capability ratings described in paragraph [27] and the Madrone Report, the Panel finds the Proposed Inclusion Area has a mix of prime and secondary agricultural capability.
- [33] The Panel then considered the Exclusion Meeting Report and the Applicants' explanation that the Proposed Inclusion Area has always been used for agriculture (the previous owner raised cows on it) and that it is currently used as pastureland and to grow fruit trees, and that the Applicants would continue to use the Proposed Inclusion Area for these purposes.
- [34] The Panel also considered the size and location of the Proposed Inclusion Area and finds that it is agricultural land of reasonable size and is located directly adjacent to the ALR portion of the Property. In this case, the Panel finds that the Proposed Inclusion Area would be appropriately designated as ALR as it is currently used for agricultural purposes and under good management practices has the potential to support a range of other agricultural crops. For these reasons, the Panel finds that the Inclusion Proposal is capable of supporting agriculture in the ALR and will enhance the integrity and continuity of the ALR land base.



# Summary

[35] Although the Applications were submitted as a cohesive proposal to include land into the ALR to balance the area of land excluded from the ALR portion of the Property, the Panel considered each application on its own merits. The Panel finds that each Application has supportive rationale to exclude and include the proposed portions of the Property. For this reason, the Panel approves both Applications independent of one another.

# **DECISION**

- [36] For the reasons given above, the Panel approves the exclusion of the 0.4 ha Proposed Exclusion Area subject to the following conditions:
  - (a) the submission of a survey plan delineating the area to be excluded;
  - (b) the survey plan to be in substantial compliance with Schedule A of this decision;
  - (c) the survey plan be submitted within three years from the date of release of this decision;
  - (d) the construction of a fence along the entire length of the north and west boundaries of the Proposed Exclusion Area to prevent trespass or encroachment on the remainder of the Property. The fence is to be constructed accordance with any of Schedule D of the ALC Landscape Buffer Specifications (1998; attached to this decision as Schedule B). Should an alternate fencing option be desired for the purposes of condition d. the submission of a fence plan to the Commission for review and approval is required prior to construction. Photographic proof that the fence has been constructed is required;
  - (e) the planting of a vegetative buffer along the entire length of the north and west boundaries of the Proposed Exclusion Area to prevent trespass or encroachment on the remainder of the Property. The buffer is to be constructed accordance with any of Schedule A of the ALC Landscape Buffer Specifications (1998; attached to this decision as Schedule B). Should an alternate buffer option be desired for the purposes of condition e. the submission of a buffer plan



- to the Commission for review and approval is required prior to construction. Photographic proof that the buffer has been constructed is required and,
- (f) the construction of the fence and buffer to be completed within three years from the date of release.
- [37] When the Commission confirms that all conditions have been met, it will advise the ALC Mapping Department to exclude the Proposed Exclusion Area from the ALR and include the Proposed Inclusion Area.
- [38] This decision does not relieve the owner or occupier of the responsibility to comply with applicable Acts, regulations, bylaws of the local government, and decisions and orders of any person or body having jurisdiction over the land under an enactment.
- [39] These are the unanimous reasons of the Panel.
- [40] A decision of the Panel is a decision of the Commission pursuant to s. 11.1(3) of the ALCA.
- [41] Resolution #106/2021 (Application 59957)
- [42] Resolution #105/2021 (Application 59958)

Released on March 17, 2021

Linda Michaluk, Panel Chair

On behalf of the Island Panel





Conditionally Approved ~0.4 ha Inclusion (Resolution #106/2021)

The Property







Schedule B: Landscaped Buffer Specifications (1993) ALC File 59957 (Burdett) and ALC File 59958 (Burdett) Conditionally Approved Inclusion (59957) and Exclusion (59958) ALC Resolutions #106/2021 (59957) and #105/2021 (59958)

# **Landscaped Buffer Specifications**

# **Agricultural Land Commission**

**March 1993** 

**Reprint: September 1998** 

#### TABLE OF CONTENTS

PART 1.	INTRODUCTION	I

PART 2. GENERAL REQUIREMENTS

PART 3. BUFFER ELEMENT SCHEDULES

#### **SCHEDULE A: BUFFER TYPES**

- A.1: Minimum Vegetative Screen (Evergreen Hedge)
- A.2: Minimum Vegetative Screen (Medium Height Trees)
- A.3: Airborne Particle & Visual Screen
  - a) Yearly Screen
  - b) Summer Screen
- A.4: Noise, Airborne Particle & Visual Screen
  - a) Yearly Screen
  - b) Summer Screen
- A.5: Trespass Prevention (Water Feature & Fence)
- A.6: Existing Vegetation Retention (with Buffer Supplement Option)

#### SCHEDULE B: PLANT LAYOUT, SPACING & SUPPORT

#### General Requirements

- B.1: Deciduous Tree Screen (Tall)
- B.2: Coniferous/Deciduous Tree Screen (Tall)
- B.3: Deciduous Tree Screen (Medium Height)
- B.4: Hedging Shrubs
- **B.5:** Trespass Inhibiting Shrubs
- B.6: Screening Shrubs
- B.7: Staking of Deciduous Trees < 6cm Caliper OR Coniferous Trees < 2.5m in Height
- B.8: Guying for Deciduous Trees ≥ 6cm Caliper OR Coniferous Trees ≥ 2.5m in Height

#### SCHEDULE C: BUFFER PLANT MATERIAL

#### General Requirements

- C.1: Deciduous Trees Tall (>15m)
- C.2: Deciduous Trees Med.Ht. (<15m)
- C.3: Coniferous Trees Tall (>15m)
- C.4: Hedging/Screening Shrubs (Conifer & Broadleaf Evergreens)
- C.5: Trespass Inhibiting Shrubs
- C.6a: Shrubs for Screening (Deciduous)
- C.6b: Shrubs for Screening (Broadleaf Evergreens)

#### PART 3. BUFFER ELEMENT SCHEDULES (cont.)

# SCHEDULE D: FENCING SPECIFICATIONS

- D.1: Solid Wood Fence
- D.2: Solid Wood Fence with One Strand Barbed Wire
- D.3: Standard Barbed Wire Fence
- D.4: Wire Fabric Fence with One Strand Barbed Wire
- D.5: Wire Fabric Fence with Two Strands Barbed Wire
- D.6: Chain Link Fence
- D.7: High-Tensile Smooth Wire Fence

#### PART 4. REFERENCES

#### LANDSCAPED BUFFER SPECIFICATIONS

#### **PART 1: INTRODUCTION**

Today's increasingly complex land use patterns demand that special attention be paid to the relationship between agricultural and non-farm uses. In the past, a very simple fence and a good neighbour policy may have sufficed; however, present day realities suggest that the combination of agricultural operations and non-farm uses, most often residential uses, require special efforts be made to avoid the conflicts that many agricultural producers are concerned with. Trespass and vandalism to farm crops and equipment, complaints about early morning farm vehicle noise, the drifting of dust and sprays from field operations and smells from the application of manures and composts, are only some of the more commonly expressed concerns.

With the increasing demands being placed on a very limited land base, there will continue to be situations where there will be a hard and distinctive edge between agricultural and other uses.

In an effort to make that edge work to the advantage of the farmer and non-farming public, the Commission has developed "Landscaped Buffer Specifications" which set out a variety of buffering schedules for use in different circumstances. It is important to note that these buffer areas are intended to be established on

the non-farm property rather than coming off of the farm properties.

The Commission will use the specifications, where appropriate, as a condition when considering the approval of applications under the Agricultural Land Commission Act. In addition, these specifications provide a practical guide for councils, regional boards and other agencies where the opportunity exists to create or improve the buffer between agriculture and non-agricultural lands.

This report sets out a gradation of buffers types. These range from a fairly simple minimum vegetative screen, that might apply to low impact situations, to a very comprehensive buffer that incorporates berming, fencing and planting for the screening of noise, views, dust and sprays. There is also a buffer type that allows for the combination of water features and fences for trespass prevention.

In addition, the report specifies separate schedules for plant layout and spacing, acceptable plant materials and fencing. It is anticipated that various combinations of the schedules will allow the greatest flexibility in selecting an appropriate buffer to suit the specific situation at hand.

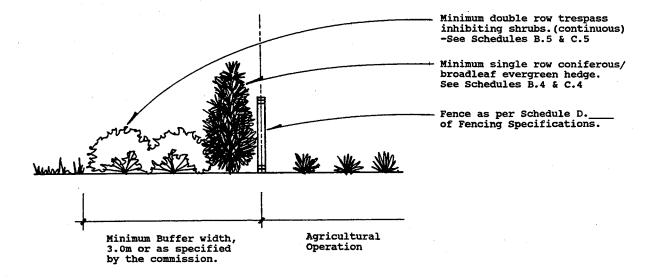
#### LANDSCAPED BUFFER SPECIFICATIONS

#### **PART 2: GENERAL REQUIREMENTS**

- 1. At the discretion of the Commission, where landscaped buffer requirements are minimal, Sections 1.2 1.4, below, shall not be required. Instead the applicant shall submit the following information:
  - a) a plan of the proposed landscaped buffer describing the existing conditions, the type and location of fencing and the location, species, sizes and quantities of new plant material.
- 2. At the discretion of the Commission, where landscaped buffer requirements are of a complex and extensive nature, professional consultants having expertise appropriate to the needs of each buffer shall be engaged in the planning and design of the landscape work.
- 3. All planning, design and construction of each landscaped buffer shall be such that all provisions of the B.C. Society of Landscape Architects (B.C.S.L.A.)/ B.C. Nursery Trades Association (B.C.N.T.A.) Landscape Standard are met.
- 4. A set of working documents accurately describing existing conditions and the proposed buffer design shall be provided to and approved by the B.C. Agricultural Land Commission before the commencement of construction. Working drawings shall show:
  - a) existing grades;
  - b) proposed grades;
  - c) locations of existing plants or vegetation to be retained;
  - d) locations of existing plants or vegetation to be removed;
  - e) locations of existing and proposed features (i.e. buildings, fencing etc.) and utilities;
  - f) depths of growing medium;
  - g) locations, species, sizes and quantities of new plant material;
  - h) landscape specifications.

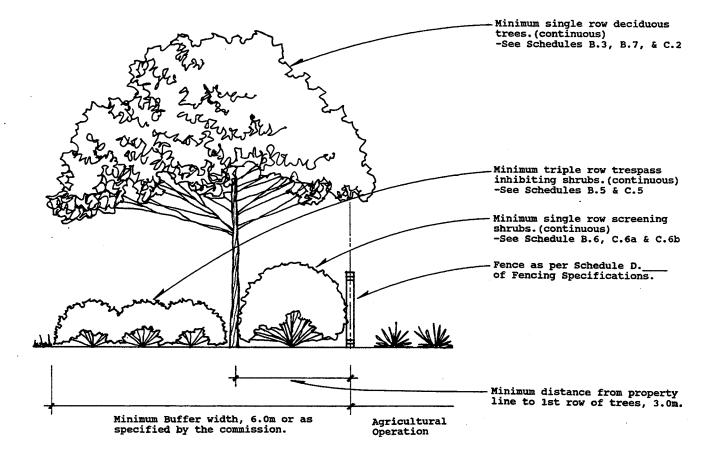
A.1: Minimum Vegetative Screen
(Evergreen Hedge)

Minimum visual screening and protection of farmland from trespass and vandalism.



# A.2: Minimum Vegetative Screen (Medium Height Trees)

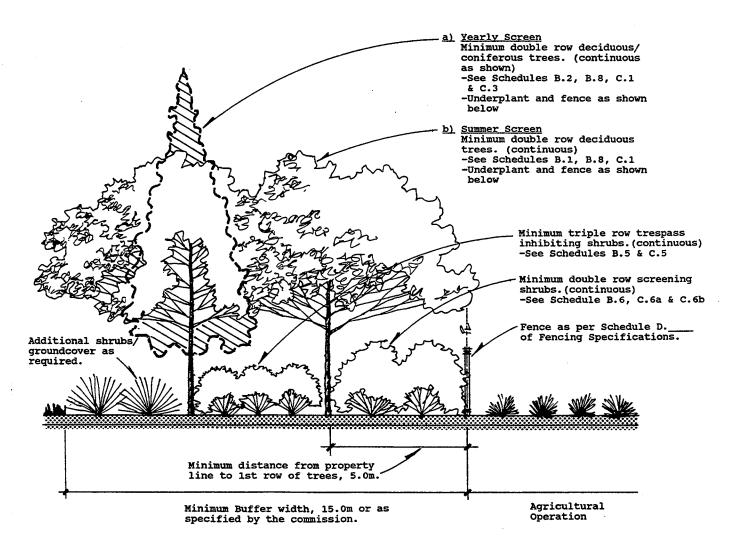
Inhibits trespass and vandalism while providing minimum protection to non-farm developments from the movement of dust and pesticide spray from adjacent agricultural operations.



#### A.3: Airborne Particle and Visual Screen

- a) Yearly Screen
- b) Summer Screen

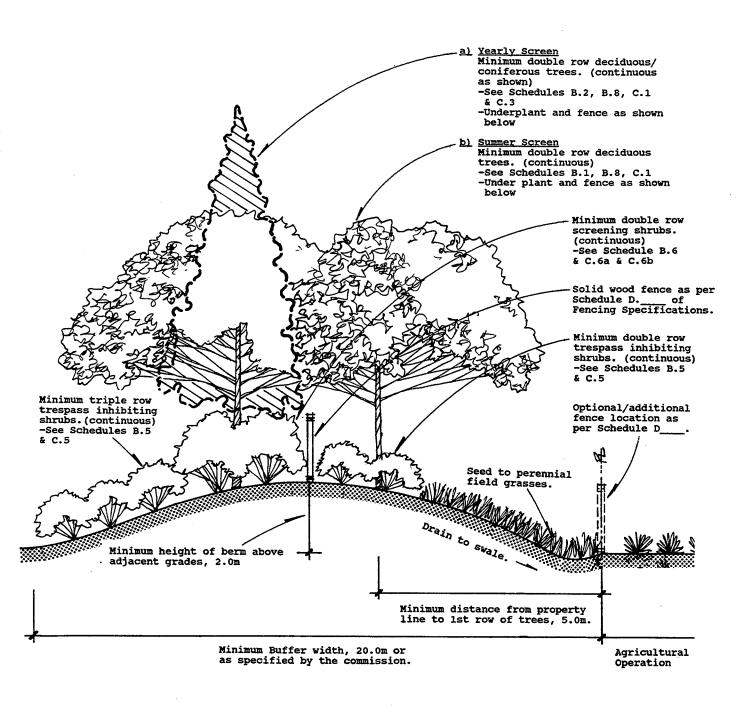
Buffers agricultural operations from trespass and vandalism while offering a greater physical setback between potential conflicting land uses, visually screening uses from one another and minimizing the exchange of undesirable airborne particulate matter between incompatible land uses. (Note: Coniferous trees should be used in the buffer in situations where visual and particulate screening is required on a year round basis. Solution A.3a)



### A.4: Noise, Airborne Particle & Visual Screen

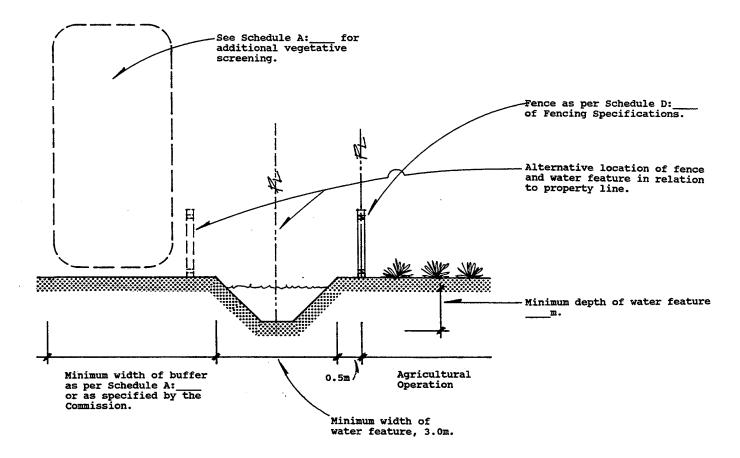
- a) Yearly Screen
- b) Summer Screen

To Buffer agricultural land from trespass and vandalism, visually screen incompatible uses, reduce the exchange of particulate matter between adjacent land uses and reduce the transmission of noise. (Note: Coniferous trees should be used in the buffer in situations where visual and particulate screening is required on a year round basis. Solution A.4a)



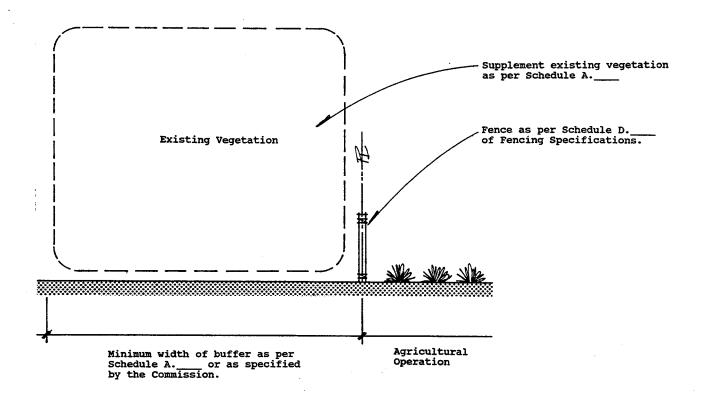
# <u>A.5</u>: <u>Trespass Prevention</u> (Water Feature and Fence)

For use in those situations where a water body (i.e. slough, creek, river, lake, pond or drainage ditch) exists or is planned. Trespass prevention is enhanced with incorporation of vegetative buffering as per the following diagram.



# <u>A.6</u>: <u>Existing Vegetation Retention</u> \* (with Vegetation Supplement Option)

For use in those situations where existing vegetation is of a density and structure which will meet Commission buffering requirements. The vegetation will be protected and maintained by restrictive covenant and supplemented if required as per the following diagram.



\*Note: This Specification will be accompanied by a Restrictive Covenant detailing conditions for:

- a) thinning and clearing of existing vegetation
- b) the width of buffer
- c) locating structures, services and additional uses within the retention zone

#### **GENERAL REQUIREMENTS**

- 1. All plant material shall be located as shown in Schedules B.1-B.6 except where obstructions overhead or below ground are encountered or as specified by the Commission.
- 2. Immediately following planting, to prevent excessive motion, all trees shall be braced in an upright position, using guy wires or stakes with ties, as shown in Schedules B.7 and B.8. All materials used in tree support shall meet the following specifications.

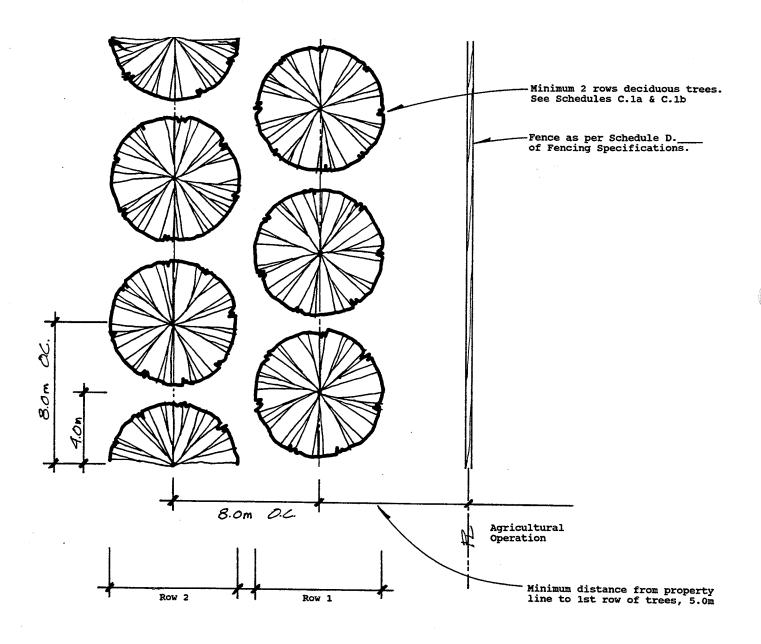
#### **SCHEDULE B.7**

- 2.1 All support stakes shall be equally spaced about each tree, shall be pressure treated, be standard 50 X 50mm, and a minimum of 2440mm in length.
- 2.2 Support stakes shall be driven vertically into the ground a minimum of 940mm and support at least 1500mm of the tree stem.
- 2.3 Double strand, #12 gauge galvanized wire shall be used to connect each support stake to the tree stem. Wire will be twisted to take up slack and prevent excessive motion of the tree.
- 2.4 12mm reinforced black rubber hose shall be used to encase support wires and prevent direct contact with the bark of the tree.

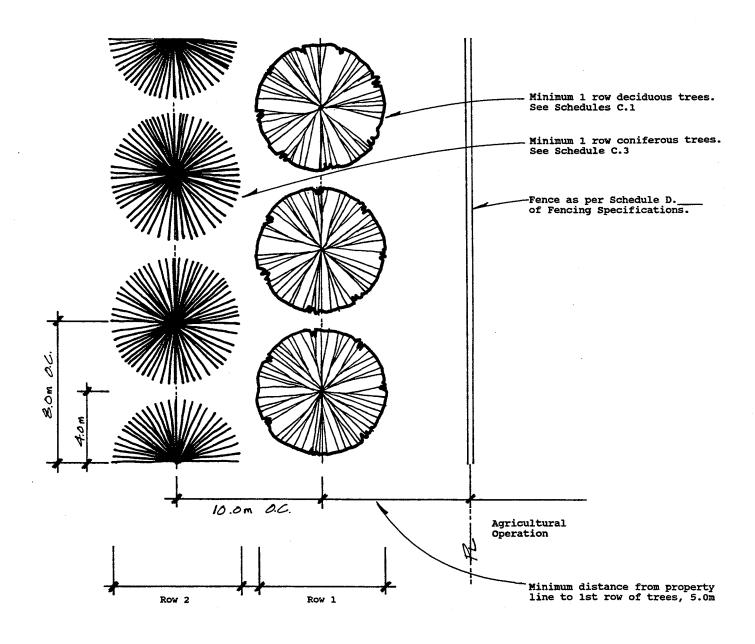
#### **SCHEDULE B.8**

- 2.5 Three guy wires shall be spaced equally about each tree at approximately 120 degrees between each guy. Each guy shall consist of two strands of galvanized #12 gauge wire and be attached to the tree at an angle of approximately 45 degrees at about 1/3 to 1/2 the height of the tree.
- 2.6 12mm reinforced black rubber hose shall be used to encase guy wires and prevent direct contact with the bark of the tree.
- 2.7 Each guy shall be anchored in the ground using 50 x 100 x 900mm notched stakes which have been driven into the ground at an angle so that the tops of the stakes are at least 150mm below finished grade.
- 2.8 Each guy shall be made taut using 150mm turnbuckles.
- 2.9 Brightly coloured flagging tape shall be attached to each guy for the duration of the tree support.
- Tree stakes and guy wires shall be removed once the trees are stable. Tree stakes and guy wires should remain for a maximum of two years.

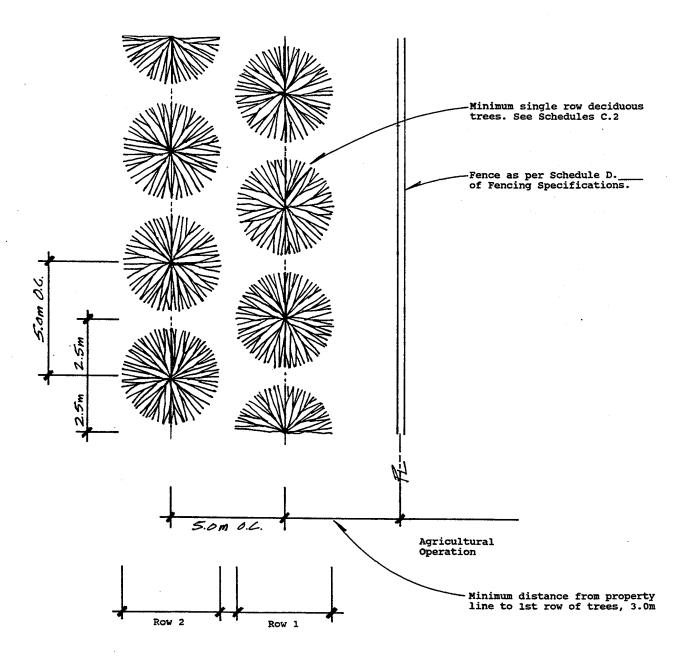
# **B.1:** Deciduous Tree Screen (Tall)



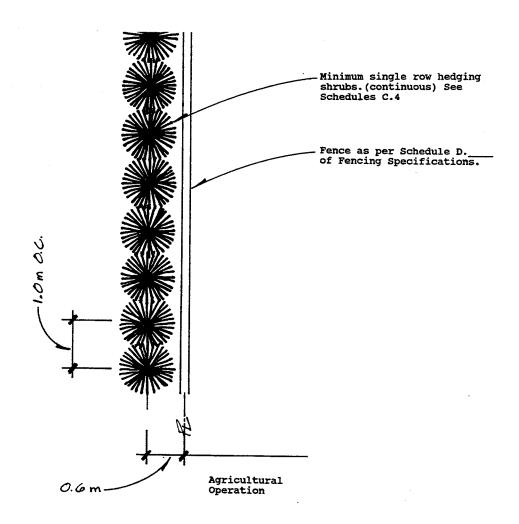
# **B.2:** Coniferous/Deciduous Tree Screen (Tall)



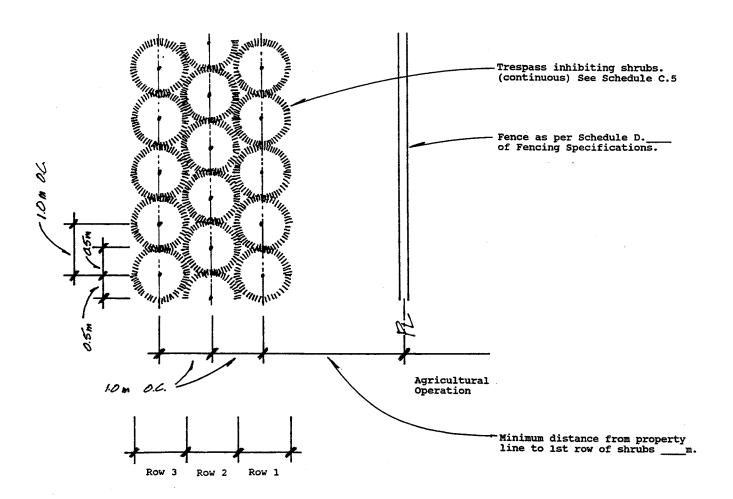
## **B.3:** Deciduous Tree Screen (Medium Height)



# **B.4:** Hedging Shrubs

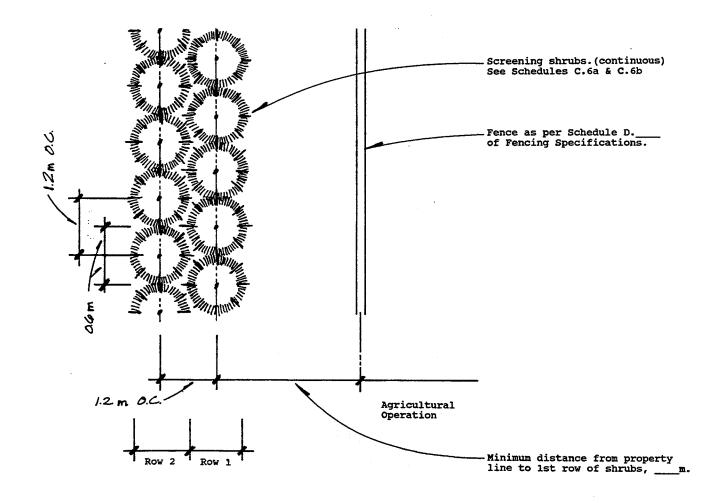


### **B.5:** Trespass Inhibiting Shrubs



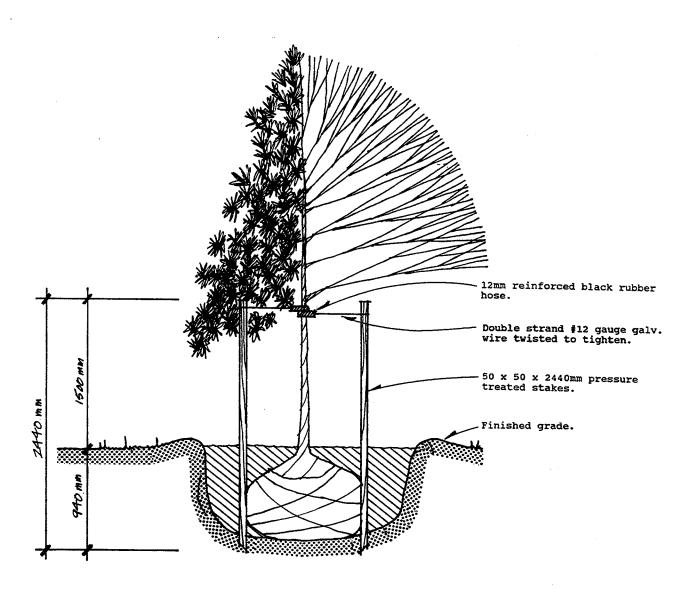
## SCHEDULE B: PLANT LAYOUT, SPACING & SUPPORT

### **B.6:** Screening Shrubs

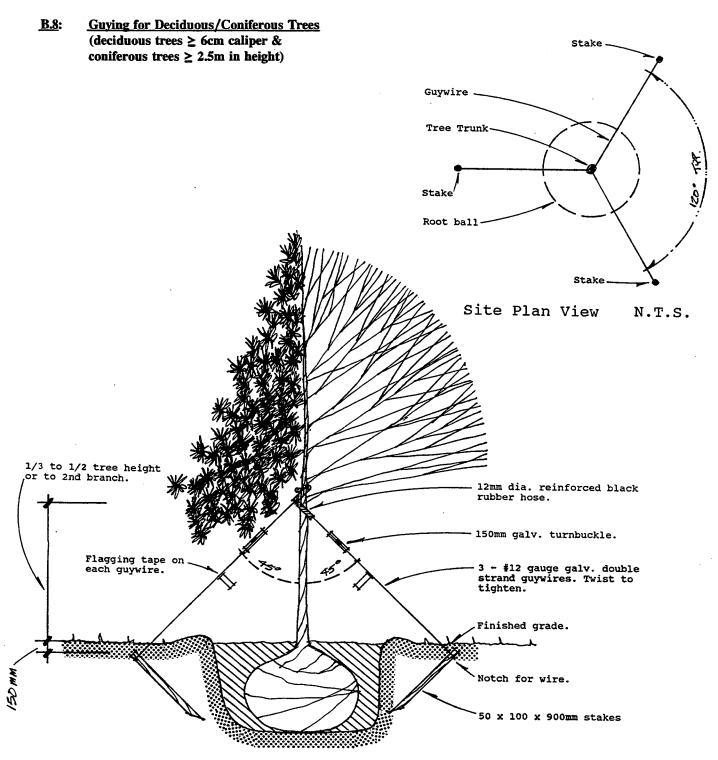


## SCHEDULE B: PLANT LAYOUT, SPACING & SUPPORT

<u>B.7</u>: <u>Staking for Deciduous/Coniferous Trees</u> (deciduous trees < 6cm caliper & conifer trees < 2.5m in height)



### SCHEDULE B: PLANT LAYOUT, SPACING & SUPPORT



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#### GENERAL REQUIREMENTS

Schedule C lists acceptable plant material to be used in the buffer landscaping. The botanical and common names along with the hardiness rating and minimum planting size are indicated for each plant listed. (See Appendix A at the back of this schedule for a location map and further explanation of plant hardiness zones.) Ultimately, the precise selection of plants from this list will depend on the local climate and site specific conditions.

- Note: a) The use of plant materials, which is not included in this list, will be considered and reviewed by the Commission to determine their acceptability.
  - b) The Commission also encourages the use of native plant material when available and the retention of existing vegetation where practical and compatible with adjacent farming operations.
- 1. Schedule C indicates the minimum acceptable size for each species/variety at time of planting. Where shortages occur, smaller size plant material may be considered by the Commission.
- 2. All plants shall be true to name, type and form, and representative of their species/variety. Plants shall be compact and properly proportioned. Weak, thin plants are not acceptable.
- 3. All plants shall be healthy with well developed form and branches and with vigorous, fibrous root systems and shall be free from defects, decay, disfigured roots, sun scald injuries, abrasions of the bark, plant diseases and insect pests.
- 4. Trees shall have straight stems unless that would be uncharacteristic and shall be well and characteristically branched for the species/variety.
- 5. Root balls and soil in containers shall be free from noxious perennial weeds.
- 6. Maintenance procedures shall be applied to all buffer plantings on a regular basis during the growing year.
- 7. All planted areas shall have all weeds removed at least once per month during the growing season.
- 8. All planted areas shall be inspected for pests and diseases at least every two month during the growing season. Treatment for pests or diseases shall be carried out promptly.

# C.1: DECIDUOUS TREES - TALL (>15m)

BOTANICAL NAME	COMMON NAME	HARDINESS ZONE	SIZE
Acer platanoides	Norway Maple	3	7cm cal.
Crimson King'	H	"	*
'Emerald Queen' 'Summershade'	19	н	
Summershade			
Acer pseudoplatanus	Sycamore-maple	5	7cm cal.
Acer rubrum	Red Maple	3	7cm cal.
'October Glory'	 #	" #	н ,
'Schlesinger' 'Shade king'	н	n	*
Shauc king			
Acer saccharum	Sugar Maple	3	7cm cal.
Aesculus x carnea 'briotii'	Red Horse Chestnut	4	H
pnom			
Cercidipyllum japonicum	Katsura Tree	4	н
Davidia involucrata	Handkerchief Tree	6	н
Fagus sylvatica	European Beech	4	н
'Laciniata'	•		
'Purpurea'	Purple-leaved Beech	4	*
'Riversii'	** ** **	4	69
Larix kaempferi	Japanese Larch	5	2.0m ht.
Larix occidentalis	Western Larch	5	2.0m ht.
Liquidamber styraciflua	Sweetgum	6	7cm cal.
'Palo Alto'	"	•	#
Liriodendron tulipifera	Tulip Tree	5	n
Magnolia kobus	Magnolia	4	н
Matanaguaia	Davis Dadisa 1	£1.	2.0m ht.
Metasequoia	Dawn Redwood	5b	2.0m nt.
glyptostroboides			
Platanus x acerifolia	London Plane	5	н
Populus tremuloides	Quaking Aspen	1	Ħ
Prunus sargentii	Sargents Cherry	4	*
Quercus palustris	Pin Oak	6	7cm cal.
Quercus rubra	Red Oak	3	н
<b>-</b>		_	
Robinia pseudoacacia 'frisia'	Black Locust	3	#

# C.2: DECIDUOUS TREES - MEDIUM. HEIGHT (<15m)

BOTANICAL NAME Acer campestre	COMMON NAME Field Maple	HARDINESS ZONE 5	SIZE 5cm cal.
Acer davidii	David's Maple	6	2.0m ht.
Acer negundo	Box Elder	2	2.0m ht.
Amelanchier canadensis	Downy Serviceberry	4	2.0m ht.
Amelanchier laevis	Shadbush		2.0m ht.
Betula jacquemontii	Jacquemont Birch	7	5cm cal.
Carpinus betulus	European Hornbeam	5	5cm cal.
Cercis canadensis	Eastern Redbud	5	5cm cal.
Cornus florida	Flowering Dogwood	5	2.0m ht.
Cornus mas	Cornelian Cherry	4	2.0m ht.
Cornus nuttallii 'White Wonder'	Dogwood	4	2.0m ht
Eleagnus angustifolia	Russian Olive	2b	2.0m ht.
Fagus sylvatica 'Dawyckii'	European Beech Dawyck Beech Golden Beech	6 6 6	5cm cal. 5cm cal. 5cm cal.
Halesia monticola	Mountain Silver Bell	5	5cm cal.
Magnolia dawsoniana	Dawson Magnolia	7	2.5m ht.
Magnolia sieboldii	Oyama Magnolia	<i>7</i> b	2.5m ht.
Magnolia X soulangiana	Saucer Magnolia	5b	2.5m ht.
Oxydendron arboreum	Sorrel Tree	<b>5</b> .	2.0m ht.
Prunus padus	European Bird Cherry	3	6cm cal.
Prunus serrulata	Japanese Cherry	5-6	6cm cal.
Prunus subhirtella	Higan Cherry	5	6cm cal.
Prunus yedoensis 'akebono'	Daybreak Cherry	6	6cm cal.

continued

# C.2: DECIDUOUS TREES - MEDIUM HEIGHT (<15m) (cont.)

BOTANICAL NAME Rhus typhina	COMMON NAME Staghorn Sumac	HARDINESS ZONE 3	<b>SIZE</b> 2.0m ht.
Sophora japonica 'Regent'	Regent Pagoda Tree	4	5cm cal.
Sorbus aucuparia 'Rosedale'	European Mountain Ash	3	5cm cal.
Stewartia pseudocamellia	Japanese Stewartia	5	5cm cal.
Styrax japonica	Japanese Snowdrop	5	5cm cal.
Tilia x Euchlora	Crimean Linden	4	5cm cal.

# C.3: CONIFEROUS TREES - TALL (>15m)

BOTANICAL NAME Abies amabilis	COMMON NAME Amabilis Fir	HARDINESS ZONE 5	SIZE 2.5m ht.
Abies concolor	Colorado White Fir	4	2.5m ht.
Abies pinsapo	Spanish Fir	6	2.5m ht.
Calocedrus decurrens	Incense Cedar	6	2.0m ht
Cedrus atlantica glauca	Blue Atlas	6	2.5m ht.
Cedrus deodara	Deodar Cedar	7	2.5m ht.
Chamaecyparis nootka. 'Glauca'	Blue Nootka Cypress	4	2.5m ht.
'Lutea'	Yellow Cypress	4	2.5m ht.
Cryptomeria japonica	Japanese cryptomeria	6	2.5m ht.
Cupressocyparis leylandii	Leyland Cypress	6	2.0m ht.
Picea abies	Norway Spruce	2	2.5m ht.
Picea glauca	White Spruce	1b	2.5m ht.
Picea engelmannii	Engelmann Spruce	2	2.5m ht.
Picea pungens	Colorado Spruce	2	2.0m ht.
'koster'	Koster's Blue Spruce	2	2.0m ht.
Picea sitchensis	Sitka Spruce	6	2.0m ht.
Pinus contorta 'contorta'	Lodgepole Pine	2	2.5m ht.
Pinus nigra	Austrian Pine	4	2.5m ht.
Pinus parviflora	Japanese White Pine	4	2.5m ht.
Pinus ponderosa	Ponderosa Pine	4	2.5m ht.
Pinus strobus	White Pine	3	2.5m ht.
Pinus sylvestris	Scotch Pine	2b	2.5m ht.
Pinus thunbergii	Japanese Black Pine	5	2.5m ht.

continued

# C3: CONIFEROUS TREES - TALL (>15m) (cont.)

BOTANICAL NAME Pseudotsuga menziesii	COMMON Douglas Fir	HARDINESS 4-6	<b>SIZE</b> 2.5m ht.
Sequoia sempervirens	Coast redwood	7	2.5m ht.
Sequoiadendron giganteum	Giant Redwood	6	2.5m ht.
Thuja plicata	Western Red Cedar	5	2.5m ht.
Tsuga heterophylla	Western Hemlock	5	2.5m ht.
Tsuga mertensiana	Mountain Hemlock	4	2.0m ht.

# <u>C.4</u>: <u>HEDGING/SCREENING SHRUBS</u> (Conifers and Broadleaf Evergreens)

BOTANICAL NAME	COMMON NAME	<b>HARDINESS</b>	SIZE
Chamaecyparis lawsoniana 'Ellwoodii'	Ellwood Cypress	5	#5 pot
Cryptomeria japonica 'Elegans'	Plume Cryptomeria	7b	#5 pot
Cupressus macrocarpa	Monterey Cypress	7	#5 pot
Ligustrum ovalifolium	California Privet	7	#5 pot
Lonicera tartarica 'Rosea'	Tartarian Honeysuckle	2	#5 pot
Osmanthus armatus	Chinese Osmanthus	7	#5 pot
Photinia x fraseri	Photinia	7	1.0m ht.
Prunus laurocerasus	Cherry Laurel	8	1.0m ht.
Prunus laurocerasus 'Reynvaanii'	Russian Laurel	6	1.0m ht.
Prunus lusitanica	Portugal Laurel	7b .	1.0m ht.
Syringa vulgaris (cult.)	French Lilac	2b	#5 pot
Taxus x media			_
'Hatfieldii	Hatfield Yew	4	1.5m ht.
'Hicksii'	Hick's Yew	5	1.5m ht.
Thuja occidentalis			
'Aureospicata'	Cedar	3	1.5m ht.
'Brandon'	Cedar	2	1.5m ht.
'Fastigiata	Pyramidal Cedar	3	1.5m ht.
Tsuga canadensis	Eastern Hemlock	4	1.5m ht.
Viburnum tinus 'Robustum'	Laurustinus	7	#5 pot

# **C.5:** TRESPASS INHIBITING SHRUBS

BOTANICAL NAME Berberis x chenaultii	COMMON NAME Chenault Barberry	HARDINESS ZONE 6	SIZE #5 pot
Berberis darwinii	Darwin's Barberry	7	#5 pot
" julianae	Wintergreen Barberry	6b	#5 pot
Chaenomeles speciosa	Flowering Quince	5b	#5 pot
Elaeagnus pungens 'Maculata'	Thorny Elaeagnus	7b	#5 pot
Ilex aquifolium	English Holly	7	#5 pot
Ilex aquifolium 'San Gabriel'	<b>"</b>	6	#5 pot
Mahonia aquifolium	Oregon Grape	5	#5 pot
Mahonia x 'Charity'		7	#5 pot
Osmanthus armatus	Chinese Osmanthus	7	#5 pot
Pyracantha coccinea 'Kasan'	Firethorn	6	#5 pot
Pyracantha fortuneana 'Cherri Berri"	н	6	#5 pot
Pyracantha x 'Mohave'		6	#5 pot
Pyracantha x 'O.	и	5	#5 pot
Rosa acicularis	Prickly Rose	1	#2 pot
Rosa sp.	Shrub Roses	2-3	#2 pot
Yucca filamentosa	Adam's Needle	4	#5 pot
Yucca glauca	Spanish Bayonet	3	#5 pot

# C.6a: SHRUBS FOR SCREENING (DECIDUOUS)

BOTANICAL NAME Amelanchier alnifolia	COMMON NAME Saskatoonberry	HARDINESS 1	SIZE #5 pot
Caragana arborescens	Siberian Peashrub	2	#5 pot
Clethra alnifolia	Summersweet	5	#2 pot
Cornus stolonifera	Red Osier Dogwood	1b	#2 pot
Cornus alba	Tartarian Dogwood	2	#2 pot
Cotinus coggygria 'Royal Purple'	Smoke Tree	5	#5 pot
Cotoneaster acutifolius	Peking Cotoneaster	2	#1 pot
Elaeagnus commutata	Silver Berry	2	#5 pot
Euonymus alata	Winged Burning Bush	3	#5 pot
Hippophae rhamnoides	Sea Buckthorn	2b	#5 pot .
Hydrangea paniculata 'Grandiflora'	P.G. Hydrangea	<b>3</b> b	#5 pot
Kolkwitzia amabilis	Beauty Bush	<i>5</i> b	#5 pot
Lonicera korolkowii zabelli	Zabel's Honeysuckle	2	#2 pot
Lonicera maackii	Amur Honeysuckle	2b	#2 pot
Lonicera tartarica 'Rosea'	Tartarian Honeysuckle	2	#2 pot
Philadelphus x virginalis	Mock Orange	3b	#2 pot
Prunus tomentosa	Manchu Cherry	2	#2 pot
Prunus triloba 'Multiplex'	Chinese Flowering	2b	#2 pot
Syringa vulgaris (cult.)	French Lilac	2b .	#5pot
Viburnum x burkwoodii	Burkwood Viburnum	5	#5 pot

# C.6a: SHRUBS FOR SCREENING (DECIDUOUS) (cont.)

BOTANICAL NAME Viburnum cassinoides	COMMON NAME Witherod	HARDINESS 2b	SIZE #5 pot
Viburnum dentatum	Arrow Wood	4	#5 pot
Viburnum opulus 'Roseum'	Common Snowball	2b	#5 pot
Weigelia x 'Centennial'	Weigelia	2	#5 pot

# C.6b: SHRUBS FOR SCREENING (BROADLEAF EVERGREENS)

BOTANICAL NAME Arbutus unedo	COMMON NAME Strawberry Tree	HARDINESS 8b	SIZE #5 pot
Camellia japonica (var.)	Camellia	8b	#5 pot
Choisya ternata	Mexican Orange Blossom	8	#5 pot
Elaeagnus x ebbingei	Silver Berry	7	#5 pot
Elaeagnus pungens 'Maculata'	Thorny Elaeagnus	7b	#5 pot
Escallonia rubra	Escallonia	8b	#5 pot
Ligustrum japonicum	Japanese Privet	8b	#2 pot
Photinia x fraseri	Photinia	7	#5 pot
Pieris japonica	Japanese Andromeda	5b	#5 pot
Prunus laurocerasus 'Reynvaanii'	Cherry Laurel Russian Laurel	8	#5 pot #5 pot
Prunus lusitanica	Portugal Laurel	7b	#5 pot
Rhododendron varieties w/ mature ht. > 1.5m	Rhododendron	4-5	#7 pot
Viburnum tinus 'Robustum'	Laurustinus	8	#5 pot

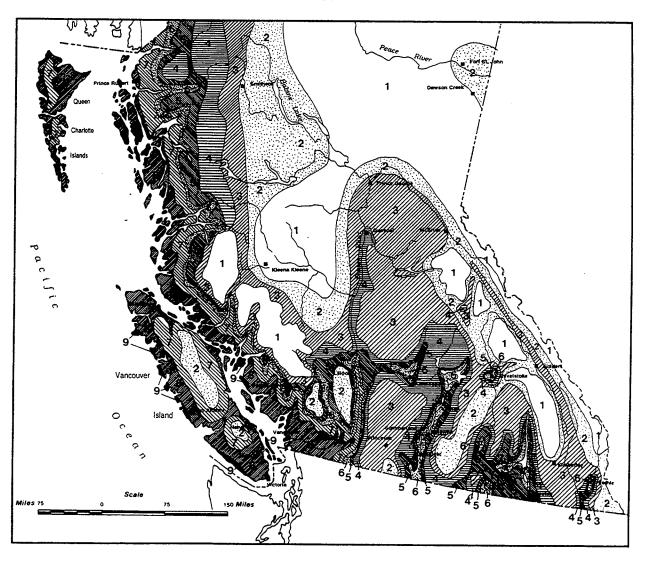
#### APPENDIX A: MAP OF PLANT HARDINESS ZONES IN B.C.

(Source: Canada Dept. of Agriculture, 1967)

"...The map is based on a formula that takes into consideration several meteorological factors affecting the hardiness of a plant in a given location. The most important element in plant survival is the minimum temperature during the winter. Other important considerations are the length of the frost-free period, summer rainfall, maximum temperatures, snow cover and wind.

The hardiness areas have been divided into 10 zones. The one marked 0 is the coldest. Other zones are progressively milder, to 9, which is the mildest. A given zone on this map corresponds only approximately to a zone of the same number in the United States Department of Agriculture Plant Hardiness Zone Map, which has been in use in Canada for a number of years. This present map, however, presents more detail for Canada. Each zone has been subdivided into a light and dark section to represent, respectively, the milder and colder portions of the zone.

...Small areas with peculiar microclimates often exist within a zone. These areas are colder or milder than the surrounding area. They are usually too small to locate on the hardiness map or they may not have been recorded. In addition, sharp changes in elevation, as found in mmountainous or hilly regions, cause a difference in climate that cannot be accurately indicated on the map. The user should also remember that the zone lines are arbitrarily drawn and that the zones merge gradually into each other. Consequently, conditions near the border of one zone may closely approximate those of an adjacent zone."



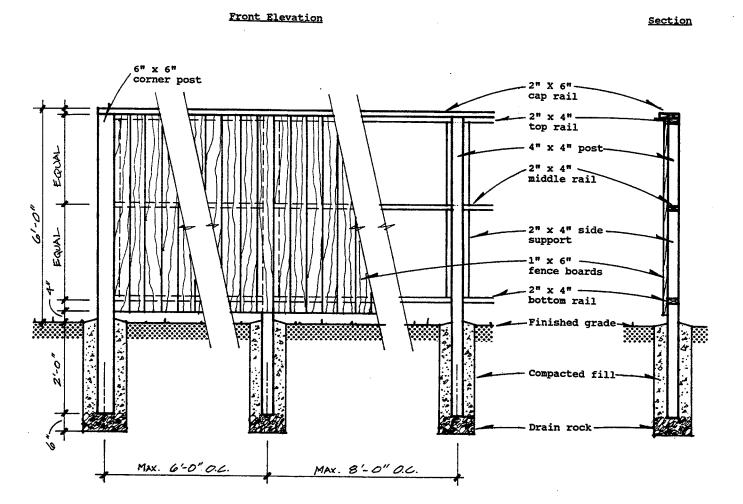
### **D.1: SOLID WOOD FENCE**

- 1. All posts and rails shall be rough sawn of "No. 1 Structural" grade, pressure treated with a wood preservative non-toxic to surrounding plant material, in accordance with CSA Standard 080.2 and compatible with staining requirements below. Stain to match fence boards.
- 2. All fence boards and planks shall be rough sawn of "Quality Fencing" grade, finished with penetrating stain with preservative, conforming to CGSB Standards 1-GP145M and 204M, applied to all surfaces prior to installation and on any cuts thereafter.
- 3. Line posts shall be minimum 8.0 ft. in length and at least (standard) 4"x 4".
- 4. Corner posts shall be minimum 8.0 ft. in length and at least (standard) 6"x 6".
- 5. Fence rails (min. 3) shall be maximum 7.5 ft. in length and at least (standard) 2"x 4".
- 6. Cap rails shall be at least (standard) 2"x 6". Cant to drain.
- 7. The finished height of opaque fencing shall be at least 6.0 ft.
- 8. All nails used in fence construction shall meet the following specifications:
  - 8.1 Minimum gauge of nails used
- #9, common in post/rail connections
- 8.2 Minimum gauge of nails used
- #11.5, common in rail/fence board connections

8.3 Galvanized

- CSA G164
- 9. Line posts shall be placed no more than 8.0 ft. O.C. and be firmly anchored in the soil to a depth of not less than 2.0 ft.
- 10. The fence shall be constructed in accordance with these specifications and details provided in the Schedule D.1 drawings which forms part of these specification.

**D.1:** Solid Wood Fence



### D.2: SOLID WOOD FENCE WITH ONE STRAND BARBED WIRE

- All posts and rails shall be rough sawn of "No. 1 Structural" grade, pressure treated with a wood 1. preservative non-toxic to surrounding plant material, in accordance with CSA Standard 080.2 and compatible with staining requirements below. Stain to match fence boards.
- 2. All fence boards and planks shall be rough sawn of "Quality Fencing" grade, finished with penetrating stain with preservative, conforming to CGSB Standards 1-GP145M and 204M, applied to all surfaces prior to installation and on any cuts thereafter.
- 3. Line posts shall be minimum 10.0 ft. in length and at least (standard) 4"x 4".
- 4. Corner posts shall be minimum 10.0 ft. in length and at least (standard) 6"x 6".
- Fence rails (min. 3) shall be maximum 7.5 ft. in length and at least (standard) 2"x 4". 5.
- 6. Cap rails shall be maximum 7.5 ft in length and at least (standard) 2"x 6". Cant to drain.
- 7. The finished height of opaque fencing shall be at least 6.0 ft.
- 8. The barbed wire shall meet the following specifications:

8.1 Number of wire strands

- 2

8.2 Minimum wire gauge

- 12.5 A.W.G.

8.3 Maximum spacing between barbs

- 6"

Number of points per barb

- 4

9. Fastening materials (nails and staples) shall meet the following specifications:

9.1 Minimum gauge of nails used

- #9, common in post/rail connections

9.2 Minimum gauge of nails used

- #11.5, common in rail/fence board connections

9.3 Minimum wire gauge of staple

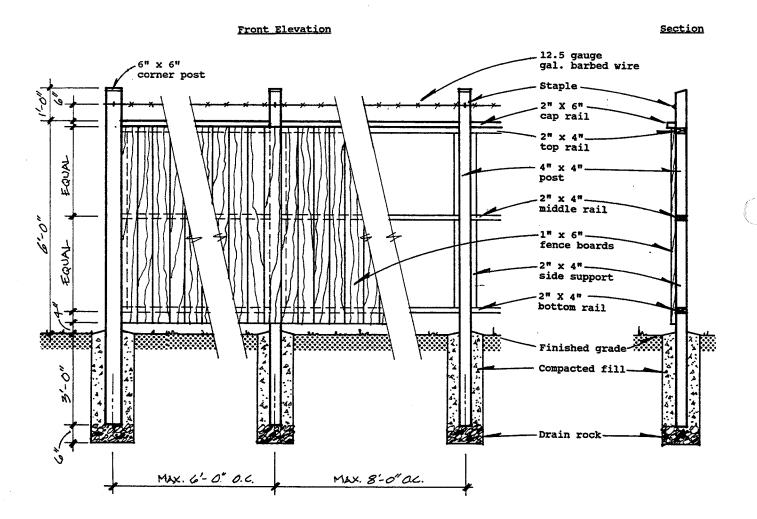
- 9.0 A.W.G.

- 2"

9.4 Minimum length of staple

- 9.5 Galvanized - CSA G164
- Line posts shall be placed no more than 8.0 ft. O.C. and be firmly anchored in the soil to a depth of 10. not less than 3.0 ft.
- The fence shall be constructed in accordance with these specifications and details provided in the 11. Schedule D.1 drawing which forms part of these specification.

### **D.2:** Solid Wood Fence with One Strand Barbed Wire



#### **D.3: STANDARD BARBED WIRE FENCE**

- l. All posts and brace poles shall be pressure treated in accordance with CSA Standard 080.5 using woodpreservative non-toxic to surrounding plant material.
- 2. Line posts shall be 7.0 ft. in length and 3" 4" in diameter.
- 3. Corner and brace posts shall be 7.0 ft. in length and 4" 5" in diameter.
- 4. Bracing poles shall be 3" 4" in diameter.
- 5. All line and corner posts shall be machine pointed to permit driving of posts.
- 6. Barbed wire shall meet the following specifications:

6.1 Number of strands

6.2 Minimum wire gauge - 12.5 A.W.G.

6.3 Maximum spacing between barbs - 6"

6.4 Number of points per barb - 4

6.5 Galvanized - CSA G164

7. Straining wire shall meet the following specifications:

7.1 Number of strands - 2

7.2 Minimum wire gauge - 9.75 A.W.G.

7.3 Galvanized - CSA G164

8. The staples used in fence construction shall meet the following specifications:

8.1 Minimum wire gauge

- 9.0 A.W.G

8.2 Minimum length

- 2"

8.3 Galvanized

- CSA G164

- 9. Line posts shall be placed no more than 20.0 ft. apart and be firmly anchored in the soil to a depth of not less than 30".
- 10. Corner brace assemblies shall be constructed as shown in the Schedule D.3 drawings.
- 11. Intermediate brace assemblies shall be constructed as indicated in the Schedule D.3 drawings and spaced as required by terrain or every 1320.0 ft. maximum.
- 12. Barbed wire spacing (starting from ground), five wires spaced 10", 8", 8", 8", 8" (top wire 42" above ground level), (see Schedule D.3 drawings)
- 13. Barbed wire shall be prestretched prior to tieing off. Tension wire to 600 lbs., relax to 250 lbs., then staple securely to brace assemblies. Securely staple barbed wire to line allowing for wire movement.
- 14. Wooden droppers shall be installed "interwoven" and securely figure-eight wire tied to every line wire between posts. Prefabricated clip-on galvanized sheet metal droppers may be approved.
- 15. The fence shall be constructed in accordance with these specifications and details provided in the Schedule D.3 drawings which forms part of these specifications.

Fence Run (typical)

#### **D.3:** Standard Barbed Wire Fence

# 20'-0" 10'-0" 10'-0" Pinned corner (see detail) EQUAL EQUAL Tie off barbed Dummy wire wire Finished grade 3"-4" dia. line post (typical) Staple staining Wood or metalwire (typical) droppers 3"-4" dia. brace-pole (typical) Barbed wire -2 strands, 12.5 gauge galv. 4"-5" dia. brace post (typical) Corner Brace 7'-0" Pinned Corner Pinned corner (see detail) Tensioning batten 3"-4" dia. brace Barbed wire pole (typical) 2 strands, 12.5 gauge galv. 4"-5" dia. brace post (typical) 3/8" x 12" rebar driven into 3/8" drilled hole. Wrap brace wire around 1" rebar protruding through brace post Tie off barbed wire to centre post Staple staining

Intermediate Brace Assemblies

wire (typical)

### D.4: WIRE FABRIC FENCE WITH ONE STRAND BARBED WIRE

- All posts and brace poles shall be pressure treated in accordance with CSA Standard 080.5, using a 1. wood preservative non-toxic to surrounding plant material.
- 2. Line posts shall be 8.0 ft. in length and 4" - 5" in diameter.
- 3. Corner and brace posts shall be 8.0 ft. in length and 5" - 6" in diameter.
- 4. Bracing poles shall be 3" - 4" in diameter.
- 5. All line and corner posts shall be machine pointed to permit driving of posts.
- 6. The wire mesh fencing material shall meet the following specifications:
  - 6.1 Minimum wire gauge

- 12.5 A.W.G.

6.2 Overall Height

- 48"

- 6.3 Min. number of horizontal strands 9 6.4 Max. spacing between horizontal strands - 8"
- 6.5 Max. spacing between vertical
- 6.6 Wire intersections of non-slip design
- 6.7 Galvanized

- CSA G164
- 7. The barbed wire fencing material shall meet the following specifications:
  - 7.1 Number of strands

- 2

- 7.2 Minimum wire gauge
- 12.5 A.W.G.
- 7.3 Maximum spacing between barbs
- 6" 7.4 Number of points per barb - 4
- 7.5 Galvanized

- CSA G164
- 8. Brace wire shall meet the following specifications:
  - 8.1 Number of strands
- 2
- 8.2 Minimum wire gauge
- 12.5 A.W.G.

8.3 Galvanized

- CSA G164
- 9. The staples used in fence construction shall meet the following specifications:
  - Minimum wire gauge

- 9.0 A.W.G.

9.2 Minimum length

- 1.75"

9.3 Galvanized

- CSA G164
- 10. Line posts shall be placed no more than 10.0 ft. apart and be firmly anchored in the soil to a depth not less than 30".
- 11. Corner brace assemblies shall be constructed as indicated in the Schedule D.4 drawings.
- 12. An intermediate brace assembly shall be constructed as shown in the Schedule D.4 drawings and spaced as required by terrain or every 660.0 ft.
- 13. Barbed wire shall be prestretched prior to tieing off. Tension wire to 600 lbs., relax to 250 lbs., then staple securely to brace assemblies. Securely staple barbed wire to line posts allowing for wire movement.

continued

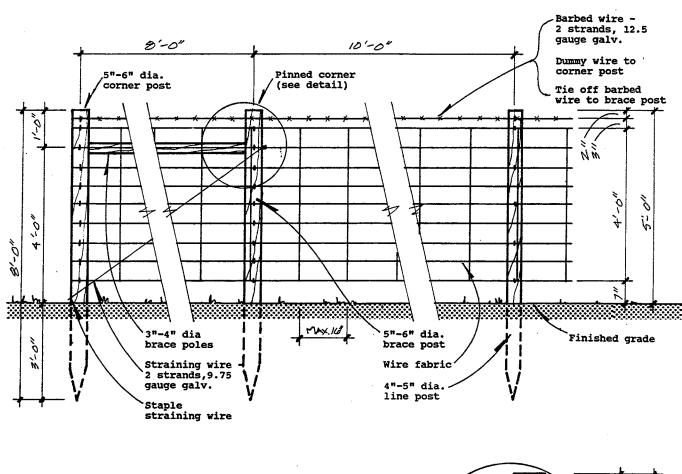
## **D.4: WIRE FABRIC FENCE WITH ONE STRAND BARBED WIRE** (continued)

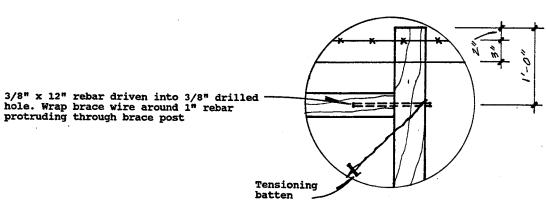
14. Wire mesh shall be stretched and securely attached by staples at each wire intersection with the brace assembly posts. At line posts, wire mesh shall be attached by staples at alternate wire intersections with posts. (see Schedule D.4 drawings) Securely staple to line posts allowing for wire movement.

7.1

- 15. Wire mesh and barbed wire shall be spaced as shown in the Schedule D.4 drawings.
- 16. The fence shall be constructed in accordance with these specifications and details provided in the Schedule D.4 drawings which forms part of these specifications.

### <u>D.4</u>: <u>Wire Fabric Fence with One Strand Barbed Wire</u>





### D.5: WIRE FABRIC FENCE WITH TWO STANDS BARBED WIRE

- 1. All posts and brace poles shall be pressure treated in accordance with CSA Standard 080.5, using a wood preservative non-toxic to surrounding plant material.
- 2. Line posts shall be 8.0 ft. in length and 4" 5" in diameter.
- 3. Corner and brace posts shall be 8.0 ft. in length and 5" 6" in diameter.
- 4. Bracing poles shall be 3" 4" in diameter.
- 5. All line and corner posts shall be machine pointed to permit driving of posts.
- 6. The wire mesh fencing material shall meet the following specifications:
  - 6.1 Minimum wire gauge

- 12.5 A.W.G.

6.2 Overall Height

- 48"
- 6.3 Min. number of horizontal strands
- 9
- 6.4 Max. spacing between horizontal strands
  - 8"
- 6.5 Max. spacing between vertical stays
- 16"
- 6.6 Wire intersections of non-slip design
- 6.7 Galvanized

- CSA G164
- 7. The barbed wire fencing material shall meet the following specifications:
  - 7.1 Number of strands

2

7.2 Minimum wire gauge

- 12.5 A.W.G.
- 7.3 Maximum spacing between barbs
- 6"
- 7.4 Number of points per barb
- 4

7.5 Galvanized

- CSA G164
- 8. Brace wire shall meet the following specifications:
  - 8.1 Number of strands

- 2

8.2 Minimum wire gauge

- 12.5 A.W.G.

8.3 Galvanized

- CSA G164
- 9. The staples used in fence construction shall meet the following specifications:
  - 9.1 Minimum wire gauge

- 9.0 A.W.G.

9.2 Minimum length

- 1.75"

9.3 Galvanized

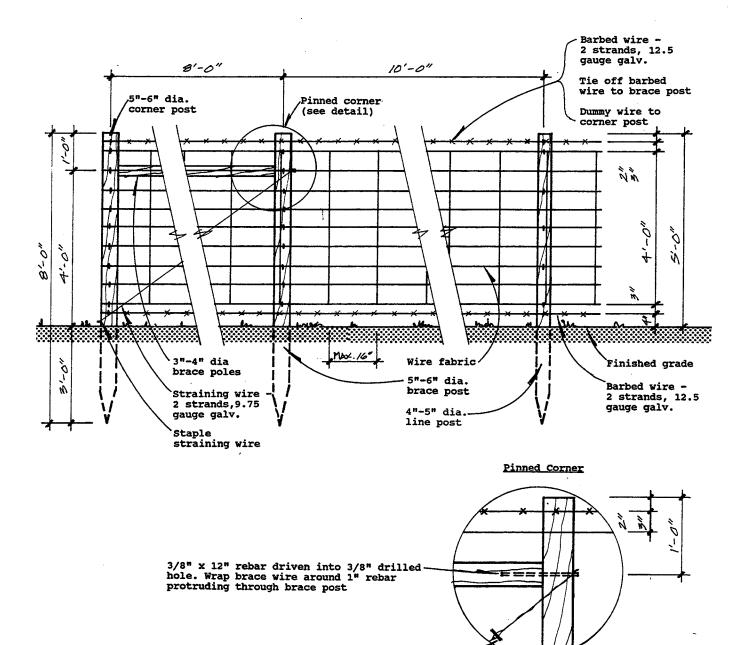
- CSA G164
- 10. Line posts shall be placed no more than 10.0 ft. apart and be firmly anchored in the soil to a depth not less than 30".
- 11. Corner brace assemblies shall be constructed as indicated in the Schedule D.5 drawings.
- 12. An intermediate brace assembly shall be constructed as shown in the Schedule D.5 drawings and spaced as required by terrain or every 660.0 ft.
- 13. Barbed wire shall be prestretched prior to tieing off. Tension wire to 600 lbs., relax to 250 lbs., then staple securely to brace assemblies. Securely staple barbed wire to line posts allowing for wire movement.

continued

## **D.5:** WIRE FABRIC FENCE WITH TWO STANDS BARBED WIRE (continued)

- 14. Wire mesh shall be stretched and securely attached by staples at each wire intersection with the brace assembly posts. At line posts, wire mesh shall be attached by staples at alternate wire intersections with posts. (see Schedule D.5 drawings) Securely staple to line posts allowing for wire movement.
- 15. Wire mesh and barbed wire shall be spaced as shown in the Schedule D.5 drawings.
- 16. The fence shall be constructed in accordance with these specifications and details provided in the Schedule D.5 drawings which forms part of these specifications.

# <u>D.5:</u> Wire Fabric Fence with Two Strands Barbed Wire



Tensioning batten

#### D.6: Chain Link Fence

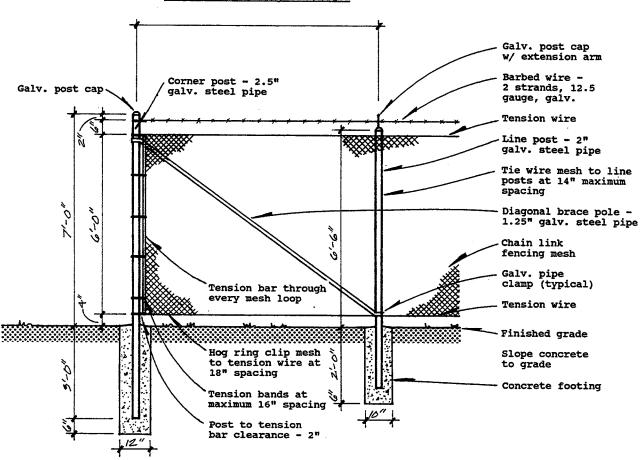
- l. Line posts shall be constructed from 2" standard galvanized steel pipe (0.125" wall thickness), 8.5 ft. in length. Galvanized to CSA G164 standard.
- 2. Corner and straining posts shall be constructed from 2.5" standard galvanized steel pipe (0.125" wall thickness), 10 ft. in length. Galvanized to CSA G164 standard.
- 3. Diagonal corner bracing shall be constructed from 1.25" standard galvanized steel pipe. Galvanized to CSA G164 standard.
- 4. Posts shall be securely anchored in the soil to depths as indicated in the Schedule D.6 drawings using 2,500 P.S.I. concrete extending from the soil surface to 6" below the bottom of the post. Posts shall be spaced no more than 8.0 ft. O.C.
- 5. The chain link fencing material shall meet the following specifications:
  - 5.1 Minimum height
- 5'-8"
- 5.2 Minimum wire gauge
- 11.0 A.W.G.
- 5.3 Maximum mesh size
- 2"
- 5.4 Be galvanized (to CSA G164) or plastic coated
- 6. The barbed wire fencing material shall meet the following specifications:
  - 6.1 Number of strands
- 2
- 6.2 Minimum wire gauge
- 12.5 A.W.G.
- 6.3 Maximum spacing between barbs
  - s 6"
- 6.4 Number of points per barb6.5 Galvanized
- 4 - CSA G164
- 7. All accessory materials shall meet the following specifications:
  - 7.1 Post caps and extension arms: of pressed steel or cast or malleable iron and galvanized to CSA G164 standard.
  - 7.2 Tension wire: bottom and top wires 6.0 gauge medium tensile galvanized wire.
  - 7.3 Tie wire: 9.0 gauge aluminum wire for mesh fixing to line posts.
  - 7.4 <u>Hog ring clips</u>: 9.0 gauge galvanized steel wire clips for mesh fixing to top and bottom tension wires.
  - 7.5 Tension bar: minimum 1/4" x 3/4" galvanized mild steel flat bar.
  - 7.6 <u>Tension bands</u>: 1/8" x 3/4" galvanized formed mild steel flatbars with galvanized bolts and nuts for all tension bar fixing.
- 8. All terminal posts (posts at ends, corners or intersections), all line posts and any intermediate tensioning posts shall be set plumb into concrete footings in augured or dug holes to the depths and regular spacing as indicated in the Schedule D.6 drawings.

### **D.6:** CHAIN LINK FENCE (continued)

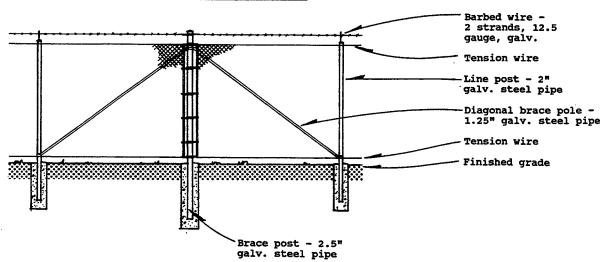
- 9. All posts shall be securely fitted with the appropriate weathertight caps and extension arms as shown in the schedule D.6 drawings.
- 10. Top and bottom tension wires shall be securely fixed taut and sag free to terminal posts and any intermediate tensioning posts. Top tension wire shall pass through line post tops.
- 11. Intermediate tensioning assemblies shall be provided where terminal posts are more than 500.0 ft. apart, and at any subsequent 500.0 ft. spacing, to consist of a straining post with diagonal pipe braces to adjoining line posts each way. (see Schedule D.6 drawings)
- 12. Chain link fencing mesh shall be stretched between terminal posts and any intermediate tensioning posts using proper equipment, and secured with tension bars and bands, tie wire and clips all in accordance with the requirements of the Schedule D.6 drawings. Joins in the length of wire mesh shall be made by weaving the mesh together with a single wire picket to form a neat continuous mesh.
- 13. Barbed wire shall be installed in the slots of all extension arms and secured to extension arms at terminal and intermediate tensioning posts taut and free of sags.
- 14. The fence shall be constructed in accordance with these specifications and details provided in the Schedule D.6 drawings which forms part of these specifications.

### **D.6:** Chain Link Fence

#### Terminal Tensioning Assemblies



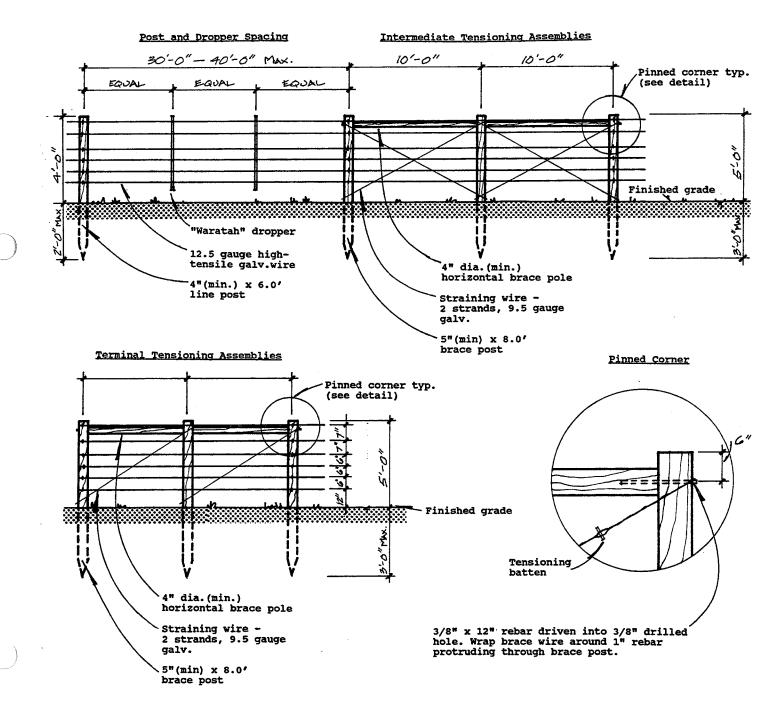
#### Intermediate Tensioning Assemblies



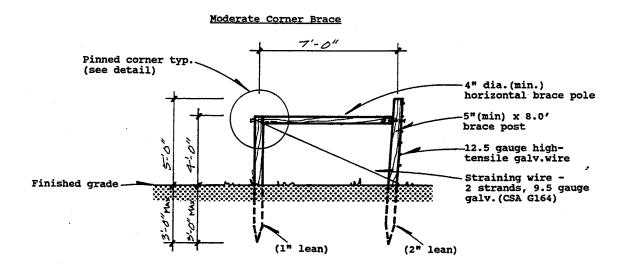
#### **D.7: HIGH-TENSILE SMOOTH WIRE FENCE**

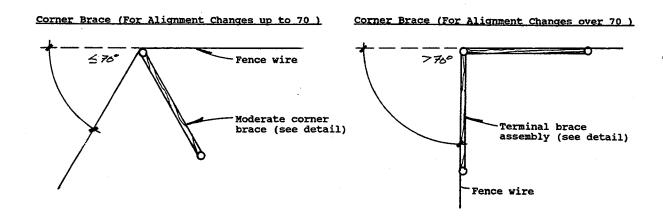
- 1. The High-Tensile smooth wire shall meet the following specifications:
  - 1.1 Type 12.5 gauge high tensile galvanized
  - 1.1.1 Breaking load 1250 lbf minimum
  - 1.1.2 Tensile strength 180,000 p.s.i. minimum
  - 1.1.3 Zinc coat weight 0.80 oz/ft.2 (class 3)
  - 1.2 Spacing (starting from ground), six wires spaced 12", 6", 6", 6", 6", 7" & 7" (top wire 44" above the ground), (See Schedule D.7 detail drawings)
  - 1.3 Tension use permanent in-line wire strainers to tension each wire to 250 lbs.
  - 1.4 <u>Joints</u> all line wire splicing shall be by mechanical connector. (i.e. "Nicropress" or "Wirelink") Use knot or mechanical connector at post tie off.
  - 1.5 Staples minimum 2" galvanized slash point.
  - 1.6 <u>Droppers</u> "Waratah" dropper 37" length
- 2. The fence posts shall meet the following specifications:
  - 2.1 All posts shall be pressure treated in accordance with CSA Standard 080.5 using a wood preservative non-toxic to surrounding plant material.
  - 2.2 <u>Single Span Strainer Assembly</u> both driven posts, 5"x 8.0 ft., driven 42"-48" deep in suitable soil. Horizontal top brace, minimum 4"x 10.0 ft. (see Schedule D.7 detail drawings)
  - 2.3 <u>Line Posts</u> minimum 4" x 6.0 ft driven 26" into ground, (in zones of severe frost lift use a 7.0 ft. post), spaced 30'-0" to 40'-0" apart. (see Schedule D.7 detail drawings)
  - 2.4 <u>Dip Posts</u> minimum 5" x 8.0 ft. driven perpendicular 50" into ground. (posts with a lift greater than 10" shall require a footing see Ministry of Agriculture publication listed below.)
  - 2.5 Twitch Sticks one 2" x 2" x 30" per single assembly.
- 3. The fence shall be constructed in accordance with these specifications, the details provided in the Schedule D.7 drawings which form part of these specifications, and in conjunction with the Ministry of Agriculture, Fisheries and Food publication, "An Introduction to High Tensile Smooth Wire Fencing".

## D.7: High-Tensile Smooth Wire Fence



## **D.7:** High-Tensile Smooth Wire Fence





#### LANDSCAPED BUFFER SPECIFICATIONS

#### PART 4: REFERENCES:

- 1. B.C. Society of Landscape Architects/B.C. Nursery Trades Association <u>British Columbia Landscape Standard</u>
- 2. B.C., Province of, Ministry of Agriculture and Fisheries, 1988 An Introduction to.... High Tensile
  Smooth Wire Fencing
- 3. Canada Mortgage and Housing Corp., 1985 The Interface between Farmland and Housing
- 4. Canada Dept. of Agriculture, 1968 Ornamental Shrubs for Canada
- 5. Grant John A. & C.L.Grant, 1990 Trees and Shrubs for Coastal British Columbia Gardens
- 6. Landphair-Klatt, 1979 Landscape Architecture Construction
- 7. Matsqui Planning Dept., 1990 <u>Urban-Rural Fringe Conflict Mitigation Techniques</u>
- 8. Matsqui Planning Dept., 1990 Matsqui Tree Guide
- 9. National Capital Commission, Ottawa Standard Drawings and Details
- 10. Richmond Planning Dept., 1986 Methods for Implementation of the Urban-Rural Interface In Richmond
- 11. Specimen Trees Ltd., 1991 Wholesale Catalogue
- 12. Stevenson/Losee Landscape Architects Ltd., 1992 PlantLayout/Spacing Information