Belleayre Mountain Ski Center UMP-DEIS

Appendix M
Parking Lot Screen Conceptual Planting Plan Memo

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Prepared for:

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Memorandum

Date:	November 11, 2009
To:	Mr. Andy Niles NYSDEC, Bureau of Design and Construction
From:	Bob Singer Ecology and Environment, Inc.
Subject:	Belleayre Ski Resort Unit Management Plan- Parking Lot Screen Conceptual Planting Plan

Proposed Parking Lot Screen Conceptual Planting Plan

We recommend planting a combination of deciduous and coniferous trees and shrub species to create a wind break and visual screen along the proposed parking lots planned as part of the proposed expansion of the Belleayre Ski Resort in the three linear locations noted on the Parking Screening drawing from NYSDEC. Our recommendations are intended to assist in the development of a final planting design consistent with the overall landscape plan for the Belleayre Ski Resort and the NYSDEC Unit Management Plan.

The attached draft planting specifications contain a list of species, spacing requirements, and the recommended size and form of each tree and shrub species. These species were selected based on their native range and commercial availability, adaptability to adverse conditions (plasticity), low maintenance, growth habits (shape and form) to provide screening, and life expectancy in managed landscapes. These plants will provide a physical and visual barrier to the facility infrastructure as well as habitat to small mammals and song birds likely to utilize this area as habitat. Hemlock (*Tsuga canadensis*) and all ash species (*Fraxinus* spps.) are omitted from consideration due to the threat of invasive insect species, specifically the hemlock wooly adelgid and emerald ash borer. Although single species could be used in each or all of the planting areas, it is recommended to integrate species for diversity of habitat, form and function within available planter areas. One groundcover species was included for use under trees and around shrubs for diversity and for visual effects. No herbaceous layer species were included because they typically do not function as wind breaks or serve as visual screens. Native forbs and grasses consistent with facility landscape would be appropriate and would add another dimension to design and appearance. E & E would provide recommendations for herbaceous species upon request.

Given space constraints and the linear shape of the planting area, we suggest the following concepts for the layout of the plants:

- A tiered linear design with shorter shrub species on one or both sides of tree forms,
- Staggered, mixed species assemblage of shrubs and tree forms,
- Combination of the above with open crossovers to allow for pedestrian movement.

BELLEAYRE SKI RESORT UMP – SCREENING PLANTINGS

RECOMMENDED PLANTING AND START UP

PART 1 GENERAL

1.1 SUMMARY

A. This section includes procedures and requirements for establishing a visual screen and wind break at three locations located adjacent to planned parking lots associated with the proposed expansion of the Belleayre Ski Resort.

1.2 REFERENCES

Association of Nurserymen, Inc. - ANSI Z60.1-1996. American Standard for Nursery Stock, American National Standards Institute, Inc.

Manual of Vascular Plants of the Northeast United States and Canada, Gleason and Cronquist, 1991

A Checklist of New York State Plants, Contributions to a Flora of New York State, Checklist III, Bull. # 458, Richard S. Mitchell, State Botanist, New York State Museum, 1986.

USDA, NRCS. 2009. The PLANTS Database (http://plants.usda.gov, 7 November 2009). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

Fire Effects Information System, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis .

1.3 DEFINITIONS

Dormant Season: period between fist and last killing frost of the growing season. In this zone, dormant season is considered to be approximately between November 1 and May 1.

Bare Root: Plant material planted in bare root form or without soil ball attached to roots.

Caliper: Nursery trade diameter measurement of tree at a point 6 inches above ground line in contrast to timber industry measure at 4.5 feet above ground level or "diameter at breast height" (DBH).

Nursery Stock: Plants grown in or obtained from a nursery.

Multi Stem: Tree or shrub having multiple leaders originating from basal area.

Native Soil: Soil found on site not composed of fill or amended with foreign material.

Topsoil: soil or amended soil from off site source used to backfill planting or seeding areas.

Native: Plant or animal species indigenous or naturally occurring within a particular ecological region.

Ecotype: Plant species that are native or indigenous to an area within approximately 150 miles of a particular site.

Mycorrhizal Innoculant: Fungus species introduced to root systems or rhizospheres to enhance growth response related to soil nutrient uptake in plants.

Landscape Architect or Restoration Specialist: Agent for project sponsor responsible for inspection and approval of plant material, products, landscape construction oversight and installation practices.

1.4 PLANT SOURCES

A. All trees and shrubs obtained from nurseries must have been produced by plants with a provenance from within a 150-mile radius (local ecotypes) of the restoration site. The Contractor shall submit verification from the nurseries stating the growing location of plant stock and seed sources for all plant material used on this project. However, a reasonable effort shall be made to obtain sources of plants as close to the restoration site as possible. All plants grown and/or originating from outside the 150-mile radius will be subject to rejection. In addition, all plants must have been grown within the 5 to 6, inclusive, USDA Plant Hardiness Zones. No substitutions of specified plants will be accepted without the written permission of Restoration Specialist or Landscape Architect.

B. Trees, shrubs and herbaceous material shall be as specified in the Contract Documents. Plant substitutions may be made only if specified plants are not available and substitutions must be approved by NYSDEC in advance of delivery to site.

C. The Contractor shall comply with all regulations applicable to landscape materials. Landscape materials shall be shipped with certificates of inspection as required by governmental authorities.

D. All plant materials supplied shall be in sizes and dimensions in accordance with ANSZ60.1 "American Standard for Nursery Stock" as referenced above (e.g., ball diameter, plant height, number of stems, etc.).

E. The Contractor shall provide healthy, vigorous stock, grown by a professional nursery in accordance with good horticultural practices and free of diseases, insects, eggs, larvae and defects including but not limited to; knots, sun-scald, injuries, abrasions, or disfigurement.

F. All plants furnished under shall be true to name. Plant names shall agree with the nomenclature of "Manual of Vascular Plants of the Northeast United States and Canada," Gleason and Cronquist, 1991.

PART 2 PRODUCTS

2.1 PLANT MATERIALS

List of Recommended Species

	COMMON NAME	BOTANICAL NAME	SPACING (feet)	FORM - SIZE
A	Downy Serviceberry	*Amelanchier arborea*	6 X 6	Shrub, MS* - #5 CG**
B	Allegheny Serviceberry	*A. laevis*	10 X 10	Shrub, MS - #5 CG
C	Eastern Red Cedar	*Juniperus virginiana*	12 X 12	Tree, C*** - 5'/6'
D	White Pine	*Pinus strobus*	25 X25	Tree, C - 5'/6'
E	Balsam Fir	*Abies balsamea*	25 X 25	Tree, C - 5'/6'
F	Red Pine	*Pinus resinosa*	25 X 25	Tree, C - 5'/6'
G	Northern Bayberry****	*Morella pensylvanica*	6 X 6	Shrub, MS - #5 CG
H	Sand Cherry	*Prunus pumila* var *depressa* 'Catskill'	4 X 4	Groundcover - #1 CG
I	Ninebark	*Physiocarpus opulifolious*	6 X 6	Shrub, MS - #1 CG

* MS – Multi Stem
** CG - Container Grown
*** C - Conifer
**** Nitrogen fixation

Preference will be given to supplier with local source.

2.2 PLANTING MATERIAL

A. Natural organic fertilizer shall be used to fertilize exist soil. Preference shall be given to Plant Health Care's "Healthy StartTM" (3-4-3) Fertilizer, or approved equivalent.

B. A mycorrhizal (ectomycorrhizal) inoculation shall be used to augment the soil. Preference shall be given to :

Plant Health Care's, Mycor TreeTM SaverTM Transplant Inoculant
P.O. Box 355
Old Westbury, NY 11568-0355,
Tel # 516-338-8786

or approved equal.

C. Wood chip mulch shall be aged at least one year prior to use and be free of insects, diseases (e.g., elm, black pine, Austrian pine etc.) or any other material or chemical that would be detrimental to the plant material used on this project. Shredded wood chip mulch is not acceptable.

D. Site plan, proximity of screening plants to impervious surfaces and infrastructure may require "Structural Soil" design for planting areas. Information on applications and use of "Structural Soil" is available on-line from the Urban Horticulture Institute – Outreach http://www.hort.cornell.edu/uhi/index.html

PART 3 EXECUTION

3.1 PLANT COLLECTION

A. Obtain/purchase planting stock from a nursery. No plants collected from the wild or roadside ditches will be accepted.

B. The Contractor shall provide fresh plant material in containers as specified in Part 2.1. Cold storage or previously dug plants will not be acceptable.

C. The contractor shall not prune prior to delivery unless otherwise directed and approved by the project Restoration Specialist or Landscape Architect. Plants that are pruned without authorization from the Restoration Specialist or Landscape Architect will be rejected.

D. Plant material shall be delivered to the site in such a manner as to not damage the ***stem,*** bark, branches, or ***otherwise*** destroy the natural shape of the plant. To protect plant material from desiccation, the Contractor shall apply an approved anti-desiccant 48 hours prior to digging and fully cover plant material during transportation to the planting site. Plant material shall not be dropped or in any way be mishandled during unloading. Plants damaged during transportation to the site will be immediately rejected. Unacceptable conditions shall include but not be limited to the following: loose burlap or rope, soil spilling from containers, plants that move independently of root ball or container, soil missing from containers and irregularly shaped root balls.

D. Plants shall be delivered only when preparations for planting have been completed and plants can immediately be installed. If planting is delayed for more than six hours after delivery, set plant material in shade, protect from mechanical damage and keep roots moist by covering with mulch, burlap or other acceptable means of retaining moisture, watering as necessary.

E. All plants shall be subject to inspection and approval by the Restoration Specialist or Landscape Architect. Plants will be inspected and tagged at the place of growth before being dug or transported to the site. Selection and/or tagging of material shall cover the type and quality of the plant only, but shall not constitute final acceptance nor preclude the right of rejecting plants not fully meeting the requirements of the specifications. No plant material shall be accepted without prior nomenclature labeling at the nursery of origin. The nursery label must display the full botanical name of the plant.

F. All nursery stock furnished by the Contractor shall be subject to inspection within 48-hours after delivery of said stock. The plants shall also be subject to such inspection during the life of the contract, and infestations occurring on the stock as a result of conditions existing prior to the receipt of the plants on the project as determined by the Restoration Specialist or Engineer shall be cause for rejection.

G. Each shipment of plants must be declared and certified free of diseases of any kind with such necessary inspection certificates accompanying each shipment.

H. The time of planting is subject to the type and size of the material, method of planting and approved planting schedule. The Contractor shall furnish a certification from the nursery regarding the date of digging for all applicable plant material.

I. Unless otherwise directed by the Landscape Architect or Restoration Specialist in writing, dormant plant material shall be planted and transplanted from March 1 to May 1 and from October 15 to December 1. Containerized or balled and burlapped plant material shall be planted and transplanted from April 15 to May 15 or from August 15 to September 15**.** Perform actual planting only when weather and soil conditions are suitable for optimal benefit to the plant. No plant material shall be planted when the ground is frozen or in excessively moist

condition. Notify the Landscape Architect or Restoration Specialist at least three days (excluding weekends) in advance before proceeding with any planting operations.

J. When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify the Landscape Architect or Restoration Specialist before planting.

N. WATERING

.All plant material shall be thoroughly watered immediately after installation.

O. PLANT STAKING

The Landscape Architect or Restoration Specialist will field determine if stakes are required.

P. FERTILIZATION

Under this item the Contractor shall furnish, spread and incorporate at the specified rates, an approved Natural Organic Biofertilizer as specified in Part 2.2, in planting areas. The fertilizer shall have the following composition:

NUTRIENT ANALYSIS

Total Nitrogen	3%
Water Soluble Nitrogen	2%
Water Insoluble Nitrogen	1%
Available Phosphoric Acid (P_2O_5)	4%
Soluble Potash (K_2O)	3%
Calcium (Ca)	5%
Sulfur (S)	2.8%
Magnesium (Mn)	0.5%
Iron (Fe)	0.4%

APPLICATION RATE (Healthy Start manufacturer's recommendation or approved equal)

PART 4 LANDSCAPE GUARANTEE AND REPLACEMENTS

A. All landscaping work shall have a maintenance and replacement guarantee for a period of two (2) years beginning at the date of acceptance of the Landscaping work or the date of substantial completion, whichever is later. Contractor shall request in writing an inspection of all landscaping work when completed to begin the maintenance and guarantee period.

B. Plant material found to be unsatisfactory or in poor condition shall be removed and replaced at the appropriate planting season for that type of plant material. No payment will be made for plant material found to be unacceptable during this inspection.

C. The Contractor shall submit, in writing, any conditions or species, which they feel may be questionable prior to ordering, said plants. If agreeable, the Landscape Architect or Restoration Specialist will substitute recommended species or address the conditions deemed unsuitable. However, upon ordering a plant and installing it, the Contractor accepts the responsibility for guaranteeing the plant's survival. There shall be no exception.

D. During the guarantee period, any plant material that is dead or not showing satisfactory growth, as determined by the Landscape Architect or Restoration Specialist, shall be promptly removed and replaced by the Contractor during the appropriate planting season for that type of plant material as determined by these specifications. The replacement shall be of the same variety, size and character as specified for the original planting and continue to be under the same maintenance and guarantee. That is, they will be subject to replacement again up to the end (two years from date of final acceptance of the Landscaping work or the date of substantial completion, whichever is later) of the previously established guarantee period. The Landscape Architect or Restoration Specialist shall be the sole judge as to the condition of the plants. The guarantee and maintenance applies to all planted areas.

E. Unless a written waiver of this clause is issued, under the terms of the guarantee, replacement plants shall be chosen only by the Landscape Architect or Restoration Specialist.