Olympic Sports Complex at Mount Van Hoevenberg
Unit Management Plan Update and Amendment
and Generic Environmental Impact Statement

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Executive Summary

Section 816 of the Adirondack Park Agency Act directs the Department of Environmental Conservation (DEC) to develop, in consultation with the Adirondack Park Agency (APA), Unit Management Plans (UMPs) for each unit of land under its jurisdiction classified in the Adirondack Park State Land Master Plan (SLMP). Concurrent with the development of UMPs is the creation of a Generic Environmental Impact Statement (GEIS) which analyzes the significant impacts and alternatives to each UMP.

This document, prepared by the Olympic Regional Development Authority (ORDA), is an update and amendment to the 1986 UMP and GEIS for the Mount Van Hoevenberg Recreation Area, now referred to as the Olympic Sports Complex (the "Complex"). As a Unit Management Plan, it satisfies the requirements that such plans contain an inventory of existing resources, facilities, systems and uses, a discussion of management policy, a description of proposed management actions, a discussion of the potential impacts of such actions, a description of mitigating measures and a description of alternative actions. As an environmental impact statement, it meets the requirements of the State Environmental Quality Review Act (SEQRA), which are similar to those for UMPs, as well as requirements unique to SEQRA, such as a discussion of growth inducing aspects.

The creation of the UMP requires compliance with SEQRA. The SEQRA aspects of this document are presented as a Generic Environmental Impact Statement. Generic EIS' may be used to assess the environmental effects of a sequence of actions contemplated by a single agency or an entire program or plan having wide application (6NYCRR617.15(a)(2) and (4)). They differ from site specific EIS' in that they apply to a group of common and related activities which have similar or related impacts. It is the intent of this GEIS to provide sufficient, site specific information for all aspects of the UMP except the snowmaking reservoir, the new racer's facility and the trailhead parking facility. The analysis in this GEIS identifies threshold issues and alternatives at a level of detail sufficient to demonstrate the environmental feasibility of the proposal for the racer's facility and the snowmaking water reservoir. It does not address final design and construction, which will be addressed in a work permit application to the NYSDEC. No additional SEQRA analyses are anticipated to be required for any other management action in this UMP, provided that such actions are carried out in accordance with the recommendations of this document. Similarly, no additional UMP approvals are anticipated to be required upon completion of this process.

The Olympic Sports Complex is a year-round recreational, day-use sports facility owned by the State of New York under the administrative jurisdiction of the Department of Environmental Conservation. The Complex is currently managed by ORDA under an agreement with the DEC. The Complex is located off NY Route 73 approximately seven miles southeast of the Village of Lake Placid, in the Town of North Elba, Essex County, New York.

The Olympic Sports Complex at Mount Van Hoevenberg is a New York State-owned facility operated by the Olympic Regional Development Authority to provide the public with intensive forms of recreation for both the spectator and participant. It is classified

as an "Intensive Use Area" under the Adirondack Park State Land Master Plan, and is located on lands which are under the jurisdiction of the Department of Environmental Conservation.

The Olympic Sports Complex at Mount Van Hoevenberg currently benefits winter recreators and competitive athletes involved in bobsledding, luge, cross-country skiing and biathlon sporting activities. Summer recreators at Mount Van Hoevenberg can mountain-bike, horseback ride and hike on the cross-country and biathlon trails, use the biathlon target range, ride wheeled bobsleds and luges, and tour the Complex. It is maintained as a sports facility meeting international standards under developed and competitive conditions.

The facility includes approximately 50 km of cross-country ski trails, three lodges, independent bobsled and luge runs, a biathlon target range and a cross-country ski school program.

The primary motivation behind this UMP is to increase the safety and experience of competitive athletes and recreational users and to maintain the facility as a quality training, conditioning and racing sports complex meeting current international Olympic standards, consistent with Article XIV and the SLMP.

The following specific objectives have been identified for the updated UMP:

1. ORDA will continue to manage the Olympic Sports Complex in an environmentally responsible fashion by complying with all applicable rules and regulations and by maintaining an on-going dialogue with the DEC and APA on matters of environmental concern.

2. ORDA will seek to improve the quality of facilities at the Complex in order to continue to attract competitive and recreational athletes from New York State, the United States and the international sports community, in order that public use may better help promote the economy of the area.

3. ORDA will seek to develop new summer and other off-season events to provide greater year-round use of the facility by the public, consistent with Article XIV and the SLMP.

4. ORDA management will seek to establish annual budgets and schedules in support of the proposed capital improvements plan and other management objectives.

5. ORDA will seek to improve equipment reliability in order to reduce the frequency of breakdown, associated staffing requirements and consequent financial drain.

6. ORDA will seek to establish the Olympic Sports Complex as an international caliber facility for competitive events in bobsled, luge, biathlon and cross-country skiing.

The development of the UMP follows a logical sequence which includes an inventory of existing conditions, an analysis of potential improvements, and the creation of the proposed plan which is the subject of this UMP.

The improvements identified in the UMP are proposed to be accomplished in five phases over the next five years. ORDA recognizes that implementation may take longer for a variety of reasons.

Throughout the course of the five phases, progress evaluations will be conducted annually, work compared with the goals and objectives, and the project refocused as deemed necessary by the Olympic Sports Complex and ORDA. The results of this annual review will be a budget for the next phase of work that can be taken to the appropriate agencies for approval prior to the beginning of the work period.

The implementation of the proposed UMP is governed by a variety of laws and regulations. Article XIV of the State Constitution governs the management of forest preserve land in the Adirondack Park. The proposed UMP actions will be conducted in accordance with the provisions of Article XIV which limits the clearing and creation of development deemed to be incompatible with the use and preservation of the Forest Preserve.

During the preparation of this Generic Environmental Impact Statement, it became clear that the State Constitution Article XIV issues related to the project need to be resolved before certain desirable management actions can be implemented. Each of the proposed management actions has been specified either as those actions which can occur when the UMP is approved and adopted, or those actions which can occur pending resolution of the Article XIV issues.

With regard to Article XIV, it is clear that the New York State Constitution needs to be amended to include specific provision for the facilities at the Complex, including the ski trails, lodges and appurtenances thereto.

The following improvements and upgrades are proposed in this UMP/GEIS.

Management Actions which can take place when UMP is approved and adopted:

Trails

- Maintain cross-country and biathlon ski trails to applicable International Ski Federation (FIS) and International Biathlon Union (IBU) standards
- Continue trail homologation (international standardization)
- In kind replacement of bridges on ski trails
- Construct mini-stadium bridge to increase safety at high speed trail intersection

- Create a longer straightaway at the start/finish at the current cross-country stadium and relocate timing building

- Upgrade trail signage and trail maps

Bobsled/Luge Run

- Construct new combined bobsled/luge track

Biathlon Course Amenities

- Purchase portable scoreboard

Lodges

- Rehabilitate the biathlon lodge as a recreational lodge (includes outside deck, berms and landscaping)

Parking

- Restructure the existing cross-country ski center parking lot to accommodate better traffic flow, drop-off area and parking pods

- Restructure the existing biathlon lodge parking area to improve traffic flow, accommodate parking spaces, and provide overflow parking

- Restructure the existing access to the bobsled/luge area by creating a loop road with a vehicle drop-off zone

Miscellaneous

- Purchase additional grooming equipment

- Maintain and replace security fencing

- Maintain grounds and physical plant (two buildings need roof work, one needs a boiler)

- Replace bridge at existing pump station and replace weir as required by DEC and described within this UMP

- Develop and schedule off-season events such as horse shows and festivals

- Replace wooden snow fencing on trails

Management Actions Pending Article XIV Resolution:

Trails

- Create three connector trails
- Widen trails north of the access road
- Construct a snowmaking system on 7.3 +/- km of ski trails. This includes building a reservoir, a building to house pumps and air compressors and controls, installing a transformer, adding a pump at the existing pump station where bobsled run icing water is currently withdrawn, installing water and air piping with snowmaking gun hydrants and power to run the guns along the trails where snowmaking is planned
- Replace two ski tunnels under the access road
- Construct a destination hut (unheated and unmanned) on the Porter Mountain loop

Lodges

- Build new racer's facility/training center in a location with better drainage to replace the cross-country lodge
- Relocate wax test area to be adjacent to new racer's facility if necessary

Parking

- Pave parking fields with high rate of use
- Pave loop road to bobsled/luge area
- Construct trailhead parking area in conjunction with DEC and DOT

Miscellaneous

- Construct a pole barn for equipment storage

In addition to those above, the improvements identified in the 1986 Unit Management Plan, which remains in effect today, are still valid. Certain of the improvements in the 1986 UMP have been modified and updated in this UMP, while others have been deferred. Many improvements identified in the 1986 UMP have been constructed, while others are under construction. They are identified as part of the five year update, and are noted as already approved in the 1986 UMP. These include land acquisition, scheduling of summer programs, annual review and appropriate modification of facilities with respect to established safety standards, and maintenance of the facility. The status of actions in the 1986 UMP is summarized within this updated UMP in Table 1-1, "Status of 1986 UMP, As Amended, Management Actions."

The final design for the combined bobsled/luge run is provided herein, as well as more specific information regarding the construction phasing plan relative to the specific components of this project.

The SLMP classifies State lands in the Forest Preserve according to their character and capacity to withstand use and sets forth general guidelines and criteria for the management and use of State lands. The SLMP classifies the Olympic Sports Complex as an Intensive Use Area. Intensive Use Areas are provided to allow for a significant number of visitors and a high level of use. The SLMP contains a number of management guidelines, including a recommendation that the Olympic Sports Complex "should be maintained as a year-round sports facility meeting international standards for such sports as bobsled, luge, biathlon and cross-country skiing on improved cross-country ski trails under developed, competitive conditions."

The following potential impacts have been identified from the actions proposed in the UMP.

Vegetation

The trail maintenance, construction of three connector trails, straightaway lengthening at the cross-country stadium and construction of other improvements such as a snowmaking water reservoir will result in the cutting of trees. Approximately 234 trees will be cut as a result of the plan. All vegetative cutting will be conducted in compliance with DEC tree cutting policies and State Constitution Article XIV.

Water and Wetland Resources

An attempt has been made to avoid on-site wetlands in the planning and design of the proposed improvements to the existing facilities. However, some proposed improvements will affect wetlands which are subject to federal regulation enforced by the US Army Corps of Engineers (ACOE), and possibly subject to state wetland regulations administered by the Adirondack Park Agency.

It should be possible to accomplish all of the necessary improvements under authorization of several of the general permits administered by the ACOE which are known as "nationwide permits." In performing the proposed work, ORDA will comply with the general conditions for nationwide permits. A jurisdictional determination will take place to determine if any of the activities will take place within state-regulated wetlands.

The proposed water withdrawal for the snowmaking system will not have a significant impact on North Meadow Brook or downgradient surface water resources. Optimum stream flow conditions will be maintained.

Soils

Construction of improvements on the Complex has the potential to result in soil erosion. Several measures are identified in the DGEIS to mitigate this impact.

Visual Resources

The proposed improvements will not have a significant impact on existing vantage points from which views of the Olympic Sports Complex exist. No new vantage points are created by development of the proposed management actions.

Fish and Wildlife

No rare, threatened or endangered species will be affected by the project. Fish in North Meadow Brook will not be affected because the volume of water which will be withdrawn for snowmaking is too small to have a significant impact on flows.

Transportation

The proposed improvements will not result in a significant impact on transportation resources.

Community Services

There will be some increase in demand for community services such as fire, police, rescue, solid waste and health care. However, the Complex presently makes very little demand on such services and the increase in such demand is anticipated to be small.

Local Land Use Plans

The proposed actions identified in the UMP are consistent with local planning documents such as the Town of North Elba Local Land Use Code and the Comprehensive Land Use Plan for the Town of North Elba and the Village of Lake Placid. The Comprehensive Land Use Plan has been revised and includes a discussion of ways to make the region a year-round destination, which is also one of the goals of this UMP.

Economics

Actions identified in the proposed UMP will have positive economic impacts through direct construction purchases, payroll and through new hires. In addition, competitors, recreators and spectators drawn to the Olympic Sports Complex will spend money. All such spending will be positively multiplied throughout the community.

Growth Inducing, Secondary and Cumulative Impacts

The proposed UMP is likely to allow the facility to serve the community and continue to stabilize growth in the lodging, housing, restaurant and retail sectors. However, it is anticipated that the proposed UMP will encourage and strengthen more consistent year-round attendance at the Olympic Sports Complex, with attendant consistent year-round use of existing regional lodging, eating and retail establishments. Similarly, the cumulative impacts of all ORDA facilities has been considered which indicates that ORDA has a significant positive economic impact on the Adirondack North Country Region and to the State of New York. In 1994, the direct impact was $69.5 million,

SECTION IV PROPOSED MANAGEMENT ACTIONS, PHASING, AND PROJECTED USE

SECTION V POTENTIAL IMPACTS AND MITIGATION MEASURES

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List of Abbreviations

ACOE	Army Corps of Engineers
APA	Adirondack Park Agency
cfs	cubic feet per second
d/b/a	doing business as
dbh	diameter at breast height
DEC	Department of Environmental Conservation
DGEIS	Draft Generic Environmental Impact Statement
FIS	Federation International de Ski (International Ski Federation)
gpm	gallons per minute
IBU	International Biathlon Union
km	kilometer
mm	millimeter
NYSEF	New York Ski Education Foundation
ORDA	Olympic Regional Development Authority
PPB	Parts Per Billion
UMP	Unit Management Plan
USBA	US Biathlon Association
USOC	US Olympic Committee
USSA	United States Ski Association
SLMP	State Land Master Plan
SPDES	State Pollutant Discharge Elimination System

SECTION I INTRODUCTION

A. General

The Olympic Regional Development Authority (ORDA) is updating and amending the 1986 Unit Management Plan (UMP) and Generic Environmental Impact Statement (GEIS) for the Olympic Sports Complex at Mount Van Hoevenberg in the Town of North Elba, Essex County, New York. This document serves as both the Unit Management Plan and as a Generic Environmental Impact Statement. As a Unit Management Plan, it satisfies the requirements that such plans contain an inventory of existing resources, facilities, systems and uses, a discussion of management policy, a description of proposed management actions, a discussion of the potential impacts of such actions, a description of mitigating measures and a description of alternative actions. As an environmental impact statement, it meets the requirements of the State Environmental Quality Review Act (SEQRA), which are similar to those for UMPs, as well as requirements unique to SEQRA, such as a discussion of growth inducing aspects. The document is organized in a logical fashion in order that each section meets SEQRA requirements.

The UMP covers a five year period; consequently, the management actions are presented as a "five-year plan." The UMP will be amended as needed to remain current.

The SEQRA aspects of this document are presented as a generic environmental impact statement. Generic EIS' may be used to assess the environmental effects of a sequence of actions contemplated by a single agency or an entire program or plan having wide application (6NYCRR 617.15(a)(2) and (4)).

As a GEIS/planning document the analysis of a particular action is completed to the extent data is available that provides a reasoned elaboration of the issues. Some actions will require additional approvals by other agencies or the legislature. This document describes the action and the likely ramifications to the particular site and local or regional environment. Generic Environmental Impact Statements differ from site specific EIS' in that they apply to a group of common and related activities which have similar or related activities. It is the intent of this GEIS to provide sufficient, site specific information for all aspects of the UMP except the proposed snowmaking water reservoir and the new racer's facility. The analysis in this GEIS identifies threshold issues and alternatives at a level of detail sufficient to demonstrate the environmental feasibility of the two projects. It does not address final design and construction, which will be provided in a work permit application to the NYS DEC. No additional SEQRA analyses are anticipated to be required for any other management action in this UMP, provided that such actions are carried out in accordance with the recommendations of this document. Similarly, no additional UMP approvals are anticipated to be required upon completion of this process.

The Olympic Sports Complex at Mount Van Hoevenberg is a New York State-owned facility operated by the Olympic Regional Development Authority to provide the public

with intensive forms of recreation for both the spectator and participant. It is classified as an "Intensive Use Area" under the Adirondack Park State Land Master Plan, and is located on lands which are under the jurisdiction of the Department of Environmental Conservation.

B. Project Purpose

The Olympic Sports Complex at Mount Van Hoevenberg currently benefits winter recreators and competitive athletes involved in bobsledding, luge, cross-country skiing and biathlon sporting activities. Summer recreators at Mount Van Hoevenberg can mountain-bike, horseback ride and hike on the cross-country and biathlon trails, use the biathlon target range, ride wheeled bobsleds and luges, and tour the Complex. It is maintained as a sports facility meeting international standards under developed and competitive conditions.

The Olympic Regional Development Authority's overall purpose for the Olympic Sports Complex at Mount Van Hoevenberg is to institute comprehensive activities utilizing the complex to insure optimum year-round use and enjoyment of the facilities to the economic and social benefit of the Olympic region and to extend opportunity to improve the physical fitness, athletic education and recreational education of the people of New York Sate and the United States. Management goals and objectives are specified in Section III. C. of this updated UMP.

The proposal to provide snowmaking on 7.3± kilometers of ski trails is a necessity in order to maintain the Olympic Sports Complex as a high caliber, state-of-the-art facility which can continue to attract recreational skiers and international and national level competitive athletes. Snowmaking will create consistent conditions and allow more consistent use for training and conditioning which is desired by both professional and amateur athletes alike.

The purpose of the ski trail snowmaking proposal is to increase use of the facility by recreational skiers to what is has been in the past. As indicated by the usage figures provided in Section II. D.2., Inventory of Existing Use, Cross Country, use of the facility trails by recreational skiers has steadily decreased over the years from approximately 23,240 in the 1986/87 season to 7,686 in the 1994/95 season.

The improved biathlon and cross-country trails will also be heavily used by athletes associated with disciplines including Biathlon, Nordic, Combined and Speed Skating.

Of the total United States Ski Association (USSA) cross-country membership, 31.8% and 42.6%, respectively, of all competitors and all masters athletes live within New York and New England. There are many more ski racers who do not buy a USSA license. This information indicates a need for maintenance of suitable racing facilities such as the Olympic Sports Complex for these athletes. The USSA 1996 membership data also indicate that 58.3% of all USSA youth cross-country members live in New York and New England, and an upgraded facility has the potential to serve more of the young national racers than any located anywhere else in the country.

Another goal of this UMP is to establish the biathlon lodge as a recreational ski lodge and the cross-country lodge as a training facility in order to provide the proper amenities and ambiance required to maintain and strengthen use of the facility by athletes, recreators and spectators. The upgrading of the cross-country stadium to existing International Ski Federation Standards, maintenance of cross-country ski trails and the addition of three connector trails is solely to enhance the skiers safety and ski experience.

The need for many of these improvements is outlined in a September 22, 1994 Trail Report (provided in Appendix A, "Documents of Record") from Al Maddox, an FIS representative who has inspected the ski trails at Mount Van Hoevenberg and who has been participating in the course homologation (or international standardization) program, as follows.

"Lake Placid has been designated by the USSA as a willing host for World Cup Races in 1996. Since 1992 World Cup sites have been required to meet minimal technical specifications that will insure a safe competition, a physical and tactical challenge suited to today's elite racers and an infrastructure that can support the needs of the teams, the media and the spectators.

The homologation process has been established to provide a collaborative effort among local organizers and F.I.S. appointed inspectors. Together they share a common objective of maximizing the site's capability in order to deliver the services noted above.

Since 1980 when Lake Placid hosted a very successful Olympic Winter Games, the sport of cross-country skiing has undergone significant changes.

- The emergence of a new technique, "skating" or Free Technique, has dramatically affected the required quality of surface preparation and the standards for minimum widths of trails.

- Relay events now use both techniques in their format, 2 legs Classic and 2 legs Free. These mass start formats also promote pacing strategies that impact on the course design considerations for safety and fair play.

- Pursuit start races were introduced most recently to improve spectator appeal and to determine a combined winner in both techniques. This exciting format can easily put sixty to seventy racers on the course within 5 minutes of the start. A well designed pursuit course should keep the spectator involved often as the course loops back through or near the stadium in order to maximize spectator appeal.

- Speed and more speed has become the focus of a high tech skiing and waxing industry. The effect of new materials and manufacturing technology combined with better training programs continues to place a faster skier on the race course. The

corners on the down hills that were skiable 10 years ago may now require redesign or significant banking in order to provide a safe descent.

- An increase in the number of ski nations especially with the breakup of the Eastern Block has resulted in larger race entries at many of the World Cup Circuit events. A maximum of 100 has been set for the time being but even that can be difficult for narrow trails and small stadiums.

- New requirements for prize money (12000 Swiss Francs per race) and the competition for equipment endorsements further necessitate that race courses present a fair finish with separated lanes in order to minimize interferences, intentional or otherwise.

In another 10 years there are sure to be more changes. Race courses that are suitable today will require upgrading again. It is important to recognize as site developers that cross-country skiing will remain dynamic as it matures in the North American market and as a result, competition facilities that wish to remain at the forefront will need to upgrade and improve their services in a timely manner."

The age of the existing bobsled and luge runs have far reaching ramifications for all competitive users. The bobsled was essentially constructed in 1980 on the original course layout for the 1932 Olympics. The accepted technology in 1978 was to construct the track at grade or below grade. The construction of the track was at grade or below grade with construction fills to depths of 0-5 feet and limited perimeter drainage. The perimeter drainage was not comprehensive and did not completely remove the groundwater from the site. This type of construction inadequately addresses the soil conditions of the site - which include limited soils, perched water tables and trapped drainages. The construction of the track within these soils or at grade in these soils has made the track subject to shifting due to annual freeze/thaw cycles. The freeze depth penetrated below the construction fills which were generally to a depth of 0-5 feet and over the years has caused a portion of the track to become misaligned both vertically and horizontally. This shifting of the track position has exaggerated the joints between segments. This shifting process has also stressed the refrigeration piping system. In some locations the refrigeration tubes are exposed, having broken through the upper layers of concrete.

The physical problems of the track require significant labor inputs in order to keep the track operating at a minimum acceptable level. The process of preparing the track requires that all joints that have shifted become completely covered by ice. To create the ice covering it is necessary to place water and snow (slush) mixtures over the individual joints. Establishing the ice cover over the joint with slush creates a bump in the track which has to be smoothed and tapered to conform to the track alignment. This entire process of covering and smoothing points along the entire 1,500 meters of track requires 18 employees on a daily basis. Creating a track in this fashion is inefficient due to high expenditures for refrigeration effort since the ice coverage becomes thicker with each successive repair. As multiple repairs take place the process becomes one of removing excessive ice thickness that is weak due to lack of

refrigeration capacity to freeze the ice pack and continue to repair thin spots created by wear.

This entire process can only take place in the dead of winter when low temperatures will freeze the excessive ice thickness. In the early season (October to December) it is impossible to set up the tracks for training or racing.

The luge track was constructed in 1978 for the 1980 Winter Olympic Games. In 1989 a number of severely frost damaged luge track foundations were stabilized and in the following year the luge outrun was extended.

The luge track is an elevated structure supported on foundations which extend to approximately 5 feet below grade and rest on native soils but are not anchored to bedrock. Frost penetration into the ground is estimated to be approximately 7 feet below grade or approximately 2 feet below the underside of the foundations. This situation has resulted in extensive frost related movements of sections of the luge track which have created dangerous conditions for athletes using the track when track-sections have moved relative to one another. In the case of the luge track, refrigeration piping is above grade and, therefore, does not contribute to frost development in the soils.

The new luge outrun structure, constructed in 1990, was designed with its foundations anchored to bedrock and, therefore, has experienced no discernible movements. During the previous year, foundation repairs were made to 12 of the 42 track sections to minimize their susceptibility to frost action. Further repairs were not made due to budget restrictions.

On the luge track, Curves 2 and 7 have serious geometry problems. The geometry of existing Curve 2 is such that the men's start had to be lowered to maintain the safety of the sleds through this curve. The International Luge Federation has requested that both curves be rebuilt to maintain their sanctioning of the track.

To overcome the geometry problems, track maintenance personnel utilize varying thickness of ice (sometimes up to 12 inches or more) to smooth out the geometry. This requirement results in excessive manpower demand for ice making and ice maintenance and increases refrigeration costs. Some grinding and patching of the concrete surface has occurred over the years in an attempt to improve the geometry, but these efforts are limited by the embedded refrigeration piping and reinforcing bars which limit the depth of grinding that can be accomplished.

The lack of surface adequate for training causes the United States bobsled and luge teams to have to train in Europe. The US bobsled and luge teams currently use Lake Placid for preseason conditioning prior to their departure to Europe.

The condition of the tracks also make it infeasible to host World Cup or advanced level competitive events. The tracks at this point can only be used for low speed tourist rides and training on the luge run.

All North American teams are at a disadvantage due to the lack of a sufficient number of modern competitive tracks in North America. The only available competitive tracks are the Calgary, Canada and the new Park City, Utah track. This is compared to some eight to ten tracks in Europe. The lack of sufficient competitive tracks in North America causes the entire World Cup season to be held in Europe except for the obligatory pre-Olympic testing of the Park City track.

The establishment of a modern combined run for bobsled and luge in Lake Placid will correct all these deficiencies.

The proposed management actions have regional implications in terms of providing the means to maintain or strengthen attendance at the Olympic Sports Complex, other Olympic Regional Development Authority facilities and the local support facilities which include hotels and other lodging facilities, dining establishments, shops, etc.

The sponsors of international competition, athletes and recreation users expect and must be assured that their patronage at Mount Van Hoevenberg is rewarded by safe use. This is accomplished through exemplary facilities and conditions. Periodic capital expenditures must be anticipated to make necessary changes in accordance with safety codes. It is not anticipated that such changes will cause significant adverse impact on the physical and biological elements in the environmental setting. Implementation of codes and standards will generally complement the environmental setting by protecting against improper acts, water discharge, refuse disposal and erosion.

Day use events should not require new construction or site distress, but will make use of existing facilities within established public use carrying capacities.

Additional water, electricity or sanitary facilities needs, if required, may be prepared on a temporary basis and installed to minimize site impact. Temporary lighting, water and chemical toilets will be removed from the area upon termination of an event. Revenues realized from an event off-set expenditures and will benefit both the Olympic Authority and local commercial interests. Improved utilization of the facilities at Mount Van Hoevenberg will be realized as future summer day use projects are implemented.

The goal of this updated UMP is to offer quality year-round recreation/competition programs on publicly owned lands for the benefit and enjoyment of the people of New York State, the United States and the international sports community. The proposed improvements will help to position the Complex as an economic catalyst to strengthen the private sector and local government economies. The proposed management actions can be accomplished while protecting the natural resource base in accordance with environmental conservation laws and all other applicable laws and regulations of the State of New York.

C. Location of Property

The Olympic Sports Complex at Mount Van Hoevenberg is located in the Adirondack Park approximately seven miles southeast of the Village of Lake Placid off NY Route 73 in the Town of North Elba, Essex County, as shown on Figure 1-1, "Regional Location Map." A paved access road (NY Route 913Q) about one mile long leads southwest from NY Route 73 to the heart of the area, as shown on Figure 1-2, "Site Location Map." The Complex is also accessible from two hiking trails, the Mr. Van Trail and the Mt. Van Hoevenberg Trail, which lead into the High Peaks Wilderness Complex located to the south of the Olympic Sports Complex.

D. General Facility Description

The Mount Van Hoevenberg land area classified as Intensive Use totals 1593.8 acres as shown on Figure 1-3, "Intensive Use Area Boundary." New York State title to this acreage is divided into three types:

1. Forest Preserve

Lands acquired as Forest Preserve and managed according to Article XIV of the State Constitution amount to 1270.35 acres, as shown on Figure 1-4, "Original Land Acquisition." This includes lands purchased by the State under the 1960 and 1962 Park and Recreation Land Acquisition Bond Acts which were acquired to allow special recreational uses and comprises some 352.58 acres.

2. Permanent Easement

By deed dated November 18, 1965, the State purchased from the Town of North Elba a permanent easement covering 323.45 acres. This easement was acquired for the purpose of developing, operating and maintaining a recreational area and facilities thereon.

3. Other Easement

A temporary easement currently exists to allow segments of cross-country ski trails to cross the privately owned land of Hamilton Corwin and Elizabeth Eldridge in Sub 3 of Lot 8. This easement is shown on Figure 1-5, "Temporary Ski Trail Easement."

E. History of Land Unit

1. Bobsled

The Olympic Sports Complex at Mount Van Hoevenberg traces its origins back to 1929 when the State Legislature passed an act authorizing the construction of a bobsled run on Forest Preserve lands situated on the Western Slopes of the Sentinel Range. This legislation was met with much opposition and litigation culminating in the so-called Crane decision which declared the 1929 act unconstitutional. Anticipating such a ruling, the Legislature, in 1930, passed a new statute setting up funds and procedures for the construction of a bobsled run on lands for which an easement might be required; this ultimately resulted in the construction of the bobsled run on a permanent easement acquired by the State from the Town of North Elba on the slopes of Mount Van Hoevenberg.

The bobsled run was used five times for world championship races in addition to the III and XIII Olympic Winter Games. It was approved in 1968 by the Federation Internationale de Bobsleigh et Tobogganing for future international competition. The bobsled run was operated continuously by the State from 1932 until the winter of 1971-72, with the exception of the war years of 1942-45. In 1971, as a result of fiscal restraints, the Mount Van Hoevenberg bobsled run was shut down and did not operate for the 1971-72 winter season.

During 1972, an agreement was reached with the Essex County Committee for Economic Development, an entity funded by the Federal Office of Economic Opportunity, to enable the Committee to manage and operate the bobsled run on a year-to-year basis for the purpose of creating and maintaining employment. The run was operated since the winter of 1972-73 until the winter of 1978-79 under the sponsorship of the Committee. In 1978, the Department of Environmental Conservation resumed management of the Complex, operating the facility through an annual appropriation from the Natural Heritage Trust.

The bobsled run originally opened as a 1 1/2 mile course and was shortened in 1936 to the current one mile length. Early on, the average number of operating days per season was 28. To guarantee the 1980 Olympic bobsled event, the full mile (1,557 meters) bobsled run was completely refrigerated, extending function to about 100 days annually. The bobsled run was subsequently shortened to 1,400 meters in 1990.

2. Cross-Country Skiing

In order to stage the Kennedy International Winter Games in 1969, a new and modern cross-country trail system was designed and constructed at Mount Van Hoevenberg. This trail system was the first in the country planned for the competitor, the spectator, and the recreational skier. The cross-country race course constructed in that period provide the excellent trails used by the recreational skier today and at that time met the International Ski Federation (FIS) requirements for Olympic and World Class competitions.

3. Biathlon

Due to the success of holding the 1973 National Biathlon Championships and the World Biathlon Championships on temporary ranges and the enthusiasm which was generated, the Department of Environmental Conservation made plans in the spring of 1973 to construct a permanent biathlon range and trail system. The bridge crossing and other facilities at the biathlon area were upgraded for the 1987 World Biathlon Championships.

4. Luge

In 1978, ground was broken for the construction of the luge run. This project was constructed using Federal Economic Development Administration funds as a part of the development required for the 1980 Winter Olympic Games. The luge run was modified in both 1989 and 1991 in an effort to maintain its international certification.

F. Description of UMP/GEIS Process

The Adirondack Park State Land Master Plan, adopted in 1971, provides guidelines for the preservation, management and use of State-owned lands by State agencies in the Adirondack Park. The Olympic Sports Complex land at Mount Van Hoevenberg is classified under the plan as an "Intensive Use Area." The plan provides that the primary management guideline for Intensive Use Areas is to provide the public opportunities for a variety of outdoor recreational pursuits in a setting and on a scale in harmony with the relatively wild and undeveloped character of the Adirondack Park.

Unit Management Plans must conform to the guidelines and criteria set forth in the State Land Master Plan. The Adirondack Park Agency Act (Section 816) directs the NYSDEC to develop, in consultation with the Agency, individual unit management plans (UMPs) for each unit of land under its jurisdiction that is classified in the Adirondack Park State Land Master Plan. Unit Management Plans are prepared by the NYSDEC in consultation with the Adirondack Park Agency (APA).

Mount Van Hoevenberg opened in 1932 and early management was under the direction of the NYSDEC. Management was delegated to the Olympic Regional Development Authority (ORDA) on October 10, 1982 through an agreement with NYSDEC which was authorized by Chapter 99 of the Laws of 1984 (Article 8, Title 28, Section 2614, Public Authorities Law). This agreement transferred to ORDA the responsibility for the use, operation, maintenance and management of the recreation area and remains in effect until March 31, 2012. Under the agreement, ORDA is to cooperate with NYSDEC to complete and periodically update the UMP for the recreation area. A UMP for Mount Van Hoevenberg was completed in 1986. This UMP is still in effect as the document by which the sports complex is managed and is implemented pursuant to a 1991 Memorandum of Understanding between the NYSDEC and ORDA.

Concurrent with formulation of the UMP has been the preparation of this GEIS. ORDA has been declared Lead Agency for the SEQRA review and held a scoping session on March 6, 1996.

The UMP and DGEIS were subjected to a public comment period, including a public hearing. The Draft Generic Environmental Impact Statement was declared complete for public review on July 26, 1996. The public hearing was held on August 26, 1996. The comment period was closed on September 9, 1996. The Final Generic Environmental Impact Statement was prepared in response to comments on the DGEIS. The FGEIS was found to be complete by the lead agency on December 14, 1998. The UMP and GEIS were approved and adopted by the Adirondack Park Agency on January 15, 1999. The Commissioner of the New York State Department of Environmental Conservation adopted the UMP and GEIS on March 5, 1999. Refer to Appendix A, "Documents of Record," for the pertinent documentation.

G. Status of 1986 Unit Management Plan

The 1986 UMP for Mount Van Hoevenberg remains in effect today. Many of the improvements proposed under the 1986 UMP have been implemented, with the remaining improvements on-going or pending implementation. Many of these approved improvements are incorporated into this five-year update and are still valid upgrades, repairs or additions to the recreation area. They are identified as part of the five year update, and are noted as already approved in the 1986 UMP. These include land acquisition, scheduling of summer programs, annual review and appropriate modification of facilities with respect to established safety standards, and maintenance of the facility.

Additionally, two projects were approved for which public notices were issued as appropriate. These projects are pending construction, and include construction of a ski bridge in an area known as the mini-stadium which involves a high speed ski trail intersection, and maintenance of approximately 23.2 km of cross-country trails, as shown on Figure 1-6, "Trail Maintenance - Pending". Refer to Appendix A, "Documents of Record," for appropriate documentation.

Refer to Table 1-1, "Status of 1986 UMP, as Amended, Management Actions," and Section IV.C., "Actions Approved in the 1986 UMP/EIS which are a Part of the Foregoing Five-Year Plan."

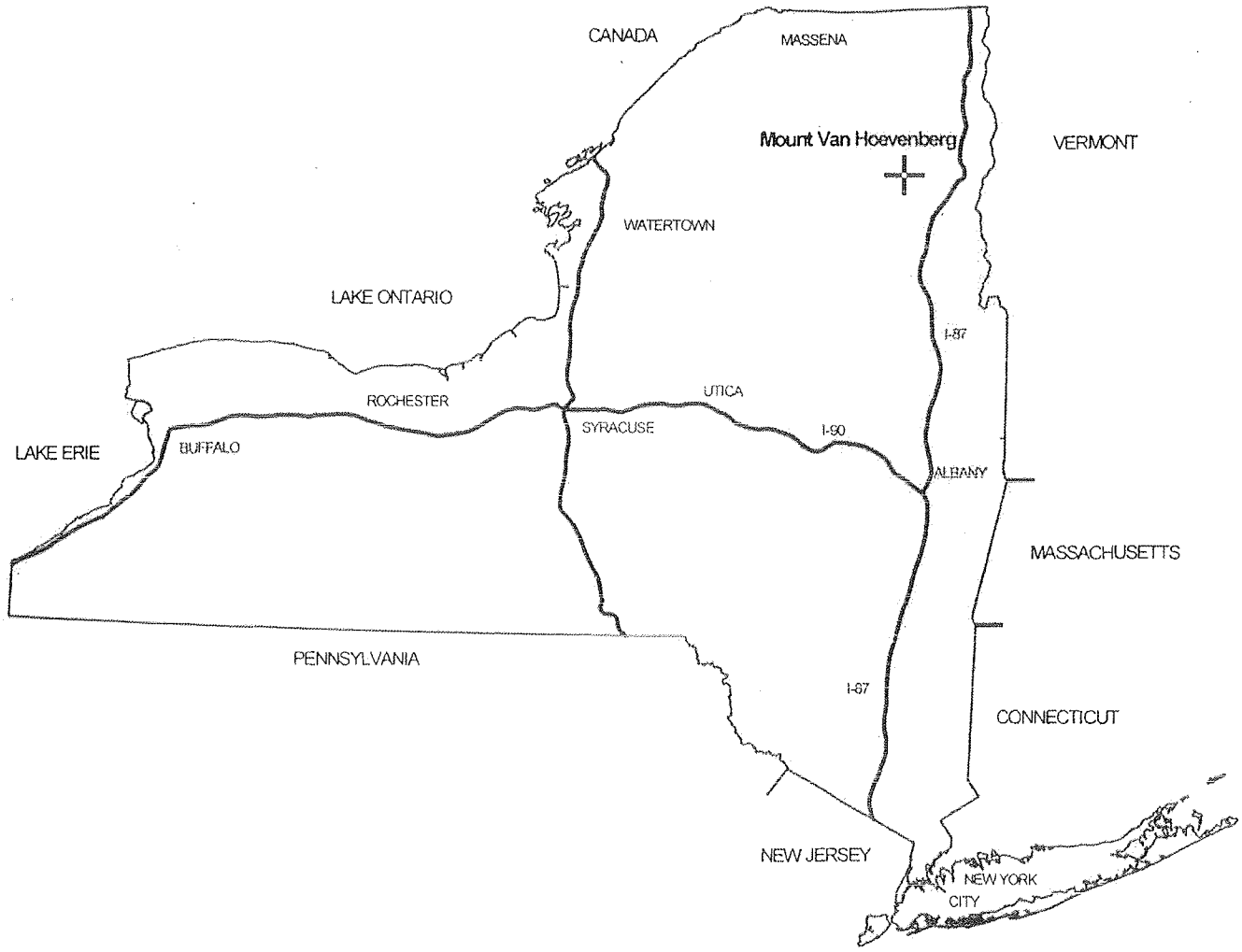
Table 1-1

Status of 1986 UMP, As Amended, Management Actions

Management Actions			Completed	On-Going	Pending Implementation	Deferred	Modified & Updated in UMP, 5-Year Plan
1		Annual review of facility compliance with established safety standards with modification as required.		X			
2		Development and scheduling of summer, or off-season, events.		X			
3		Acquisition of lands where temporary ski trail easement is located and of interior parcels of private land.			X		
4		Maintenance and operation level.		X			
5	a	Construct luge finish building of 280 sf.	X				
	b	Luge Curve 5 building of 200 sf.	X				
	c	Bobrun finish road extension.	X				
	d	Biathlon bridge over access road.	X				
	e	Bobrun deck enclosure.				X(1)	
	f	Cross-country lodge expansion.					X
6		Maintenance of grounds and physical plant.		X			
7		Amendment to State Land Master Plan to pave biathlon trails.				X(2)	
8		Maintain 23.2 km of Cross-Country Trails		X			
9		Build Ski Bridge in Mini-Stadium			X		

5091wt06.doc

1. No longer required due to anticipated new track.
2. Project deleted pending re-evaluation once a State constitutional amendment is approved.



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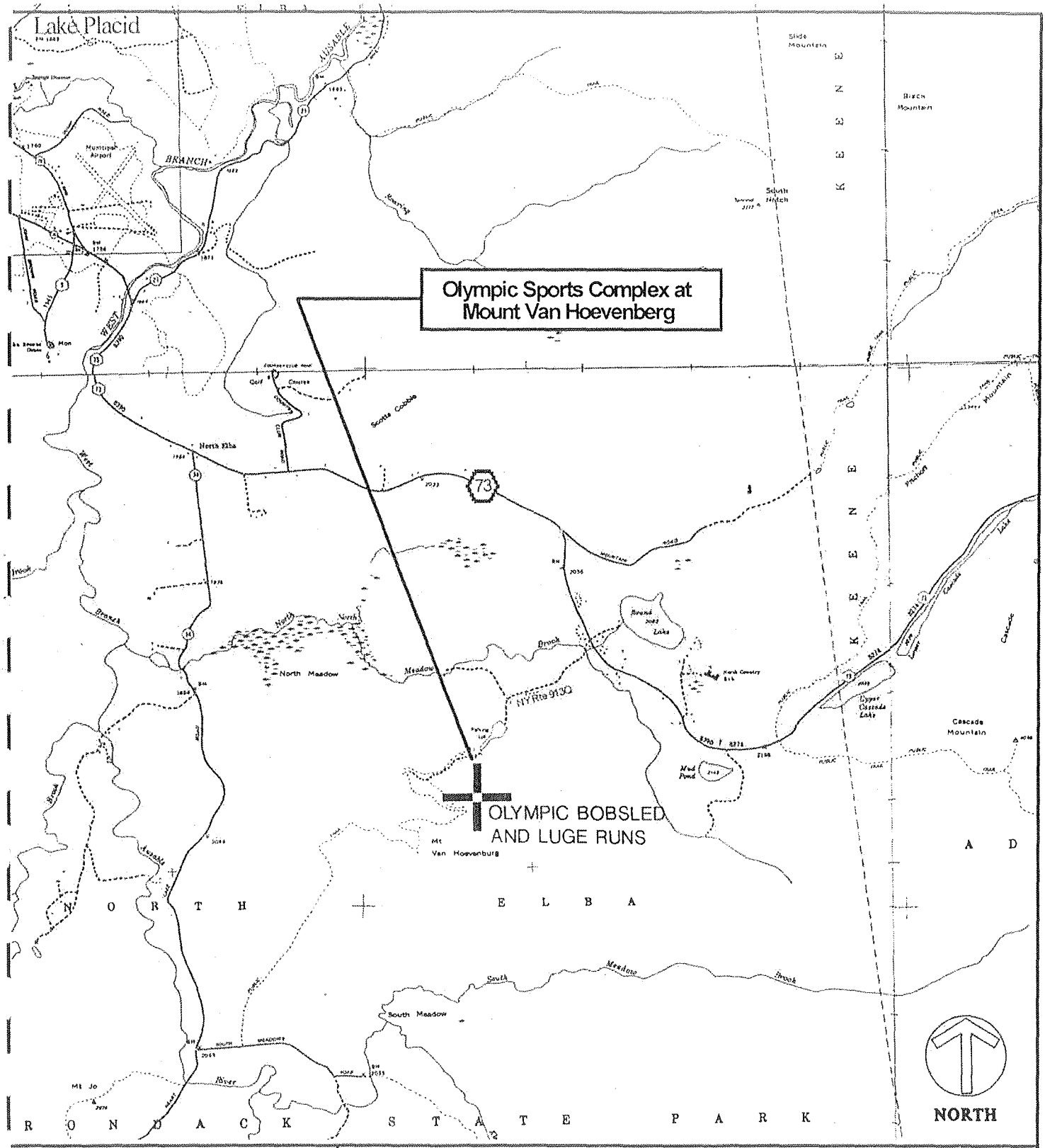
UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

REGIONAL LOCATION MAP

 | DATE: 1-19-96 | SCALE: 1" = 60 miles | FIGURE NO. 1-1



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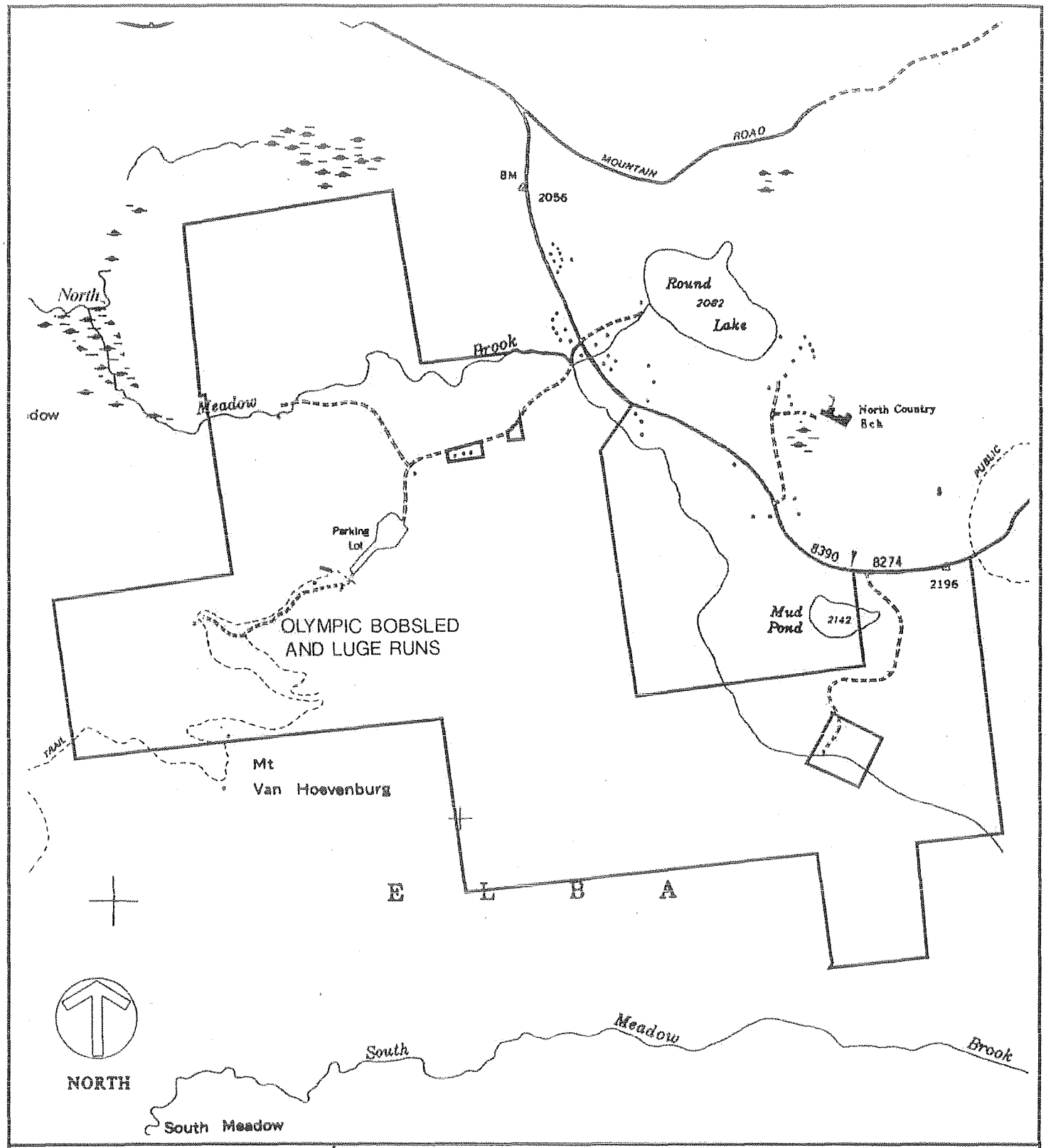
OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

SITE LOCATION MAP

 DATE: 3-8-99 SCALE: 1:50,000 FIGURE NO. 1-2



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UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
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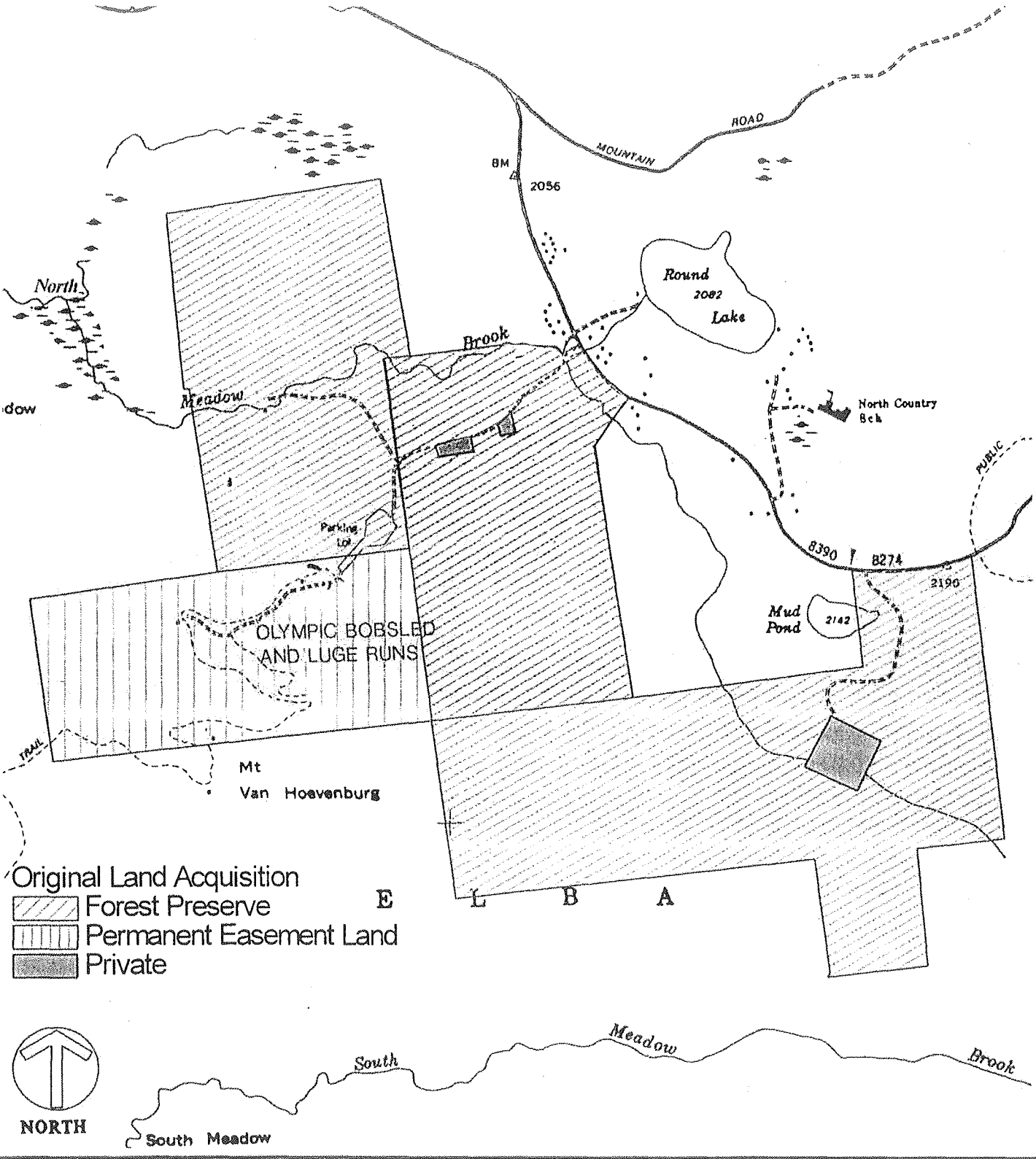
OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

INTENSIVE USE AREA BOUNDARY

DATE: 3-8-99
SCALE: 1:24,000
FIGURE NO. 1-3



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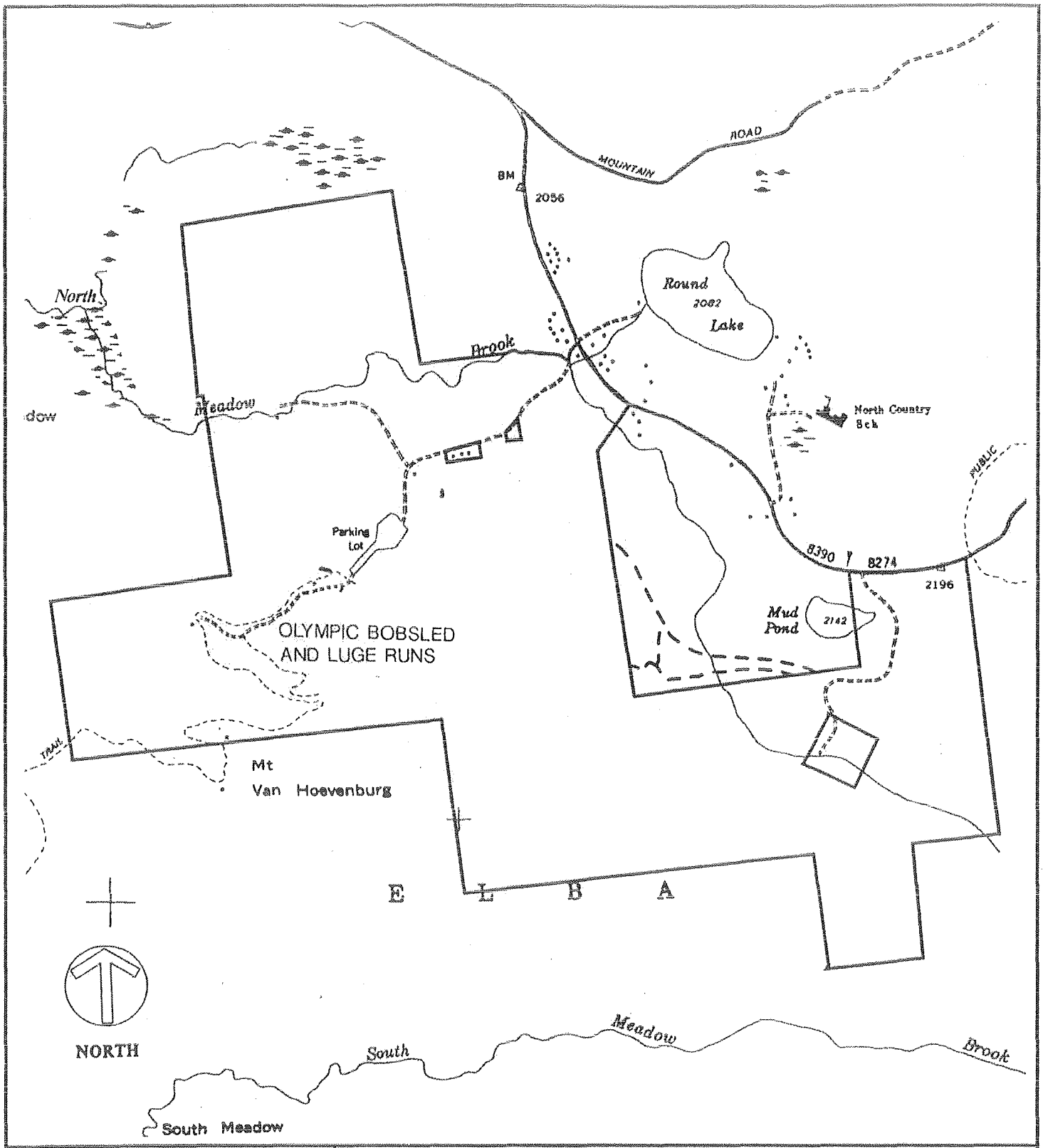
UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

OLYMPIC REGIONAL
DEVELOPMENT AUTHORITY

ORIGINAL LAND ACQUISITION MAP

DATE: 3-8-99
SCALE: 1:24,000
FIGURE NO. 1-4



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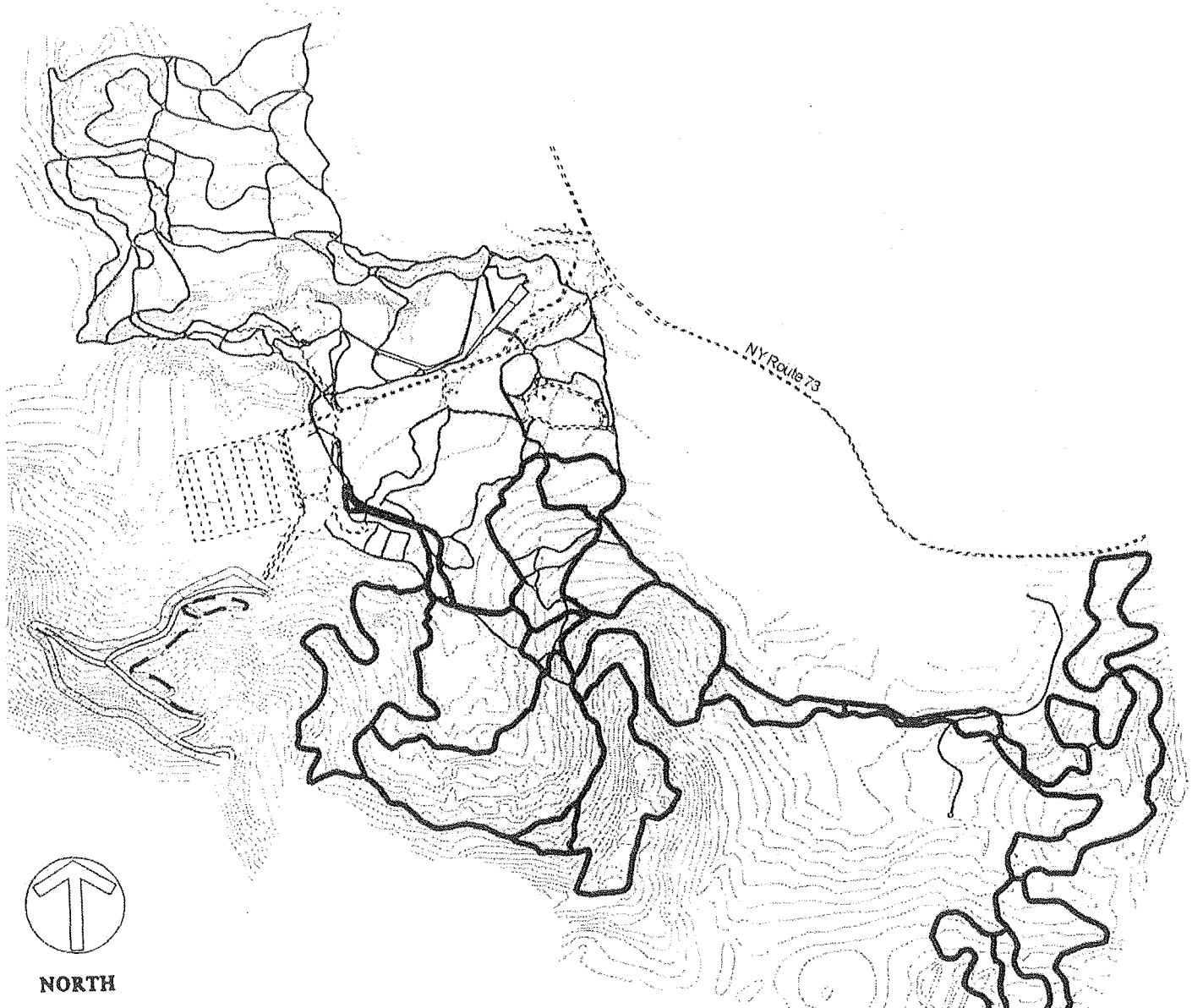
UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

TEMPORARY SKI TRAIL EASEMENT

 DATE: 3-8-99 | SCALE: 1:24,000 | FIGURE NO. 1-5



NORTH

Trail maintenance (totaling 23.2 km)
Existing ski trail
Road
Service road
Luge run
Bobsled run
Contours (5 meters)

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UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

TRAIL MAINTENANCE (PENDING)

 | DATE: 1-19-96 | SCALE: 1:20,000 | FIGURE NO. 1-6

SECTION II INVENTORY OF EXISTING RESOURCES, FACILITIES, SYSTEMS AND USE

A. Natural Resources

1. Physical Resources

a. Geology

Bedrock formations at Mount Van Hoevenberg consist primarily of anorthosite on the upper slopes and gneiss east and north of the bobsled run. Both rock types are very hard crystalline rocks.

The lower slopes of the Complex lie on the sand and gravel lake plain of glacial South Meadows Lake, the highest meltwater lake recognized in the Adirondack Mountains. The beach levels range from 2146 to 2209 feet above sea level. Mount Van Hoevenberg itself is a small bedrock hill which protrudes from the glacial lake plain and was formed where erosion-resistant bedrock knobs called monadnocks are partially buried in glacial drift.

b. Soils

Above an elevation of 2,100 feet or 640 meters soils form a very thin veneer over the bedrock. Below this elevation, soils have been mapped as glacial till, comprised of well-drained, moderately coarse-textured soils, most of which have a sandy fragipan which restricts drainage at a depth of 0.5 to 1.0 meters below the ground surface. This material provides a satisfactory foundation for most types of construction. However, in the design of septic systems or other subsurface drainage structures such as foundation drains, it is necessary to consider the tendency of the fragipans to retard drainage.

Between the existing parking area and North Meadow Brook, a large area of till without fragipan has been mapped. The biathlon and cross-country stadiums are located on this terrain.

The June 1978 soil survey of the Lake Placid Area was used as the basis for the soils map for this UMP, provided in Figure 2-1, "Soils Map." Soil properties are provided in Appendix B, "Soil Survey."

c. Topography and Slope

Topography at Mount Van Hoevenberg ranges from gently rolling in the area of the biathlon and cross-country ski stadium area to steep on the upper slopes of the mountain itself. Elevation ranges from 1,900 to 2,830 feet or approximately 605 to 840 meters above mean sea level, as shown on Figure 2-2, "Existing Conditions."

d. Water Resources

The only major water course in the Olympic Sports Complex is North Meadow Brook which flows approximately 1.2 miles from east to west across the northern part of the area. Figure 2-3, "Surface Water and Wetland Resources," depicts the location of this resource on the site. A small tributary of the brook crosses the southeastern part of the recreation area. The brook is classified by the New York State Department of Environmental Conservation Waters Index as C(T). Class "C" waters are managed for fishing and fish propagation. The water quality shall be suitable for swimming and boating recreation even though other factors may limit the use for that purpose. The (T) designation indicates that the water supports trout habitat.

Stream bed components are dominated by gravel and sand along with limited boulders and rubble. Estimated autumn stream flow is 4 cubic feet per second (cfs) which is considered the minimum flow present in this stream 75% of the time, as reported in the NYSDEC 1986 UMP for the Complex. Peak flows of 25 cfs are possible during rainy periods and may reach 50 cfs for a few days during the spring runoff period.

The calculated minimum average daily flow at the pumphouse on North Meadow Brook projected to occur over a seven day period with a two year return interval (MAD 7/2) is 1.8 cfs. Calculations are provided in Section V.A.2.

Snowmaking water is withdrawn from North Meadow Brook at a point located approximately 200 feet north of the access road. Water is withdrawn at a rate of 100 gallons per minute for an average of 400 hours each season. Snowmaking was initiated for the 1980 Olympic Games and has continued since that time. Snow is made in the field east of the existing biathlon lodge, about 150 feet from the brook. Snow is then spread out on the trails with grooming equipment. Water is also withdrawn from North Meadow Brook at the existing pumphouse in order to ice the bobsled and luge runs. Water for this use is pumped to a 16,000 gallon underground tank located at the base of the bob sled run.

e. Wetlands

Wetlands within the Olympic Sports Complex are confined to lowlands along North Meadow Brook and its tributaries, and to a few isolated, poorly drained pockets at higher elevations. Those areas associated with North Meadow Brook generally are spruce-fir swamps and alder-dominated shrub swamps. The mountainside pockets have balsam fir, red spruce, jewelweed, cinnamon fern, sensitive fern, sedges, slender mannagrass, mosses, and leafy liverworts.

Figure 2-3, "Surface Water and Wetland Resources," shows the on-site wetlands identified by the Adirondack Park Agency, and mapped with the aid of aerial photographs and field inspections. These are the wetlands which meet the 1-acre minimum size as state-regulated wetlands within the Adirondack Park. Not mapped are other small wetlands in places such as wide spots along intermittently flowing swales,

isolated depressions, and seepy places on slopes, which are too small to come under state wetland regulations, but which may be under federal regulation.

f. Climate and Air Quality

The mean annual temperature is 40°F, with a December average of 20°F and a July average of 66°F. The temperatures are based on the 1993 data gathered at the Lake Placid Airport. January and February are the coldest months with average temperatures of about 15°F. It can be expected that these readings will be representative of the base elevations at Mount Van Hoevenberg. The average temperatures on the summit are expected to be 1 to 2°F colder, due to the decrease in temperature with altitude of 3.5 to 4.5°F per thousand feet of increased altitude.

The annual average precipitation (melted snow and rain) which normally falls uniformly throughout the year is 38 inches.

The prevailing wind direction is northwest in the winter and west-southwest in the summer. Because of the mountain's orientation, it is subject to frequent occurrences of higher winds (greater than 30 mph), especially on the north face, than would be expected on the lower ski slopes of Whiteface Mountain. Based on Whiteface Mountain data, average wind speeds for Mount Van Hoevenberg are estimated to be 8-12 mph for the summer and 17-21 mph for the winter. Gusts seldom reach 100 mph even on the summit of Mount Van Hoevenberg, but occurrences of gusts to 75 mph can be expected at least several times during the winter.

Mount Van Hoevenberg is located within the NYSDEC Region 5, Northern Air Quality Control Region. Monitoring stations located in close proximity to the site are located at Whiteface Mountain (base and summit) and the Village of Willsboro. Monitoring of Sulfur Dioxide (SO_2), Ozone (OZ) and Inhalable Particulates (PM) occur continuously at Whiteface Mountain and manual readings are taken at Willsboro for Total Suspended Particulates (TP). In 1992, the geometric mean for Total Suspended Particulates (at Willsboro Station) was 15 micrograms/cubic meter with the Annual Air Quality Standard being 75 $\mu g/m^3$. Inhalable Particulates (PM10) had an Annual Arithmetic Mean of 11 $\mu g/m^3$ and did not exceed the standard of 50 $\mu g/m^3$ during the last 3 calendar years. Inhalable Particulates (Sulfate, Nitrate Fractions) taken at Whiteface Mountain (base) indicate that the highest value for the Sulfate fraction was 26.6 $\mu g/m^3$ and the Nitrate fraction, also taken at the base of Whiteface Mountain, recorded the highest value of 1.3 $\mu g/m^3$. Sulfur Dioxide, recorded at Whiteface Mountain (lodge) had a running 3-hour average with the maximum highest value of 19.1 PPB (maximum not to exceed 500 PPB more than once per calendar year). The 24 hour average for sulfur dioxide had maximum highest values of 7.0, 6.0 and 5.7 PPB (maximum not to exceed 140 PPB more than once per calendar year).

2. Biological Resources

a. Vegetation

Due to the variety of drainage and elevation conditions, five typical Adirondack forest covertypes are found on the Mount Van Hoevenberg site. Figure 2-4, "Vegetative Covertype Map," traces the approximate boundaries of these forest types which are described as follows:

Spruce-Fir: Composed of red and black spruce and balsam fir with areas of tamarack or wetland hardwoods such as yellow birch or elm. Found mainly in low, wet areas or high on mountains where soil is shallow.

Spruce-Fir-Pioneer Hardwood: Composed of red spruce, balsam fir, white or gray birch and aspen with occasional pin cherry and yellow birch.

Spruce-Fir-Northern Hardwood: Composed of red spruce, balsam fir, hard and soft maple, beech and yellow birch with occasional associated species such as hemlock, black cherry and white ash. Usually found on lower slopes and is quite often a transition forest type between the spruce-fir type and the northern hardwood type.

Northern Hardwood: Composed of soft and hard maple, beech, yellow birch and associated species such as black cherry, white ash and white pine. Found on well-drained side slopes.

Open: Open field or those areas which have filled with brush species such as spirea but lack significant woody growth.

On a finer scale than mapped in Figure 2-4, it is possible to identify several ecological communities as defined in the classification used by NYSDEC (Reschke, 1990). Under this system, the first three forest types, where found on well-drained sites, would be classified as variants of the spruce-northern hardwood forest community. The northern hardwood forest type is the equivalent of the beech-maple mesic forest community.

Along streams and in wet pockets, forest dominated by spruce and fir would be classified as spruce-fir swamp. Where the soil next to a stream is better drained, the balsam flats community may occur. For much of its length along the Olympic Sports Complex, North Meadow Brook is bordered by a narrow zone of the shrub swamp community, in which speckled alder is dominant. Broader stretches of shrub swamp are associated with the eastern end of Mud Pond and North Meadow Brook in the westernmost part of the Olympic Sports Complex.

b. Wildlife

The Olympic Sports Complex at Mount Van Hoevenberg is a year round recreation and training facility. Athletes and recreational users run, hike, bike and horseback ride on the Complex's cross-country trails during spring, summer and fall. Winter is the most

active time for the area as cross-country skiers and biathletes participate in intensive training and competition. Also, the public comes to the area to enjoy cross-country skiing and to be spectators at the various events throughout the winter season.

In addition to the recreational uses for which Mount Van Hoevenberg was designed, hunting and trapping are popular activities within the immediate vicinity. Neither the current degree of development nor the influx of winter recreational users have hindered the presence of game species and the enthusiasm exhibited by area sportsmen.

There is no measure available for the number of consumptive and passive users of the wildlife resource on the Olympic Sports Complex at Mount Van Hoevenberg. Harvest levels and license sales (hunting and trapping) are often used as indicators of the potential number of consumptive users. Since harvest data is collected by township and license sales are tabulated by county, neither offers an appropriate indicator of use on as small a land unit as the Olympic Sports Complex.

The number of passive users could include every visitor that uses the facility. However, specifically, only the visitors using the Nordic cross-country ski trails for leisure, as opposed to competition, may readily enjoy observing wildlife. Some of the summer tourists may also take the time to observe birds while walking along the trails or touring the bobsled and luge runs.

A number of species have been documented to historically occur in the area of the project site and of this number many are likely to commonly occur on the site based upon their habitat preferences. Mammalian species likely to be common on the site include short-tailed shrew, black bear, raccoon, weasel, coyote, red fox, gray fox, woodchuck, eastern chipmunk, red squirrel, beaver, meadow vole, muskrat, porcupine, snowshoe hare, varying hare and white-tailed deer.

A number of avian species are also likely to occur commonly on the site, some throughout the year and some as migrants. Based upon the habitat types found on the site, the avian species most likely to commonly occur on the site at any one time include ruffed grouse, broad-winged hawk, yellow-bellied sapsucker, American robin, red-eyed vireo, brown-headed cowbird, rose-breasted grossbeak, purple finch, dark-eyed junco, white-throated sparrow, blue jay, American crow, black-capped chickadee, owls, raven and brown creeper.

The white-tailed deer is a common big game species throughout the Adirondacks. The deer obtain annual nutrition and shelter needs on and off the Olympic Sports Complex parcel. The best summer range may be described as an inter-mix of pioneer forest and brushland. The forest offers protection and shelter while the brushland provides an abundance of food in the form of browse. On the Mount Van Hoevenberg site, the northern hardwood forest is poor habitat for deer because sufficient sunlight does not penetrate to the forest floor to encourage the growth of browse.

However, there is a noticeable increase in the deciduous understory in the spruce-fir-hardwood habitat. There is also an increase in browse along the openings created by

the facilities at the Olympic Sports Complex, including the roads, parking lots, Nordic ski, bobsled and luge routes.

During the latter part of the fall and throughout the winter, deer seek the sheltered portions of their range throughout the Adirondacks, where protection is available from adverse wind, temperature and most importantly, snow depth. The better winter shelter is the conifer and mixed deciduous-conifer covertypes where the crowns of red spruce, white pine, balsam fir, white cedar and hemlock retain the snow and thus diminish snow depths on the ground. One such deer wintering area is located south of the Olympic Sports Complex, along South Meadow Brook. (As per personal communication with Kurt Armstrong, DEC Ray Brook, 9/6/95).

The maintenance of trails and the periodic large number of people that congregate at a spring event does affect the behavior of wildlife. Trimming shrubs to groom cross-country ski trails helps maintain early successional vegetation thereby contributing to more food for herbivores such as snowshoe hare and white-tailed deer. The large crowds at sporting events probably cause a variety of wildlife to seek shelter on the edge of the highly active portions of the site.

c. Fisheries

North Meadow Brook flows westerly into the West Branch of the Ausable River, and a 1.2 mile section flanks the Olympic Sports Complex at Mount Van Hoevenberg to the north.

Water quality in the stream near the Olympic Sports Complex at Mount Van Hoevenberg is sufficient to support aquatic organisms. No evidence of floating or settleable solids, toxic wastes, or other substances dangerous to the aquatic community are known to be present in the stream. Sufficient shade provided by the forest cover keeps the area of the stream below 70°F during warm summer months.

Prior to 1980, North Meadow Brook was being stocked annually with 1260 brook trout fingerlings. Stocking was discontinued when the stream was found to be supporting a self-sustaining brook trout population.

Electroshocking fish collection and inventory was conducted on 7/15/92 upstream of the bridge over the ORDA Pumphouse Road. This survey counted 30 brook trout (minimum length of 45 mm and maximum length of 189 mm) and 2 brown trout (minimum length of 104 mm and maximum length of 187 mm). (Information obtained from personal communication with Bill Schoch, Fish Management, DEC Ray Brook, 9/8/95).

d. Unique Areas, Critical Habitats, and Rare Species

A check of the files of the Natural Heritage Program (NHP) of the NYSDEC revealed no records of rare, threatened, or endangered species occurring within the lands of the Olympic Sports Complex at Mount Van Hoevenberg. However, the NHP records did

indicate the occurrence of a rare plant, the cloud sedge, and an endangered bird species, the peregrine falcon, within a mile of the boundaries of the Recreation Area. (Refer to Appendix A, "Documents of Record," for an August 28, 1995, letter from the NYSDEC).

Additionally, the US Department of the Interior Fish and Wildlife Service has stated that there are no Federally listed or proposed endangered or threatened species known to exist in the project impact area (refer to Appendix A, "Documents of Record", for a January 24, 1996 letter from the Fish and Wildlife Service). In the course of studies on the site, biologists of The LA Group, P.C., did not observe any rare, threatened, or endangered species, or critical habitats of such species.

One notable occurrence within the Olympic Sports Complex is that of the largest known red spruce (*Picea rubens*) in New York State. This tree is located on the boundary of the Complex, south of the upper end of the bobsled run. The tree has been documented to be 102 feet tall with a circumference of 7 feet 7 inches and a crown spread of 35 feet.

3. Visual Resources

The existing conditions associated with the Visual Assessment Study are discussed in Appendix C, "Visual Resource Impact Analysis." The decision was made to include the entire Visual Assessment Study in one section in this DEIS in order to provide a comprehensive analysis in a single location.

4. Noise

The only consistent source of noise at the Olympic Sports Complex, which is limited to the winter season, is the snowmaking gun located in the open field about 460 feet south of NY Route 73 and 165 feet north of the complex access road, and the associated grooming equipment which spreads the snow on the ski trails. Snowmaking has occurred at the Olympic Sports Complex since the 1980 Olympic Games in this area. For many years a snow gun which required a portable diesel air compressor was used which was relatively much louder than the snow gun which is now used and has been in use for the past four years. Also, for many years snow was spread on the ski trails with a manure spreader which was pulled with a diesel engine. This piece of equipment was relatively louder than the Piston Bully snow groomer which was put into use during the 1995-96 season. The nearest receptors and their distance and direction relative to the existing snow gun are identified below.

Relative to the existing snow gun, the Mount Van Hoevenberg Bed and Breakfast establishment is located about 660 feet to the north, the South Meadow Farm Bed and Breakfast business is located about 1,150 feet to the southeast, Whispering Pines Campground is 1,400 $\pm$ feet to the north, three residences on the north side of NY Route 73 are 575 $\pm$ feet away (as measured from the nearest residence), the residences owned by the Goff family on the north side of NY Route 73 are 1,230 $\pm$ feet away (as measured from the nearest residence), and the only year-round dwelling on the complex

access road is located 1,970 ± feet to the southwest of the existing snow gun. None of these receptors has complained about the noise from the newer snowgun with the exception of the single year-round resident located at Whispering Pines Campground. Some of the other identified private residences are occupied by ORDA employees, and the two bed and breakfast establishments obtain business from recreational skiers who enjoy the ski trail conditions at the Olympic Sports Complex.

B. Human Resources

1. Transportation

The subject property is bounded to the north and east by NY Route 73 and to the west by Adirondack Loj Road as shown on Figure 1-2, "Site Location Map." NY Route 73 at its most easterly point connects with NY Route 9, which connects two miles south with I-87 at Exit 30. Access from the south is provided by I-87 at Exit 30 with a portion of NY Route 9 and NY Route 73 being utilized to reach the site. NY Route 73 traverses west to connect with NY Route 86 at Lake Placid. NY Route 73 is an asphalt surfaced roadway with a turning lane in both directions at the entrance road to the Olympic Sports Complex. The roadway has paved shoulders approximately 4 feet in width.

Adirondack Loj Road originates at the Adirondack Loj and runs in a north/south direction, intersecting at its northern end with NY Route 73. The roadway is approximately 20 feet wide and paved with a 1 foot wide sand shoulder on both sides.

The Olympic Sports Complex at Mount Van Hoevenberg is serviced by a 1 mile paved state access road, NY Route 913Q, from NY Route 73. NY Route 73 and approximately 3,000 feet of the access road to the facility are maintained by New York State.

The New York State Department of Transportation indicated that traffic counts had been conducted in the area of the project site. In 1988, 1989, 1992 and 1994 traffic counts were taken, or were estimated from previous actual counts, on NY Route 73 in the area of the Olympic Sports Complex entrance road. Annual Average Daily Traffic Counts (AADT) were as follows:

	Year	AADT
July	1988	2450
May	1989	2550
May	1992	2000
August	1995	3500

The DOT reports that late summer counts usually indicate higher traffic volumes in the Lake Placid area due to the presence of summer visitors.

Accident data for NY Route 73 was obtained from the NYSDOT back to the year 1980. The fourteen years of available data do not indicate any existing traffic hazards at the intersection of NY Route 73 and the site access road.

The Olympic Sports Complex at Mount Van Hoevenberg is not serviced by public transportation but does routinely host tour buses, group tours and teams who are transported to the Complex on buses.

At the end of the access road, there is one main parking lot and four smaller parking lots screened by vegetation. Total parking capacity in all of these lots is estimated to be about 1,800 cars. Parking facilities at Mount Van Hoevenberg are sufficient for existing activities and the proposed expansions and improvements.

Airports

The Lake Placid Airport is owned and operated by the Town of North Elba and is located one mile south of the Village on NY Route 73. Airport services include air charter, air taxi, air ambulance, scenic flights, tie down, aviation gas, plane repairs, and flight instruction. The longest runway is 4300± feet.

The Adirondack Airport near Saranac Lake is a municipality owned and operated airport and is the nearest facility providing scheduled certified air carrier service into the Lake Placid-Saranac region. It is located 16 miles from Lake Placid on NY Route 86 in Lake Clear, just west of Saranac Lake, and can accommodate larger long range jet aircraft (707, 727, and DC-8). Its longest runway is 6500± feet.

Rail

Direct railroad service into the Lake Placid area is not available at this time. AMTRAK provides daily passenger train service between New York City and Montreal, with the nearest stop in Westport, approximately 40 miles from the Olympic Sports Complex. Public shuttle service is available from Lake Placid to Westport by Champy Express, an Essex County sponsored bus service.

Bus

Adirondack Trailways provides daily bus service between Lake Placid and New York City and Malone, with many stopping points in between. The Champy Express provides service between Lake Placid and Plattsburgh twice daily. It connects with the afternoon AMTRAK train in Westport.

Ferry

The Lake Champlain Ferry at Essex (north of Westport) offers transportation of cars across Lake Champlain into Vermont at Charlotte from April 1 through January 1. Alternate ferry service on a year-round basis can be found at the ferry terminals in Plattsburgh, New York.

Taxi

Six separate taxi and/or limousine service firms operate in the Village of Lake Placid.

Car Rental

There are two auto rental agencies located in the Village of Lake Placid - Avis and Hertz.

2. Community Services

The New York State Police, Troop B station is located in Ray Brook. The Mount Van Hoevenberg area is located in Zone 3 and is staffed by 17 uniformed officers. This regulatory division maintains 6 marked patrol vehicles (including a 4 wheel-drive Cherokee), 2 snow machines and 2 All-Terrain Vehicles (ATV). Officers perform regular patrols in the area and are also available for special events for security, traffic and emergencies as requested by Mount Van Hoevenberg.

The Lake Placid Volunteer Fire Department serves the Mount Van Hoevenberg site. The Department is located on River Street Extension in the Village of Lake Placid and has a staff of 60 volunteers and 5 full-time drivers and dispatchers. The Department maintains 2 (1,000 gal.) pumpers, an 85' ladder truck, a rescue vehicle, a 300 gallon tanker, a 3,000 gallon tanker, 2 fire boats and ice rescue equipment. All trucks are equipped with fire suppression foam (Class A and AFFF).

The Lake Placid Volunteer Rescue Squad serves the project area and is staffed by 40 volunteer members. The Squad maintains 2 rescue vehicles (1994 McCoy-Miller and 1995 McCoy-Miller). Both vehicles are rigged with Advance Life Support (ALS) equipment including monitors and a Thomas Pack (similar to "Jaws of Life"). Ten members of the Squad are ALS certified and serve as crew chiefs. The Placid Memorial Health Center is the primary emergency facility utilized by the Squad. Adirondack Medical Center in Saranac Lake is the next closest facility.

Both medical facilities are operated by the Adirondack Medical Center. The Placid Memorial Health Center has 24 hour emergency care, out-patient facilities, labs, radiology, physical therapy, sports medicine and dental and health care offices. The Adirondack Medical Center in Saranac Lake is a 98 bed facility that offers full in-patient services including OBGYN and surgical. The two facilities are staffed by a combined 38 active physicians.

The project site is located in the Lake Placid Central School District. The District is composed of an elementary school (K-5), located on Old Military Road and a combined junior high/senior high school located on Main Street. 1995 enrollments for the elementary, middle and high schools are 396, 247 and 253 students, respectively. The proposed project will not increase the number of students enrolled within the District and will not in any way affect the operation of the District or the enrollment figures.

Solid waste from Mount Van Hoevenberg is transported to the North Elba Transfer Station located on Cascade Road. A town-owned construction and demolition debris landfill is also located on Cascade Road. Recyclables are sorted here and are transported to various recycling facilities. The solid waste is transported to the Adirondack Resource Recovery Facility in Washington County.

Electrical energy is presently supplied by Lake Placid Municipal Electric Company via a three-phase 13,200/7,620 volt line.

3. Local Land Use Plans

The Town of North Elba has a total land area of 157 square miles, representing approximately 8 percent of Essex County lands.

The Town is entirely located in the Adirondack Park and contains multiple APA land use classifications. Within the Town of North Elba private land has been classified by the APA as "Hamlet", "Moderate Intensity Use", "Low Intensity Use", "Rural Use" and "Resource Management". State land has also been given APA land use designations; "Wilderness", "Wild Forest", "State Administrative", "Intensive Use", and "Historic" areas have all been classified within the Town of North Elba.

As shown on Figure 2-5, "Land Use Map," the Olympic Sports Complex at Mount Van Hoevenberg is bordered to the north by private land designated as "Resource Management" and state lands designated as "Wilderness: and "Wild Forest". East of the project, the land area is designated "Rural Use" and "Wild Forest". West of the Complex, the land is "Resource Management" and south of the Complex is state owned land classified as "Wilderness". The High Peaks Wilderness Complex has been designated in this area. The hiking trails which originate in the High Peaks Wilderness Complex continue on the Olympic Sports Complex intensive use area. The High Peaks Wilderness Complex encloses 226,435 acres and is comprised of three distinct, but interrelated units: (1) the Ampersand Primitive Area, (2) the High Peaks Wilderness, and (3) the Johns Brook Primitive Corridor. The High Peaks Wilderness is the best known wilderness of the Adirondacks; it is the state's largest wilderness and receives the most visitation. The Draft High Peaks Wilderness Complex Unit Management Plan indicates that "winter use is heavy by cross-country skiers because of its important trail connections to the High Peaks interior, Adirondack Loj, and ORDA's Mt. Van Hoevenberg Winter Sports Complex."

The Adirondack Park Agency regulates land uses within the boundaries of each of the above land classifications. The Town of North Elba also regulates land use by the Local Land Use Code most recently revised in 1991. The Local Land Use Code designates residential, business and public and semi-public districts within the Town of North Elba. The remainder of land is classified as rural agricultural following the APA Land Use Classification boundaries and density requirements. The ordinance regulates land uses and area requirements and includes site plan review provisions.

A Comprehensive Land Use Plan was established by the Town of North Elba and the Village of Lake Placid in 1964 and has been updated.

The Land Use Plan addresses the concerns of the public that have been voiced in recent years including;

- Improving the appearance of the main travel corridors into the Village and Town
- Improving circulation and parking within the Village of Lake Placid
- Diversifying the economy so that it is not so heavily dependent on the tourist industry
- Spreading the appeal of the area to make it a year round destination.

The High Peaks Wilderness Complex Unit Management Plan states that DEC and ORDA will work together to consider the feasibility of establishing a parking lot on Olympic Sports Complex property to serve those people accessing the trails leading to Pitchoff, Porter and Cascade Mountains. The existing parking areas for these trailheads are undersized and their proximity to NY Route 73 could potentially compromise the safety of the users. This is identified as a proposed action in Section IV.A.2.c. of this UMP.

4. Historical and Archaeological Resources

There are no known archaeological resources on the site. The 1932 bobsled run originated at an elevation of 880 meters, approximately 800 meters beyond the 1980 start. The 1932 track was formed by an earthen swale and blocks of ice. The 1980 track was built over the lower portions of the original track course. The remains of the 1932 swale track can be found in the woods south of the 1980 start. The historic significance of this location is due to the role that Lake Placid and this site in particular have played in the development of winter sports, including bobsled and luge. The facilities themselves, due to the nature of their original ice and earthen embankment construction, cannot be considered historic facilities.

The upper portion of this run was demolished and the bobsled track itself was entirely rebuilt for the 1980 Olympics, at a new starting point located lower on the mountain than the original start, therefore the track itself is not historic, though its alignment on the ground is. The luge run was built in 1978 and is not an historic resource.

There are no known archaeological or historical resources substantially contiguous to the site. John Brown's farm and grave are on the National and State Registers of Historic Places. This site is located approximately 3.6 miles from the bobsled/luge runs.

C. Man-Made Facilities

1. Inventory of Constructed Facilities

a. Bobsled Run

Description of Facility

The recreational area at Mount Van Hoevenberg offers the first bobsled run in the Western Hemisphere. The run is officially listed as being 1,557 meters long with a vertical drop of 148 meters. There are sixteen curves, the most famous being called Shady and Zig-Zag. The average gradient is 9.5%. The maximum gradient is 14% at the start of the run. See Figure 2-2, "Existing Conditions," for the layout of the bobsled run.

The run was completely rebuilt in 1978-79 for the 1980 Winter Olympic Games and is artificially refrigerated throughout its entire length. Tangent sections of the run are approximately four and a half feet wide. The curved sections of the run reach heights up to fourteen feet. There are protective "lips" on the top of the curves which restrain a sled from leaving the run. The entire run is constructed of concrete with approximately 27 miles of refrigeration piping embedded in the structure.

The refrigeration is accomplished by using an ammonia system. Liquid ammonia is pumped under pressure through below-ground mains and its pressure is reduced allowing it to "boil" into gas. It's heat of vaporization - 317 calories per gram - makes ammonia an ideal refrigerant. The ammonia is then returned through mains to receivers and the cycle is repeated. The entire system is hermetically sealed allowing no ammonia vapor to escape into the atmosphere. However, should a leak develop, the ammonia would be greatly diluted. Its density is approximately half that of air at atmospheric pressure causing the vapors to rise. Compounds would then be formed which would fall with precipitation and would behave much like some commercial fertilizers.

The Mount Van Hoevenberg bobsled run has sufficient wire circuits to accommodate electric timing equipment used for competitions as well as telephones which are used to control the entire run from start to finish. There are camera stations located along the run. At all times a bobsled is visible to an attendant who has telephone communications with the run announcer.

Sleds are carried to the start of the run by trucks using a paved road. The service road is fenced to separate pedestrian traffic.

Spectator Accommodations

Accommodations for spectators include viewing stands at the start, zig-zag and finish curves. A pedestrian walkway parallels the entire one mile length of the run. Up to 10,000 spectators, mostly standing, may be accommodated. Three pedestrian bridges

at strategic locations allow for a complete separation of vehicular and pedestrian traffic. A public address system is audible for the entire length of the run. Passenger rides are offered to the public from the half-mile and mile start when the run is not in use for competition or for official training. During the summer the public can ride wheeled bobsleds and luge sleds.

Buildings

There are a total of twenty-four buildings on the site which serve various needs at the bobsled run complex. These buildings enable such functions as refrigeration, snow making, water pumping, storage, maintenance, administration, race starting, race timing and announcing, public observation, warm-up, cafeteria and lounge. The lodge dedicated to public use is handicapped accessible. Appendix D, "List of Buildings and Structures," lists the location, purpose and dimensions of these buildings.

Water

Potable water is furnished by means of a drilled well located near the clubhouse. The yield of this well is 25 gpm. Peak consumption is 10,000 gallons/day or 28% of potential yield. There is also a drilled well which yields 6 gpm at the maintenance shop. Peak consumption of this water supply is 250 gallons/day (3% of potential yield).

Water is also taken from North Meadow Brook and pumped to a 16,000 gallon reservoir where it is used to ice the bobsled and luge runs. It requires three hours at a pumping rate of 89 gallons/minute to fill this reservoir.

Sanitary-Wastewater

There are public restrooms in the bobsled mile and half mile start buildings as well as the clubhouse. The disposal systems are as follows:

- Old Mile start - 500 gallon Clivus Mulstrum composting tank with 2 toilets
- Half mile start - 2 portajohns
- Clubhouse - 5,000 gallon septic tank and 32,000 gallon holding tank with 6,400 sq. ft. of tile field. The system was constructed in 1977 with no reports of failure.
- Total public facilities - men's - 3 toilets, 4 urinals, 2 sinks, 1 handicap toilet
  - women's - 3 toilets, 2 sinks, 1 handicap toilet

There are additional restrooms for employees in the sled-shed and maintenance shop. These are each served by individual septic systems comprised of a 500 gallon septic

tank proceeded by 450 sq. ft. of tile field. These systems were constructed in 1960 with no reports of current failures.

b. Luge Run

Description of Facility

This is the only independent luge run in the Western Hemisphere. The luge run is constructed of concrete and rests on piers which protrude above ground. The run is 1,000 meters long with a vertical drop of 96 meters. A separate starting position for the ladies' events is located to provide a run of 749 meters with a vertical drop of 59 meters.

The run has fourteen curves with an average gradient of 9.35%. The maximum gradient is 30%.

The run is refrigerated in a manner similar to that used on the bobsled run, the major difference being that the pressure and return mains lie above the ground rather than being completely buried.

Athletes are carried to the starting positions by trucks using the same road that serves the bobsled run. Control towers allow for 100% surveillance of the athlete during a descent on the run. See Figure 2-2, "Existing Conditions," for the layout of the luge run.

Spectator Accommodation

There are pedestrian walkways along the run which will accommodate up to 8,500 standing spectators.

Buildings

There are nine structures which serve the luge operation. These structures provide such functions as starting, finishing, observation and weighing of sleds. There are, in addition, other buildings which serve both the luge and bobsled runs. These other buildings are inventoried under "bobsled run" and include such functions as refrigeration and maintenance. Appendix D lists the location, purpose and dimension of structures.

Water

Refer to Section II.C.1.a. for association with the bobsled run.

Sanitary-Wastewater

There are two composting toilets at each of the following: men's start house, women's start house and luge finish tower.

c. Cross-Country Skiing

Description of Facility

The cross-country ski trail system at Mount Van Hoevenberg totals approximately 50 kilometers of trails, as shown on Figure 2-2, "Existing Conditions," which require a minimum of 1 foot of snow cover to open. The trail terrain is varied and slopes are between approximately 0 and 35%. While these trails have been designed to meet the public demand and offer varying degrees of difficulty, they also are required to meet Federation Internationale de Ski (FIS) specifications for international competition. The existing condition of the trails is such that extensive regrading and maintenance is needed.

The loop or cloverleaf design directs the skiers through the start-finish stadium several times during a race. For spectator viewing, interval times, and food stations, this system is invaluable. For recreational skiers, the system allows great variety of length and degree of difficulty. During competitions, choice of loops can provide a Chief-of-Course with any combination to suit the particular race or class of competition.

A portion of these trails is designated for use in the summer as horse trails, as indicated on Figure 2-6, "Horseback Riding Trail."

Spectator Accommodation

Standing area for spectator viewing will accommodate 5,000 persons at the start-finish line near the Nordic Lodge and along the trails.

Buildings

There are eleven buildings associated with the Cross-Country Ski Trails Complex. These buildings function for ticket sales, race timing, race administration, warming, food service and restrooms. The cross-country lodge is handicapped accessible. Appendix D lists the dimensions and use of each structure.

Water

Potable water is obtained from a 470 foot deep well located behind the lodge. The well has a yield of 25 gallons per minute and consumption is approximately 2,000 gallons per day or 1.4 gallons per minute (5.6% of capacity).

Sanitary-Wastewater

The cross-country ski lodge building contains 2 lavatories, 3 toilets and 4 urinals for men and 2 lavatories and 5 toilets for women. Treatment is by a 2,000 gallon septic tank with 1,620 sq. ft. of disposal field constructed in 1982 and in good condition.

d. Biathlon

Description of Facility

Biathlon competition consists of a combination of cross-country skiing and periodic rifle target shooting during the distance skied.

The biathlon facilities at Mount Van Hoevenberg, located just north of the access road, include over 20 kilometers of trail which has been approved for international competition. The courses were World Cup certified in October 1995 by the International Biathlon Union (IBU). Seven different combinations of loops make it possible to create internationally certified courses for the 7.5 kilometer, 10 kilometer, and 20 kilometer events. The complex of ski trails and firing range have been designed and constructed to complement the Olympic Sports Complex at Mount Van Hoevenberg for use by both the competitor and the recreational skier.

The firing range itself is 50 meters long. Competitors currently shoot small bore .22 caliber rimfire rifles. The firing range faces north for the best shooting light and provides thirty-six targets in the "pits" area. During the winter, this range is reserved for competitive use only as use by the general public would not be compatible with recreational skiing. Range use by the general public is allowed during the summer months.

In direct connection with the range there is a 250 meter (820 feet) start-finish area. The penalty loop connects with the range in this same area. From this start-finish stadium, there are three major loop-type cross-country ski trails, thereby providing recreational skiing for the public during a competition on either system.

Each of these trails is bisected with several cut-off loops which may be used to provide varying length courses as demanded by the competitions. The 20 kilometer course has a vertical difference of 190 meters, a maximum climb of 55 meters, and a total climb of 560 meters.

There is a timing system for use during competitions and a public address system which covers the range and the start-finish area.

Spectator Accommodation

The spectator standing area for viewing at the start-finish line of the biathlon accommodates 3,000 persons.

Buildings

Structures associated with the biathlon total twelve. Functions include event timing, targeting, storage, maintenance, warming and restrooms. The dimensions and usage for each building are shown in Appendix D. The biathlon lodge is handicapped accessible.

Water

The biathlon team building is served by a drilled well yielding 30 gpm. Peak consumption is 2,000 gallons/day or 5% of capacity.

Sanitary-Waste Water

The biathlon team building contains the following accommodations for men: 2 lavatories, 3 toilets and 2 urinals; and for women: 2 lavatories and 4 toilets. Disposal is by a 1,000 gallon septic tank with 850 sq. ft. of disposal field constructed in 1970 and is in good condition.

The maintenance building at the biathlon complex is served by a 500 gallon septic tank and 750 sq. ft. of leach field constructed in 1978 and is in good conditions.

e. Parking

Figure 2-2, "Existing Conditions," shows parking facilities near the bobsled run which are capable of handling 1,275 vehicles (assuming 90% cars, 10% buses). This central parking location provides for the combined parking requirements for the entire complex including cross-country, biathlon, luge and bobsled. Parking is divided into five (5) lots which are numbered for administrative purposes. Additional limited parking is available adjacent to the Biathlon and cross-country lodges and the bobsled/luge run ticket booth. All parking areas consist of sand and gravel with some patches of grass.

f. Access Road

The New York State Department of Transportation has responsibility for maintaining the one mile access road, NY Route 913 Q, from its intersection with NY Route 73 at the entrance to the parking areas. Facility staff maintain the roadway from this point as well as the parking areas and service roads.

g. Electric Distribution

Electrical energy is presently supplied by the Lake Placid Municipal Electric Company via a three-phase 13,200/7620 volt line. Individual major buildings are metered separately. There are six tap lines on the site and they are as follows: 1) three phase primary tap to biathlon; 2) three phase primary tap to cross-country stadium; 3) single phase primary tap to pumphouse; 4) single phase primary tap to clubhouse and sled shed; 5) three phase primary tap to refrigeration plant and maintenance shops; and 6) single phase primary tap to top of bob run. Existing electrical demand is approximately 1,500 kW in winter and 40 kW in the summer.

h. Gravel Pit

A gravel pit is located on "Special Use Land" on the roadway to the water pumphouse northerly of the biathlon range, as shown on Figure 2-2, "Existing Conditions." Gravel is removed for on-premise use continuously at all seasons as demand dictates. Approximately 250 tons of gravel is used annually.

i. Equipment Inventory

The ski area owns and maintains equipment ranging from office and computer equipment to furniture, carpentry equipment, trail grooming equipment, vehicles and snowmaking equipment. A complete listing of "Inventory Equipment" is available for review at ORDA headquarters in Lake Placid, New York.

2. Inventory of Systems

a. Management

Mount Van Hoevenberg was built in the early 1930's and was first opened to the public in 1932 for the III Olympic Winter Games. Early management was under the direction of the Bureau of Winter Recreation, Conservation Department (now known as the Department of Environmental Conservation). On October 4, 1982, management was delegated to the Olympic Regional Development Authority (ORDA) through an agreement with DEC, authorized by Chapter 99 of the Laws of 1984 (Article 8, Title 28, Section 2614, Public Authorities Law).

This agreement transferred to ORDA the use, operation, maintenance and management of the sports complex. DEC remains the statutory custodian of the state-owned recreation area. Under the agreement, ORDA is to maintain the facility subject to DEC inspections; make capital improvements with DEC's prior written approval; establish a fund for capital improvements; continue the level of prior public recreation; comply with specified prior agreements; and cooperate with DEC in completion of a Unit Management Plan for the use area.

In 1991 DEC and ORDA entered into a Memorandum of Understanding superseding a 1984 memorandum between the parties, establishing methods and procedures by which managerial requirements contained in the underlying DEC/ORDA management agreements are to be complied with, and setting forth requirements for the operation of ORDA facilities and detailing procedures on how Unit Management Plans for each of the ORDA facilities are to be implemented. A copy of the MOU is provided in Appendix E, "Memorandum of Understanding." The MOU, in particular, relates to requirements for notices of management actions described in Unit Management Plans; the need to adhere to the DEC tree cutting policy; and identifies those activities that need to be undertaken which are not described in Unit Management Plans. Additionally, the MOU contains the procedures required for revisions or amendments to Unit Management Plans. Any material modification or amendment to the Unit Management Plan is to conform to the guidelines and criteria of the State Land Master

Plan, and must be made following the same procedure prescribed in the Master Plan for original Unit Management Plan preparation. The MOU specifically provides that a proposed amendment will be presented in its complete form and content, including indication of the specific sections of the existing management plan being amended, and be accompanied by:

- An evaluation of whether or not the proposed amendment will require a re-examination of the inventory and assessment section of the plan.

- If the amendment represents a departure from the goals and objectives stated in the Plan, a discussion of impacts of the new objects on facilities, public use and resources of the unit.

- An assessment of whether or not the proposed amendment is consistent with carrying capacity of the area.

- A schedule for the implementation of proposed management actions.

Any action to amend a Unit Management Plan and the connection with a proposed management action is to be initiated no later than the required site-specific environmental assessment pursuant to SEQRA.

b. Organization

The New York State Olympic Regional Development Authority (ORDA) was created in 1981 by the State Legislature as a public authority to oversee and manage the Olympic facilities in an effort to insure continued use and enjoyment of the facilities by the public. The ORDA Board of Directors is composed of ten members, three of these the Commissioners of the NYS Department of Environmental Conservation, Economic Development, and Parks & Recreation Departments, and the remaining seven appointed by the Governor of the State of New York, three of whom are recommended by the North Elba Town Board. ORDA manages and operates the Olympic Sports Complex at Mount Van Hoevenberg under its agreement with the Department of Environmental Conservation. The staff is led by the Authority's President and Chief Executive Officer.

c. Operations

The Olympic Sports Complex is open from 10 am to 4 pm during the summer and from 9 am to 4 pm during the winter. A watchman is present until 9 pm during the summer. In wintertime there is staff on the site 24 hours a day.

Personnel employed at Mount Van Hoevenberg varies with the season. During the winter season there are approximately 29 permanent and 59 seasonal staff. Table 2-1, "Roster of Staff Positions at Mount Van Hoevenberg," provides further details.

Table 2-2, "Proposed 95-96 Ticket Rates," provides a summary of the 1995-96 season fee structure.

d. Contractual Arrangements

- Concessionaire - In accordance with its management agreement with DEC, ORDA has an exclusive cafeteria concession agreement at Mount Van Hoevenberg with Service America Corporation. The agreement was made on April 1, 1992 and is valid until March 31, 2002.

- Ski Shop and Ski Rental Operation - In accordance with its management agreement with DEC, ORDA has an exclusive ski shop and ski rental agreement at Mount Van Hoevenberg with Service America Corporation. The agreement was made on April 1, 1992 and is valid until March 31, 2002.

- Horseback Riding - ORDA has an agreement with Harvey Goodman and Marleen Goodman, d/b/a XTC Ranch, to operate and conduct a horseback riding operation for use by the general public utilizing designated portions of the existing cross-country trail system and lodge, as well as to operate a rental and tack shop, food service and special events as appropriate.

  The horseback riding operation includes trail rides, pony rides, hay rides, riding lessons, junior riding programs and other related activities. The agreement was made in June 1994 and is valid through 1996.

- Mountain Bike Rental Operation - ORDA has an agreement with Brian Delaney, d/b/a High Peaks Cyclery, to operate a mountain bike facility which includes trail rental and usage, equipment rental, repair and sales, food and beverages sales, and special events including races, demo days, instruction and other appropriate activities. The agreement was made in June 1994 and is valid through 1996.

D. Public Use of the Olympic Sports Complex

1. Major Events

Major competitive events held at the Olympic Sports Complex from 1982 to 1994 include the following:

- 1983 World Luge Championships
- 1983, 1987, 1988 World Cup Luge, 1993 World Cup Luge Final
- 1983 World Two-Man & Four-Man Bobsled Championships
- 1982-90 US National Luge Championships
- 1982-88 & 1990 US National Bobsled Championships
- 1986 World Junior Nordic Ski Championships
- 1986 World Masters Cross Country Ski Championships
- 1986 & 1987 World Cup Bobsled
- 1987 World Biathlon Championships
- 1991 US National Cross Country Ski Championships
- 1991-92 NYNEX Luge Invitational

Listed below are major 1993-94 events hosted by ORDA at the Olympic Sports Complex:

Cross-Country & Biathlon

December 18	Harry Eldridge Super Series X-C Races
December 30	US Olympic Trials-Nordic Combined (10 K classic)
January 6, 8-9	US Biathlon World Team Trials
January 29	St. Lawrence University Winter Carnival
January 30	NYSEF Jr. Olympic Qualifier
February 5	Sharp's Lake Placid Loppet (25 & 50 K races)
March 4-6	Empire State Games

Luge

December 21	Screening Race #1
January 1-2	US National Championship
January 8	Olympic Alternate Selection Race
January 15	Screen Race #2
January 16	Masters National Championship
January 29-30	Ice Engineers Race
February 5-6	Adirondack Luge Club Challenge
February 19-20	York International Jr. Grand Prix
February 23	Jr. Seeding Race #1
March 5-6	Empire State Winter Games

Bobsled & Skeleton

March 5-6	Empire State Games

1994-95 winter events scheduled at the Olympic Sports Complex include the following:

December	10-11	US Luge-Club Championship
December	17	Harry Eldridge Memorial X-C Ski Race
December	18	US Luge-Masters National Championship
December	31-January 1	2-Man Bobsled Race-Ed Grant Memorial
January	3	US Luge-Senior Seeding Race
January	8	US 2-Man Bobsled Nat'l. Championship and World Team Trials
January	14	US 4-Man Bobsled Nat'l Championship and World Team Trials
January	14-15	Mt. Van Hoevenberg X-C Demo Days
January	14-15	High Peaks Cyclery X-C Marathon
January	19	FIBT 2-Man Bobsled Race
January	22	FIBT 4-Man Bobsled Race
January	21-22	US Biathlon World Team Trials
January	29	4-Man Bobsled Race-Le der le Trophy
January	29	US Luge-Junior Seeding Race #1
January	29	Cross-Country Jr. Olympic Qualifying Race
February	4	Sharp's Lake Placid Loppet (X-C Races)
February	4-5	2-Man Bobsled Race-Bunny Sheffield Memorial
February	5	US Luge-Junior Seeding Race #2
February	11-14	Intercontinental Cup (Nordic Combined)
February	11-12	World Junior Luge Championships
February	11-12	4-Man Bobsled Race-Joe Shectelli Legends Race
February	18-19	US Luge-Junior Nat'l Championship
February	18-19	2-Man Bobsled Race-USBSF Cup
February	22-25	Subaru US Cross-Country Skiing Championship
February	25	Skeleton World Cup
February	26	USBSF Skeleton Nat'l Championship
February	25-26	4-Man Bobsled Race-USBSF Cup
February	26	Empire State Games-Luge Competition
March	3-5	Empire State Winter Games
March	3-5	Geoff Bodine International Invitational Bobsled Competition
March	11-12	2-Man Bobsled Race-US Masters Nat'l Championship and US Women's Nat'l Championship

1995-96 winter events scheduled at the Olympic Sports Complex are as follows:

December	10-11	US Luge-Club Championship
December	28-January 7	US Biathlon National Championships

January	6-7	Skeleton Race-Swiss Acres Cup
January	6-7	2-Man Bobsled US National Championships and World Team Trials
January	9-17	Chevy Truck US Cross-Country Skiing Championships
January	12-13	Skeleton Race-Happy Wanderer Cup
January	12-13	4-Man Bobsled-US National Championships and World Team Trials
January	12-13	Women's Bobsled National Team Selection Race
January	13	Nordic Demo Days
January	20-21	Skeleton Race-Rookie Cup
January	20-21	2-Man Bobsled-Americas Cup
January	21	Luge-Masters National Championships
January	27-28	Skeleton Race-Boeri Cup
January	27-28	4-Man Bobsled-Americas Cup
January	27-28	Women's Bobsled-Americas Cup
January	28	Junior Luge Shoot Out (Elimination Race)
February	3-4	Skeleton Race-Swany Cup
February	3-4	2-Man Bobsled-Bunny Sheffield Memorial Race
February	4	NYNEX Junior Luge Grand Prix
February	10-11	Skeleton Race-Joe Shectelli Legend Race
February	10-11	2-Man Bobsled-Joe Shectelli Legend Race
February	17-18	Skeleton Race-USBSF Cup
February	17-18	2-Man Bobsled-USBSF Cup
February	18	Junior Luge Seeding Race #1
February	23	Junior Luge Seeding Race #2
February	24	NYNEX Junior National Luge Championships
February	24	World Cup Skeleton
February	24-25	Women's Bobsled-National Championships
February	25	YORK International Team USA Luge Open
February	27-March 3	National Junior Olympics-Nordic Combined
February	29	NYNEX Senior National Luge Championships
March	1-3	Empire State Winter Games
March	2	2-Man Bobsled-Masters and Pee Wee National Championships
March	3-8	Intl. Airlines Ski Fed. World Championships

2. Cross-Country

The total annual number of cross-country skier visits, including usage by the US Olympic Training Center Athletes, is as follows:

Year	Total X-C Skier Visits
1985/86	17,886
1986/87	23,240
1987/88	24,219
1988/89	22,090
1989/90	16,000
1990/91	14,000
1991/92	15,000
1992/93	15,000
1993/94	11,308
1994/95	7,686

Usage by Olympic athletes was provided by the operations manager at the Olympic Training Center, as follows (a user day is defined as one athlete with one day of use at a particular venue).

Cross-Country Skiing Athlete User Days

1990	667
1991	1,112
1992	568
1993	525
1994	477

Nordic Combined Athlete User Days (an Olympic sport combining ski jumping and cross-country skiing)

1990	830
1991	177
1992	346
1993	204
1994	190

The warmer weather and lack of snow were influential in the decreased number of skiers visiting the Complex in 1993/94 and 1994/95. In addition, US Cross-Country National races were held during President's week (the third week in February) of the 1993/94 season, causing fewer trails to be open to the public during this typically high use week. The design carrying capacity of the 50 km of cross-country trails, portions of which are also utilized by biathletes, at Mount Van Hoevenberg is 20 recreational skiers per kilometer per moment, or 1,000 skiers/km/minute. Usage is well below this design standard. Note that in applying this carrying capacity, approximately 20% of

the recreational skiers are not on the cross-country trails at any given moment due to lodge use, meals, rest breaks, loading and unloading.

The cross-country lodge currently has a capacity of approximately 186 people (based on 2800 square foot area at a standard of 15 sf/person). The present size of the cross-county lodge is inadequate to accommodate skiers wanting rest, shelter, food and ski maintenance. During competitive events, athletes are required to use the same lodge facilities as recreational skiers.

3. Biathlon

Information on usage by Olympic athletes was provided by the operations manager at the Olympic Training Center. A user day is defined as one athlete with one day of use at a venue.

Biathlete User Days

1990	1,632
1991	1,910
1992	1,923
1993	1,886
1994	1,607

4. Bobsled

Table 2-3, "Bobsled Sliding Usage by Racers," illustrates the decline in the use of the bobsled by competitors from 5,302 total sleds during the 1987/88 season to 2,732 total sleds during the 1994/95 season. This decline is due to the progressive deterioration of the track relative to other training/racing facilities, to increasingly faster sled designs and the need to use safer tracks, and to the labor-intensive nature of the existing run which requires a staff of 18 for ice maintenance. Refer to Section I.B., Project Purpose, for additional information. The bobsled run sliding usage by racers in 1990-1991 was higher because the Olympics were held the following year and athletes were in training.

The total number of bobsled passenger trips increased to 3,112 trips or 8,067 passengers during the 1994/95 season as compared to 607 trips (1,822 passengers) during the 1983/84 season.

5. Luge Run

Table 2-4, "Luge Run Sliding Usage by Racers," illustrates the use of the luge run by competitors which indicates steady usage of the track. User days are relatively higher in 1992 and 1993 because international competitions were held in those years.

6. Spectators

The operational capacity of facilities for use by spectators standing is estimated as follows: Bobsled run area - 10,000 persons; Luge run area - 8,500 persons; Cross-country ski area - 5,000 persons; Biathlon area - 3,000 persons. These limits were established for the 1980 Olympics based on paved walkways and standing locations which provide satisfactory viewing opportunity. The limits have since proven manageable.

The main parking lot plus five (5) numbered lots at Mount Van Hoevenberg currently have a combined total design carrying capacity for 1,275 vehicles (assuming 90% cars, 10% buses). Conversion factors of 2.5 persons per car and 40 persons per bus are used to determine total persons that can be accommodated by present parking. Even though parking facilities will accommodate 7-8,000 persons, a greater number can be accommodated by shuttle busing as was practiced during the 1980 Olympics. Care in the scheduling of cross-country, biathlon, luge and bobrun events minimizes conflicting demand for use of parking facilities.

7. Summer Use

The establishment of contracts with mountain bicycle and horseback riding concessionaires and the increasing popularity of mountain biking as a sport in particular have contributed to increasing usage of the Olympic Sports Complex during the summer. The provision of wheeled bobsled rides to the public during the summer of 1995 proved to be very popular with the public and are proposed to continue thereby contributing to the year-round economy of the area. There were 2,027 wheeled bobsled passenger rides in July, 1995.

Table 2-1

Roster of Staff Positions
at Mount Van Hoevenberg

Permanent Staff Positions	
Number of Positions	**Position Title**
5	Administration
5	Maintenance Assistant
2	General Mechanic
1	Electrician
2	Refrigeration Mechanic
4	Labor Supervisor
2	Labor 2
1	Senior Ticket Sales Clerk
1	Ticket Sales Clerk
2	Labor Foremen
2	Motor Equipment Mechanic
1	Equipment Operator 1
9	Equipment Operator 2
29	Total

Seasonal Staff Positions*			
Administration		**Luge**	
Number	Title	Number	Title
1	Ticket Clerk	1	Ski Patrol 2-3
		2	Labor 1
		7	Labor 2
		4	Maintenance Asst.
1	Total	14	Total

Cross-Country		Bobsled Run	
Number	**Title**	**Number**	**Title**
1	Mt. Bike Manager	2	Labor 1
1	Equipment Oper. 1	11	Labor 2
2	Equipment Oper. 2	7	Driver
1	Labor 1	7	Brakeman
2	Range Attendants	1	Ski Patrol 2-3
3	Ski Patrol 2		
1	Ticket Clerk 1		
2	Labor Supervisors		
3	Ski Instructors		
16	Total	28	Total

* Does not include (6) ski shop/snack bar employees hired by concessionaire.

Table 2-2

Proposed 95-96 Ticket Rates

WINTER USE FEES (HOURS 9:00 AM - 4:00 PM)

Daily Rates

Adult	$10.00
Child (12 years of age and under)	$8.00
Child (6 years of age and under)	Free
Senior (62-69 years of age)	$8.00
Senior (70 years of age and up)	Free
Group Rate (15 or more)	$6.00

Season Pass

First Family Member/Individual	$125.00
Second Family Member	$50.00
Children Under 19 Years of Age	$25.00
Individual Child Under 19 Years of Age	$50.00

SUMMER USE FEES (HOURS 10:00 AM TO 4:00 PM)

Adults (13-61 years of age)	$3.00
Juniors (6-12 years of age)	$2.00
Groups (20 or more)	$1.50
Children (under 6 years of age)	No Charge
Senior Citizen (over 61 years of age)	$2.00

March 20 - June 16 **FREE** Admission
Trolley Ride to the top of the Bobrun offered June 17 - October 9
Open year-round (except Christmas Day)
Closed Mondays (Mid-December to Mid-March)
Summer Bobsled Rides: July 1-September 4 (Sat.-Wed. 10-12 & 1-4 · $20 pp)
Mountain Bike Center · Horseback Riding Center · Biathlon Range
also offered at Complex

Table 2-3

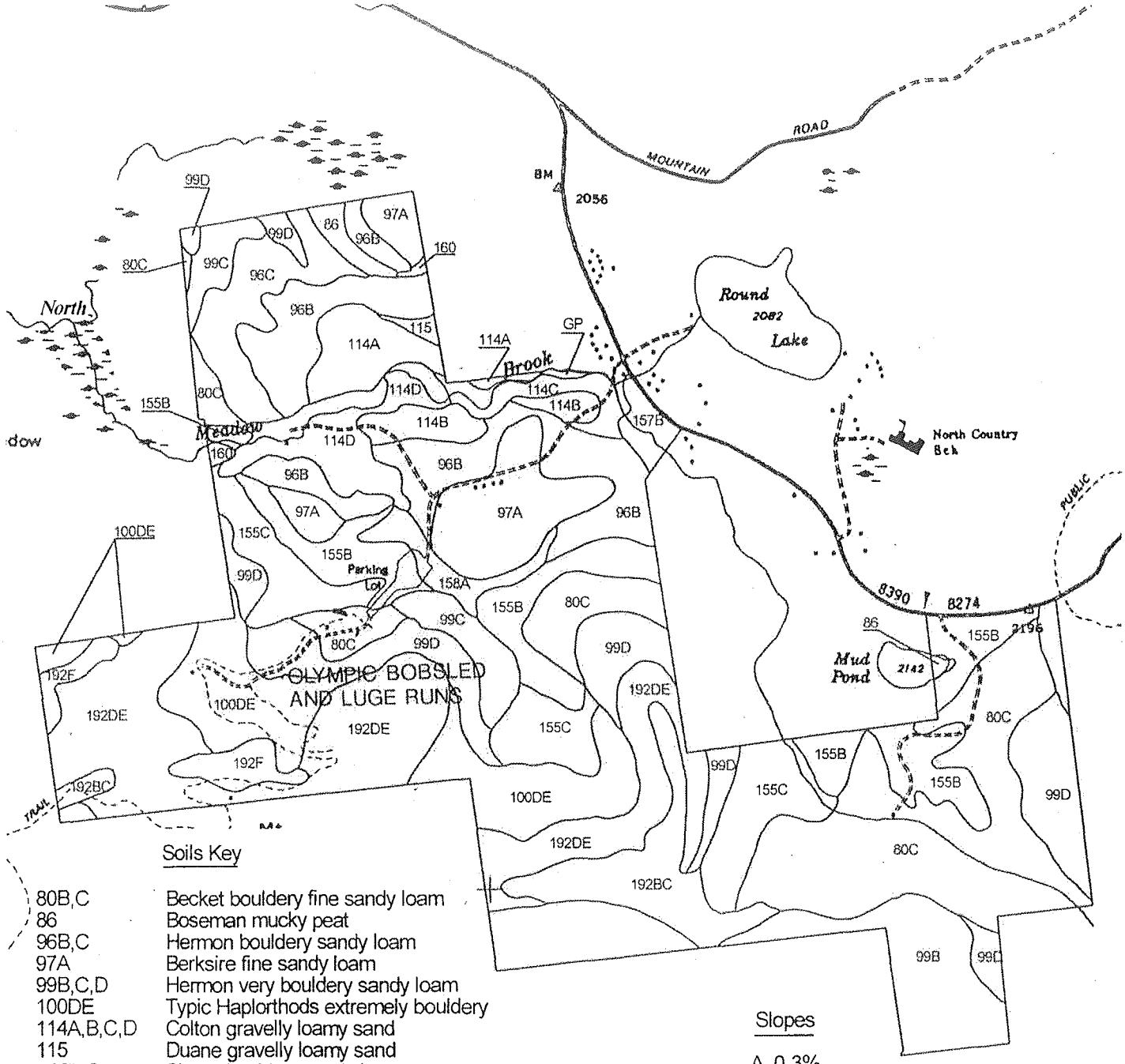
Bobsled Run Sliding Usage By Racers

Year	Number of Sliders	Number of Days
82 - 83	3,343	63
83 - 84	3,435	63
84 - 85	3,808	63
85 - 86	3,254	70
86 - 87	3,230	76
87 - 88	5,302	63
88 - 89	DID NOT USE TRACK	
89 - 90	2,691	81
90 - 91	4,128	69
91 - 92	3,046	72
92 - 93	2,716	66
93 - 94	2,535	69
94 - 95	2,732	66

Table 2-4

Luge Run Sliding Usage By Racers

Year	Number of Sliders	Number of Days
82 - 83	7,508	62
83 - 84	8,313	75
84 - 85	11,796	67
85 - 86	8,184	72
86 - 87	8,998	76
87 - 88	8,068	74
88 - 89	6,957	79
89 - 90	6,382	72
90 - 91[1]	7,301	58
91 - 92	7,667	73
92 - 93	7,107	67
93 - 94	7,946	69
94 - 95	7,799	88



Soils Key

80B,C	Becket bouldery fine sandy loam
86	Boseman mucky peat
96B,C	Hermon bouldery sandy loam
97A	Berksire fine sandy loam
99B,C,D	Hermon very bouldery sandy loam
100DE	Typic Haplorthods extremely bouldery
114A,B,C,D	Colton gravelly loamy sand
115	Duane gravelly loamy sand
155B,C	Skerry bouldery sandy loam
157B	Waumbek Variant fine sandy loam
158A	Aeric Haploquods, stony
160	Typic Humaquepts, very stony
164A	Waumbek Variant bouldery, fine sandy loam
192BC,D,E,F	Cryohumods-Lithic Borofolists complex, extremely bouldery
GP	Gravel pit

Slopes

A 0-3%
B 3-8%
C 8-15%
D 15-25%
E 25-40%
F 40-65%

NORTH

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UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

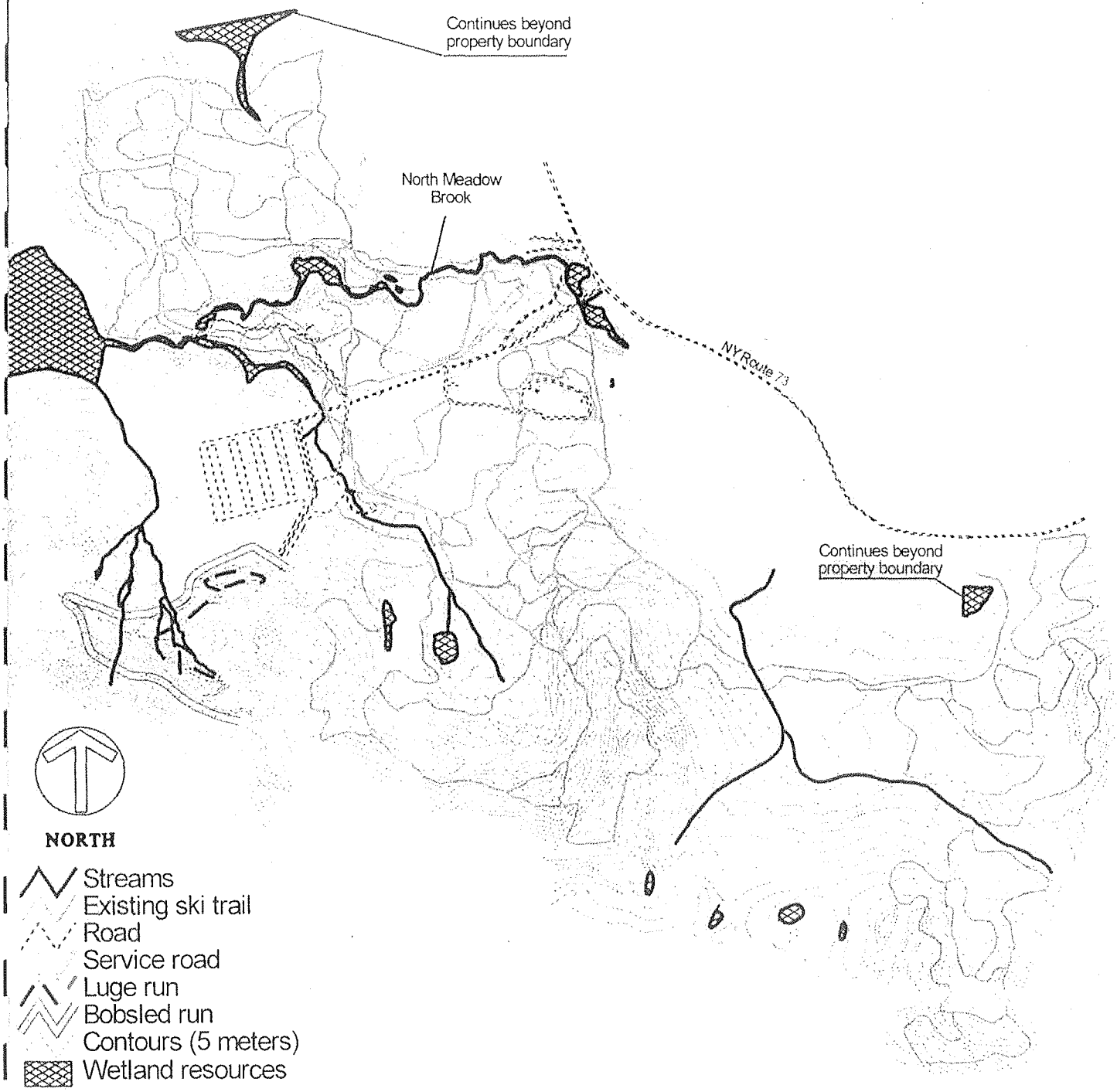
OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

SOILS

 DATE: 3-8-99 | SCALE: 1:24,000 | FIGURE NO. 2-1

UNI
ENVIRC
MT. VAN HO

the LA



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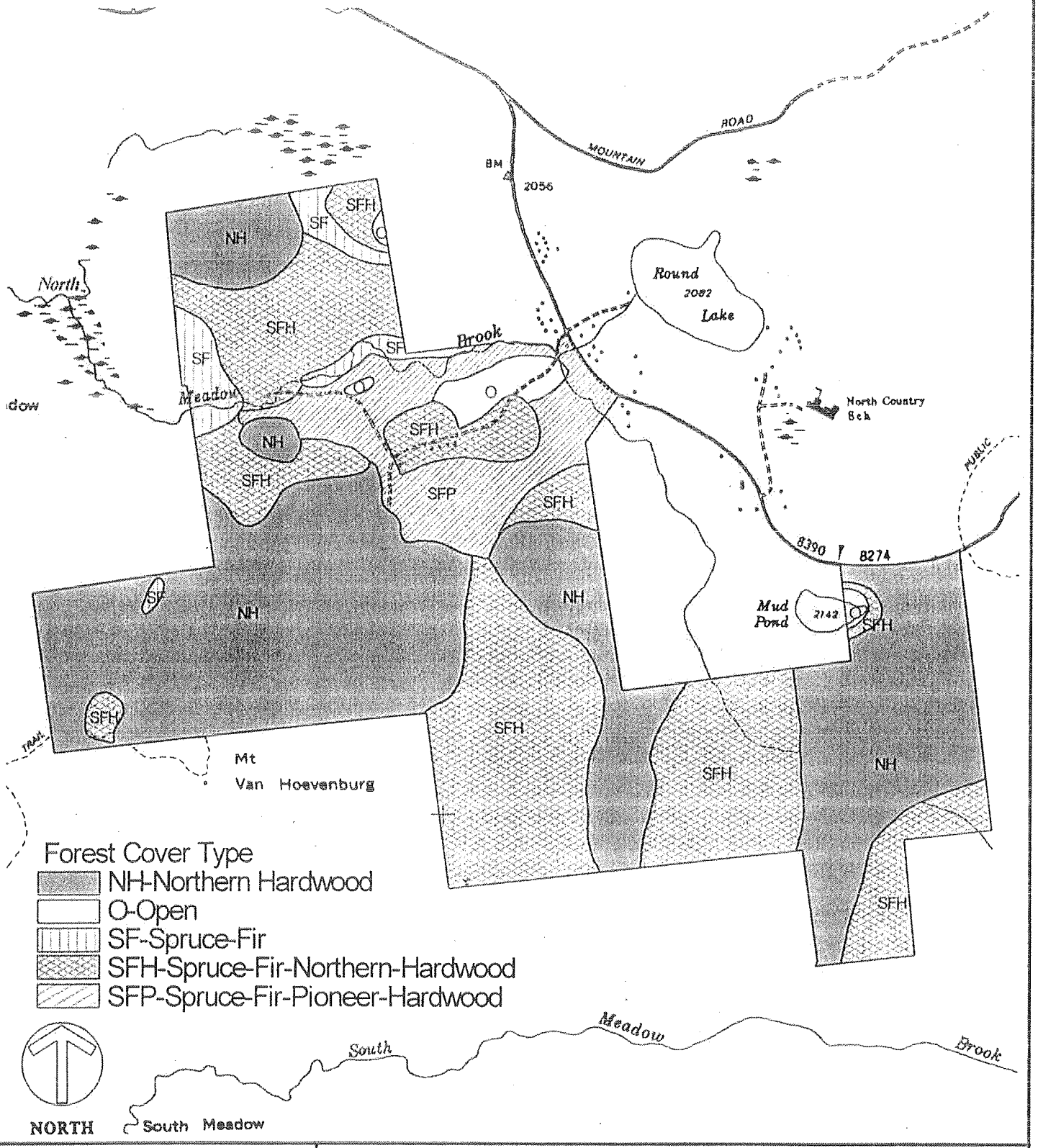
SURFACE WATER AND WETLAND RESOURCES MAP

 | DATE: 1-19-96 | SCALE: 1:20,000 | FIGURE NO. 2-3



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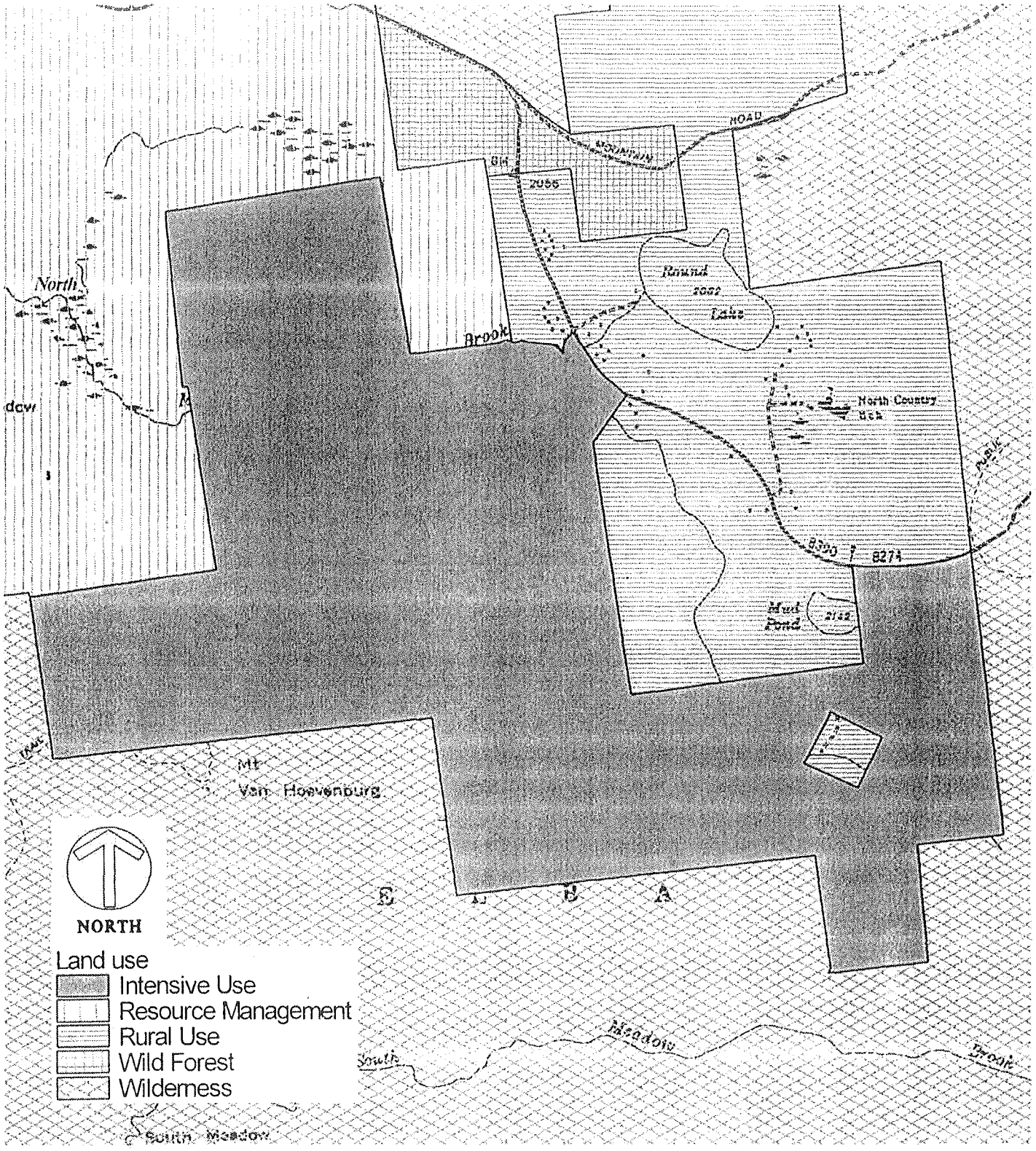
VEGETATIVE COVERTYPE MAP

 | DATE: 1-19-96 | SCALE: 1:24,000 | FIGURE NO. 2-4



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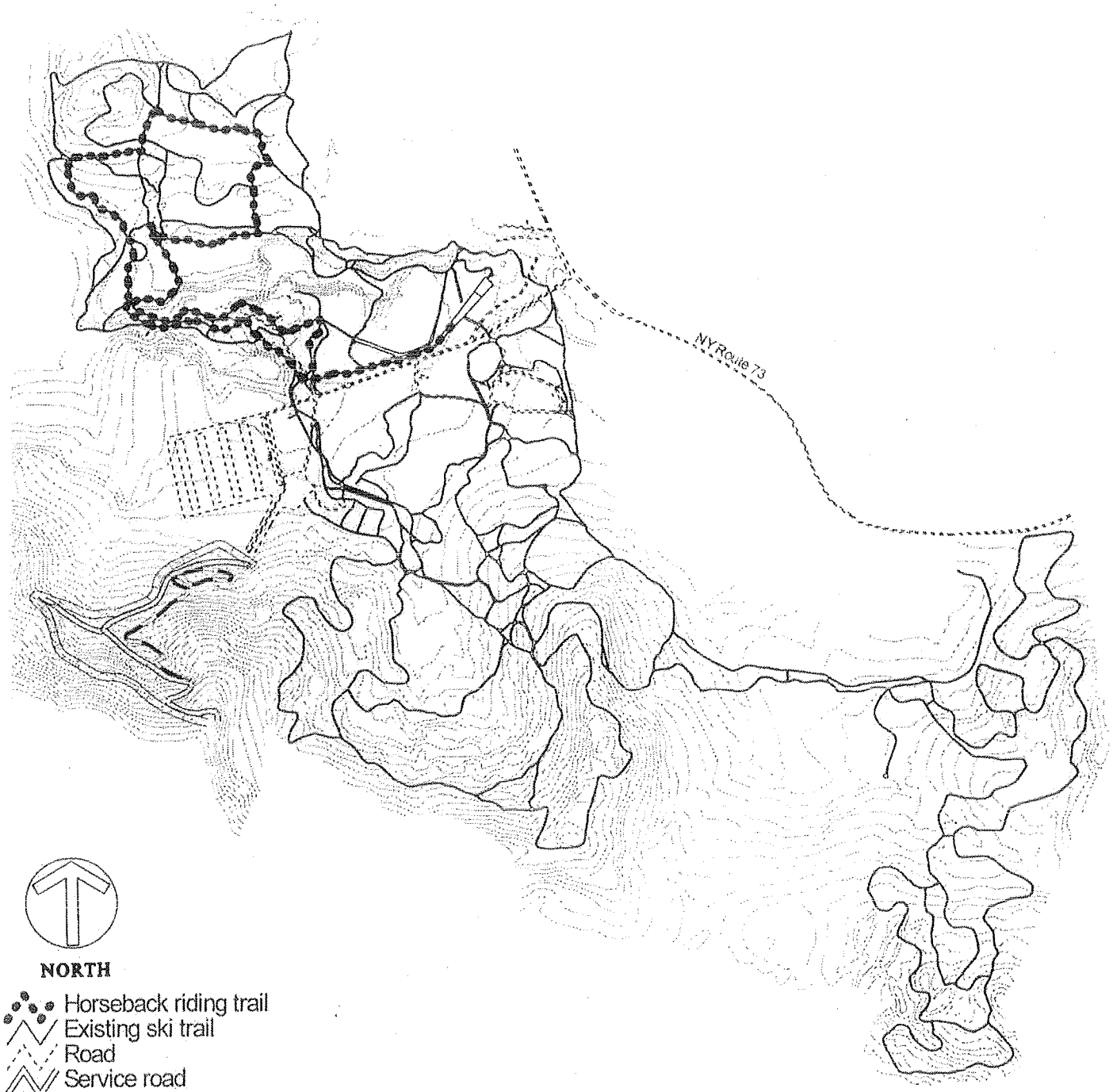
DEVELOPMENT AUTHORITY

LAND USE MAP

 | DATE: 1-19-96 | SCALE: 1:24,000 | FIGURE NO. 2-5



NORTH

- Horseback riding trail
- Existing ski trail
- Road
- Service road
- Luge run
- Bobsled run
- Contours (5 meters)

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HORSEBACK RIDING TRAIL

 | DATE: 1-19-96 | SCALE: 1:20,000 | FIGURE NO. 2-6

SECTION III MANAGEMENT AND POLICY

A. Orientation and Evolution of Management Philosophy

ORDA's central management goal remains as stated in the 1986 UMP:

The Olympic Region Development Authority shall continue to institute comprehensive activities utilizing the Olympic Sports Complex at Mount Van Hoevenberg to insure optimum year-round use and enjoyment of the facilities to the economic and social benefit of the Olympic region and to extend opportunity to improve the physical fitness, athletic education and recreational education of the people of New York State and the United States pursuant to the Public Authorities Law, the Adirondack Park Agency Act, and the Environmental Conservation Law, in harmony with the Adirondack Park.

Subsequent to adoption of the 1986 UMP it has become evident to Mount Van Hoevenberg management that certain improvements are required to maintain the facility at a level suitable for use by athletes and recreators alike. The cross-country and biathlon trails and the bobsled and luge runs are outdated designs and create significant hazards for users. Mount Van Hoevenberg management has placed an emphasis on facility modernization and improvement in order to achieve the goal stated in the 1986 UMP. Mount Van Hoevenberg management believes that modernizing the facility will improve skier safety, provide a higher quality recreational and competitive experience and increase local and regional economic benefits.

B. Regulatory Issues

Management and operation of the Olympic Sports Complex at Mount Van Hoevenberg is affected by a variety of regulatory issues. Such issues influence the nature and scope of permissible activities at the Complex. Significant regulatory issues are as follows:

1. New York State Constitution Article XIV

Article XIV states that Forest Preserve land, as currently fixed by law, either presently owned or acquired in the future by the State, will be kept forever as wild forest lands. As such, Forest Preserve lands cannot be leased, sold or exchanged, or be taken by any public or private corporation. Timber on Forest Preserve land subject to certain expressed exceptions, cannot be removed, sold or destroyed.

It is essential, therefore, that development and tree removal on forest preserve lands at the Mt. Van Hoevenberg Sports Complex be consistent with the mandates of Article XIV as it has been interpreted over the years by the courts and in a series of Attorney General opinions. The leading cases interpreting Article XIV are the Association for the Protection of the Adirondacks v. McDonald, 228 A.D. 73 (3d Dept. 1930), affirmed 253 N.Y. 234; and Balsam Lake Anglers Club v. DEC. 199 A.D. 2d 852 (3rd Dept. 1993).

In McDonald, the Appellate Division, in declaring a proposed bobsled run at Mt. Van Hoevenberg unconstitutional, construed the meaning of "forever wild" as used in Article XIV: "Its uses for health and pleasure must not be inconsistent with its preservation of forest lands in a wild state. It must always retain the characteristics of a wilderness. Hunting, fishing, camping, mountain climbing, snowshoeing, skiing or skating find an ideal setting in nature's wilderness." Also, : "No artificial setting is required for any of these purposes. Sports which require a setting which is man-made are unmistakenly inconsistent with the preservation of these forests lands in the wild and natural state in which Providence has delivered them."

In large part, McDonald focused on the amount of trees to be cut and removed for the proposed bobsled facility. Dicta within that decision indicates that reasonable cutting of trees is permissible when necessary to enable the public to safely use forest preserve lands, so long as such cutting is "immaterial", i.e., does not detract from the wild forest character of the forest preserve. In other words, the amount of trees that can constitutionally be cut and removed is determined on a case-by-case basis.

McDonald emphasized that the forest preserve is for use by the public:

> "The Forest Preserve is preserved for the public; its benefits are for the people of the State as a whole. Whatever the advantages may be of having wild forest lands preserved in their natural state, the advantages are for every one (sic) within the State and for the use of the people of the State. Unless prohibited by the constitutional provision, this use and preservation are subject to the reasonable regulations of the Legislature."
>
> "What regulations may reasonably be made by the Commission for the use of the park by campers and those who seek recreation and health in the quiet and solitude of the north woods is not before us in this case. The Forest Preserve and the Adirondack Park within it are for the reasonable use and benefit of the public, as heretofore stated. A very considerable use may be made by campers and others without in any way interfering with this purpose of preserving them as wild forest lands."

McDonald, then, certainly does not interpret Article XIV as an absolute prohibition but, rather, contemplates considerable use of forest preserve lands by the public, subject to reasonable regulations.

In the Balsam Lake case, the Appellate Division dealt, in part, with the issue of whether to annul a negative declaration (under SEQRA) issued by the Department of Environmental Conservation that the implementation of the Balsam Lake Mountain Wild Forest Unit Management Plan would not have a negative impact upon the environment on lands classified as "wild forest" by the Catskill Park State Land Master Plan. The unit called for, among other actions, the construction of five new parking lots, the designation of two existing campsites as lawful campsites, the relocation of existing trails and the construction of a new hiking trail, and the construction of a cross-country ski trail loop.

The Appellate Division, in upholding the Department of Environmental Conservation's action, found, in interpreting the Article XIV provision that timber on forest preserve lands cannot be sold, removed, or destroyed, that "(a)lthough this provision would appear...to prohibit any cutting or removal of timber from the forest preserve, the Court of Appeals, noting that the words of the NY Constitution must receive a reasonable interpretation, has construed (in McDonald) this provision as prohibit(ing) (the) cutting or (the) removal of... trees and timber to a substantial extent", and indicated "that only those activities involving the removal of timber 'to any material degree' will run afoul of the constitutional provision."

The Appellate Division, in the Balsam Lake case, specifically found that the addition of the five parking areas and the relocation of certain trails are not improper uses of the forest preserve, nor do they involve unconstitutional amounts of cutting. The Court found that "(t)hese proposed uses appear compatible with forest preserve lands, and the amount of cutting necessary is not unconstitutionally prohibited."

Aside from an easement issue not pertinent here, the Appellate Division further found a rational basis existed for DEC's negative declaration.

In addition to the leading case law discussed above, there have been a series of Attorney General opinions that provide further guidance. In the interest of public safety and in consideration of the development of protective and recreational facilities, it has been necessary for the Department of Environmental Conservation, as the managing authority for Forest Preserve Lands, to periodically ascertain the limitations of legislative intent from the State Attorney General pertaining to the cutting, removal and destruction of trees.

In instances where cutting has not been sanctioned by constitutional amendments, the opinion and interpretation of the State's Attorney General has been sought on allowable cutting activities. One such opinion, dated January 18, 1934, pertaining to ski trail construction state: "ski-trails (cross-country) may be constructed by the Conservation Department in the Forest Preserve when cutting trees to any material degree, will not be necessary and the wild forest character of the Preserve will not be impaired."

In addition, trees may be removed for several other purposes. An Attorney General's opinion dated February 5, 1935 authorizes the removal of trees in the Forest Preserve that endanger public safety.

An Attorney General's opinion dated September 20, 1934 allows the use or removal of vegetation for surveying triangulation stations, where these stations serve as an aid to the conservation work of the State, and where the number of small trees used or removed for the work appear immaterial.

The cutting of trees to establish scenic vistas is addressed in an Attorney General's opinion of January 17, 1935. In this opinion, vistas may be established as long as the work is "carried on with care in order that the tree removal may not be sufficient to pass the point of immateriality." Before the creation of a vista, alternate locations in

the area and alternate methods of achieving the view must be considered. For example, a more sparsely wooded site might be found, or an observation platform erected.

The salvage of windfall timber is authorized when it is determined that it represents a fire hazard in an opinion dated July 26, 1945. Salvaged timber cannot be sold or given away to anyone who may sell it, but it can be used for any project under Department of Environmental Conservation jurisdiction.

A June 24, 1986 Attorney General Opinion (No. 86-F3) addresses the issue of whether the DEC may cut live-standing trees for use in the maintenance of existing trails in the forest preserve. The opinion concludes that: "The carefully planned and supervised selective cutting in the forest preserve of only those few scattered trees necessary for the maintenance of popular and steep trails to lessen soil compaction, erosion and the destruction of vegetation may be conducted consistent with the "forever wild" provisions of the State Constitution, as long as it does not occur to any material degree."

In a recent opinion, February 22, 1996, the Attorney General concluded that DEC may not issue four temporary revocable permits to authorize installation of electrical cable and other equipment on the beds and shorelines of Raquette Lake and Big Moose Lake. Applying the reasoning of McDonald, the Attorney General found that the cable would not serve a public use permitted in the forest preserve, and that it would not benefit the public at large by facilitating the enjoyment of the preserve.

Considering the guidelines established by applicable case law and opinions of the Attorney General it would appear that the management actions proposed in this unit management plan, composed largely of improvement to long-standing existing cross country ski trail facilities, are consistent with the mandates of Article XIV. The proposed tree cutting and vegetative removal, while significant in number, appears reasonable in relation to the overall size of the terrain encompassing the proposed actions, and the substantial public benefit to be derived from the improved outdoor recreational amenities to be provided. As expressed in McDonald, a very considerable use may be made by the public and others without in any way interfering with the purpose of preserving the forest preserve as wild forest lands.

The Olympic Sports Complex Unit Management Plan and supporting DGEIS provide the necessary framework and procedures to ensure compliance with the standards and guidelines discussed above. Adherence to the DEC Commissioner's Tree Cutting Policy (Organization and Delegation Memorandum 84-06) is mandated in the 1991 DEC/ORDA Memorandum of Understanding for the implementation of Unit Management Plans. The Memorandum of Understanding requires approval of the DEC Director of the Division of Lands and Forest for the cutting of any vegetation at the State Facilities under ORDA's control. The request for approval to cut trees for the purposes of new construction, expansion or modification of projects must be submitted in writing and include specifically required detailed information. Furthermore, the DEC policy and procedures were amended in 1986 to include the requirement for adequate notice in the Environmental Notice Bulletin to the public as to the number of

trees proposed to be cut and the size of the land involved on specific projects. These requirements combine to assure that the test for "carefully planned and supervised selective cutting" will be met.

The reasonableness of these actions is also manifested in Mount Van Hoevenberg's classification as an "intensive use area" in the Adirondack Park State Land Master Plan. It is significant, in this regard, that the Court, in the Balsam Lake case, found proposed campsite facilities on forest preserve lands classified as "wild forest" to be compatible with forest preserve lands, and the amount of cutting necessary not unconstitutionally prohibited. Wild forest areas are considerably more restricted in their contemplated use than are intensive use areas such as Mount Van Hoevenberg. The primary wild forest management guideline is to protect the wild forest setting and to provide those types of outdoor recreation that will afford public enjoyment without impairing the wild forest atmosphere. An intensive use area, on the other hand, is an area where the state provides facilities for intensive forms of outdoor recreation by the public, and where a primary management guideline is "to provide the public opportunities for... cross county skiing under competitive or developed conditions...in a setting and on a scale that are in harmony with the relatively wild and undeveloped character of the Adirondack Park."

While the State Land Master Plan does not purport to resolve Article XIV issues, this legislatively mandated plan governing the use and development of forest preserve lands within the Adirondack Park by State agencies does provide a sound basis for rational use of these lands through a deliberately conceived plan and regulated implementation process.

Accordingly, it is submitted, the proposed management actions constitute a reasonable use of the forest preserve, serve a public purpose and benefit, are "in harmony with the relatively wild and undeveloped character of the Adirondack Park," and, therefore, are consistent with the mandates of Article XIV of the State Constitution.

Timber cut for construction of proposed improvements on the Olympic Sports Complex will be used on-site or at other locations within the Forest Preserve for firewood, or will be used for such purposes as picnic tables, erosion control, foot bridges, and similar construction projects, as advised in a May 3, 1996 letter from NYSDEC General Counsel, John P. Cahill, provided in Appendix A, "Documents of Record", which was written relative to the Whiteface Mountain Unit Management Plan. As noted in the Cahill letter, in the alternative, such timber may be pushed off the trails, cut up and lowered to the ground so as to not constitute a fire hazard or threat to public health and safety.

2. Adirondack Park State Land Master Plan

The Adirondack Park State Land Master Plan (SLMP) classifies State Lands in the Forest Preserve according to their character and capacity to withstand use and sets forth general guidelines and criteria for the management and use of state lands. The SLMP

classifies the Olympic Sports Complex at Mount Van Hoevenberg as an Intensive Use Area. Intensive Use Areas are defined as follows:

> "An intensive use area is an area where the state provides facilities for intensive forms of outdoor recreation by the public. Two types of intensive use areas are defined by this plan: campground and day use areas."
>
> "These areas provide overnight accommodations or day use facilities for a significant number of visitors to the Park and often function as a base for use of wild forest, wilderness, primitive and canoe areas."

Specific guidelines for management and use which apply to the Olympic Sports Complex include:

- "The primary management guideline for intensive use areas will be to provide the public opportunities for family group camping, developed swimming and boating, downhill skiing, cross country skiing under competitive or developed conditions on improved cross country ski trails, visitor information and similar outdoor recreational pursuits in a setting and on a scale that are in harmony with the relatively wild and undeveloped character of the Adirondack Park.

- "All intensive use facilities should be located, designed and managed so as to blend with the Adirondack environment and to have the minimum adverse impact possible on surrounding state lands and nearby private holdings. They will not be situated where they will aggravate problems on lands already subject to or threatened by overuse, such as the eastern portion of the High Peaks Wilderness, the Pharaoh Lake Wilderness or the St. Regis Canoe Area or where they will have a negative impact on competing private facilities. Such facilities will be adjacent to or serviceable from existing public road systems or water bodies open to motorboat use within the Park."

- "Construction and development activities in intensive use areas will:

  - avoid material alteration of wetlands;
  - minimize extensive topographic alterations;
  - limit vegetative clearing; and,
  - preserve the scenic, natural and open space resources of the intensive use area."

- "Priority should be given to the rehabilitation and modernization of existing intensive use areas and the complete development of partially developed existing intensive use areas before the construction of new facilities is considered."

- "No new structures or improvements at any intensive use area will be constructed except in conformity with a final adopted unit management plan for such area. This guideline will not prevent the ordinary maintenance rehabilitation or minor relocation of conforming structures or improvements."

"Since the concentrations of visitors at certain intensive use facilities often pose a threat of water pollution, the state should set an example for the private sector by installing modern sewage treatment systems with the objective of maintaining high water quality. Standards for the state should in no case be less than those for the private sector and in all cases any pit privy, leach field or seepage pit will be at least 150 feet from the mean high water mark of any lake, pond, river or stream."

There is one SLMP management guideline specific to Mount Van Hoevenberg, as follows:

"The Mount Van Hoevenberg area should be maintained as a year-round sports facility meeting international standards for such sports as bobsled, luge, biathlon and cross country skiing on improved cross country trails under developed, competitive condition."

The SLMP provides that Unit Management Plans be developed by the DEC in consultation with the APA for management of state lands. Such management plans shall conform to the general guidelines and criteria set forth in the SLMP. UMPs are also to be amended from time to time. The responsibility for preparation of the Mount Van Hoevenberg UMP has been delegated to ORDA, as discussed below.

3. 1986 Unit Management Plan

The 1986 Mount Van Hoevenberg Recreation Area Unit Management Plan is still in force and governs permissible activities at Mount Van Hoevenberg. Projects approved in the 1986 UMP are discussed in Section I.F.

4. Environmental Conservation Law

Section 9-09031 of the Environmental Conservation Law places the "care, custody and control" of the Olympic Sports Complex with the Department of Environmental Conservation.

5. Olympic Regional Development Authority Act

The Olympic Regional Development Act (Article 8, Title 28, NYS Public Authorities Law) establishes the Olympic Regional Development Authority (ORDA) and sets forth its responsibilities, functions and duties. The authority operates and manages the Olympic Sports Complex at Mount Van Hoevenberg under an agreement with the Environmental Conservation Department, entered into on October 4, 1982, amended November 10, 1982 and April 1, 1984, pursuant to the Public Authorities Law, Section 2614.

6. DEC - ORDA Memorandum of Understanding

The DEC and ORDA implement their mutual responsibilities for management of the Olympic Sports Complex through a Memorandum of Understanding (MOU) dated March 8, 1991. The MOU sets forth mutually agreeable methods and procedures by which managerial requirements are implemented. The MOU also establishes the means by which the existing UMP is implemented. Such means generally involve notification, inspection and review of actions to ensure compliance with the UMP and applicable regulations. A copy of the MOU is found in Appendix E of this UMP.

7. Other Regulations

The Department of Environmental Conservation regulates sanitary waste disposal systems at the Complex and the Department of Health regulates water supply and food service facilities.

Petroleum storage tanks are managed and regulated in compliance with NYSDEC Petroleum Bulk Storage Regulations. Appendix F contains the Spill Prevention Control and Countermeasure Plan.

A SPDES general permit for stormwater discharges associated with proposed construction activity on Olympic Sports Complex lands will be registered with the NYSDEC and is provided in Appendix G, "Construction Pollution Prevention Plan".

SPDES registrations are in place for the existing inground wastewater treatment systems and these registrations will be maintained.

A Protection of Waters Permit pursuant to Article 15, Title 5 of Environmental Conservation Law is not required for the ski trail bridge maintenance, trail maintenance and related activity or the construction of the snowmaking reservoir because ORDA is a state public corporation. However, as noted in the June 5, 1996 letter from Richard A. Wild of the NYSDEC, provided in Appendix A, "Documents of Record," "measures would still have to be taken to ensure that any work conducted near a surface water will not contravene water quality standards." The snowmaking pond is a specific construction project for which construction plans will be engineered and reviewed as appropriate at a later date. The work plan for the pond will include all proposed mitigation measures to be taken to protect soil and surface water resources.

The Ammonia Spill Plan for the bobsled and luge refrigeration system is provided in Appendix H. A NYSDEC air permit will be required to operate the ammonia gas treatment units (as well as a permit to construct).

Hunting, trapping and fishing at the Complex are restricted pursuant to 6 NYCRR Part 190.23.

The borrow pit at the Complex is managed and regulated in compliance with the New York State Mined Land Reclamation Act, where applicable.

Improvements proposed at the Olympic Sports Complex at Mount Van Hoevenberg will affect some wetlands and waters regulated by the state and federal governments. The state wetland regulations are administered by the Adirondack Park Agency. The federal regulations are enforced by the US Army Corps of Engineers (ACOE). The potential wetland impacts are described and the regulations applicable to the proposed activities are identified in Section V, "Potential Impacts and Mitigation Measures".

C. Management Goals and Objectives

ORDA and Olympic Sports Complex management have identified three goals for operation of the facility.

1. To offer quality year-round recreational/competition programs on publicly owned lands for the benefit and enjoyment of the people of New York State, the United States and the international sports community.

2. To position the Complex as an economic catalyst to strengthen the private sector and local government economies.

3. To protect the natural resource base in accordance with environmental conservation laws and all other applicable laws and regulations of the State of New York.

The following specific objectives have been identified to implement the above goals.

1. Environmental Protection

a. ORDA will continue to manage the Olympic Sports Complex in an environmentally responsible fashion by complying with all applicable rules and regulations and by maintaining an on-going dialogue with the DEC and APA on matters of environmental concern.

2. Public Use

a. ORDA will seek to improve the quality of facilities at the Complex in order to continue to attract competitive and recreational athletes from New York State, the United States and the international sports community, in order that public use may better help promote the economy of the area.

b. ORDA will seek to develop new summer and other off-season events to provide greater year-round use of the facility by the public, consistent with Article XIV and the SLMP.

3. **Management and Operations**

a. ORDA management will seek to establish annual budgets and schedules in support of the proposed capital improvements plan and other management objectives.

b. ORDA will seek to improve equipment reliability in order to reduce the frequency of breakdown, associated staffing requirements and consequent financial drain.

c. ORDA will seek to reduce its operations and maintenance costs by replacing out-dated and aged equipment.

d. ORDA will seek to improve its economic return by making the mountain more attractive to professional athletes and recreators, and thus increasing ticket sales.

4. **Athlete and Recreator Safety and Experience**

a. ORDA will seek to improve skier safety and experience by widening certain cross-country and biathlon trails, improving certain trail intersections, providing a skier bridge at a certain high use trail intersection, and widening the cross-country stadium.

b. ORDA will seek to improve skier experience by providing snowmaking and nightlighting on certain biathlon and cross-country ski trails.

c. ORDA will seek to improve skier experience by developing the biathlon lodge as a recreational lodge and by expanding and renovating the cross-country lodge as a training facility.

d. ORDA will seek to improve the safety and experience of bobsled and luge athletes by providing a state-of-the-art facility to replace the outdated runs.

5. **Competitive Events**

a. ORDA will seek to establish the Olympic Sports Complex as an international caliber facility for competitive events in bobsled, luge, biathlon and cross-country skiing meeting international standards for competition.

6. **Capital Improvements**

a. ORDA will implement a capital improvements program to achieve the above objectives. Specific elements are discussed in Section IV below.

SECTION IV PROPOSED MANAGEMENT ACTIONS, PHASING, AND PROJECTED USE

This section describes the proposed management actions which form the basis of the amended UMP, the use which is expected to result, and the proposed phasing and scheduling of actions. The actions and subsequent discussion of impacts and mitigating measures in Section V, are described at a sufficient level of detail to proceed without subsequent SEQRA or UMP review, provided they are carried out as substantially described in this document.

A. Proposed Management Actions and Phasing Plan

Overall actions proposed for the Master Plan Update at the Olympic Sports Complex are described in this section. Some of the actions were proposed and approved in the 1986 UMP/EIS but never implemented. They remain unchanged and are to be considered still valid as part of this Master Plan Update. They are included in the Master Plan Update description but will be given further consideration in Section IV.C. as to their SEQRA status.

During the preparation of this Generic Environmental Impact Statement, it became clear that the State Constitution Article XIV issues related to the project need to be resolved before certain desirable management actions can be implemented. Each of the proposed management actions has been specified either as those actions which can occur when the UMP is approved and adopted, or those actions which can occur pending resolution of the Article XIV issues.

With regard to Article XIV, it is clear that the New York State Constitution needs to be amended to include specific provision for the facilities at the Complex, including the ski trails, lodges and appurtenances thereto.

The recommended development program under the Five-Year Plan encompasses the two phases of detailed improvements. This program is based on the Five-Year Plan for the Olympic Sports Complex as shown on Figure 4-1, "Five-Year Master Plan," which graphically illustrates the recommended improvements. Through the course of the work phases, progress evaluations will be conducted annually, work compared with the goals and objectives, and the project refocused as deemed necessary by Olympic Sports Complex and ORDA administration. The results of this annual review will be a budget for the next phase of work that can be taken to the appropriate agencies for approval prior to the beginning of the work period.

The following improvements and upgrades are proposed in this UMP/GEIS.

1. **Management Actions which can take place when UMP is approved and adopted:**

a. Trails

- Maintain cross-country and biathlon ski trails to applicable International Ski Federation (FIS) and International Biathlon Union (IBU) standards
- Continue trail homologation (international standardization)
- In kind replacement of bridges on ski trails. Refer to Figure 4-6, "Cross-Country Trail Improvements."
- Construct mini-stadium bridge to increase safety at high speed trail intersection
- Create a longer straightaway at the start/finish at the current cross-country stadium and relocate timing building
- Upgrade trail signage and trail maps

b. Bobsled/Luge Run

- Construct new combined bobsled/luge track. It is anticipated that the lower half of the existing bobsled track will remain in place and operational to provide tourist rides. It is proposed that the upper half of the existing track remain in place and be abandoned, not demolished, both to serve as a landmark in the history of bobsled tracks at the Mt. Van Hoevenberg site and to reduce demolition costs. The upper portion of the existing bobsled run will be abandoned in place and will be allowed to reforest naturally. Refer to Figures 4-7, 4-8 and 4-9, "Combined Bobsled/Luge Site Layout Plan," "Layout Plan – Sheet A" and "Layout Plan – Sheet B," respectively.

c. Biathlon Course Amenities

- Purchase portable scoreboard

d. Lodges

- Rehabilitate the biathlon lodge as a recreational lodge (includes outside deck, berms, and landscaping). Amenities include lockers, fireplace and lounge, ski rental/ski school shop, and ticket sales.

e. Parking

- Restructure the existing cross-country ski center parking lot to accommodate better traffic flow, drop-off area and parking pods. Refer to Figure 4-4, "Cross-Country Ski Center Concept Plan."

- Restructure the existing biathlon lodge parking area to improve traffic flow, accommodate parking spaces, and provide overflow parking. Refer to Figure 4-3, "Biathlon Lodge Parking."

- Restructure the existing access to the bobsled/luge area by creating a loop road with a vehicle drop-off zone. Refer to Figure 4-5, "Bobsled/Luge Area Concept Plan."

f. Miscellaneous

- Purchase additional grooming equipment

- Maintain and replace security fencing

- Maintain grounds and physical plant (two buildings need roof work, one needs a boiler)

- Replace bridge at existing pump station and replace weir as required by DEC and described within this UMP (refer to Section V.A.2.a, and to Appendix A, NYS DEC letter of July 24, 1996).

- Develop and schedule off-season events such as horse shows and festivals

- Replace wooden snow fencing on trails

2. **Management Actions Pending Article XIV Resolution:**

a. Trails

- Create three connector trails (refer to Figure 4-6, "Cross-Country Trail Improvements."

- Widen trails north of the access road

- Construct a snowmaking system on 7.3 +/- km of ski trails. This includes building an 8 million gallon reservoir, a 30' x 60' building to house pumps and air compressors and controls, installing two transformers, adding a pump at the existing pump station where bobsled run icing water is currently withdrawn, and installing water and air piping with snowmaking gun hydrants and power to run the guns along the trails where snowmaking is planned. Refer to Appendix I, "Snowmaking - General Information."

- Replace two ski tunnels under the access road with two new 10' high, 20' wide, 28' long box or arch culverts in order to improve skier safety and ski course fairness (skiers can pass).

- Construct a destination hut (unheated and unmanned) on the Porter Mountain loop. Refer to Figure 4-6, "Cross-Country Trail Improvements."

b. Lodges

- Build new racer's facility/training center (a total of 6,000 +/- square feet) in a location with better drainage to replace the cross-country lodge Amenities are proposed to include fitness and weight training rooms, lockers, showers, mini-kitchen, telephones, meeting areas, storage, ventilated waxing rooms, and media facilities.

- Relocate wax test area to be adjacent to new racer's facility if necessary

c. Parking

- Pave parking fields with high rate of use

- Pave loop road to bobsled/luge area

- Construct trailhead parking area in conjunction with DEC and DOT to serve those people accessing the trails to Pitchoff, Porter and Cascade Mountains.

d. Miscellaneous

- Construct a 50' x 80' pole barn for equipment storage in the westernmost parking area.

In addition to those above, the improvements identified in the 1986 Unit Management Plan, which remains in effect today, are still valid. Certain of the improvements in the 1986 UMP have been modified and updated in this UMP, while others have been deferred. Many improvements identified in the 1986 UMP have been constructed, while others are under construction. They are identified as part of the five year update, and are noted as already approved in the 1986 UMP. These include land acquisition, scheduling of summer programs, annual review and appropriate modification of facilities with respect to established safety standards, and maintenance of the facility. The status of actions in the 1986 UMP is summarized within this UMP in Table 1-1, "Status of 1986 UMP, As Amended, Management Actions."

The facility managers will continue to maintain trails on-site which connect with two trails which lead to the High Peaks Wilderness Complex to the south. No new trails into the wilderness complex are proposed at this time.

The complex itself is proposed to be upgraded in an on-going program designed to improve the convenience of circulation and parking and improve aesthetics by appropriate landscaping and redesigned access to and appearance of the lodges.

The development and scheduling of future off-season events is proposed to be of the type that maintains the Olympic Sports Complex at Mount Van Hoevenberg as a "Day Use Area" as it has been identified in the Adirondack Park State Land Master Plan. The selection of events is based on the carrying capacity of the site and the use of existing facilities for parking, lounge, cafeteria, first aid, sanitary and gathering areas. Horseback riding and mountain bike trails are currently available in the summer as are wheeled bobsled and luge rides. The biathlon target range is open to the public in the summer. A trolley provides a tour of the bobsled/luge facility. Horse shows, dog sled races, amateur Olympics, festivals and similar events are proposed to be scheduled in future years.

B. Projected Use

The purpose of the proposed management actions is to upgrade the aging trails, lodges and facilities at the Olympic Sports Complex to current recreational and competitive standards in order to consistently attract both competitive (training and racing) and recreational athletes. The goal is to increase use of the facility at least to usage levels seen in the past, and to allow more consistent trail conditions which would allow more consistent use (i.e. training) of the facility by all types of users. With respect to competitive athletes, it is the goal of this UMP to upgrade the facility and attract racers of both international and national teams to both train and race at Mount Van Hoevenberg. This applies to bobsledders, luge athletes, cross-country racers, biathletes, and telemark skiers.

C. Actions Approved in the 1986 UMP/EIS which are a Part of the Foregoing Five-Year Plan

This section discusses those management actions remaining to be implemented from the approved 1986 UMP/EIS which are compatible with and are part of the Five-Year Plan which was described in Section IV.A.

These actions and their related potential environmental impacts and suggested mitigative measures were discussed in detail in the 1986 UMP/EIS and were subject to a thorough SEQR review. Two projects approved subsequent to the 1986 UMP include construction of a ski bridge at a high speed trail intersection located at the "mini-stadium," and maintenance of approximately 23.2 km of cross-country trails. Public notices were issued for these projects, as appropriate. They are considered, therefore, to be approved actions which can be implemented at any time by ORDA and are not subject to reconsideration under the SEQR process. However, where such improvements result in impacts which are cumulative with those discussed in this UMP/DGEIS, such impacts are considered in Section V.

The following components of the foregoing Master Plan Update which were described in Section IV.A. constitute those actions remaining to be implemented and which are still valid from the 1986 UMP/EIS or subsequent approvals. Table 1-1, "Status of 1986 UMP, as Amended, Management Actions," indicates which management actions approved in the amended 1986 UMP are completed, pending construction or are deferred. These are discussed more specifically as follows.

1. Safety Codes and Standards

Annual examination will be made of facilities to review compliance with provisions of New York State's Health Law, ANSI Safety Standards, and the New York State Safety in Skiing Act. Implementation of any changes or modification of facilities as required will be given the highest priority in the managerial processes to assure the health and safety of patrons.

This work is completed as required and will continue as part of the updated UMP.

2. Summer Program

The development and scheduling of future summer events should be of the type that maintains Mount Van Hoevenberg as a "Day Use Area" as it has been identified in the Adirondack Park State Land Master Plan. The selection and planning events should be based on the adaptability of the site and use of existing facilities. Existing parking lots, lounge, cafeteria, first aid, sanitary and gathering areas would serve day use events.

This program is on-going and will continue as part of the updated UMP. Refer to Section IV. A.1.g. for specific events proposed.

3. Land Acquisition

The acquisition of lands where the temporary ski trail easement is presently located and interior parcels of private land is a high priority to management and the continued operation of skiing events at Mount Van Hoevenberg. Implementation of this action hinges on the willingness of private land owners at some future time to make their lands available to the State. When private lands are offered to the State, two types of ownership may result: fee title and easement. Under the Environmental Quality Bond Act of 1972, proposed acquisitions must be budgeted, appraised and scheduled for processing. Fee acquisition cannot exceed the appraised fair market value of a property. To accelerate acquisitions, it is possible to grant certain continued uses to the grantor of the acquired lands for over a period of several years. Thus, a family can continue to utilize their property while the State owns or gains permanent rights to the property.

Provision was made in 1972 by public referendum to acquire lands for addition to the Forest Preserve. Such lands include adjacent and interior parcels which, when acquired, will consolidate State land holdings to reduce boundary line maintenance and enhance public use, administration and management of State holdings.

An Environmental Impact Statement for the State Environmental Quality Bond Program has been filed by the State Department of Environmental Conservation.

The interspersion of State and private owned land at Mount Van Hoevenberg necessitated the construction of Nordic and biathlon ski trails on private land without benefit of a long-term assurance that these ski trails will remain. This lack of long-term assurance could effect the scheduling of international events at Mount Van Hoevenberg.

A review of "Land Acquisition Policy Recommendations" prepared by the Adirondack Park Agency and found in the Adirondack Park State Land Master Plan does not conflict with the proposed action.

4. Maintenance and Operation Level

During the ensuing five-year period, Olympic Regional Development Authority management of Mount Van Hoevenberg shall continue to provide essentially the same level of recreation opportunity and public service as was conducted during the previous fiscal year. The aforementioned operation level is as inventoried in Section II and III of this Unit Management Plan. ORDA will continue to analyze and review facility utilization. This will include, but not be limited to: revenues generated, population served, relationship of utilization to weather patterns, relationship of utilization to marketing efforts and relationship of utilization to facility development.

Continuation of maintenance and operation level will contribute a stabilizing effect on the Olympic region employment, economics, public use and administration.

A gradual decrease of New York State appropriations for the operation of Olympic venues is possible as earned revenues increase. Increased revenues are expected from ORDA marketing efforts.

Cooperation with local government and chambers of commerce to stabilize and strengthen area economics will continue.

5. Rehabilitation and Modernization

The luge finish building, the luge curve 5 building, the bobrun finish road extension, and the biathlon bridge over the access road have been constructed as described in the 1986 UMP. The enclosure of the bobrun deck has been shelved and is being examined in coordination with the design of a new combined bobsled and luge run. Expansion of the cross-country lodge by 640 square feet is no longer proposed as described in the 1986 UMP and is included as a management action in this updated UMP as a new 6,000 square foot building to replace the existing 3,000 +/- square foot structure. This action can only be implemented pending resolution of Constitution Article XIV issues. At that time, project specifics will be provided in a work permit application to the NYS DEC.

6. Maintenance of Grounds and Physical Plant

Maintenance of grounds and physical plant will continue over the next five years. Typical projects include: replacement of cross-country trail dividers, roadway maintenance, maintenance and replacement of security fencing, etc.

Capital projects over the next five years include the need to replace roofs on two buildings, replace the boiler in the sled shed, renovations to the maintenance garage including wiring, lighting and new hydraulic lift, paving near the sled shed in conjunction with paving of portions of the parking lots, and the purchase of two sled trucks, one plow with a wing, one loader, two Pisten Bully 220 snow groomers, one AEBI Territrac tractor, four Bombardier Scandic snowmobiles and six new bobsled pads.

7. Pave Biathlon Trails

The 1986 UMP was amended to allow approximately 4 km of biathlon trails to be paved and included areas in designated Forest Preserve. The proposal to pave trails located partially in Forest Preserve is subject to approval by the New York State Legislature (two consecutive legislative bodies) and the voters of the state as an amendment to the State Constitution. The trail paving project will only be considered when environmental and Article XIV concerns are satisfied and funds are available.

8. Maintain Cross-Country Trails

As noted in Appendix A, "Documents of Record," DEC letters dated February 22, 1995 and July 15, 1998, the maintenance of approximately 50 kilometers of cross-country ski trails has been approved. This improvement is on-going and will continue throughout the duration of the updated UMP.

9. Build Ski Bridge in Mini-Stadium

Construction of a ski bridge in the mini-stadium in order to improve safety at a high speed ski trail intersection has been approved by the DEC and is pending. The public notice for this project was published in the DEC Environmental Notice Bulletin on October 26, 1994. Refer to Appendix A for documentation.

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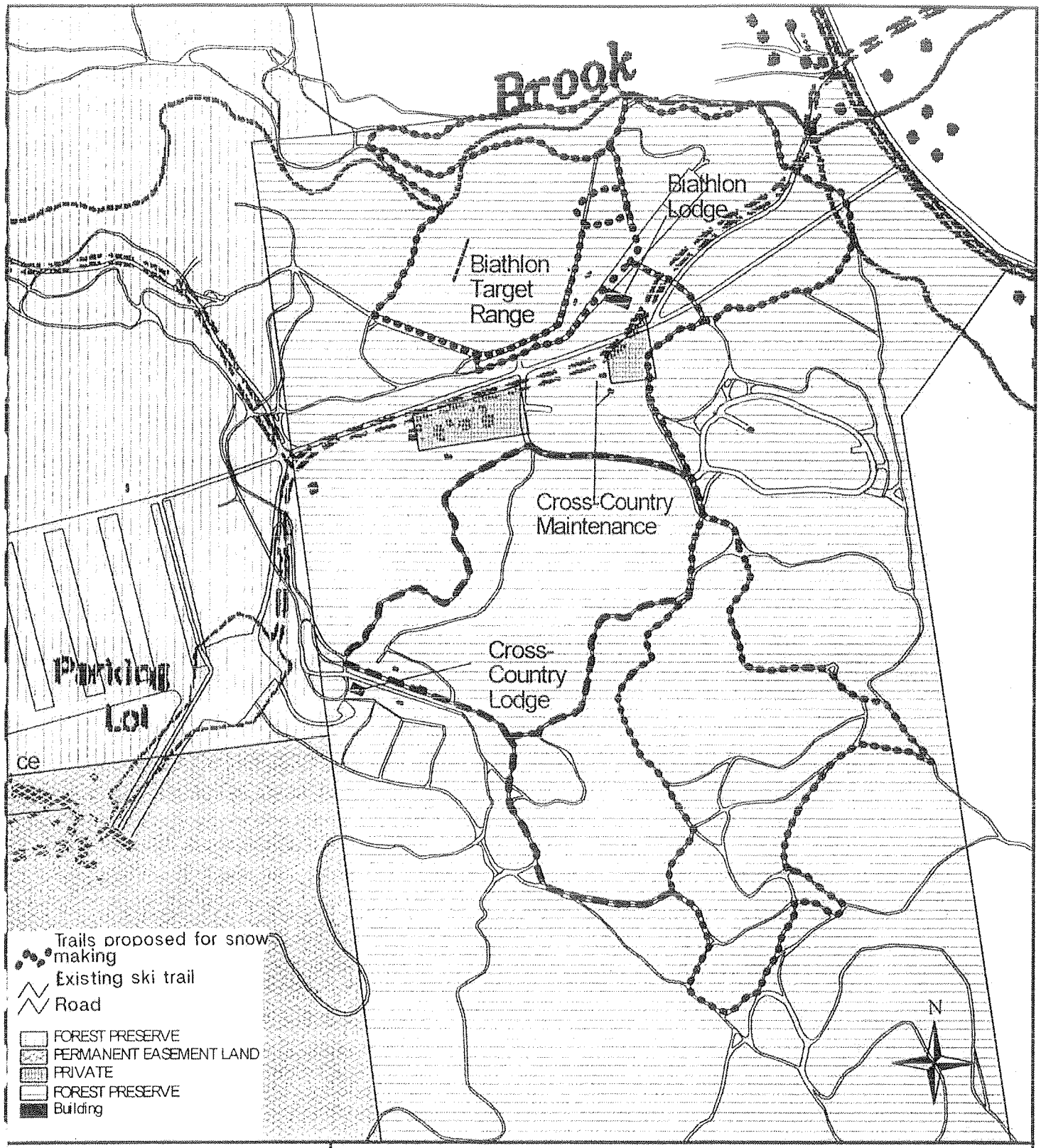
Landscape



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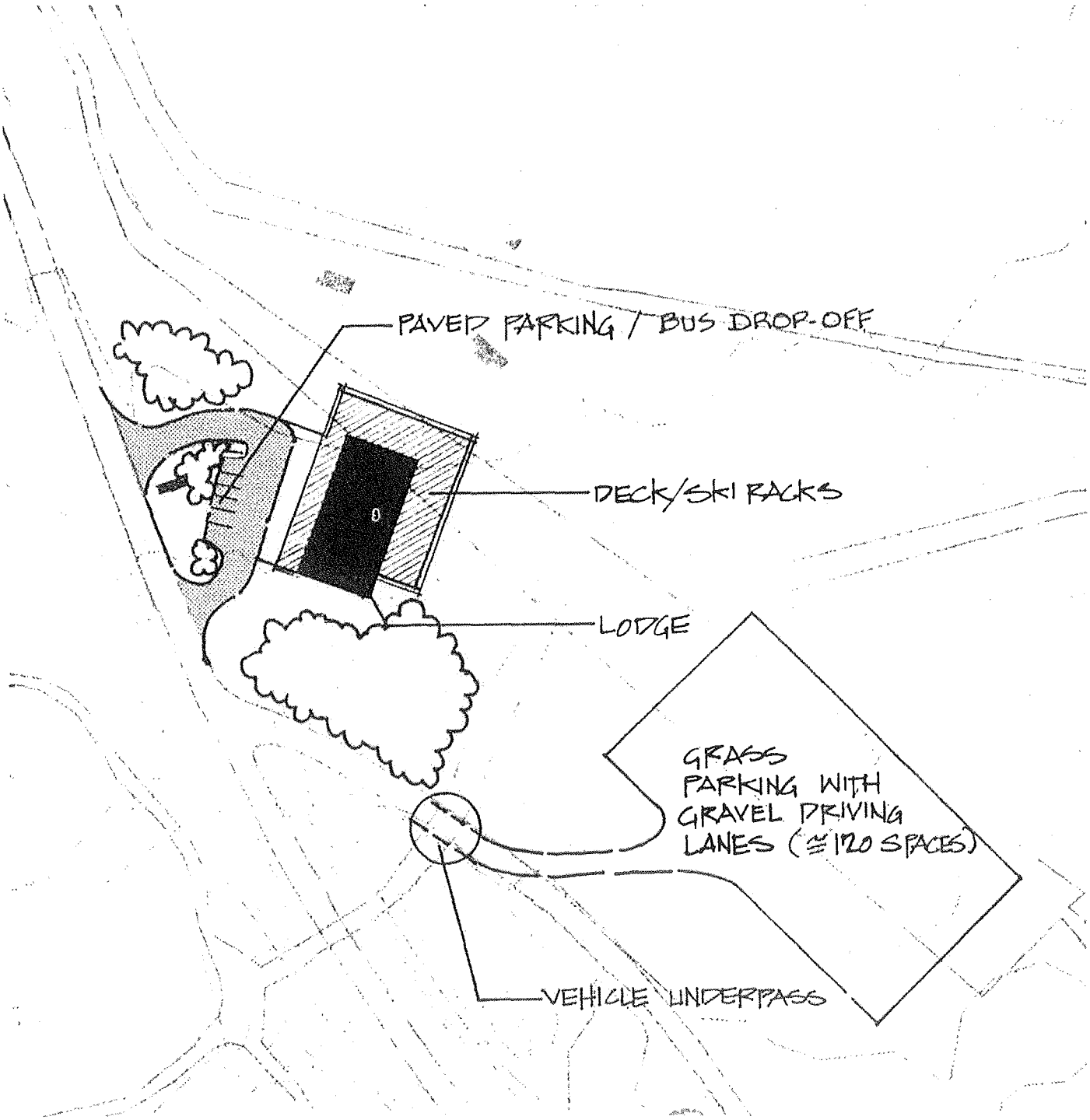
CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS

UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

TRAILS FOR SNOWMAKING

 | DATE: 3/8/99 | SCALE: 1:7,500 | FIGURE NO. 4-2



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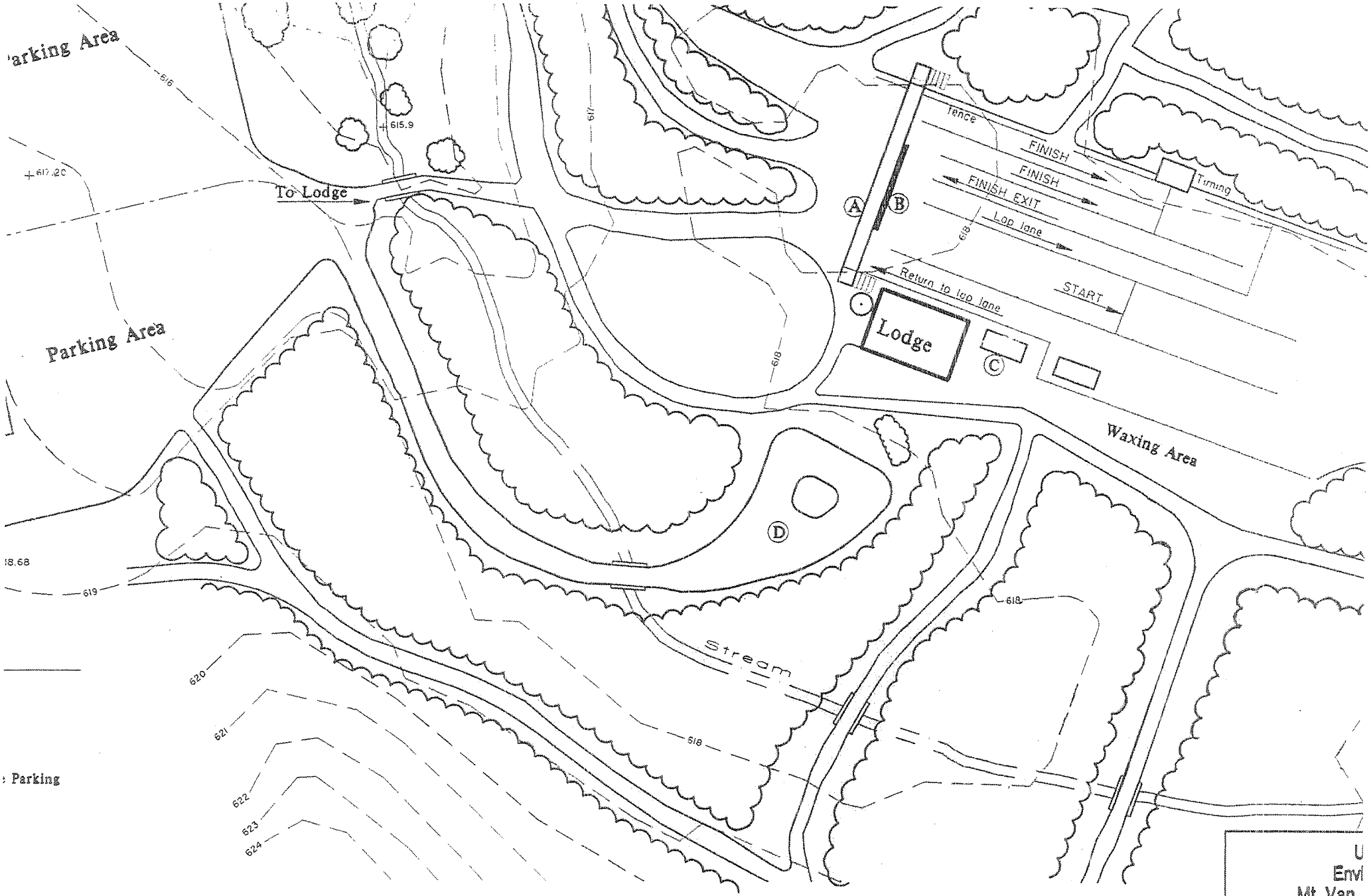
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS

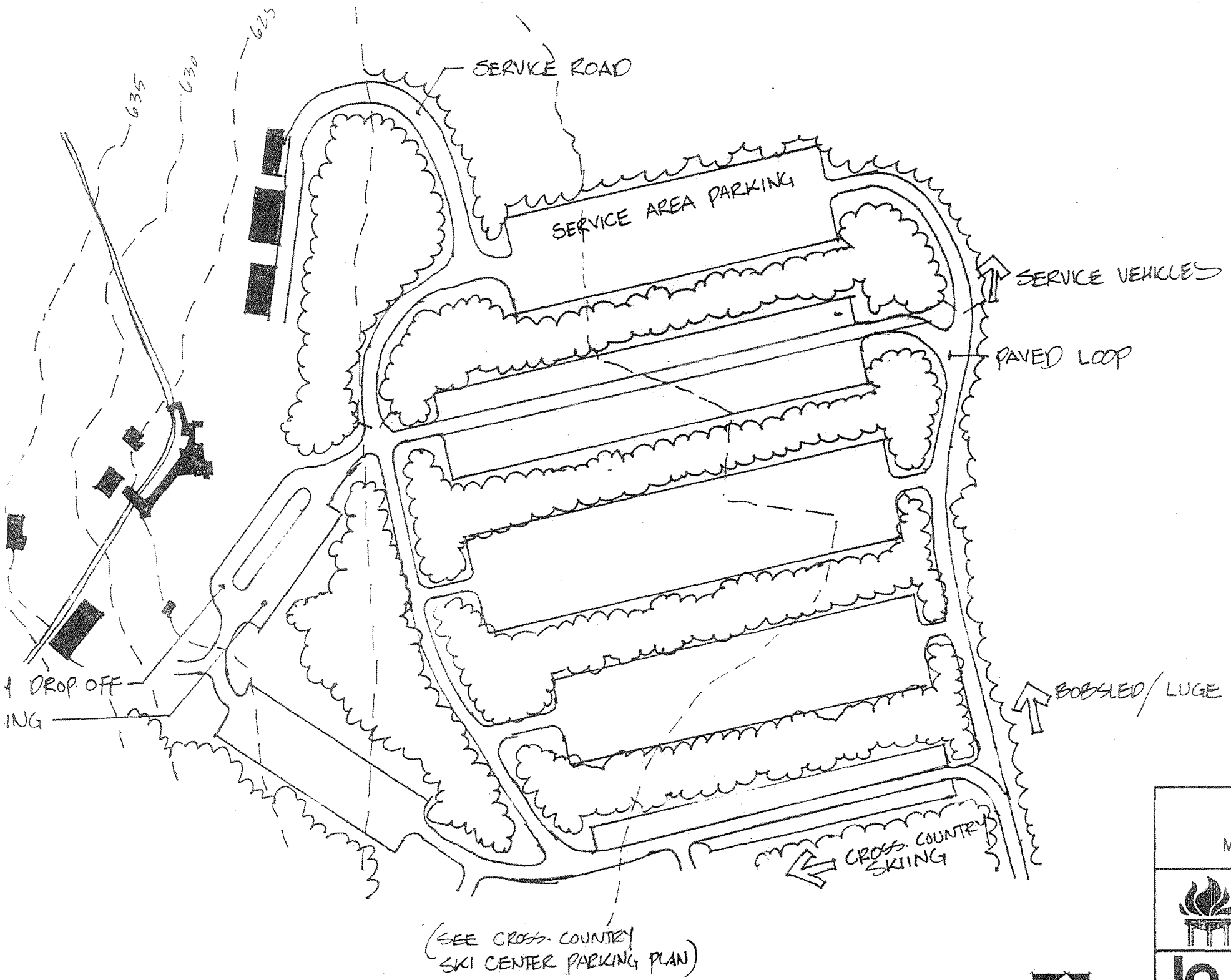
UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

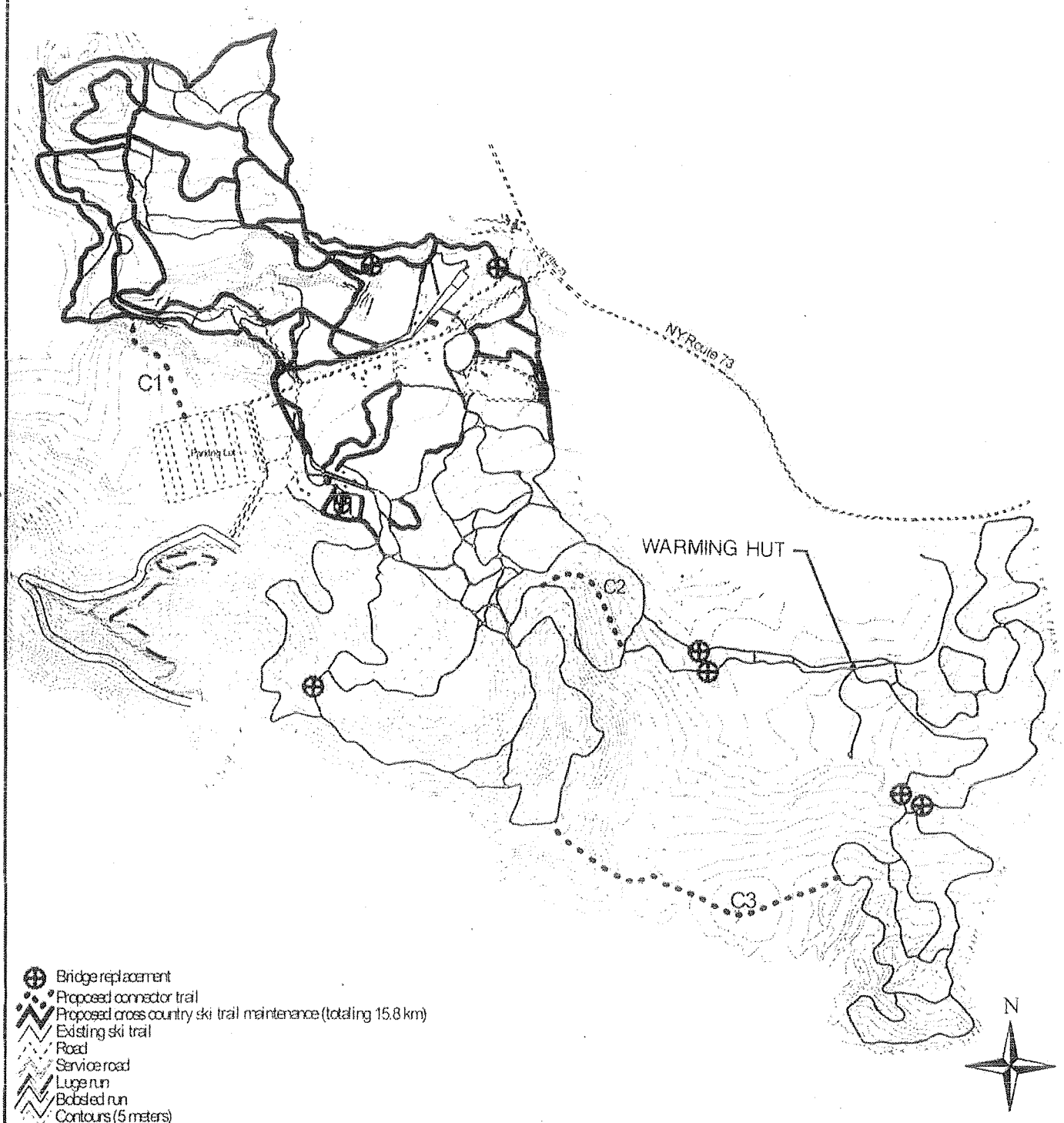
OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

BIATHLON LODGE PARKING

 DATE: 3/8/99 | SCALE: 1:1,500 | FIGURE NO. 4-3


arking Area
616
615.9
617.20
To Lodge
Parking Area
618
619
620
621
622
623
624
Parking
Fence
FINISH
FINISH
FINISH EXIT
Timing
Loop lane
Return to loop lane
START
A
B
C
D
Lodge
Waxing Area
Stream
618


SERVICE ROAD
635
630
625
SERVICE AREA PARKING
SERVICE VEHICLES
PAVED LOOP
DROP OFF
ING
BOBSLED/ LUGE
CROSS-COUNTRY SKIING
(SEE CROSS-COUNTRY SKI CENTER PARKING PLAN)



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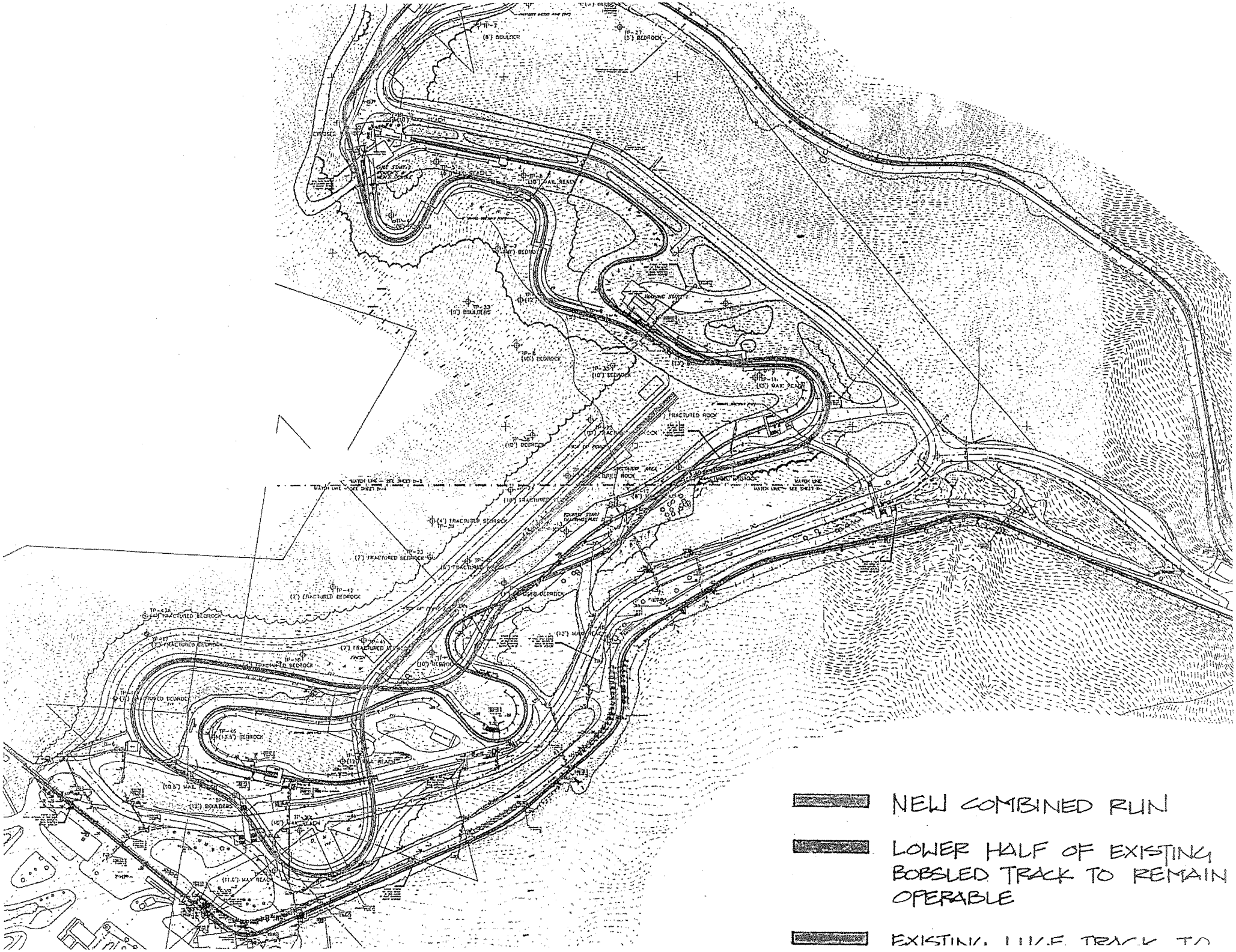
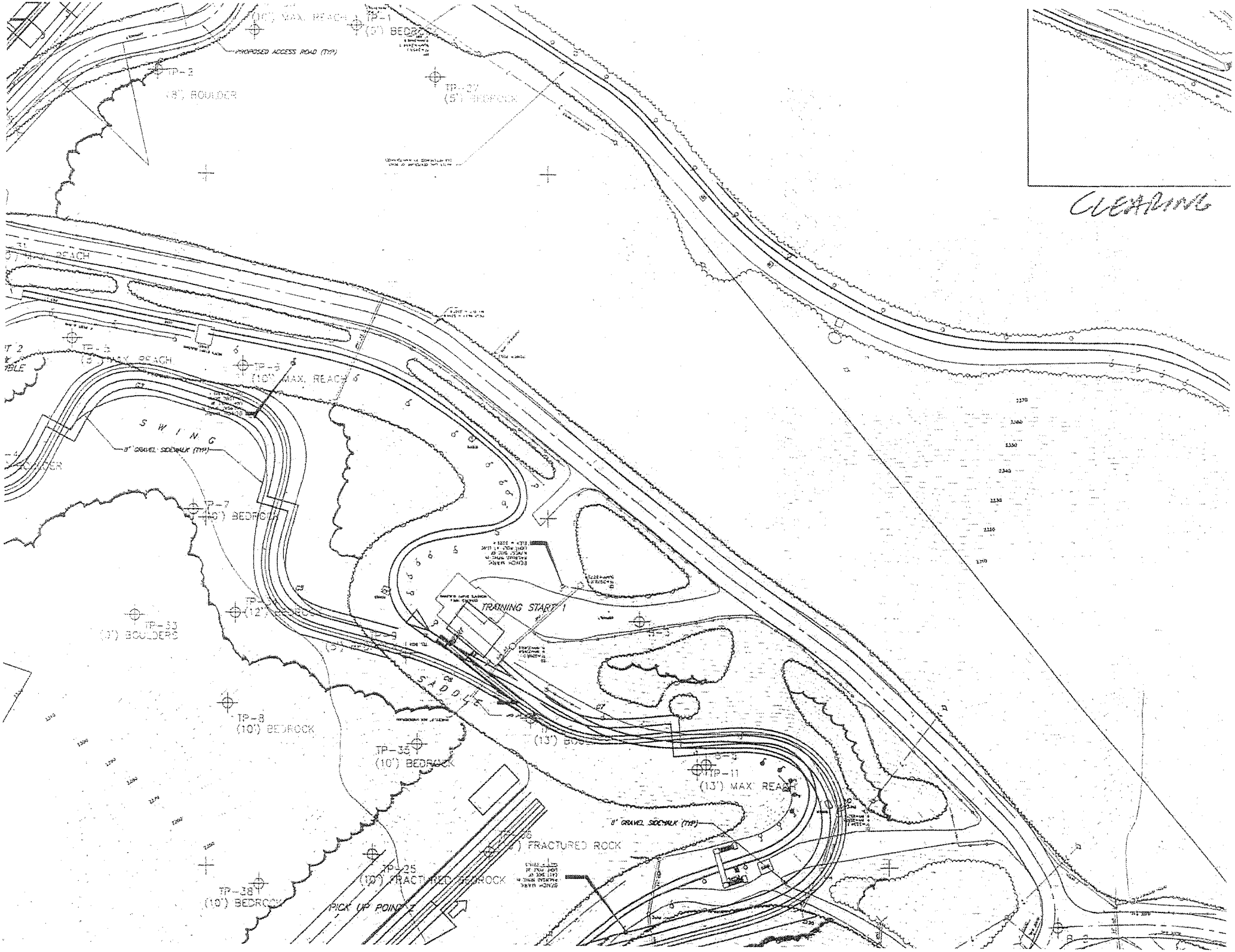
UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

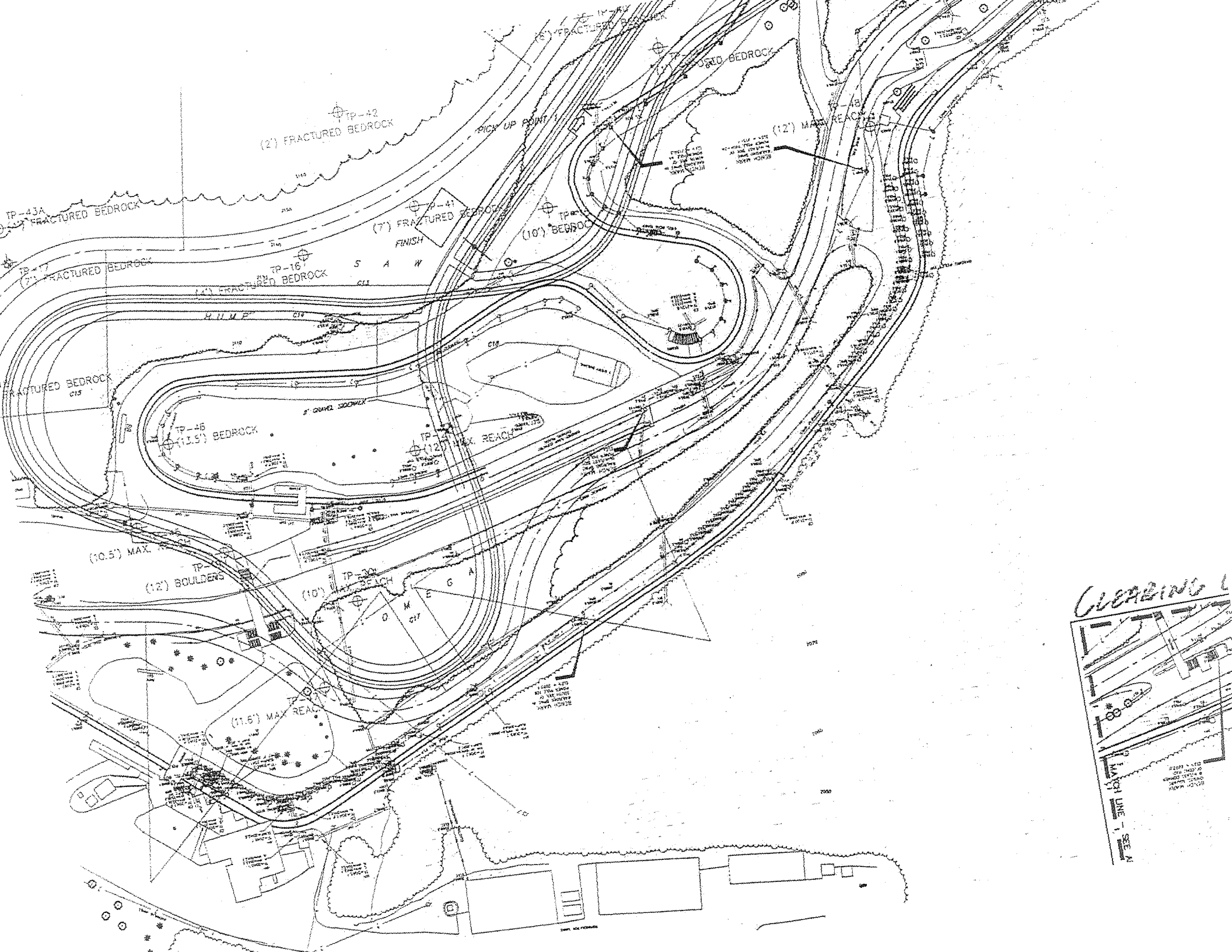
OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

CROSS-COUNTRY TRAIL IMPROVEMENTS

 | DATE: 3/8/99 | SCALE: 1:20,000 | FIGURE NO. 4-6


NEW COMBINED RUN
LOWER HALF OF EXISTING BOBSLED TRACK TO REMAIN OPERABLE
EXISTING LUGE TRACK TO


(10') MAX. REACH
TP-1
(5') BEDROCK
PROPOSED ACCESS ROAD (TYP)
TP-2
(8') BOULDER
TP-37
(5') BEDROCK
CLEARANCE
TP-5
(8') MAX. REACH
TP-6
(10') MAX. REACH
SWING
8' GRAVEL SIDEWALK (TYP)
TP-7
(10') BEDROCK
TP-33
(3') BOULDERS
TRAINING START 1
SADDLE
TP-8
(10') BEDROCK
TP-35
(10') BEDROCK
TP-11
(13') MAX. REACH
8' GRAVEL SIDEWALK (TYP)
FRACTURED ROCK
TP-25
(10') FRACTURED BEDROCK
TP-38
(10') BEDROCK
PICK UP POINT 2


TP-42
(2') FRACTURED BEDROCK
TP-43A
FRACTURED BEDROCK
TP-17
(2') FRACTURED BEDROCK
TP-16
(4') FRACTURED BEDROCK
TP-41
(7') FRACTURED BEDROCK
PICK UP POINT
FINISH
S A W
H U M P
TP-40
(10') BEDROCK
TP-45
(12') MAX. REACH
TP-46
(11.5') BEDROCK
5' GRAVEL SIDEWALK
TP-47
(12') MAX. REACH
(10.5') MAX.
TP-
(12') BOULDERS
TP-20
(10') MAX. REACH
G A
E
M
O
(11.6') MAX REACH
CLEARING L
LIMIT LINE

SECTION V POTENTIAL IMPACTS AND MITIGATION MEASURES

This section discusses potential impacts from the proposed management plan actions. Where significant impacts are identified, mitigation measures are proposed.

The evaluation of impacts is divided into those which are site specific. Those which are based on average use and those which are based on peaking characteristics are identified.

Site specific impacts generally relate to natural resource features such as vegetation, soils or visual characteristics. The specific number of trees, soils or viewshed affected is presented for such impacts.

For the most part, the proposed management actions are anticipated to maintain and strengthen attendance at the Complex and allow more consistent use of the facility. Any increase is expected to occur during the off-peak (or summer) season. Horseback riders, mountain bikers, hikers and additional tourists are expected to constitute this increase.

A. Natural Resources

1. Vegetation

a. Impacts

The existing ski trails are proposed to be maintained to current safety and international race course standards and three cross-country connector trails will be established. These are actions that will require the removal of on-site vegetation. The 1998 trail maintenance work was permitted by NYS DEC as noted in the July 15, 1998 work permit, attached in Appendix A.

Additionally, the upgrading of the cross-country stadium area by lengthening the straightaway and relocating the timing building will result in the loss of on-site vegetation, as will creation of a snowmaking reservoir and siting of a pump/compressor storage building.

All vegetative cutting at the Olympic Sports Complex will be performed in compliance with the DEC tree cutting policy. Forest inventory data collected by ORDA employees at the Complex has been used to estimate the magnitude of these impacts in terms of the number of trees to be removed. Appendix J, "Vegetation Impacts," lists the estimated numbers of various species of trees that would be removed in creating new trails, constructing the snowmaking reservoir (including the pump/compressor storage building), upgrading the cross-country stadium and in maintenance of existing trails. These estimates indicate a total of up to 234 trees to be cleared. Table 5-1, "Summary of Vegetation Impacts," summarizes this data.

Connector trail C-1 will be established along an old work road and will not require any cutting of vegetation over 3" dbh. Tree counts required for connector trail C-2 are shown in Table 5-1. Connector trail C-3 will be field located and tree counts will be specified when this trail is delineated.

The potential impacts to existing vegetation from the proposed combined bobsled/luge run are believed to be minimal and consist of limited expansion of the existing clearing as described in Appendix C, "Visual Resource Impact Analysis."

Some cutting of vegetation will be necessary for the new bobsled and luge run. This will be inventoried and will require approval by NYS DEC, in accordance with the MOU concerning tree removals.

Trees lawfully cut can be removed from the premises in any manner deemed feasible by ORDA so long as such method is consistent with the guidelines of the State Land Master Plan, this UMP and Article 8, of the ECL. Virtually all trees which are cut for trail construction and maintenance and other aspects of this proposal will be chipped and used on-site as mulch for erosion control projects.

b. Mitigation Measures

The following measures will be employed to mitigate the potential impacts on vegetation during construction, as noted in the Construction Pollution Prevention Plan provided in Appendix G which will be appended to the SPDES general permit for stormwater discharges from construction activities.

1. Only areas absolutely necessary for maintenance of ski trails and other proposed improvements will be cleared of vegetation. All other areas will be maintained in a natural state.

2. Erosion control measures will be used on cleared areas with disturbed soils to avoid affecting adjacent vegetation by erosion or siltation. Erosion-control devices to be used will include filter fabric fences and staked haybale filters.

3. Upon the completion of clearing of new trails and maintenance of existing corridors, these areas will be seeded with grass mixtures to promote rapid revegetation.

4. To as great an extent as possible, plants used to revegetate disturbed areas and planted as part of landscaping will be species which are indigenous to the region.

5. No clear-cutting of trees to develop panoramic views is proposed. Views will be framed or filtered by existing vegetation.

2. Water and Wetland Resources

a. Impacts

Wetlands

An attempt has been made to avoid on-site wetlands in the planning and design of the proposed improvements to the existing facilities. However, some proposed improvements will affect wetlands which are subject to federal regulations enforced by the US Army Corps of Engineers (ACOE), and possibly subject to state wetland regulations administered by the Adirondack Park Agency. In the discussion that follows, the potential impacts are described and the regulations applicable to the proposed activities are identified.

This discussion is based on the assumption that Figure 2-3, "Surface Waters and Wetland Resources," accurately depicts the wetlands regulated by state and federal agencies. Representatives of the regulatory agencies have visited the site to observe some of the wetlands where proposed work will take place and to determine the extent of their jurisdiction.

Federal Wetland Regulations

All the necessary improvements are under authorization of three of the general permits administered by the ACOE which are known as "nationwide permits." To some extent, the federal regulations applicable to this project are dependent on whether the wetlands are "in the headwaters" or "below the headwaters" of the stream with which they are associated. The headwaters of a stream are defined as that portion of the stream which has an average annual flow of less than 5 cubic feet per second. Calculations based on the area of this watershed and average annual runoff of streams in this region (Krug et al., 1990) indicate that the headwaters point of North Meadow Brook (i.e., the point at which the average annual runoff is 5 cfs) lies at or slightly upstream from the place where the Olympic Sports Complex entry road, NY Route 913Q, crosses the stream.

Some filling of wetlands may also be involved in the replacement of the thirteen wooden bridges that carry cross-country ski trails over streams. Five of the bridges are over parts of North Meadow Brook which lie below the headwaters. The remaining bridges cross upstream portions of North Meadow Brook and a few of its small tributaries. The existing bridges have wooden decks approximately 14 feet wide and will be replaced with wooden decks 18 feet wide.

The replacement bridges will be in the same locations as the existing bridges and will result in only a few square feet of new disturbance to the riparian wetlands of the streams as a result of the installation of new wing walls. In all of these locations, the streams have relatively steep-sided banks and narrow wetland fringes only a few feet wide. All of the bridges date from 1969, when the cross-country ski trail system was constructed, or from 1973, when the biathlon trails were constructed. Since they were constructed before July 1, 1977, the date when regulations covering discharges into all

waters of the United States, including wetlands, went into effect, these bridges are considered to be previously authorized, currently serviceable structures. Therefore, all work involved in the bridge replacements can be accomplished under federal nationwide permit no. 3, which covers such replacements. No predischarge notification will be necessary for this portion of the project.

In a few places, the maintenance of ski trails will require removal of some trees within wetlands. The trees will be cut by hand and a grinder will be used to take stumps down to ground level; this will not constitute a fill. In some places, it may be necessary to deposit some fill to maintain an even surface on the ski trail. Such filling will affect regulated wetlands in only a few places. The wetlands in question are headwaters wetlands, and the total area affected will be less than 5000 square feet. Therefore, this work will be carried out under authorization from nationwide permit no. 26, and a pre-discharge notification will not be necessary for this part of the project. If filling is minimized, with minimal conversion of wetlands to upland, it may be possible to accomplish the work under authorization of nationwide permit no. 3.

For the most part, the three new connector trails will have little interaction with regulated wetlands. The trail which will run for 3600 feet between two existing trails in the southeastern part of the site will follow the top of a ridge on which there are several small pocket wetlands. This is designated as connector trail C-3 on Figure 4-6, "Cross-Country Trail Improvements." The exact route of the trail has not been chosen, but the trail will be laid out so as to avoid all wetland areas to the extent practical. To ensure this, an experienced wetland delineator will be part of the process of selecting the route in the field.

Dr. Richard P. Futyma of the LA Group, P.C. met with Kim Copenhaver of the U.S. Army Corps of Engineers (ACOE) Regulatory Branch on the Mount Van Hoevenberg site on July 23, 1996. The biathlon course area along North Meadow Brook was examined. The wetland that the LA Group, P.C. had delineated in the vicinity of an area known as "the hole", where trail maintenance is proposed, was examined and the ACOE representative was asked to determine whether it qualified as a wetland adjacent to the stream, which is below the headwaters in that section. The ACOE representative decided that there is little opportunity for interchange of water from the stream to the wetland, and therefore, it is non-adjacent. This means that addition of fill to that wetland can be accomplished without a predischarge notification.

Two of the bridges over North Meadow Brook that are to be replaced were also examined and the ACOE representative saw no problem with using Nationwide Permit no. 3 (NWP 3) to authorize the work. The trail adjacent to North Meadow Brook, a short distance west of "the hole," was also walked. A small wetland swale crossing the trail was found; the ACOE representative examined this and decided that it also is non-adjacent.

In looking at the vicinity of "the hole," it was noticed that there has been some erosion and slumping of the banks of North Meadow Brook. It will need some remediation. The ACOE representative suggested that instead of using rock rip-rap, a rock crib

structure would be a more permanent solution. This work will be done under Nationwide Permit no. 13, which authorizes bank stabilization activities, and will not require a predischarge notification.

After seeing this part of the proposed trail system work, the ACOE representative said that she had a good idea of what is proposed with regards to bridge repairs and trail widening, and there was no reason to look at any other parts of the trail system. The ACOE representative said that all of the work involving trail widening and bridge replacement could be done under NWP 3 for "repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill," provided that the fill in any wetland crossed by the trail is kept to a minimum.

Renovation of the bobsled and luge runs will not affect any regulated wetlands.

All proposed activities which will affect wetlands are authorized under nationwide permits 3, 13, and 26, and will not require a predischarge notification. In performing the proposed work, ORDA will comply with the general conditions for nationwide permits.

State Wetland Regulations

Under New York state regulations (9NYCRR Part 578), some of the proposed activities which affect federal wetlands could potentially require a permit issued by the Adirondack Park Agency (APA). It will first be necessary for APA personnel to determine if any of the activities will take place within state-regulated wetlands.

According to the state wetland map for this area, it appears that maintenance of the ski trails in some places adjacent to North Meadow Brook, as well as in one trail segment on the northeastern slope of Mount Van Hoevenberg, may take place within areas considered to be state-regulated wetlands. Also, the new connector trail in the southeastern part of the site will be situated in the vicinity of a few wetland pockets, which may be regulated by the state.

In some cases, the replacement of ski trail bridges over streams could potentially take place within state-regulated wetlands. However, in a preliminary examination on April 24, 1996 of the bridges over the section of North Meadow Brook downstream of the entrance road, Judy Ross, a wetland biologist with the APA, indicated that they do not lie within regulated wetlands. Nonetheless, disturbance of the stream banks during replacement of the bridges is an activity subject to state regulations for use and protection of waters (6 NYCRR Part 608), which are administered by the DEC. In the case of the Olympic Sports Complex at Mount Van Hoevenberg, submission of a stream disturbance permit application will not be required, but instead, such activities will be subject to review by NYSDEC as outlined in the ORDA-DEC Memorandum of Understanding, provided in Appendix E of this document. Refer to Appendix A, "Documents of Records," for a June 5, 1996 letter from Richard A. Wild, NYSDEC, to Holly E. Elmer of the LA Group, P.C., indicating the above.

These proposed changes to the trail system involve deposition of fill, grading, clearcutting of trees, and erection of structures within wetlands, all of which are regulated activities, and for which a permit from the APA may be required. Criteria for determining whether a permit should be issued depend on the value rating of the wetland in question. It appears that these wetlands will be assigned value ratings of 2 or lower (i.e., 3 or 4). Therefore, the most stringent criteria for permit issuance applicable to this project are the following (9NYCRR §578.10(2)): "the proposed activity (i) would result in minimal degradation or destruction of the wetland or its associated values; and (ii) is the only alternative which reasonably can accomplish the applicant's objectives; or (iii) alternatively to subparagraph (ii), is the only alternative which provides an essential public benefit."

The trail maintenance activities and bridge replacements both meet the first criterion for minimal degradation because they involve upgrading trail facilities which already exist. In any one place, the trail maintenance activities will affect only a small amount of wetland. Also, in light of the need to maintain the trails and widen bridges to meet FIS and IBU standards for competition courses, the specific changes proposed are the only alternatives which can accomplish the applicant's objectives.

The proposed connector trails will be routed so as to avoid passing through state-regulated wetlands. However, it may be necessary to route some trail sections through the 100-foot-wide adjacent area of one or several wetlands. In such a case, the wetland itself will not be substantially affected and a permit will not be required.

Intermittent and permanent drainageways will be crossed by the proposed path for the combined bobsled/luge run and some areas where additional cross-country trails are proposed. Existing trees and shrubs will be removed and replaced with grasses. Impacts to water resources as a result of this tree clearing will be temporary and will be minimized by sediment and erosion control measures. If necessary, culverts will be placed in drainageways crossed by the combined bobsled/luge run and the cross-country trails in order to keep the trails from flooding during times of runoff.

Snowmaking

A reservoir with a capacity of approximately 8 million gallons will be constructed to store water for snowmaking. Reservoir sizing calculations are provided in Appendix I, "Snowmaking-General Information". This reservoir will be located so as to be convenient to the snowmaking system while avoiding regulated wetlands. The reservoir will be recharged with surface water withdrawn at the existing pump house on North Meadow Brook. Site-specific pond construction plans will be prepared and reviewed as appropriate at a later date and will include all mitigation measures to be taken to protect soil and surface water resources.

The withdrawal of surface water from North Meadow Brook to recharge the snowmaking reservoir will be in addition to the existing practice of withdrawing water from the brook to ice the bobsled and luge runs. Snowmaking reservoir recharge from

the brook could occur at a maximum rate of approximately 500 gpm, or approximately 1.1 cubic feet per second (cfs).

The new proposed surface water withdrawal for snowmaking replaces the existing withdrawal for snowmaking which currently occurs at a rate of 100 gpm for an average of approximately 400 hours per season. Snowmaking has occurred at the Complex since the 1980 Olympic Games.

It should be noted that the updated snowmaking proposal will be more efficient than the existing method because snow will be made on the trails and will be less subject to windthrow than the current practice of making snow in an open field. Likewise, because snow will be made on the trails there will be less snow lost to grooming activity as compared to the current practice of moving snow from a pile in an open field and spreading it on the ski trails.

The calculated minimum average daily flow at the pumphouse on North Meadow Brook projected to occur over a seven day period with a two year return interval (MAD 7/2) is 1.8 cfs. This calculation is based on USGS gage data from the station located immediately downstream of the Olympic Sports Complex on the West Branch of the Ausable River, in proportion to the watersheds of the gage station and the pumphouse on the site. The pumphouse watershed consists of 2934.23 acres or 4.58 square miles, and the watershed of the gage station (#04274000, per Eissler) is 116 square miles. The calculated minimum average daily flow at the gage station on the West Branch of the Ausable River projected to occur over a seven day period with a two year return interval (MAD 7/2) is 46 cubic feet per second (cfs), based on 48 years of data collected at this full-time gaging station.

The proportion is expressed as:

$\frac{116}{46} = \frac{4.6}{x}$ and $x = 1.8$ cfs, the MAD 7/2 at the pumphouse.

The proposed withdrawal will occur primarily in November and December as ski trails are prepared for the season. After this, snow is made as needed to patch specific trail sections. In the event of a mid-winter thaw, the volume of water withdrawn from the brook which is normally confined to November and December (1.1 cfs) will occur in order to provide trail coverage.

Withdrawal of water from the brook is proposed to cease when the brook flow is reduced to the MAD 7/2 low flow of 1.8 cfs. This can be accomplished by setting the snowmaking water intake invert at the water level representative of a flow rate of 1.8 cfs. Since this will allow optimum stream flow conditions to be maintained, no long-term significant adverse impacts are anticipated.

Gordon et. al., 1992, cite a technique of estimating recommended values for stream base flow which is based on Tennant, 1976, in which recommended minimum flows are

based on percentages of the average annual flow, with different percentages for winter and summer months, as noted in the following table (after Tennant, 1976).

Instream flow recommendations for fish, wildlife, recreation and related environmental resources by the Tennant method.

Description of flows	Recommended base flow regimes October - March	April - September[a]
Flushing or maximum	200% of the average flow	
Optimum range	60-100% of the average flow	
Outstanding	40%	60%
Excellent	30%	50%
Good	20%	40%
Fair or degrading	10%	30%
Poor or minimum	10%	10%
Severe degradation	10% of the average flow to zero flow	

[a] The seasons would be reversed for Southern Hemisphere streams.

The average annual flow of North Meadow Brook is 8.4 cfs, as noted on the table of discharge data provided in Appendix I, "Snowmaking - General Information." The proposed withdrawal of 500 gpm or 1.1 cfs represents 13% of the annual average flow, indicating that 87% of the stream base flow is maintained, which is within the optimum conditions range.

Experts in this field recommend that mean monthly data also be examined. Withdrawing surface water at a rate of 500 gpm from North Meadow Brook maintains monthly flows as follows.

Month	Maintains % of Average Flow
Oct	82.9%
Nov	85.9%
Dec	82.5%
Jan	78.7%
Feb	73.6%
Mar	88.2%

The MAD 7/2 value of 1.8 cfs would maintain 78.6% of the average annual flow of the brook. These values all fall within the optimum range for the base flow recommended for fish, wildlife and related environmental resources.

The NYSDEC Fish Management unit has reviewed the proposal to increase the rate of use of the flow in the brook for snowmaking and agrees with the identified low flow threshold and supports constructing a storage reservoir for snowmaking water. Refer to Appendix A, "Documents of Record," for a July 24, 1996 letter from Bill Schoch, NYSDEC, to Holly E. Elmer of the LA Group, P.C. The site specific snowmaking

proposal plans to be submitted to DEC for review will include modifications to the existing weir to increase accuracy of stream flows near the threshold value, and formation of an auxiliary spillway by application of a non-erodible material to low portions of the pump station access road, as recommended by the DEC. Specifications for the pump needed to deliver water to the snowmaking reservoir, for reservoir design, for pumps to transmit water to the trails, for the transmission line sizes and materials, and other details specific to the compressor/pump building will also be provided at that time. In the event that the trail sited snowmaking proposal is deferred until a later date, plans for formation of the auxiliary spillway will still be submitted to the DEC as part of Phase I of the updated work plan.

None of the activities proposed for the Olympic Sports Complex have been located on areas that overlay potential aquifer areas. No changes to or impacts on groundwater flow or quality are anticipated.

Stormwater

With regard to stormwater management, there are four existing subcatchment areas on the site, as shown on Figure 5-1, "Subcatchment Areas." All of the management actions proposed in this UMP and all pending ski trail maintenance will occur in two subcatchment areas, map areas SC-1 and SC-3 as shown on Figure 5-2, "Subcatchment Area Covertype Change." The amount of impervious area on the site will increase due to proposed paving of two key parking lots at the Complex (a total of 180,000± square feet of pavement). Trail maintenance on approximately 15.8 km of ski trails will reduce the amount of mature vegetation immediately adjacent to the trails, as will maintenance pending on 23.2 km of ski trails approved as an amendment to the 1986 UMP.

A conceptual level stormwater analysis has been completed and Appendix K, "Conceptual Stormwater Analysis Calculations, "contains the covertype acreages for the existing and proposed condition for the two pertinent subcatchments. A calculation of the proposed change in the rate of stormwater runoff due to the change in amount and type of coverage (i.e., grass versus impervious surface) known as the weighted runoff coefficient or "weighted C" has been completed and calculations are provided in Appendix K.

The weighted C calculations show that the existing weighted C in subcatchment 1 is .735 and will change to .736 in the developed condition. The existing weighted C in subcatchment 3 is .730 and remains the same in the developed condition. Therefore, the rate of runoff will not increase to any significant level and there will be no impact on surface water and soil resources from increased runoff rates.

b. Mitigation Measures

Stormwater runoff generated by proposed management actions will be managed at its source. Check swales will be sited as necessary adjacent to trails to slow down sheet flow and allow precipitation to enter the soil regime.

Stormwater runoff from the parking areas proposed to be paved (areas located adjacent to the existing cross-country lodge, biathlon lodge and bobrun ticket booth) and access road will be directed to the vegetated buffer areas adjacent to these areas. A salt/ sand mixture will be used in parking lot travel lanes only.

Refer to Appendix G, "Construction Pollution Prevention Plan," which will be appended to the stormwater SPDES registration notice of intent to construct required for all work which is proposed on areas of 5 acres or more in size in New York State.

The following measures are among those to be employed to mitigate the potential impacts on streams and wetlands during construction of the improvements and operation of the Olympic Sports Complex.

1. Filter fabric fences and haybale dikes will be installed in places where trail work borders wetlands and streams.

2. Soils disturbed by trail work will be mulched and seeded with grasses as soon as practicable in order to minimize the potential for erosion.

3. As recommended by Bill Schoch of the NYSDEC (refer to Appendix A, "Documents of Records," letter dated July 24, 1996), the weir crest at the existing brook pump station will be kept clear of debris and ice in order to minimize withdrawals of stream flows of less than the identified threshold. During the water withdrawals a minimum of one inspection and cleaning during each eight hour work shift will occur. Cleanings will be more frequent if accumulation is rapid.

3. Soils and Geology

a. Impacts

Impacts to soils associated with the proposed improvements are most likely to occur in areas of construction of the three new cross-country connector trails and maintenance of existing trails.

Clearing and grading for cross-country trail work and for the snowmaking water and air pipelines and power cable will increase the potential for soil erosion in these areas.

All of these activities may result in exposure of soils, which will then be susceptible to erosion.

There is a potential need for blasting of bedrock or large boulders during maintenance of cross-country and biathlon ski trails. This will only affect a few scattered locations of ski trails and will be a short-term impact.

The geology of the site will be unaffected by the proposed development of the new combined bobsled and luge. The disturbance of bedrock or surface deposits will be localized and will not create impacts beyond the individual construction sites. Disturbance of soil will be minor.

b. Mitigation Measures

The following measures will be employed to mitigate the potential impacts on soils during construction.

1. Erosion control measures such as filter fabric fences, erosion-control blankets, and staked haybale filters will be used downslope from all areas where soils will be disturbed by excavation, grading, or deposition of fill. Construction plans will clearly indicate the places where erosion control devices will be used.

2. In order to minimize soil disturbance during vegetation clearing, tree stumps will not be pulled from the soil, but rather will be ground down to the level of the surface of the soil with chain saws or other machinery. Where necessary to prevent resprouting of hardwood tree stumps on upland sites, the stumps will be treated with the herbicide Chopper (Imazapyr). A more preferable treatment in uplands, and the only treatment to be used on stumps in wetland areas, will be to check the stumps regularly during the first growing season after cutting, and to remove any stump sprouts. In subsequent years, the stumps will be checked at the end of the growing season and stump sprouts will be removed.

3. As soon as practicable, disturbed soils which are to be restored to a vegetated state will be mulched and seeded with grasses, or planted with groundcover plants or other landscape plants.

4. Refer to Appendix G, "Construction Pollution Prevention Plan," for the comprehensive pollution prevention plan to be appended to the stormwater discharge SPDES notice of intent to construct.

5. The mitigation measures proposed for blasting include the following:

    - Residents within a one-half mile radius of the site will be notified in advance of blasting events, if requested. The applicant will formally contact nearby residents to ensure all persons requesting notification are identified.

    - Blasting will occur between the hours of 10:00 a.m. to 5:00 p.m. only.

    - All blasting will be conducted by a qualified licensed blaster pursuant to the applicable requirements of the State of New York and federal governments.

- Blasting will not occur during adverse weather conditions such as high winds unless a loaded charge must be detonated before the end of the day.

- Shots will be designed to minimize ground vibration and air blast.

4. Visual Resources

a. Impacts

The potential impacts on Visual Resources and the measures identified to mitigate these are discussed in Appendix C, "Visual Resource Impact Analysis." The decision was made to include the entire Visual Assessment study in one section in this DEIS in order to provide a comprehensive analysis in a single location.

5. Fish and Wildlife

a. Impacts

Construction of new cross-country connector trails and maintenance of existing trails will involve the removal of forest communities and the subsequent establishment of herbaceous vegetation communities. Where new trails are created, localized habitat fragmentation and the creation of habitat edge will occur. In areas where existing trails are proposed to be maintained there will be a slight shift in the abundance of forest habitat to grass habitat. Fish populations in neither North Meadow Brook nor any other surface water will be affected by the proposed project.

As proposed, improvements to the Olympic Sports Complex will not result in any impact to the existing deer wintering area.

No rare, threatened or endangered species will be impacted by the proposed action, nor will any unique habitats be affected.

b. Mitigation Measures

1. Large state owned land holdings adjacent to the project site contain similar vegetation types that could be utilized by any displaced wildlife.

2. Woodland clearing associated with this project will create an additional habitat in the form of forest edge areas. This type of habitat is used by numerous small birds and mammals.

3. Existing vegetative cover will not be significantly removed and will assist in reducing the rate of runoff and prevent erosion.

4. As previously discussed in Section V.A.2, "Water and Wetland Resources", withdrawal of water from the on-site stream will cease when the flow is reduced to the low flow (projected to occur over a seven day period with a two year

return interval) of 1.8 cfs. This is the natural stream flow to maintain optimum conditions in the channel and no long-term significant adverse impacts are anticipated.

5. During construction all sediment and erosion control measures will be installed and maintained at streamside or adjacent to wetland areas to minimize the potential for impacts from sediment and erosion during construction.

6. Adherence to the Spill Prevention Control and Countermeasure Plan (Appendix F) and the Construction Pollution Prevention Plan (Appendix G) will protect the surface water from potential impacts associated with the UMP management actions and operation of the facility.

6. Air Quality

a. Impacts

The impact of potential pollutant emissions should be low as the ambient concentrations are very low. Fugitive dust may be produced during certain construction and maintenance activities at the facility. Normal construction practices will keep the amount of dust generated to a minimum.

Refrigeration of the bobsled and luge runs includes the use of ammonia. Ammonia is a colorless gas and is readily detected by its sharp, irritating and suffocating odor. If pure ammonia is breathed, it is very toxic; but, when greatly diluted with air, it appears to have no serious effects. The refrigeration system is under constant surveillance and monitoring.

The liquid ammonia storage tanks will be required to have secondary containment. If ammonia is released from the storage tanks, or from associated equipment within the pumphouse, the liquid ammonia would volatilize almost immediately. In order to contain an ammonia release within the proposed storage building the following would more than likely be required; electrical power to the building will be shut off, the ventilation system for the building should be shut off with all louvers closed, and all the doors within the building should be securely shut and sealed. It is recommended that the electrical power and ventilation system be automatically shut off.

A means of detecting a release would also be required (i.e. ammonia sensor). Since release of the ammonia to the atmosphere is not a viable option, the spill would have to be treated pursuant to NYSDEC standards. One alternative is the installation of ammonia detection equipment. The detection equipment could be automatically wired to an air treatment system such as a scrubber or a combination scrubber/packed tower. Scrubbing involves exhausting the contaminated air through a scrubbing liquid, either a dilute acid or water. The scrubbing liquid captures the ammonia gas and discharges the scrubbing liquid/captured gas combination for proper disposal. A packed tower involves exhausting the contaminated air through a granular or fibrous collection material. The ammonia gas is captured on the collection material, and cleaned air is

discharged to the atmosphere. No matter what method is chosen, a NYSDEC air permit would be required. These measures should be included in the design of the ammonia storage building and will be included in an amendment to the UMP for the combined track project.

Electric snowguns will be used for snowmaking and will not have an impact on air quality.

b. Mitigation Measures

The following measures will be implemented to mitigate any potential impacts on the atmospheric resources at the site or environs:

1. A large portion of the site will be maintained in the natural vegetative state and will reduce the incidence of fugitive dust.

2. All equipment operating on the site will be maintained in proper order to ensure efficiency and a reduced level of emissions.

3. Constant monitoring of the refrigeration system of the bobsled and luge run will identify problems that could result in ammonia leakage.

4. The construction of the ammonia leak detection system and monitoring practices limit the potential for ammonia leakage. Upgrades to the refrigeration system will include a greater level of automation and vastly improved monitoring equipment.

5. The Ammonia Spill Plan (Appendix H), will be maintained at the site and will be updated as necessary. Appendix H will be updated to reflect the ammonia spill control strategy selected by ORDA for the site specific design of the combined bobsled/luge run and will be included in the amendment to the UMP for this project.

6. All staff working with the refrigeration unit will be trained to deal with leakage events and will follow the details of the Ammonia Spill Plan.

7. An air treatment system consisting of a scrubber or a combination scrubber/ packed tower as described above will be installed so as to be automatically wired into the ammonia leak detection equipment. The air treatment system will be installed at the time of the construction of the combined bobsled/ luge run. In the event that construction of the combined track is deferred, the air treatment system will be constructed as a site specific project serving the existing operating ammonia plant.

7. Noise

a. Impacts

The only proposed management action which has the potential to impact noise levels is snowmaking for cross-country ski trails. Made snow is spread on the trails and trails are typically groomed at night to avoid inconveniencing or compromising the safety of skiers.

The snowmaking schedule is weather dependent but typically is as follows. Early in the season, around mid-November, snow is made 24 hours a day for about two weeks in order to cover the trails. After this, snow is then usually made during the day, usually late afternoon, as needed to patch the trails. Trail grooming would occur only at night as noted above. Usually no snow is made after the end of February, as the ski trail use typically ends in March. In the event of a mid-winter thaw, the snowmaking schedule would be increased temporarily to recover the trails as needed.

Because the snowguns on the ski trails in the woods will replace the existing snowgun in the open field, the distance from this source of noise to the nearest receptors is altered as indicated below.

Relative to the nearest trail proposed for snowmaking, the Mount Van Hoevenberg Bed and Breakfast inn will be 395± feet away instead of 660 feet, the South Meadow Farm Bed and Breakfast inn will be 855± feet away instead of 1,150 feet, Whispering Pines Campground will be 1,066 feet away instead of 1,400 feet, the residences on the north side of NY Route 73 will be 427 and 985 feet away instead of 575 and 1,230 feet, respectively, and the only year-round dwelling on the Complex access road will be 395 ± feet away instead of 1,970 feet. As noted in Section II. A.4., Inventory of Existing Resources, Noise, the inns obtain business from recreational skiers who enjoy the ski trail conditions at the Olympic Sports Complex. Some of the private residences are occupied by ORDA employees, and the campground is open only when snowmaking will not occur. The Complex in the past has not received a significant number of complaints about noise and, due to the fact that snowmaking will now occur in dense woods via a number of smaller snowguns instead of in an open field with one large snowgun, it is not anticipated that noise levels will increase significantly as a result of development of the proposal to make snow on trails.

The snow guns will be positioned in isolated clearings, sited to minimize tree cutting and still allow snow to be made. Snow will not be made on an open slope as currently occurs; sound will be dampened by the woods. The sound will be intermittent in a few isolated pockets only in winter time, when local residents are generally inside their homes, and the sound is sporadic depending on wind direction. Snowmaking and grooming will occur on trails where grooming presently occurs so the proposal is not introducing noise into an area previously unaffected. Due to these and the above outlined factors, it is anticipated that the proposal will not result in a significant adverse impact.

There is a potential need for blasting during demolition of the existing luge run and during maintenance of the cross-country and biathlon trails. If required, this would be a short-term impact only.

b. Mitigation Measures

The potential for noise impacts from blasting will be minimized to the maximum extent practicable by implementing the following mitigation measures:

- Residents within a one-half mile radius of the site will be notified in advance of blasting events, if requested. The applicant will formally contact nearby residents to ensure all persons requesting notification are identified.

- Blasting will occur between the hours of 10:00 a.m. to 5:00 p.m. only.

- All blasting will be conducted by a qualified licensed blaster pursuant to the applicable requirements of the State of New York and federal governments.

- Blasting will not occur during adverse weather conditions such as high winds unless a loaded charge must be detonated before the end of the day.

- Shots will be designed to minimize ground vibration and air blast.

B. Human Resources

1. Transportation

a. Impacts

The proposed improvements and expansion of the existing facilities at the Olympic Sports Complex at Mount Van Hoevenberg will generate minimal additional traffic to the area. The proposed trail maintenance and proposed new connector trails are proposed to make the recreation facility more acceptable to the new techniques of the sport and to meet the international standards for cross country ski trails. Recreational skiers and athletes will enjoy safer trails and more comfortable site amenities. It is expected that these changes will allow more consistent use of the facility and will not draw a significant number of new skiers.

The expansion of the off-peak season use of this facility will result in a slight increase in traffic to the area as tourists come to enjoy the bobsled/luge rides and recreators and athletes in training utilize the facilities. These numbers are expected to remain minimal and will be spread throughout the daylight hours. The increase generated by the additional use of this area will be readily absorbed by the current roadway system.

The accident data for the intersection of the access road and NY Route 73 does not indicate the presence of any problems which could be exacerbated by increased use of the Olympic Sports Complex.

b. Mitigation Measures

Since no significant traffic impacts are proposed to be generated by this project no mitigative measures are proposed.

2. Community Services and Utilities

a. Impacts

The New York State Police provides services for the Olympic Sports Complex and has stated that the maintenance and the proposed expansion of the existing facilities would have little or no impact on the existing level of service or the response time for individual calls. If an increase in staffing were warranted, changes would be made to reorganize or increase staff levels.

The implementation of the proposed UMP would have no impact on the provisions of fire protection services to the area. The proposed lodge additions will be designed and constructed to be in compliance with the State Uniform Fire Prevention and Building Code Requirements.

The proposed UMP, upon completion, has the potential to increase the number of year-round visitors to the facilities and therefore may lead to an increased demand for emergency medial services. This increase will be minimal and will result in no impact on the level of service or care currently provided. With the expansion of off-peak season uses it is expected that more individuals will utilize the facilities offered at the Olympic Sports Complex. Currently the Complex generates about 12 cubic yards of solid waste per season. During spring, summer and fall the Olympic Sports Complex historically has generated only minimal amounts of solid waste, predominantly from administrative actions. As proposed by this UMP, as the facilities for off-season activities are improved and expanded it is expected that more visitors will generate slightly more solid waste.

Solid waste during the winter season is expected to remain the same while off-peak season solid waste generation is expected to increase from the 4-6 cubic yards currently generated to 6-8 cubic yards from actions proposed in this UMP. This constitutes a minimal increase and will not significantly change solid waste amounts annually generated at the facility.

Construction and demolition debris generated by remodeling of the cross-country and biathlon lodges will be disposed of at the North Elba C&D landfill on Dump Road, off NY Route 73. The crushed concrete from demolition of the luge run will be used for drainage rock, roadways, fill for ski wax test hill construction, etc., on-site. The ammonia supply lines on the luge and bobsled runs will be abandoned in place. The lines will be flushed and the runoff will be collected, neutralized, and trucked off site to an appropriate handling facility.

The proposed project is not expected to impact the operation or enrollment within the Lake Placid School District.

The Olympic Sports Complex at Mount Van Hoevenberg has its own water supply and distribution system, thus, no impact to the village water system is anticipated. The Complex also has facilities for the on-site treatment of sanitary waste and therefore will not impact any area services.

The changes proposed in this UMP will result in an increase in the use of electrical energy, primarily for snowmaking, night lighting and heating of lodges. However, this increase is not anticipated to be significant nor will it cause any adverse impacts.

b. Mitigation Measures

Since no significant impacts are expected, no mitigative measures are proposed.

3. Local Land Use Plans

a. Impacts

This UMP is consistent with the North Elba Land Use Plan, the Adirondack Park Agency Master Plan and the High Peaks Wilderness Complex Unit Management Plan. All of these documents seek to allow enjoyment of the resources of the area by the public without the environment suffering significant impacts.

This UMP will expand the year-round recreational and competitive programs offered at the site for the benefit and enjoyment of the recreational public and the sports community while staying within the established carrying capacity. This year-round expansion will serve to stabilize the currently seasonal employment of some Complex employees and will help to strengthen private sector and local government economies by attracting individuals to the area throughout the year.

These goals are consistent with planning documents reviewed and is consistent with the APA Land Use Map. The Olympic Sports Complex is located within the Intensive Use Area which was created for such a special use.

Visitors at the Olympic Sports Complex can access the High Peaks Wilderness Complex to the south via trails which are limited to hiking, cross country skiing and snowshoeing. The trailhead on the Sports Complex entrance to the Mt. Van Hoevenberg Trail is signed to indicate the boundary line between the two managed areas, including signage indicating that no mountain bikes are allowed on these trails.

While the improvements and maintenance of the recreational facilities at the Olympic Sports Complex will not directly effect planning and zoning in the community, it will create the potential for new recreators who will require services in and around the Town of North Elba. These are potential positive impacts and will serve to help stabilize the local year-round economic base.

b. Mitigation Measures

No mitigation measures are necessary since no negative impacts have been identified.

4. Economics

a. Impacts

There are several economic impacts that are directly related to the UMP. These include pre-construction spending for professional services such as planning, architectural, permitting, environmental and legal fees; construction spending related to labor and supplies for trail development, demolition and clearing, snowmaking installation and the expansion of lodges; spending by skiers for tickets, lodging, equipment rental and meal purchases on and off the mountain; and payroll spending for new operations and vendor employees.

Construction materials will be sent out for bid and, whenever possible, will be purchased locally.

Most of the trail work and snowmaking elements will be handled by ORDA workers whereas parking lot paving and work on the lodges may be contracted to outside contractors.

The stability provided by expanding the year-round use of the Complex will increase employment opportunities in the area. Seasonal winter employees may be hired year-round in some capacity on the site. Additionally, the improved and expanded year-round use of the Complex will cause vendors (such as horseback riding, mountain bike rentals and others) to increase or at least to maintain their employees and their payrolls. This will in turn generate new spending for rents, mortgages, groceries, gasoline, personal services, retail and recreation by workers and their families throughout the primary and secondary area of impact.

A multiplier effect will occur for revenues that are produced on the mountain and later spent off the mountain. This traditionally includes short-term (5 years) construction spending and long-term operational spending as well. Multipliers have been developed for all industries by the US Department of Commerce. They are used to predict the direct and indirect economic impacts generated by each spending sector. Direct economic impacts refer to additional revenues received from the Complex for construction and from the Sports Complex users themselves. Indirect impacts include the additional purchases made by the recreational facility from other businesses to satisfy the additional demand, and induced impacts are produced from the new spending of persons employed in the ski and off-season recreational industry. Each new dollar that is spent actually "turns over" causing additional dollars to be spent to satisfy a new demand. Each category of industry (construction, recreation, lodging) has separate and unique impacts associated with its own business operation and production.

Generally, each dollar spent in the construction and operational phase generates approximately an additional two dollars of spending thereby effectively tripling the total economic impact.

Substantial direct off-site economic benefits will also occur as a result of the project. These include the spending that the Complex's patrons will do off the mountain for goods and services such as food and lodging along the way.

Refer to Section IX, "Growth Inducing, Secondary and Cumulative Impacts," for additional information on the regional cumulative economic impact of all ORDA venues.

b. Mitigation Measures

No mitigation measures are required since the impacts on the economy are entirely positive.

5. Historical and Archaeological Resources

a. Impacts

The proposed management actions will not have a negative impact on any known historical or archaeological resources on or near the site. The potential visual impact of the proposed management actions on the John Brown historic site, particularly the new combined bobsled/luge run, is discussed in Section V.A.4. of this UMP.

Refer to Appendix A, "Documents of Record," for a letter from the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) which states that the project will have no impact upon cultural resources eligible for inclusion in the State and National Registers of Historic Places. This No Impact determination is given with the understanding that the proposed project will in no way impact the extant features associated with the original c.1929 bobsled run. If the scope of the project changes to involve this historic feature, further consultation with OPRHP will be necessary to evaluate the significance and integrity of the remaining portion of the c.1929 bobsled run.

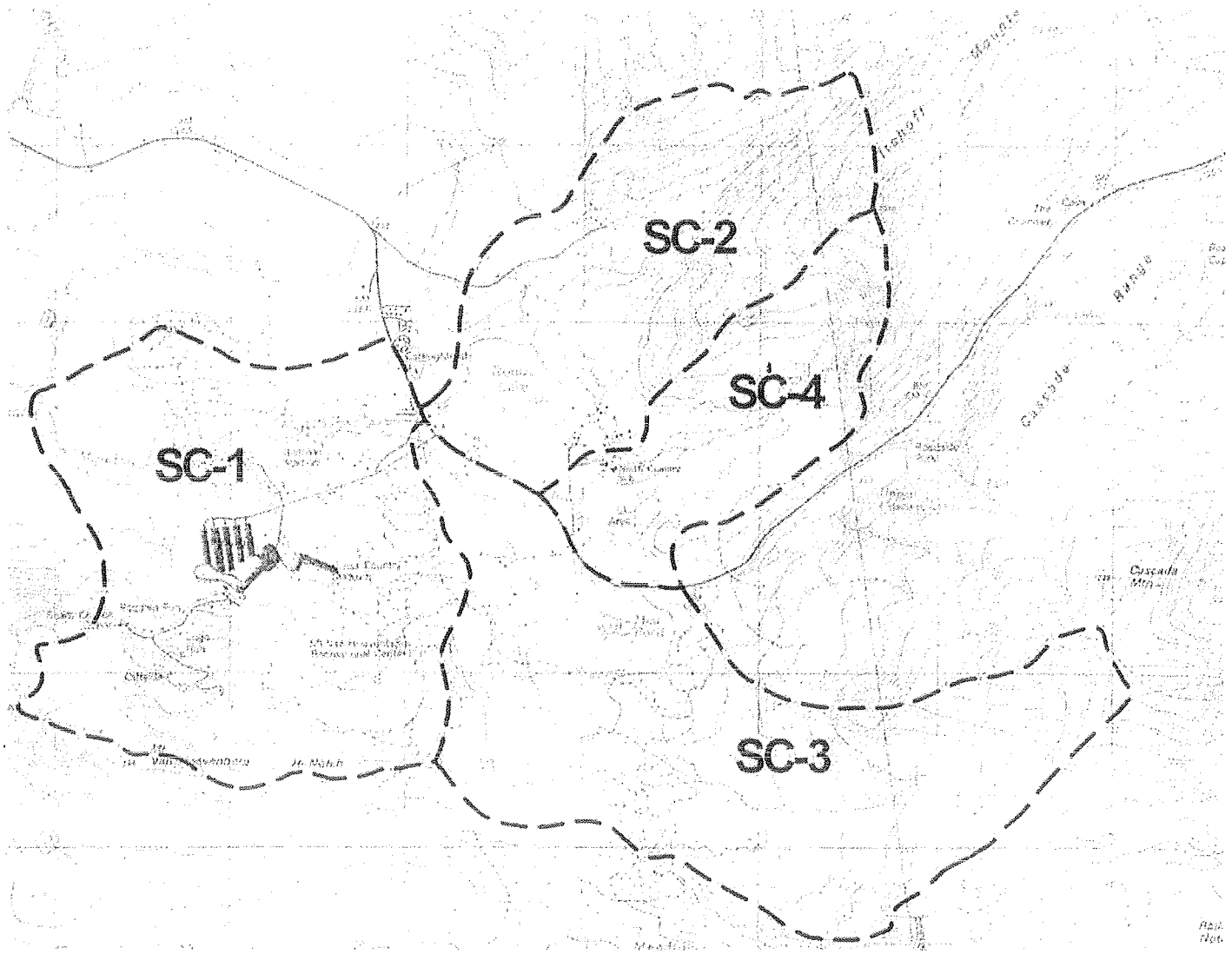
b. Mitigation Measures

No mitigation measures are proposed since no significant adverse impacts are anticipated.

Table 5-1
Summary of Vegetation Impacts
Number of trees of 3 inches dbh or larger to be removed

	X-C connector trail C-2[1]	Ski Trail Maintenance (50 km)	Snow-Making Reservoir	Straightaway At X-C Stadium	Relocate Timing Building
Sugar Maple	19	12			
White Ash					
Beech	24	35			
Red Maple					
Hemlock					
Basswood					
Yellow Birch	3	7		2	
White Birch		3	9		
Black Cherry		3	1		
Aspen		6	3		
Balsam Fir		35		14	7
Ironwood					
Striped Maple	7				
Red Oak					
Red Spruce	3	18	9	9	5
Black Spruce					
Mountain Ash					
Tamarack					
Hard Maple					
Cedar					
TOTALS	56	119	22	25	12

TOTAL FOR ALL TREE CUTTING: 234



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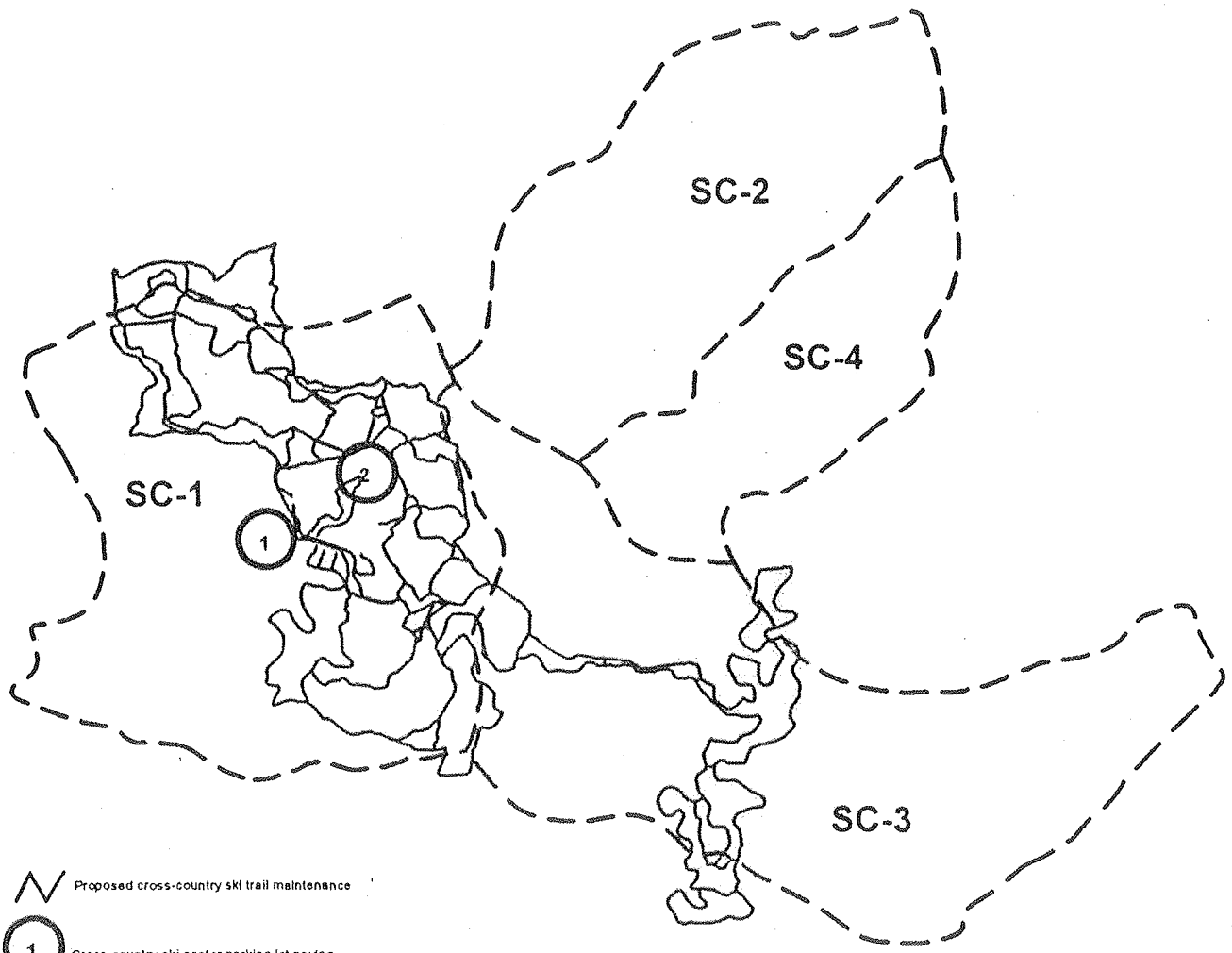
UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

SUBCATCHMENT AREAS

 | DATE: 1-19-96 | SCALE: 1:36,000 | FIGURE NO. 5-1



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UNIT MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT
MT. VAN HOEVENBERG, LAKE PLACID, N.Y. USA

OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

SUBCATCHMENT AREA COVER TYPE CHANGE

 | DATE: 4-2-96 | SCALE: 1:36,000 | FIGURE NO. 5-2

A. Limit Snowmaking on Ski Trails

Limiting the total length and configuration of trail snowmaking would limit the level of athlete training and would reduce the effectiveness of the improvements for more consistent use of the facilities at the Olympic Sports Complex.

B. Eliminate Paving of Key Parking Areas

Application of this alternative would allow existing substandard conditions to continue. Runoff of sand and gravel from existing parking areas will continue to contribute to sedimentation to existing surface water bodies. Athletes, recreators and spectators will continue to be inconvenienced, contrary to the management goal of improving the quality of the facility in order to continue to attract users and make attendance more consistent.

C. Eliminate Off-Season Venues

Such an option would fail to contribute to the established goal which is to attain optimum year-round use of the Areas facilities to the economic, social and educational benefit of New York residents in general and the Olympic Region. It would not satisfy the Legislative findings by enactment of the legislation establishing the New York Olympic Regional Development Authority for administration of the Olympic Sports Complex at Mount Van Hoevenberg. Such an option does not fully utilize State-owned land and the permanent easement land purchased from the Town of North Elba which have been classified for the purpose of intensive use recreation. The option does not recognize that operations and programs directed toward all season use of the Complex may be implemented without significant environmental impact due to provisions for public use already in place such as lodges, restrooms and vehicular access. Generally, this option fails to deal effectively with social, economic and political ramifications in the Olympic Region.

D. Eliminate Land Acquisition or Acquire Land by Eminent Domain

Elimination of land acquisition would be a calculated disregard for distribution and prioritization of land acquisition needs, bearing in mind voter referendum and the intent of the Environmental Quality Bond Act. It might jeopardize the Legislative findings pertaining to the ability of the Olympic Regional Development Authority to institute a coordinated program of activities utilizing Olympic facilities around Lake Placid. Such an option will eliminate the opportunity to gain a permanent resolution at Mount Van Hoevenberg which would insure that cross-country ski trails will meet International and Olympic standards.

It is the policy of the Department of Environmental Conservation to avoid use of the power of eminent domain. Although the amount of an appraised value would be paid,

such taking of lands is a unilateral disturbance in lives of the landowners and dependent persons involved. There is no reason at the present time which can justify such action at Mount Van Hoevenberg since recreation programs and events are currently ongoing and have not been threatened.

E. Alternative Designs for Combined Bobsled/Luge Track

The design process for the combined track called for several designs to be reviewed. Thus far, six designs have been reviewed. The design objectives were to create a track that would challenge world caliber athletes and provide good spectator facilities. Design technology for this track involves construction of the track on piers of support columns above the existing grade of the earth. All designs are situated largely within the vicinity of the existing slope clearing containing the existing runs. The alternative layouts considered differ with respect to technical aspects of bobsled and luge racing. The final design represents months of analysis, meetings and negotiations, and additional design and revision. The layout for the chosen design of the combined run is provided in Figure 4-7, "Combined Bobsled/Luge Site Layout Plan."

F. Alternatives to Retaining Existing Bobsled Run

The proposed management action to rehabilitate only the lower half of the existing bobsled run and to abandon-in-place the upper half has only two alternatives. The bobsled could be demolished, in whole or in part, or the whole run could be rehabilitated.

Demolition of the whole track is not a recommended alternative due to the popularity of bobsled passenger rides which originate at the half mile point near the curve known as Big Shady.

The passenger rides available on the lower half of the existing bobsled run, both on wheeled vehicles and sleds, are very popular and contribute to year-round utilization of the Olympic Sports Complex. However, it is not advisable to provide the wheeled sled rides on a new track due to the increased wear and tear on the track which would result, with the attendant expense of maintenance on a new high-tech track.

The vast majority of passenger rides are given from the half mile point and therefore rehabilitation of this portion of the track is cost effective, while preservation of the upper half is not.

Demolition of only the upper half of the existing bobsled run has been considered. This alternative would be excessively disruptive to the environment in terms of the potential need to use dynamite and heavy equipment for demolition and debris removal and increased susceptibility of drainageways to sedimentation. Further, the demolished concrete would have to be disposed of on-site. This would be labor-intensive and would occupy considerable space. This alternative has more potential to impact the environment than simply allowing natural revegetation to occur.

An added benefit of the proposal to abandon-in-place the upper half of the bobsled run is the preservation of virtually 60% of the footprint of the original 1932 Olympic bobsled run.

G. Alternatives for the Combined Track Cooling System

Other alternatives other than the use of ammonia gas as a refrigerant is brine or glycol. Based on the projected operation season of the proposed facility, glycol or brine do not produce enough of a cooling potential to allow for an extended seasonal operation.

H. The "No-Action" Alternative

Application of this alternative would not further the stated management goals for the Olympic Sports Complex which include the need to improve the quality of facilities at the Complex in order to continue to attract competitive and recreational athletes from New York State, the United States and the international sports community, in order that public use may better help promote the economy of the area.

If proposed maintenance of trails for safety reasons is not pursued, the trails will remain unsafe. If no improvements to the bobsled and luge runs are made, these facilities will remain unsafe and will continue to deteriorate and world class competitions and training at this site would be infeasible.

While capital or maintenance expenditures might be eliminated, failure to take corrective action may make the State increasingly liable to personal injury suits or other litigation that could be more costly in the long run. Patronage and resultant revenues (both to ORDA and the local community) could be expected to decrease over the long run. Fulfillment of health and safety codes complements and stabilizes the environmental setting. Failure to implement standards might adversely impact on visual quality, water quality and area cleanliness. The health, safety and enjoyment of athletes, recreational users and employees is sacrificed by pursuit of this alternative.

Elimination of a budget for capital improvement would result in the failure of management to appropriately address improved public use, safety of athletes, needed modernization (a guideline by interpretation in the Adirondack Park State Land Master Plan) and the overall goal for Mount Van Hoevenberg pertaining to economic and social benefit of the Olympic region. Curtailment of new construction plans particularly where justification for such plans has been identified portrays a trend of facility degeneration. Diminished employee and public safety, environmental protection and public use carrying capacity could result. Postponement of capital construction plans also results in a postponement of the conditions for quality recreation and operation efficiency.

SECTION VII SUMMARY OF UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Some environmental impacts of the proposed action can neither be prevented nor reasonably avoided. This section will describe the unavoidable impacts which may occur due to construction and implementation of the Olympic Sports Complex at Mount Van Hoevenberg Unit Management Plan.

Construction activities will result in the generation of some degree of dust, odors, fumes, noise and vibration. A small amount of traffic will also be generated. Removal of vegetation and grading will be required to create additional ski trails. Grading will be necessary on some of the existing ski trails. Immediate seeding and mulching of disturbed areas will greatly reduce the possibility of any serious erosion problems. Final vegetative growth and grades will blend with the existing environmental setting.

Increased noise levels during construction of the improved facilities cannot be avoided. Snowmaking on cross-country trails will cause a slight increase in noise levels at night for those at the Olympic Sports Complex. Offsite, noise levels will be substantially unaffected by the proposed action.

The only proposed management action with the potential to have visual impact is the combined bobsled/luge track because it will be sited on a slope while the other proposed management actions call for activity within mature dense woodland on areas with low relief. The new combined track will be visible from the same vantage points from which the existing separate tracks are currently visible.

Operational activities will result in an increased withdrawal of surface water from North Meadow Brook for snowmaking use; however, this use will be insignificant as it will occur during adequate flow periods and will result in minimal withdrawals.

Demands for local services are expected to remain the same as use is not expected to increase significantly.

All of these impacts are relatively minor and local in nature. Most do not require mitigation measures. Section V of this DEIS describes those mitigation measures which are required.

SECTION VIII IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The additional commitment of lands to recreational use of the type planned does not represent an irreversible nor irretrievable commitment of resources. If the recreation center were to be abandoned and the structures removed, the area would revert to the wild state which presently surrounds the area.

The only irreversible commitments are: 1) the building materials for the permanent structures, and 2) the energy required to construct and operate the Complex.

SECTION IX GROWTH INDUCING, SECONDARY AND CUMULATIVE IMPACTS

A. Introduction

This section of the UMP/DEIS examines the impacts that could potentially occur off the Olympic Sports Complex property following the facility improvements outlined in this UMP. The primary geographic area of impact is defined as the Village of Lake Placid and the Town of North Elba. Primary geographic area suggests that the majority of businesses in the impacted communities are strongly influenced by the Olympic Sports Complex at Mount Van Hoevenberg and the winter sports facilities provided by the area (Whiteface, the Olympic Ice Rink, the Village of Lake Placid). Although the winter season provides many recreational opportunities, many individuals also enjoy the region during the spring, summer and fall for hiking, biking, camping and daytripping. Often, these people combine visits to the Olympic sites with other activities.

Secondary impact results from the operation and spending of sports associations whose athletes utilize the Olympic venues. Due to ORDA's presence and active marketing of its facilities, the region has become home to a growing number of these organizations, including the U.S. Luge Association, the U.S. Bobsled & Skeleton Federation and the National Sports Academy. The latter is a nationally known private high school that specializes in the training of winter sports athletes.

ORDA activities draw national television coverage as well as local and regional news coverage. In 1993-94 alone, there were 23 hours of nationally televised coverage from Lake Placid, with shows airing on CBS, ESPN, CBC, TBS, Prime and TSN. Media exposure has a far reaching impact on drawing tourists to the Adirondack Region.

Secondary and growth inducing impacts are defined as indirect or induced effects that occur as a result of the project. These include changes in population growth, land use patterns and business creation as a result of increased employment opportunities. Typically, these impacts are difficult to measure or quantify; but certain trends can be projected based upon prior population and development growth records as well as comparisons with other similar communities.

This report identifies secondary and growth inducing impacts based upon past history of growth at the Olympic Sports Complex. Some direct comparisons can be made with studies done at other ski areas in Vermont, however, the Olympic Sports Complex at Mount Van Hoevenberg has some unique factors that distinguish it from other recreational areas. The Olympic Sports Complex is owned by the State of New York and operates through a state public authority (ORDA) which is subject to state policies and procedures. It was established as a public recreation oriented area rather than a commercial, for profit, venture. The Complex is located inside of the Adirondack Park on lands under the jurisdiction of the New York State Department of Environmental Conservation where land development and improvement is rigorously controlled. An official APA Land Use and Development Plan directs and controls building densities and growth patterns throughout the six million acre park. These factors serve to temper

growth. The Complex is isolated, with many of the support services typical of ski area regions actually located along a string of rural communities. This has resulted in a dilution of local skier spending, resulting in fewer skiers concentrating their spending in North Elba than would be expected in a typical ski community. Skier dollars are spent throughout Essex County rather than concentrated in a particular town.

Section IX.B. describes existing conditions in the community. Many of the numbers cited are based on the 1990 Census. Other figures, such as unemployment, are the latest released figures. Local business characteristics are based upon conversations with the local chamber of commerce.

Section IX.C. predicts the impacts of the improvements to the facilities at the Olympic Sports Complex on the local economy. This discussion provides an order-of-magnitude estimate of impacts, rather than a precise measurement, which is all that is possible given the number and diversity of recreators and the large geographic area over which they lodge, dine, etc. As noted above, it also tends to overstate the probable effect of the expansion, because all growth is assumed to be related in some way to the Complex.

Section IX.D. provides a discussion of cumulative impacts. Cumulative impacts are those which may occur from other projects in the study area, which are then combined with those impacts from the Olympic Sports Complex at Mount Van Hoevenberg.

B. Current Socioeconomic Conditions and Trends

1. Population

The 1990 Census reported the population of the Town of North Elba to be 7,870. Between 1980 and 1990 the population of North Elba increased by 1,273 persons or 19.30 percent. During this same time period the population of the Village of Lake Placid decreased from 2,490 in 1980 to 2,485 in 1990, constituting a decrease of 0.20 percent. Other towns in the Adirondacks also experienced a growth period during this decade as individuals moved from villages to the less densely populated towns.

During this same time period the Essex County population increased from 36,176 in 1980 to 37,152 in 1990, representing an increase of 976 (or 2.6%). This compares with the New York State population increase of 2.5% during this same decade.

The median age of the North Elba population is 33.8 years and is comprised of 3,019 males and 3,263 females. Approximately 1588 individuals are institutionalized in the correctional facility in North Elba and the majority of these individuals are male and have been subtracted from these population numbers.

2. Employment

Essex County has one of the lowest county-wide unemployment rates in the Adirondacks. In 1995 Essex County had an unemployment rate of 6.7%, Franklin County 7.1%, Clinton County 6.8% and Herkimer County 7.2%.

Occupational statistics indicate that the North Country Region employs individuals in various occupations, predominately the occupation categories of "Professional, Paraprofessional, Technical," "Precision Production, Craft and Reproduction," "Service Occupations," and "Administrative Support Occupations/Clerical." The fewest number of employed persons have jobs in the fields relating to agriculture, forestry, and fishing; writers, artists, entertainers, and athletes and; law and related occupations. Refer to Table 9-1, "Number of Individuals Employed in Various Occupations."

The Essex County industry that employs the greatest number of people is International Paper Company in Ticonderoga. The largest local employers include the Olympic Regional Development Authority (ORDA), Uhlein Mercy Center and the Adirondack Medical Center. Refer to Table 9-2, "Essex County's Major Employers."

Census figures show an increase of 978 jobs in ORDA's primary labor market from 1980 to 1990. The largest increases were in tourism related retail services.

In Essex County, manufacturing jobs account for the largest average weekly earnings. This has remained constant since 1982. Table 9-3, "Average Weekly Earnings by Industry," lists comparison data from 1982 to 1993.

3. Income

The leading average weekly earnings in Lake Placid and North Elba are attributable to jobs in the manufacturing industry ($620/wk in 1993). Those employed in "wholesale and retail trade" represented individuals making the lowest average weekly earnings ($260/wk in 1993). This is illustrated in Table 9-3, "Average Weekly Earnings by Industry."

The New York State Department of Labor reports that Per Capita Income in 1990 was $16,501 in New York State, $11,354 in Essex County, $12,480 in North Elba and $14,442 in Lake Placid.

4. Real Estate and Sales of Second Homes

The Adirondack Economic Development Corporation located in Saranac Lake reported the number of residential real estate sales have declined since 1986 when 51 sales of primary residences took place. In 1993, the most recent year data was collected, 28 sales of primary residences were conducted. This is an increase from 16 home sales in 1991.

Second home sales and sales of vacant land have seen similar sales cycles. Second home sales in recent years reached a high of 64 sales in 1987, declined to a low of 16 in 1990 and have climbed back to 27 in 1993. There was $50 million in second home investment in the Town of North Elba from 1986 to 1993 showing confidence in the future of the community as an attractive and exciting vacation destination. There is a clear association between this growth and the quality and quantity of recreational opportunities provided by ORDA.

Condominium transfer, similar to second home sales; reaching maximum recent sales of 51 in 1988, declining in 1991 and climbing in again in 1993 to 15 transfers. With average sale prices rising from $67,500 in 1985 to $203,583 in 1991. Condominium prices have averaged in the $160,000's, four out of the last six years.

C. Impact of Future Expansion

The management actions proposed in this UMP are designed to maintain and strengthen attendance and use of the Olympic Sports Complex. The management actions include trail maintenance for safety purposes and also include development of typical recreational and training facility amenities. These include the provision of snowmaking and lighting on ski trails, rehabilitation of the biathlon lodge as a recreational lodge and of the cross-country lodge as a training facility. Parking and circulation will be improved. All of these actions will make the Complex more attractive to athletes, recreators and spectators and will foster more consistent use of the facility.

Typically, as more people are exposed to an area, interest in real estate also increases. However, land availability, regulatory and infrastructure constraints and a diverse number of other options for home ownership will moderate this potential growth scenario. The demand for seasonally used homes in the future will likely be met by existing home sales rather than reconstruction. Remodeling and renovation may be generated which will have a positive influence on the real estate industry in the North Elba area.

A demand for rental properties for the spring, summer and fall may occur as individuals become familiar with the various recreational opportunities offered at Mount Van Hoevenberg and the surrounding region. These individuals may well take advantage of an existing underutilized resource as ski chalets and condominiums and other winter rentals expand to four seasons, or at least expand seasonal availability.

The majority of businesses in the North Elba/Lake Placid Area exist in conjunction with the recreational/tourist nature of the area. Local residents support businesses year round but tourism benefits are derived at various times of the year including the ski season, "leaf peepers" visiting in the fall, and large scale events in the summer.

Upon completion of the proposed UMP, more non-winter use of the Olympic Sports Complex at Mount Van Hoevenberg is expected, as is more consistent use of the Complex in winter months.

D. Cumulative Impacts

The Olympic Sports Complex is one of a number of facilities managed by ORDA. ORDA's state-owned facilities also include Whiteface Mountain Ski Area, Whiteface Mountain Veterans Memorial Highway, Gore Mountain Ski Center and the United States Olympic Training Center Facility. ORDA's town-owned facilities include the Olympic Jumping Complex (90 and 120 meter ski jumps, freestyle jumps and Kodak Sports Park, a summer water ramp facility), the Olympic Speed Skating Oval and the Olympic Center (convention facilities and four ice surfaces). ORDA's operations revolve around sports and recreation, however, the cumulative effect of its activities is economic development. ORDA has a direct and secondary impact of $72.9 million through its payroll and purchases, and its ability to directly stimulate tourism in the region and in New York State. This impact reflects spending of an interdependent Olympic family of organizations that operate in Lake Placid (e.g. USOC and sports associations).

In addition to the economic impact created by ORDA, the Authority provides athletic facilities for youth programs and elite athletes of both New York State and the United States for Olympic training.

Between 1982 and 1994 New York State has placed a substantial number of athletes on the United States Olympic Winter Games teams. This is a direct result of the facilities provided by ORDA.

In addition to the impact of direct spending, global attention is drawn to Lake Placid and New York State through the promotion of the Olympic facilities and the national and international media attention generated by world class competitions.

The Olympic Regional Development Authority had a significant economic impact on the Adirondack North Country Region and to the State of New York in 1994. The impact to the region was $72.9 million and another $65.9 million was induced as these dollars cycled through the economy. The full economic impact of ORDA, $138.8 million, is detailed on Table 9-4, "ORDA Economic Impact," and is explained below.

Direct impact is attributable to payroll and purchases, and visitations.

1. **Purchases & Payroll**. ORDA has a gross payroll of $10,077,820. This covers 855 full time and seasonal employees. Of these 195 are year-round (168 in Lake Placid and 27 at Gore Mt.). ORDA spends $3,772,210 in the Olympic Region, $264,833 in the Gore Mt. Region and $6,391,433 in the rest of New York State.

2. **Purchases & Payroll - Linked Organizations**. ORDA is contractually linked to the United States Olympic Committee (USOC) through the U.S. Olympic Training Center. The existence of ORDA was a requirement for the USOC to designate a Training Center in New York State. The USOC employs 48 individuals. There are nearly 48,000 athlete user days at the Olympic Training

Center accounting for an additional $714,690 in regional spending. Service America is the concessionaire at the Olympic facilities, employing 150 workers.

3. **Visitations in Lake Placid Area.** Olympic facility activity is multi-faceted. The winter is dominated by skiers at Whiteface Mountain, but also includes cross-country skiers, thrill seekers taking bobsled and luge rides, as well as skaters and hockey players. The Olympic Center is busy year-round with conventions, ice hockey and figure skating competitions and entertainment events. There were 237,205 documented overnight guests that used the Olympic facilities and another 214,000 day trip visitors. Table 9-5, "Visitation Impact at ORDA Facilities," details the economic impact of visitation.

4. **Visitation in Gore Mt. Region.** Gore Mt. Ski Area attracts the vast majority of its visitors during the winter ski season. In 1993-94 there were 56,950 overnight guests and 98,050 day visitors. The impact is felt not only in the immediate North Creek Region, but throughout Warren County. Table 9-5, "Visitation Impact at ORDA Facilities," provides details.

5. **Sales Tax Benefits.** There is a direct return to the State of New York through sales tax receipts. Essex County generates 50% of its sales tax receipts from Lake Placid. At present, this figure approaches $10 million. Essex County derives 28% of its total revenue from sales tax receipts, while the other 14 North Country counties only average 18%. This reflects the importance of tourist spending in this rural county.

According to the 1995 report entitled, "Economic Impact of the New York State Olympic Regional Development Authority," tourism based business in the Lake Placid Region has increased 42% since the 1980 Olympic Games. Off-season business increased 120% during the same period, while winter tourism activity rose 47%.

Research clearly shows that ORDA is the economic engine that drives the tourism economy of the Olympic Region. Tourism is the No. 1 industry in the Adirondacks and is now recognized as the second largest industry in New York State. The annual New York State investment in ORDA clearly leverages a significantly greater level of new private business activity, sales tax receipts, real estate and mortgage taxes from second home development, and personal income taxes.

Through its mandate to maximize the utilization of the Olympic facilities, ORDA in 1994 produced a direct and secondary impact of $72.9 million. It's total economic impact, including $65.9 million in induced economic activity, was $138.8 million, as detailed in Table 9-4, "ORDA Economic Impact."

ORDA has been in existence since 1984 and has contributed to the economic stability of the region by funding and maintaining international caliber recreational facilities in the region.

Single family home sales have fluctuated during the twelve year period that ORDA has been established but has shown an overall growth in the region. Second home sales and sales of vacant land have seen similar sales cycles. During the period from 1986 to 1993, $50 million in second home investment occurred in the Town of North Elba.

The quality and quantity of the recreational opportunities provided by ORDA since 1980 have most certainly contributed to a portion of this growth. This housing growth is not, however, a direct result of the dollars spent by ORDA in the region. ORDA's direct and secondary impact in 1994 was $72.9 million. This amount is far above the housing growth in the area. The positive economic impact produced by ORDA's facilities has been primarily received in tourist dollars.

This indicates that although housing (both single family and second home) have shown growth in the region, it is not a dramatic uncontrolled growth stimulated by ORDA's spending in the area. Certainly dollars spent by ORDA result in significant expenditures of tourism dollars. Because this use is transient, local services, such as schools, are not impacted by dramatic growth problems that would be associated with large scale housing growth.

Table 9-1
Number of Individuals Employed in Various Occupations[1]
North Country Region[2] of New York State

Occupation	Employment Numbers	
	1991 (Actual)	1996 (Projected)
Executive, Administrative & Managerial	8,300	8,570
Professional, Paraprofessional & Technical	36,02	35,73
Social Scientist, Recreation & Religion	3,370	3,400
Law and Related Occupations	1,360	1,440
Teachers, Librarians & Counselors	10,61	9,920
Health Practitioners & Technicians	7,130	7,060
Writers, Artists, Entertainers & Athletes	1,670	1,710
Marketing & Sales Occupations	18,22	18,86
Administrative Support Occupations, Clerical	26,32	25,90
Secretarial, General Office	14,75	14,48
Service Occupations	29,57	30,37
Agriculture, Forestry & Fishing	1,610	1,660
Precision Production, Craft & Reproduction	31,53	32,04
Construction & Extractive Trades	4,170	4,330
Precision Production	1,810	1,870
Operators, Fabricators & Laborers	5,520	5,350
Hand Working	1,870	1,830
Plant & System Operations	350	340
Transportation, Material Moving & Machine Operators	5,540	5,750
Helpers, Laborers, and Hand Movers	4,690	4,690

Notes:

1. Occupations with fewer than 100 jobs in 1991 are not shown.
2. The North Country Region includes Clinton, Essex, Franklin, Hamilton, Jefferson, Lewis and St. Lawrence Counties.

Source: Technical Assistance Center, State University College at Plattsburgh, 1995. Economic & Demographic Characteristics of Sixteen New York State Counties.

Table 9-2

Essex County's Major Employers
As of October 26, 1994

Rank	Employer	Total Employment
1	International Paper	900
2	Adirondack Medical Center**	500
3	Association for Retarded Citizens	471
4	Adirondack Correctional Facility - Ray Brook	330
5	Olympic Regional Development Authority	300
6	American Management Association	262
7	Uihlein Mercy Hospital	250
8	Ticonderoga School District	183
9	NYCOI Processed Minerals	150
10	Moriah Shock Incarceration Facility	135
11	Moriah Central School District	120

** Employer is located in both Essex and Franklin Counties. Total employment figure includes both counties.

Source: Technical Assistance Center (TAC), State University of New York College at Plattsburgh, 1995. Economic & Demographic Characteristics of Sixteen New York State Counties.

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Table 9-3
Average Weekly Earnings by Industry

County: Essex

Industry	1985	1986	1987	1988	1989	1990	1991	1992	1993
All Industries	266.12	275.36	287.85	301.17	318.11	327.47	334.19	348.68	354.05
Manufacturing	504.21	537.58	551.80	553.38	554.34	569.19	585.57	615.90	620.41
Contract Construction	263.21	246.14	288.04	281.02	371.59	389.50	406.55	432.25	425.89
Transportation and Public Utilities	319.75	327.83	343.97	365.62	389.16	414.50	452.88	514.42	515.38
Wholesale and Retail Trade	196.68	216.43	227.97	235.41	238.55	241.14	251.28	266.44	260.33
Finance, Insurance and Real Estate	227.88	239.89	266.24	296.38	331.57	332.54	328.91	353.08	356.63
Services	203.71	209.20	218.86	250.49	270.50	277.07	279.63	282.62	295.29
All Other Industry	350.81	354.91	362.71	378.62	421.68	388.45	402.74	435.86	443.87

Source: Technical Assistance Center (TAC), State University of New York College at Plattsburgh, 1995. Economic & Demographic Characteristics of Sixteen New York State Counties.

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Table 9-4
Olympic Regional Development Authority
Economic Impact (5)

	Direct[1] Regional	NYS	Total
Olympic Facilities - Payroll	$6,732,963		$6,732,963
Olympic Facilities - Purchases	3,772,210	6,391,433	10,163,643
Gore Mt. - Payroll	1,988,134		1,988,134
Gore Mt. - Purchases	264,834	(2)	264,834
U.S. Olympic Committee - Payroll	*675,000		675,000
U.S. Olympic Committee - Purchasing	*310,000	385,000	695,000
U.S. Olympic Committee - Athlete Spending	714,690		714,690
Professional Skating Instructors - Wages	425,057		425,057
Service America - Payroll	880,000		880,000
Service America - Purchases	350,000	750,000	1,100,000
Visitor Spending - Lake Placid Overnight Stays	27,611,370		27,611,370
Visitor Spending - Lake Placid Day Trips	6,441,720		6,441,720
Visitor Spending - En Route		2,400,000	2,400,000
Visitor Spending - Gore Overnight Stays	6,492,300		6,492,300
Visitor Spending - Gore Day Trips	2,941,500		2,941,500
Totals	$59,599,778	$9,926,433	$69,526,211
	Secondary		
	Regional	**NYS**	**Total**
U.S. Biathlon Assoc. - Payroll	$319,800		$319,800
U.S. Biathlon Assoc. - Purchases	12,000	63,000	75,000
U.S. Boblsed Federation - Payroll	245,000		245,000
U.S. Bobsled Federation - Purchases	16,000	55,000	71,000
U.S. Luge Association - Payroll	470,000		470,000
U.S. Luge Association - Purchases	432,000	513,000	945,000
NYSEF - Payroll	330,000		330,000
NYSEF - Purchases	101,000	123,000	224,000
National Sports Academy - Payroll	360,000		360,000
National Sports Academy - Purchases	210,000	140,000	350,000
	$2,495,800	$894,000	$3,389,800
Total of Direct & Secondary Impact	$62,095,678	$10,820,433	$72,916,011
	Induced		
Regional Total ($62,095,628 X Multiplier of 1.8)[3]		$111,772,130	
State Total ($10,820,433 X Multiplier of 2.5)[4]		$27,051,082	
Total Impact		**$138,823,212**	

Notes:

*Estimated from budget reports issued by the U.S. Olympic Training Center.

(1) Figures were supplied by the organizations.

(2) Gore's NYS purchasing included in ORDA NYS.

(3) Multiplier of 1.8 was supplied by the NYS Dept. of Economic Development.

(4) Multiplier of 2.5 is generally accepted overall NYS multiplier.

(5) Reproduced from "Economic Impact of the New York State Olympic Regional Development Authority", 1995.

Table 9-5

Visitation Impact at ORDA Facilities

	Overnight Stays	Day Trips
0		
Whiteface Mt. Ski Area[1]	105,000	45,000
Olympic Center Events[2]	25,000	25,000
Other Olympic Facilities[3]	70,205	144,724
Conventions[4]	42,000	--
Gore Mt. Ski Area[5]	56,950	98,050
Daily Expenditures[6]	$114	$30
Impact	$34,103,670	$9,383,220
Total Visitation Impact	**$43,486,890**	

Notes:

[1] The percentage of overnight (70%) and day trip guests (30%) is based on the 1993 National Skier Opinion Survey conducted at Whiteface Mountain in 1993.

[2] Numbers are based on records compiled through the Olympic Center Box Office. Percentage of overnight and day trip visitors is based on customer surveys conducted by the Olympic Regional Development Authority.

[3] Facilities included are Whiteface Mt. Highway & Chairlift, the Olympic Sports Complex at oMt. Van Hoevenberg and the Olympic Jumping Complex. Attendance figures were provided by the Olympic Regional Development Authority.

[4] Based on information provided by the Lake Placid Essex County Visitors Bureau. Only conventions included are those that required access to the Olympic facilities for meeting or trade show space.

[5] The percentage of overnight (49%) and day trip guests (51%) is based on the 1993 National Skier Opinion Survey conducted at Gore Mountain in 1993.

[6] The expenditures per person ($114) for overnight stays is based on figures used by D.K. Shifflet & Associates, Ltd. in their New York State Travel Trends Report (March 1993-February 1994) prepared for the New York State Department of Economic Development.

[7] Reproduced from "Economic Impact of the New York State Olympic Regional Development Authority", 1995.

SECTION X EFFECTS ON THE USE AND CONSERVATION OF ENERGY

The proposed action will not cause a major use of energy, although the consumption of fossil fuels and power will be required by the project during both its construction and operational phases.

During construction, the primary expenditure of energy will be the consumption of fossil fuels to operate construction equipment and to transport materials to the site. This activity will cause a temporary and unavoidable increase in energy use. Some of the activities involving fuel consumption during the various construction phases include clearing and grubbing, excavation, and grading of portions of the ski trails.

The operation of the facility will also require the consumption of fossil fuels and power. The use of electricity for improved snowmaking cannot be avoided. Additionally, expanded lodge facilities and services will necessitate the use of more fuel oil and electricity for heating.

The improvements proposed for the Olympic Sports Complex at Mount Van Hoevenberg will be made to bring the facility up to the standards necessary for international and national competitions while still maintaining the Complex as a world class training facility for U.S. athletes. Improvements proposed for the combined bobsled/luge run will increase the energy efficiency of the refrigeration systems and of many of the associated buildings.

Normal day-to-day operation will contribute to increased power consumption on a long-term basis. This consumption, however, will predominantly be seasonal in nature.

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Personal Communication with Cheryl Breen, Adirondack Medical Center, Saranac Lake, 9/6/95.

Personal Communication with Bill Schoch, DEC Fish Management, Ray Brook, 9/8/95.

Appendix A

Documents of Record

GEORGE E. PATAKI
GOVERNOR

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

JOHN P. CAHILL
COMMISSIONER

March 5, 1999

Mr. Theodore Blazer, CEO
Olympic Regional Development Authority
218 Main Street
Lake Placid, New York 12946

Dear Ted:

I am pleased to inform you that the revision of the Unit Management Plan for the Olympic Sports Complex at Mt. Van Hoevenberg has been found to be in compliance with the Adirondack Park State Land Master Plan and is therefore approved.

Sincerely,

John P. Cahill

STATE OF NEW YORK
EXECUTIVE DEPARTMENT
ADIRONDACK PARK AGENCY
P.O. Box 99, Route 86
RAY BROOK, NEW YORK 12977
(518) 891-4050
FAX: (518) 891-3938

January 21, 1999

Mr. Ted T. Blazer
President and CEO
Olympic Regional Development
Authority
Lake Placid, NY 12946

Dear Mr. Blazer:

Re: Mt. Van Hoevenberg Intensive Use Area
Final Unit Management Plan/Update

I am pleased to advise you that at its January 15 meeting, the Agency determined that the above referenced unit management plan complies with the guidelines and criteria of the Adirondack Park State Land Master Plan. I have enclosed the Agency's resolution.

We are excited by the potential and opportunity the completion of this plan presents and congratulate you on its completion. If we can be of any further assistance on this or any other matters, please feel free to give me a call.

Sincerely,

Daniel T. Fitts
Executive Director

DTF:nmh:csz
Enclosure
cc: Agency Members and Designees

STATE OF NEW YORK
EXECUTIVE DEPARTMENT
ADIRONDACK PARK AGENCY
P.O. Box 99, Route 86
RAY BROOK, NEW YORK 12977
(518) 891-4050
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Resolution Adopted by the Adirondack Park Agency with Respect to Mt. Van Hoevenberg Intensive Use Area Unit Management Plan January 15, 1999

WHEREAS, Section 816 of the Adirondack Park Agency Act directs the Department of Environmental Conservation to develop, in consultation with the Adirondack Park Agency, individual management plans for units of land classified in the Master Plan for Management of State Lands and requires such management plans to conform to the guidelines and criteria of the Master Plan, and

WHEREAS, in addition to such guidelines and criteria, the Adirondack Park State Land Master Plan prescribes the contents of unit management plans and provides that the Adirondack Park Agency will determine whether a proposed individual unit management plan complies with such guidelines and criteria, and

WHEREAS, the Olympic Regional Development Authority, under the authority of its management agreement with the Department of Environmental Conservation, has prepared a unit management plan for the Mt. Van Hoevenberg Intensive Use Area and has provided for public review and comment, holding a public hearing on August 26, 1996, and maintaining a public comment period which closed on September 9, 1996, and

WHEREAS, the Olympic Regional Development Authority has prepared a Final Generic Environmental Impact Statement pursuant to the State Environmental Quality Review Act and 6 NYCRR Parts 617 and 618 and filed a Notice of Completion of a Final GEIS on December 14, 1998, and

WHEREAS, the Olympic Regional Development Authority has adopted findings pursuant to the State Environmental Quality Review Act and 6 NYCRR Part 617, dated December 29, 1998, which are incorporated herein by reference, and

WHEREAS, the Olympic Regional Development Authority and Department of Environmental Conservation have requested the Agency to determine whether the Mt. Van Hoevenberg Intensive Use Area Unit Management Plan complies with the guidelines and criteria of the Adirondack Park State Land Master Plan, and

WHEREAS, the Adirondack Park Agency has reviewed the draft plan,

NOW, THEREFORE, BE IT RESOLVED that the Adirondack Park Agency determines the Mt. Van Hoevenberg Intensive Use Area Unit Management Plan:

a. contains an inventory, at level of detail appropriate to the area, of the natural, scenic, cultural, fish and wildlife (including game and non-game species) and other appropriate resources of the area and an analysis of the area's ecosystems;

b. contains an appropriate inventory of all existing facilities for public or administrative use;

c. contains an appropriate inventory of the types and extent of actual and projected public use of the area;

d. contains an appropriate assessment of the impact of actual and projected public use on the resources, ecosystems and public enjoyment of the area with particular attention to portions of the area threatened by overuse;

e. contains an appropriate assessment of the physical, biological and social carrying capacity of the area to support the plan's conclusion that present and projected uses are within the physical, biological and social carrying capacity of the area;

f. contains a detailed statement of management objectives for the protection and rehabilitation of the area's resources and ecosystems and for public use of the area consistent with its carrying capacity;

g. contains the administrative actions and minimum facilities necessary, on a site by site basis, to attain the stated management objectives;

h. contains a schedule for achievement of management objectives and general recommendations, and

BE IT FURTHER RESOLVED, that the Mt. Van Hoevenberg Intensive Use Area Unit Management Plan complies with the guidelines and criteria of the Adirondack Park State Land Master Plan including the "Guidelines for Management and Use of Intensive Use Areas," and

BE IT FURTHER RESOLVED, the Adirondack Park Agency agrees with, and therefore, adopts as its own, the Findings Statement issued by the Olympic Regional Development Authority on December 29, 1998, as attached hereto; and

BE IT FINALLY RESOLVED, that the Adirondack Park Agency authorizes its Executive Director to advise the Commissioner of Environmental Conservation and the President/Chief Executive Officer of the Olympic Regional Development Authority of the Agency's determination that the Mt. Van Hoevenberg Intensive Use Area Unit Management Plan complies with the guidelines and criteria of the Adirondack Park State Land Master Plan after January 16, 1999, provided there are no substantive comments on the Final Generic Environmental Impact Statement which require further Agency consideration.

Ayes: Richard H. Lefebvre, Chairman; Members Eleanor F. Brown, Frank Mezzano, Katherine O. Roberts, and Barbara Sweet; Designee Stuart Buchanan, Department of Environmental Conservation; Designee Roger Swanson, Department of State

Nays:

Abstentions:

Absent: Member James C. Frenette; Designee Jeffrey Magliato, Department of Economic Development

CWS:nmh:csz

Preliminary Homologation Report - Lake Placid

draft

Assessment Visit: August 16 - 17, 1994

Inspector - Al Maddox

Assistant Inspector - Guy Laviolette

22 September 1994

Homologation Standards Process:

Lake Placid has been designated by the USSA as a willing host for World Cup Races in 1996. Since 1992 World Cup sites have been required to meet minimal technical specifications that will insure a safe competition, a physical and tactical challenge suited to today's elite racers and an infrastructure that can support the needs of the teams, the media and the spectators.

The homologation process has been established to provide a collaborative effort among local organizers and F.I.S. appointed inspectors. Together they share a common objective of maximizing the site's capability in order to deliver the services noted above.

Changes In Cross Country Skiing:

Since 1980 when Lake Placid hosted a very successful Olympic Winter Games, the sport of cross country skiing has undergone significant changes.

- The emergence of a new technique "skating" or Free Technique has dramatically affected the required quality of surface preparation and the standards for minimum widths of trails.

- Relay events now use both techniques in their format, 2 legs Classic and 2 legs Free. These mass start formats also promote pacing strategies that impact on the course design considerations for safety and fair play.

- Pursuit start races were introduced most recently to improve spectator appeal and to determine a combined winner in both techniques. This exciting format can easily put sixty to seventy racers on the course within 5 minutes of the start. A well designed pursuit course should keep the spectator involved often as the course loops back through or near the stadium in order to maximize spectator appeal.

- Speed and more speed has become the focus of a high tech skiing and waxing industry. The effect of new materials and manufacturing technology combined with better training

programs continues to place a faster skier on the race course. The corners on the down hills that were skiable 10 years ago may now require redesign or significant banking in order to provide a safe descent.

- An increase in the number of ski nations especially with the breakup of the Eastern Block has resulted in larger race entries at many of the of World Cup Circuit events. A maximum of 100 has been set for the time being but even that can be difficult for narrow trails and small stadiums.

- New requirements for prize money (12000 sf per race) and the competition for equipment endorsments further necessitate that race courses present a fair finish with separated lanes in order to minimize interferences, intentional or otherwise.

In another 10 years there are sure to be more changes. Our race courses that are suitable today will require upgrading again. It is important to recognize as site developers that cross country skiing will remain dynamic as it matures in the North American market and as a result, competition facilities that wish to remain at the forefront will need to upgrade and improve their services in a timely manner.

Lake Placid Site: General Characteristics

Although some specific recommendations will follow I would like to say at the outset that the quality of the original trail construction has served the organizers well. The system of trails are aesthetically pleasing and very skiable. They offer adequate flexibility and a range of difficulty levels. If they were to be used ~~with~~ for Classical Technique ski races only there would just be a need for minor changes.

Concerns with the Proposed 30 & 50 km. Courses:

1. The distribution of major climbs (A climbs) is a problem on the courses as they were proposed. (FIS ICR. section 313 provides some general guidelines). Essentially the periods of intensive work load are not distributed adequately along the course to allow for a rest/work cycle. This imbalance of heavy workload occurring in close proximity produces a corresponding imbalance with sections that are largely too easy with extensive undulating and downhill sections . The terrain is capable of supporting a well balanced design. An "A Climb" should be available in all courses within the

first 2 km.

2. The present trail width is only adequate for classical races. Free technique (skating) requires a minimum of 4 m. of prepared width. This is paramount in the uphill sections to allow passing without interference. There are a number of sections which will need to be cut back an additional meter (more if relays are desired in the future).
3. The finish track and lap track overall width is also too narrow. World Cup courses must provide a 10 m. wide finish lane for the final 100 m. and it is recommended to be extended 200 m. if possible. This permits 3 finish lanes, each 3 m. wide to be set down for the final 100-200m sprint. The current stadium layout is restrited by the overhead foot bridge which does not permit very much flexibility to occur on races that require a lap track through the stadium.
4. The height and width of the tunnels that provide access to the trails on the north side of the entrance road is totally inadequate and presents a safety hazard. The inability to mechanically prepare those sections of track under the roadway is an additional deterrent towards using that terrain.
5. The available terrain on the north side of the road does not currently provide options to include an "A Climb". It does have the necessary height difference to support at least one 30-35m climb (telemark area).
6. The lack of a glide/wax test area must be addressed.

PRELIMINARY RECOMMENDATIONS REGARDING 1996 WORLD CUP

Based on my brief visit to the site and regarding the tight timelines that a 1996 World Cup presents, the following options need to be discussed and explored further.

1. Secure a commitment from the World Cup committee that the event be carried out in the classic style. If not you will need to address the 4 metre minimum width requirement.

2. Revise the flow of the proposed courses as discussed during our visit. If at all possible develop an A climb at the 1 K mark on the 15/16.6 K loop. This will also provide a tougher finish on the 10 K loop.

3. Propose/prepare some modifications in the finish area that will permit the final 100M to have 10M wide finish and a minimum of 4M wide lap track.

4. Provide a detailed plan view and profile for the 16.6K and 10K courses. An accurate horizontal distance measurement is needed to determine if the course lengths are within acceptable limits.

5. Provide a plan that illustrates the location of team huts, warm up tracks and wax/glide text area.

NEXT STEPS

When the above points are addressed I will attempt to homologate the 10K loop as a 10K and a 30K course, if the distribution of climbs is reasonable. In the case of the 16.6K loop I had hoped it could be homologated as 15K and 50K. However at this time I believe the hill distribution will be too far off the standard for a 15K. I remain hopeful that it will be acceptable as a 50K.

RECOMMENDATIONS FOR LONG TERM BENEFITS

1. Plan for the development of at least three 5K courses that can be homologated to today's standards (MT approximately 180M). These courses must be prepared to a width of 6M so that relay events and pursuit style competitions can be hosted on the site. These events are the crowd pleasers and are essential to securing economic benefit from an enthusiastic spectatorship.

2. Replace the underpass structure with a structure that can provide for 6M wide ski surfaces under the road in each direction. 20'

3. Consider the relocation of the stadium so that it is closer to the challenging terrain so that the new shorter loops can take full advantage of the best (hilly) terrain.

4. A bridge (or two) will need to be considered near the stadium in order to permit good flow so that the three 5K courses could be linked together to form a 15K continuous course.

5. If the stadium remains where it is then it will definitely need to be widened in order to accomodate the proper finish, lap lane and relay start standards. Any change made in preparation for the World Cup should also be made in consideration of future needs.

I appreciate that many of these suggestions represent significant capital expenditures and the planning for future improvements needs a more indepth analysis than what I was able to perform during my short visit. I wish you well in your preparations and would welcome a visit to Thunder Bay, by any of your staff where they can review our efforts to upgrade our facility in preparation for the 1995 Nordic World Ski Championships.

2468

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Wildlife Resources Center
700 Troy-Schenectady Road
Latham, NY 12110-2400
(518) 783-3932

August 28, 1995

Richard P. Futyma
The LA Group
40 Long Alley
Saratoga Springs, NY 12866

Dear Mr. Futyma:

We have reviewed the New York Natural Heritage Program files with respect to your recent request for biological information concerning the Mount Van Hoevenberg Recreation Area, site as indicated on your enclosed map, located in the Town of North Elba, Essex County, New York State.

Enclosed is a computer printout covering the area you requested to be reviewed by our staff. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled from our files. We cannot provide a definitive statement on the presence or absence of species, habitats or natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

This response applies only to known occurrences of rare animals, plants and natural communities and/or significant wildlife habitats. You should contact our regional office, Division of Regulatory Affairs, at the address enclosed for information regarding any regulated areas or permits that may be required (e.g., regulated wetlands) under State Law.

If this proposed project is still active one year from now we recommend that you contact us again so that we can update this response.

Sincerely,

Nancy Davis Ricci

Nancy Davis-Ricci
Information Services
New York Natural Heritage Program

Enc.
cc: Reg. 5, Wildlife Mgr.
Reg. 5, Fisheries Mgr.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, New York 13045

JAN 26 1996

January 24, 1996

Mr. Richard P. Futyma
The LA Group
40 Long Alley
Saratoga Springs, NY 12866

Dear Mr. Futyma:

This responds to your letter of December 19, 1995, requesting information on the presence of endangered or threatened species in the vicinity of the Olympic Sports Complex at Mt. Van Hoevenberg, Town of North Elba, Essex County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required with the U.S. Fish and Wildlife Service (Service). Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under the Fish and Wildlife Coordination Act or other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact:

New York State Department of
Environmental Conservation
Region 5
Route 86
Ray Brook, NY 12977
(518) 897-1333

New York State Department of
Environmental Conservation
Wildlife Resources Center - Information Serv.
New York Natural Heritage Program
700 Troy-Schenectady Road
Latham, NY 12110-2400
(518) 783-3932

The Service's National Wetlands Inventory (NWI) map is not yet available for the Keene Valley Quadrangle. Any wetlands which may be impacted by the project should be identified and described by the project sponsor using methods suitable for Federal regulatory purposes.

Work in certain waters and wetlands of the United States may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the

application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without stipulations, or recommend denial of the permit depending upon the potential adverse impacts on fish and wildlife resources associated with project implementation. The need for a Corps permit may be determined by contacting Mr. Joseph Seebode, Chief, Regulatory Branch, U.S. Army Corps of Engineers, 26 Federal Plaza, New York, NY 10278 (telephone: [212] 264-3996).

If you have any questions regarding this letter, contact Kim Claypoole at (607) 753-9334.

Sincerely,

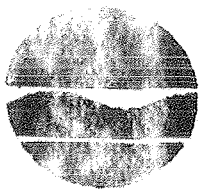
Mark W. Clough

ACTING FOR

Sherry W. Morgan
Field Supervisor

cc: NYSDEC, Ray Brook, NY (Regulatory Services)
NYSDEC, Latham, NY
COE, New York, NY
EPA, Chief, Marine & Wetlands Protection Branch, New York, NY

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233



Michael O. Flagata
Commissioner

May 3, 1996

Richard A. Persico, Esq.
Bartlett, Pontiff, Stewart & Rhodes, P.C.
Attorneys at Law
Brewster Place
53 Main Street
Lake Placid, New York 12946

RE: Response to ADK comments on the draft amendment/DGEIS Whiteface Mountain Ski Center Unit Management Plan

Dear Dick:

This responds to your request that this Department respond to certain January 9, 1996 comments made by the Adirondack Mountain Club ("ADK") on the above referenced draft UMP. The ADK letter appears to raise five Forest Preserve issues which you have asked this Department to address: (1) the selling of timber which is cut to construct constitutionally authorized trails; (2) the reopening of a gravel pit for trail reconstruction; (3) four wheel drive motor vehicle use an ORDA promotional activity; (4) trail widths; and (5) whether Article XIV and Adirondack Park State Land Master Plan ("APSLMP") discussions are necessary for each new facility being proposed by the UMP. The Department's response to each of these issues follows.

1. Selling of timber. It is my opinion that Article IV, Section 1's prohibition on the sale of timber in the Forest Preserve is applicable to timber which has been cut for the construction of new ski trails on Whiteface Mountain which are constitutionally authorized. Such timber may be used at the Whiteface Lodge for firewood, or be used for such Forest Preserve purposes as picnic tables, ranger cabins, erosion control, footbridges, and similar construction projects, whether at Whiteface or other locations within the Forest Preserve. In the alternative, such timber may be pushed off the trails, cut up and lowered to the ground so as to not constitute a fire hazard or threat to public health and safety.

2. The gravel pit. My understanding is that the use of the gravel pit was a one time occurrence to address public safety issues associated with a washed out trail, and that the pit either has been or is being regraded and restored back to its natural state. Article XIV, Section 1 of the State Constitution must obviously be considered whenever trees are cut on the Forest Preserve, and the primary case which provides guidance on cutting is The Association for the Protection of the Adirondacks v. MacDonald, 253 N.Y. 234 (1930). Dicta within that decision indicates that reasonable cutting of trees is permissible when necessary to enable the public to safely use the Forest Preserve, so long as such cutting is "immaterial," i.e., does not injure the wild forest character of the Forest Preserve. Thus, I ask that the UMP indicate that, in the future, the permissibility of tree cutting for purposes of gravel pit use will be determined on a case by case basis using the standard set forth in MacDonald and after consultation with this Department.

3. Four wheel drive vehicles. This question relates to the permissibility of a four wheel drive vehicle motor event at Whiteface Mountain for promotional and marketing purposes. I request that the final UMP indicate that in the future such an event will be scheduled by ORDA only after receiving prior written approval from the Department and the Adirondack Park Agency. Such approval will help to ensure that such an event complies with both the Department's regulations and the Agency's APSLMP.

4. Trail widths. I see no reason to revisit former Department General Counsel Phil Gitlen's February 17, 1977 memorandum titled Whiteface Mountain Ski Center - Expansion of Ski Trails. Consequently, excerpts from that opinion should be used in response to ADK's comments.

5. Discussion of Article XIV and APSLMP restrictions with respect to each new facility. We do not believe that such discussions are necessary with respect to each new facility being planned, but should rather be included only where relevant to the particular facility.

The other issues raised by ADK appear to relate to matters within ORDA's purview. I trust that the above responds to your request.

Sincerely,

John P. Cahill
General Counsel

cc: Commissioner Zagata
R. Bathrick
S. Buchanan, Reg. 5

New York State Department of Environmental Conservation
Regulatory Services
Route 86, P.O. Box 296
Ray Brook, New York 12977-0296

(518) 897-1234
(518) 897-1394 FAX

Michael D. Zagata
Commissioner

June 5, 1996

Ms. Holly E. Elmer
The LA Group, P.C.
40 Long Alley
Saratoga Springs, NY 12866

Re: Olympic Sports Complex at Mount Van Hoevenberg

Dear Ms. Elmer:

This is in response to your letters of May 8, 1996 and May 30, 1996, concerning the need for DEC permits for Ski Trail Bridge Maintenance, Trail Maintenance and Related Activity and a Snowmaking Reservoir.

As stated in previous correspondence, ORDA is a "state public corporation." Consequently, a Protection of Waters Permit pursuant to Article 15, Title 5 of the Environmental Conservation Law (ECL) would not be required to undertake the identified activities. However, measures would still have to be taken to ensure that any work conducted near a surface water will not contravene water quality standards (appropriate conditions are included in permits to prevent contravention of water quality standards).

In addition, other approvals or actions may be required by our Department related to the State Land/UMP aspects of the proposals. Therefore, by copy of this letter, I am forwarding a copy of your letters to our Natural Resources Unit for their review. Any comments or procedural requirements will be sent to you directly by that office.

Please contact me if you have any additional questions.

Sincerely,

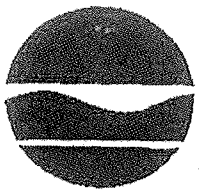
R. A. Wild

Richard A. Wild
Regional Permit Administrator

RAW/jlh

cc: R. Inslerman w/incoming letters
W. Wasilauski
R. Persico
T. Blazer

New York State Department of Environmental Conservation
Natural Resources
P.O. Box 296, Rt. 86, Ray Brook, New York 12977-0296
Phone: (518) 897-1277 Fax: (518) 897-1370



Langdon Marsh
Commissioner

February 22, 1995

Mr. Greg Stratford
ORDA
Mt. Van Hoevenberg Recreation Area
Lake Placid, NY 12946

Dear Mr. Stratford:

Approval is hereby granted to remove hazard trees as indicated on the attached map and tally sheet as part of your routine maintenance of the cross country ski trail system at the Mt. Van Hoevenberg Recreation Area.

Please keep me informed of your progress on this project. I look forward to meeting with you this spring to review projects for the coming year.

Sincerely,

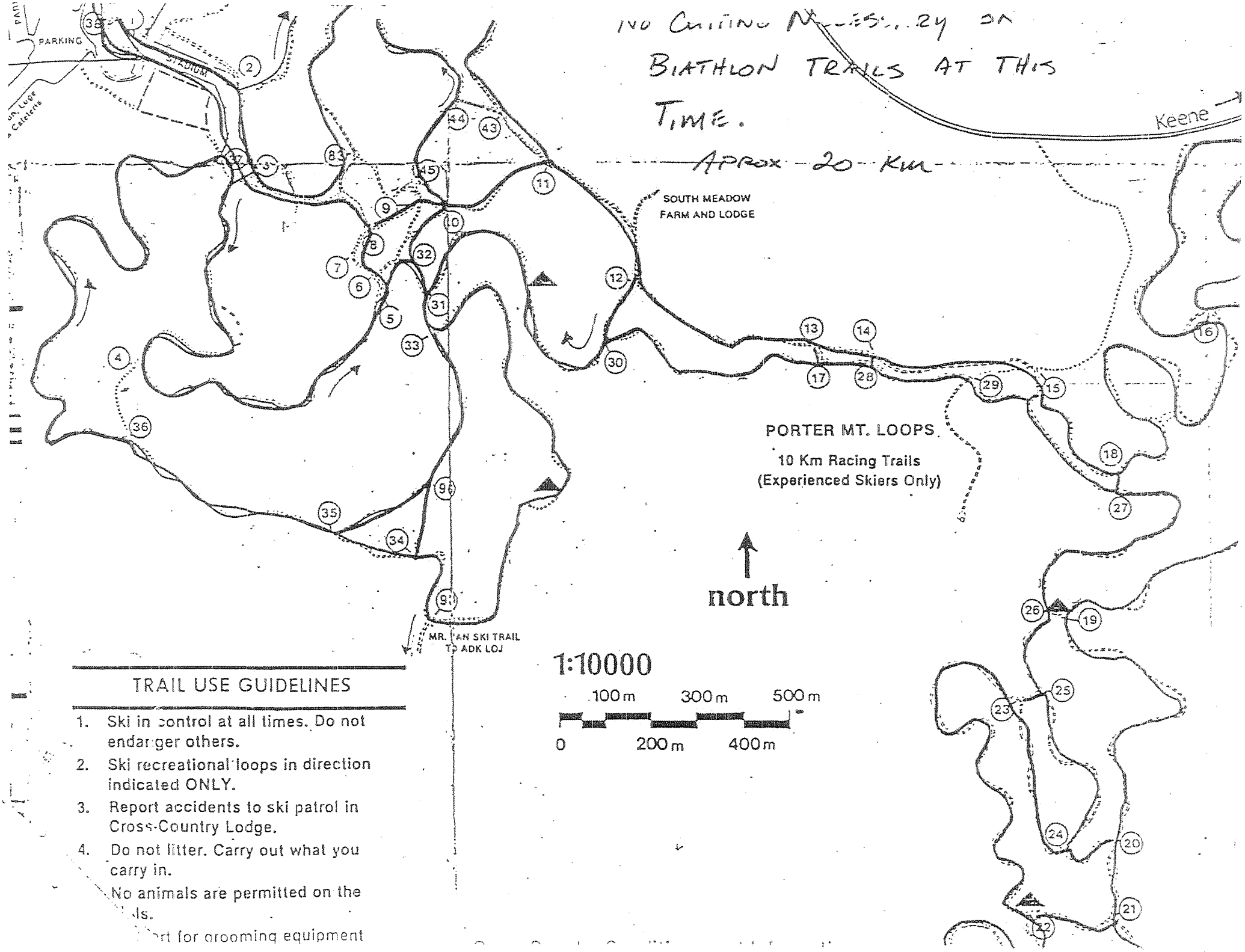
Tom

Thomas H. Wahl, CF
Regional Forester, Region 5

THW:df
Attachments

cc: D. Magurk (ORDA) w/o attach
D. Huyck w/o attach

File: ORDA Mt. Van Hoevenberg


NO CUTTING NECESSARY ON BIATHLON TRAILS AT THIS TIME.
APROX 20 KM
PARKING
STADIUM
Keene
SOUTH MEADOW FARM AND LODGE
PORTER MT. LOOPS
10 Km Racing Trails
(Experienced Skiers Only)
north
MR. VAN SKI TRAIL TO ADK LOJ
1:10000
100 m 300 m 500 m
0 200 m 400 m
TRAIL USE GUIDELINES
1. Ski in control at all times. Do not endanger others.
2. Ski recreational loops in direction indicated ONLY.
3. Report accidents to ski patrol in Cross-Country Lodge.
4. Do not litter. Carry out what you carry in.
No animals are permitted on the
ls.
rt for grooming equipment

12/15/94

	Sugar Maple	White Ash	Beech	Red Maple	Hemlock	Basswood	Yellow Birch	White Birch	Black Cherry	Aspen	Balsam Fir	Ironwood	Striped Maple	Red Oak	Red Spruce	Mountain Ash	Hard Maple
3																	
4			7				1				1		1				
5	3		7												1		5
6	10		23				1	1		1	2		1		1		
7	8		5							1	1				1		
8	6		20				5		1	4	2				4		1
9	4		4				5			2	1				1		
10	13		7				5			3	3				8		1
11	2		4				3		1	1	1						
12	15		8				3	1		4	2				1		1
13	5						1			1					1		
14	9		4				5		1	3	1				3		1
15	4		3				2			2							2
16	1		3														
17	3		3														
18	7		2				3		2		1						
19	3														3		3
20	6		7				1		1						1		
21	1		1														1
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24	8		3				2		1								
25																	
26	2																
	1																
	1																
			113				37	2	7	22	14		2		25		15

[illegible] Point Total = [illegible] [illegible] conditions and information

New York State Department of Environmental Conservation
itural Resources
. O. Box 296, Rt. 86, Ray Brook, New York 12977-0296
Phone: (518) 897-1277 Fax: (518) 897-1370

Langdon Marsh
Acting Commissioner

June 30, 1994

Mr. Charles Scrafford
Supervisor of Regional Planning
Adirondack Park Agency
P.O. Box 99
Ray Brook, NY 12977-0296

RE: Mini Stadium Project at Mt. VanHoevenberg Recreation Area

Dear Chuck:

Attached is a proposal to erect a bridge in the "Mini Stadium" at trail junction number 37.

The need is twofold. First, public safety, involving a high speed intersection, is at risk. Secondly, a shorter loop course could result in certification for national and international races, a use consistent with the State Land Master Plan.

Would you please review this proposal and make a determination as to whether this activity falls within the scope of the current Unit Management Plan for this area.

I appreciate your attention to this request.

Sincerely,

Tom

Thomas H. Wahl
Regional Forester

THW:df

cc: D. Huyck
G. Stratford - ORDA

File: ORDA - Mt. VanHoevenberg

LIC HEARING (DRAFT SUPPLEMENTAL EIS)

REGION 5—The Warren County Board of Supervisors, as lead agency, has accepted a draft supplemental EIS on the proposed **Town of Queensbury Sewer Project.**

A public hearing on the draft supplemental EIS will be held on **November 4, 1994** at 9:00 a.m. at Supervisor's Board Room, Warren County Municipal Center.

The action involves the Warren County Sewer Project which discusses alternative solutions for wastewater management in the North Queensbury area. The project is located in the Town of Queensbury, Warren County.

CONTACT: Fred Austin, P.E., Superintendent, Warren County Dept. of Public Works, 261 Main Street, Warrensburg, New York 12885, (518) 237-3373.

NEGATIVE DECLARATION

REGION 5—DEC, as lead agency, has determined that the proposed **Mini Stadium Project at Mt. Van Hoevenburg** will not have a significant environmental impact.

The action involves the construction of a bridge on the cross country trail system at Junction 37 at the Mt. Van Hoevenburg Recreation area by the Olympic Regional Development Authority. The project will involve the removal of 28 trees on .01 acres. The project is located on Mt. Van Hoevenburg cross country ski trail, Town of North Elba, Essex County.

CONTACT: Thomas H. Wahl, NYS DEC, Route 86, Ray Brook, NY 12977, (518) 891-1280.

REGION 5—The Town of Wilton Town Board, as lead agency, has determined that the proposed **rezoning-creation of a new zoning district CRT** will not have a significant environmental impact.

The action involves the rezoning of 23.9 acres on Washburn Road known as the Hiram Hollow Regeneration Corporation from R-2 to CRT, Composting, Recycling and Transfer District to provide for the location of facilities for Composting Facility, Recyclable Handling & Recovery Facility, Transfer Station and Construction and Demolition Debris Processing Facility. The project is located on Washburn Road, Town of Wilton, Saratoga County.

CONTACT: Keith Manz, Town Engineer, Wilton Town Hall, 20 Traver Road, Gansevoort, NY 12831, (518) 581-8581.

OLYMPIC
Regional Development Authority

Cross-Country & Biathlon
Bobsled & Luge Complex

6/21/94

Mr. Thomas Wahl
Regional Forestry Manager
Department of Conservation
Raybrook, NY 12977-0269

Dear Tom:

On behalf of the Olympic Regional Development Authority, I seek permission to erect a bridge in the "Mini Stadium" at trail junction number 37. This project would require the cutting of twenty-eight (28) trees and the use of heavy machinery to back-fill the erected bridge abutments.

There are two reasons for this request: First, there is a safety risk which needs to be corrected. As the trail network is laid out, intersection number 37 (see map) is not acceptable as it is a high speed trail crossing. The second reason is the course homologation (certification) for national and international races may hinge on our ability to run shorter loop courses. Without this bridge we may not be able to hold these type events in the future.

Please find enclosed a letter from John Caldwell. John is considered a leading authority on course homologation and is on the board of directors for the United States Ski Association.

If you have any questions about this project or need any additional information please let me know.

Best wishes,

Greg Stratford
Cross-Country/Biathlon Director

cc:Jay Rand
Dave Magurk

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF LANDS AND FORESTS

Forest PReserve Project Work Plan
for
Construction of New Facilities and the Expansion or
Modification of Existing Facilities

FY 1994 - 95

Region/Facility	Project Title & Location	Land Classification	Project No.
5/	Mt. Van Hoevenberg cross country ski trails.	Special use.	1994#2xc

Description & Justification (Attach Sketch Map Showing Location and other Required Supporting Documents):

We would seek permission to build a bridge on the cross country trail system in order to avoid an existing hazard of a high speed trail intersection. (see attachment for location)

Description of Use of Motorized Equipment or Motor Vehicles, if any:

Chain saw, bulldozer, excavator, dumptruck, pick-up truck, drill generator

Greg Stratford — 6/21/94
Prepared By: — Date:

APPROVALS OR DISAPPROVALS

Date: — Comments:

Regional Forester

Date:

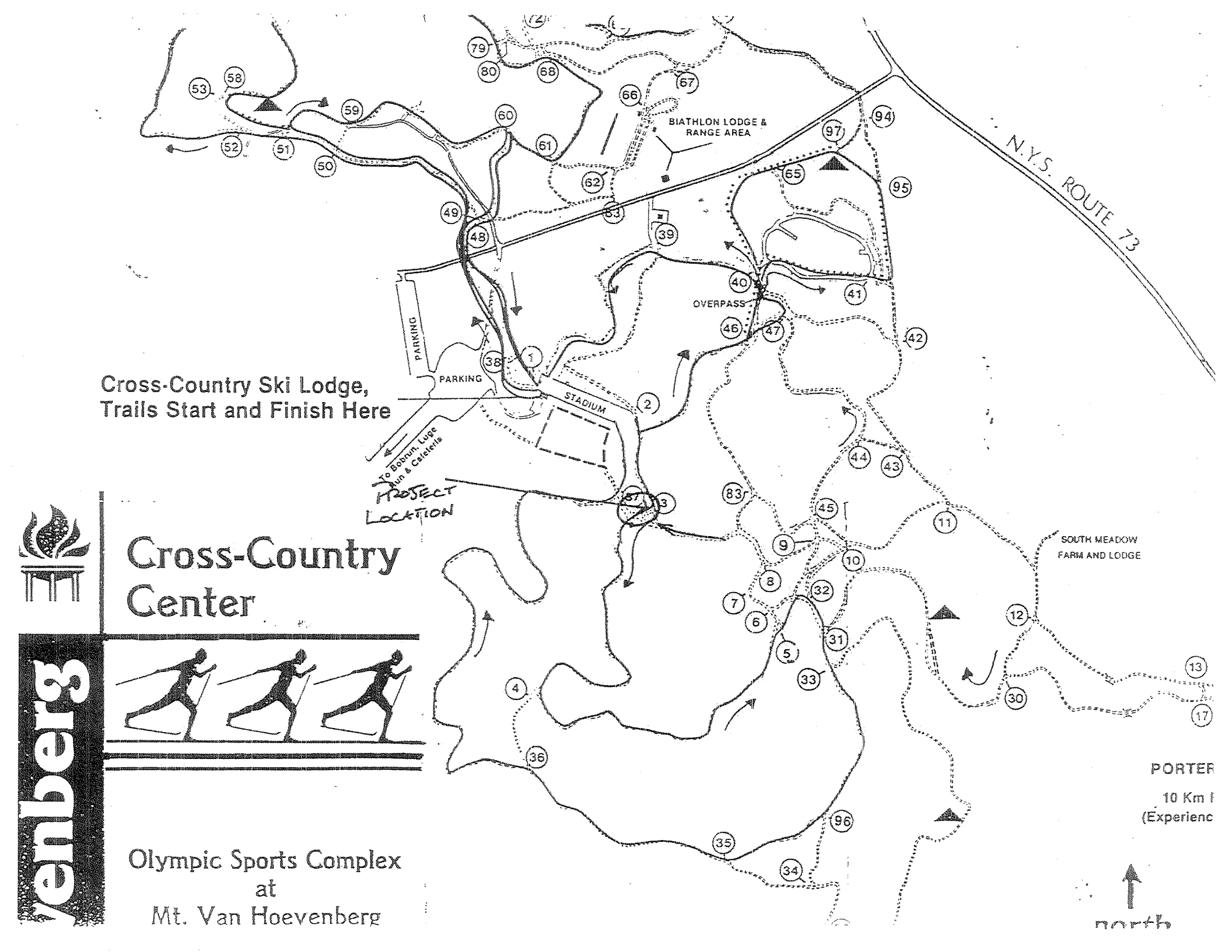
Regional Supervisor for
Natural Resources

Date:

Regional Director or
Division Director

Date:

Director of Lands & Forests


Cross-Country Ski Lodge,
Trails Start and Finish Here
PARKING
PARKING
STADIUM
To Bobrun, Luge
Run & Cafeteria
PROJECT
LOCATION
BIATHLON LODGE &
RANGE AREA
OVERPASS
N.Y.S. ROUTE 73
SOUTH MEADOW
FARM AND LODGE
PORTER
10 Km
(Experienc
north
Cross-Country
Center
Olympic Sports Complex
at
Mt. Van Hoevenberg

LENGTH OF TRAIL 62 METERS

	Sugar Maple	White Ash	Beech	Red Maple	Hemlock	Basswood	Yellow Birch	White Birch	Black Cherry	Aspen	Balsam Fir	Ironwood	Striped Maple	Red Oak	Red Spruce	Mountain Ash	Hard Maple
3			1								2						
4	1														1		
5								1			3						
6																	
7											3						
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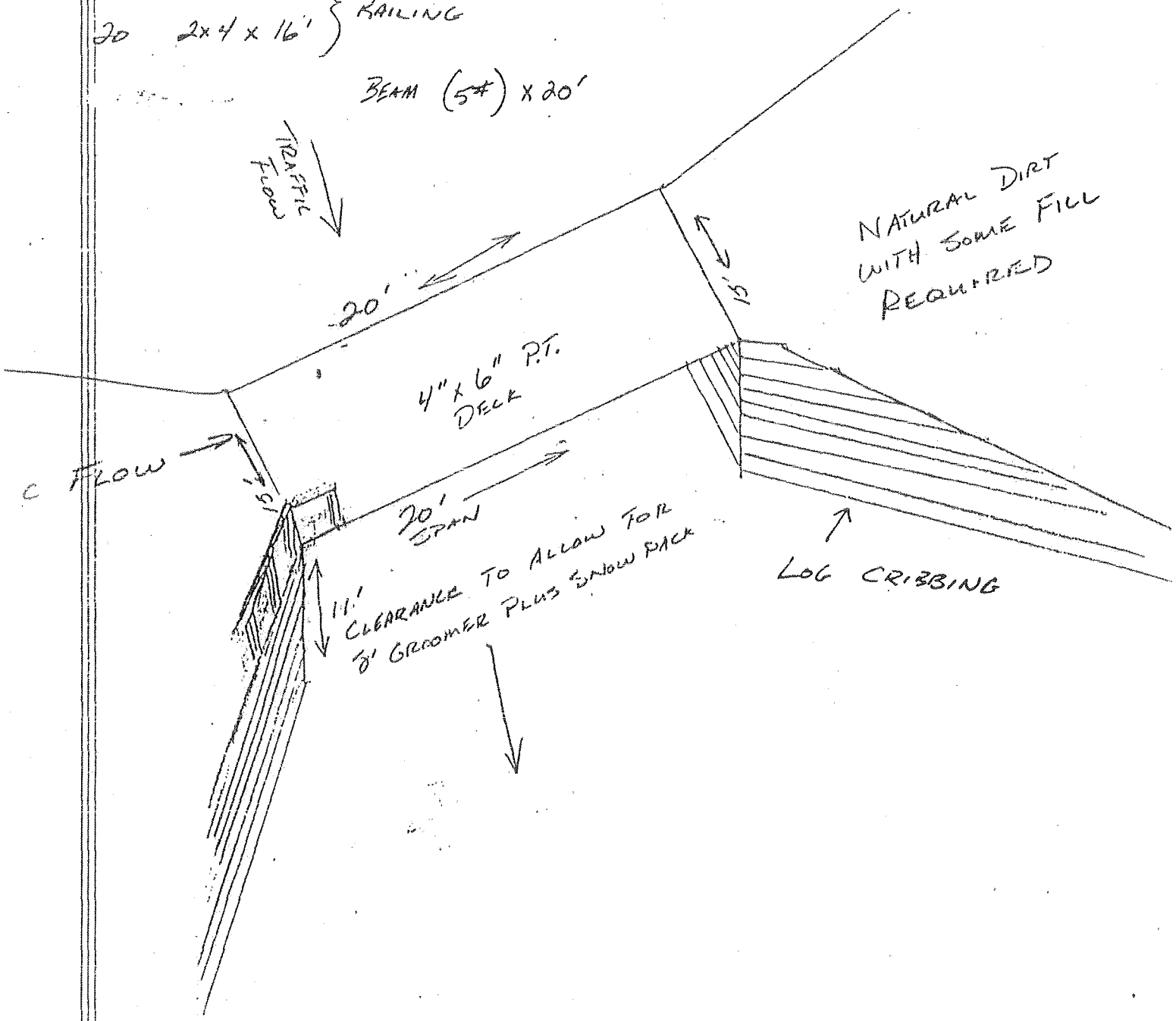
26																	
27																	
28																	
TOTALS	5		2				6	2			11				2		

BEAMS — USED TELEPHONE POLES

35 4x4 x 6' } RAILING
20 2x4 x 16' }

BEAM (5~~#~~) x 20'



7 Nov 89

Mr. Ray Pratt
ORDA-Box 932
Lake Placid, NY 12946

Dear Ray,

I met with Greg Strafford on 4 Nov. at the cross-country area in connection with trail homologation for the US Nationals next year and other races in the future. Here is my report.

Two immediate questions were raised by Greg.

First, Greg wants to extend the length of the Ladies 5 km. loop so it is 119 meters above recommended length. (Intsead of finishing in the stadium on the first approach, the racers would ski in the direction of the pumphouse loop and return on a slight uphill through the finish.) The reasons are well justified, ie., to give the timers a better shot at seeing the finishers and to give the spectators an added bit of excitement by seeing the racers one extra time in the stadium area. While this makes the course a bit too long, it also brings some of the other loops closer to exact lengths.

I approved this idea. I'm all for it.

Second, Greg wondered if you could use a course which crossed itself out near junction #3, at the bottom of the Main Street hill. The intentions are good in that Greg realizes the modern shift in courses toward shorter loops, which bring the competitors in view of the spectators more often and, incidentally, generally make trail preparations a bit easier.

I could not approve this design. No organizers I know of during the last 20 years, or more, have used trails that cross themselves. They present too many problems.

We looked at the specific site at the foot of Main Street hill and I was surprised to see the present set-up. You have a junction where skiers who attain very high speeds on the Main Street downhill head into the area where other skiers, coming fresh from the stadium area, are also going on a gentle downhill. The angle with which the the stadium skiers approach this area is not a good one because they are not easily aware of the traffic on their left. You really have some potential collisons there, especially among the recreational skiers who, in general, do not have the same skills as racers and who usually ski the courses without checkers, officals, or course police around.

The solution to this problem is clear. You need a bridge, or an overpass, for the skiers coming down Main Street. The skiers coming from the stadium could ski under it.

The advantages of an overpass are quite important. You would have the option of running many more shorter loops, which are really coming into vogue. I think this would improve your chances of procuring important bids in the future.

You also would get rid of what I consider a dangerous area for all skiers.

We covered one other point with regard to the National 50 Km Race. I recommended using the 10km and 15 km loops,which have much in common, twice each instead of the 25 km that has been used for your tour race. I would further recommend that the order of loops be 15-10-15-10. (Other combinations are certainly possible and permissible.)

The reasons for this recommendation are as follows: Short loops (although some skiers might not consider 15 km a short loop!) are the order of the day and this configuration would ease your overall preparation duties and race duties (food stations, etc.) It also makes it easier for coaches, spectators and press to cover the race as well.

I enclose a bill for car mileage.

Good luck with the Nationals next season.

Sincerely,

John Caldwell
Rte 4, Box 830
Putney, Vt. 05346

cc: Jon Elliott, Greg Strafford, Pete Johansen

New York State Department of Environmental Conservation
Fish Management
P.O. Box 296, Rt. 86
Ray Brook, NY 12977
Phone: (518)897-1333 Fax: (518)897-1370

Michael Zagata
Commissioner

July 24, 1996

Holly Elmer
The LA Group
40 Long Alley
Saratoga Springs, NY 12866

Dear Ms. Elmer:

I have reviewed the June 1996 draft of the Mount Van Hoevenberg Unit Management Plan. The draft proposed that water withdrawals not reduce flows in North Meadow Brook below 1.8 cfs, the MA7CD2 flow (pages 60 to 62). Region 5 Fisheries agrees with that threshold, and supports constructing a storage reservoir for snowmaking water. However, additional comments are needed concerning how the minimum stream flow will be maintained. Also, my site visit revealed a flooding/erosional concern.

As proposed, the minimum flow would be maintained by "setting the snowmaking water intake invert at the water level representative of a flow rate of 1.8 cfs" (page 61). A cement weir immediately downstream of the intakes makes that approach reasonable if the following issues are addressed:

1. **The weir crest needs to be kept clear of debris and ice. During water withdrawals a minimum of one inspection and cleaning during each 8 hour work shift** would keep each shift of staff aware of the responsibility. **Cleanings should be more frequent if accumulation is rapid.** Ice and debris on the crest would change the stage/discharge relation, allowing withdrawals at stream flows less than the threshold. Considerable beaver activity was noted during my visit to the site and may contribute to rapid accumulation of debris.

2. **A permanently sized, low flow notch should be constructed in the weir to increase accuracy at stream flows near the threshold value.** The concern for accuracy is based on the width of the weir. At about 10 feet wide (I neglected to measure the width during my visit, but recall it to be roughly that wide) a small error in elevations or a small quantity of debris has a large impact on the minimum flow. For example, only about a 0.6 inch error in elevation could reduce the minimum flow to 0.9 cfs, half the intended flow.

Less than about 2.0 inches of error or debris would allow complete dewatering of downstream reaches. Thus the weir should include a narrow notch sized to cause a substantial change in elevation as flows fluctuate near the 1.8 cfs threshold. A notch (open on top) is probably easier to keep clear of debris than would be a pipe or other enclosed structure.
"Permanently sized" refers to constructing the notch so its dimensions are not altered by stop logs. Present procedures include adding stop logs to the weir during the snow making season. Changes in the stop log dimensions could alter the minimum flow. If seasonal removal of stop logs is necessary, the low flow notch should be a fixed structure on one part of the weir with stop logs an option on adjacent portions.

3. The weir and its wing walls cause an unnatural constriction in the stream channel. Reportedly during the October 1995 floods the stream flowed around the structure and severely eroded the road leading to the weir. **The susceptible portion of that road should be formed into an "auxiliary spillway":** The low portions where flood flows are likely to be channeled should be hardened to resist erosion. Filter fabric and rock (or an other non-erodible material) should cover the surface and side slopes of the road.

Sincerely,

Bill Schoch

William F. Schoch
Senior Aquatic Biologist

WFS/tmc
cc: L. Strait, T. Wahl
File: UMP, Mount Van Hoevenberg

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643

APR 2 9 1996

April 23, 1996

Janette Johnstone
Historic Preservation Specialist
the LA group
40 Long Alley
Saratoga Springs, NY 12866

RE: 96PR0718/DEC
Olympic Facilities Improvements
Mt. VanHoevenberg, North Elba
Essex County

Dear Ms. Johnstone:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Parks, Recreation and Historic Preservation Law, Section 14.09.

Based upon this review, it is the OPRHP's opinion that your project will have No Impact upon cultural resources eligible for inclusion in the State and National Registers of Historic Places. This No Impact determination is given with the understanding that the proposed project will in no way impact the extant features associated with the the original c.1929 bobsled run. If the scope of the project changes to involve this historic feature, further consultation with our office will be necessary to evaluate the significance and integrity of the remaining portion of the c.1929 bobsled run.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director, Historic Preservation
Field Services Bureau

RLP:cm

OLYMPIC
Regional Development Authority

Cross-Country & Biathlon
Bobsled & Luge Complex

15

July 13, 1998

Mr. Thomas Martin

Regional Forestry Manager

Department of Environmental Conservation

Raybrook, NY 12977-0296

Dear Tom:

On behalf of the Olympic Regional Development Authority, I would like permission to cut down 99 standing *dead* trees located throughout the 50 kilometer trail network at Mt. Van Hoevenberg. All the trees are dead or dying and all pose a threat of falling onto the trail system.

All work is to be performed by Olympic Authority employees. Soil disturbances (if any) will be immediately attended to. All the trees will be left on the forest floor to decay and where possible , will be chipped on site.

Please find attached, a completed routine maintenance form as well as a tally sheet with species and diameter.

If you should need additional information, please give me a call. Thank you in advance for your help with this project.

Sincerely,

Greg Stratford
Cross Country/Biathlon Director

TREE COUNT FOR ALL 32 MILES OF TRAIL AS OF 7/12/94.

	Sugar Maple	White Ash	Beech	Red Maple	Hemlock	Basswood	Yellow Birch	White Birch	Black Cherry	Aspen	Balsam Fir	Ironwood	Striped Maple	Red Oak	Red Spruce	Mountain Ash	Hard Maple
3			1								4				1		
4							II			1	6				III		
5	III		1				1				II				5		
6	1										5				II		
7	1								1								
8			III				III			II	II						
9			II								II						
10			5														
11										II	III				1		
12			II								III						1
13															II		1
14	1							II			III						
15															1		
16			III												III		
17	II																
18			1					II									
19									II								
20			1														
21			5								II						
22	III		III												1		
23			5														
24			III				1				II						
25										1							
26																	
27																	
28																	
TALLY	12		35				7	3	3	6	35				19		

REMARKS:

APPLICATION FOR ROUTINE MAINTENANCE PROJECTS ON FOREST PRESERVE LAND

GION: 5

PROJECT #:

PPLICANT'S NAME:
YMPIC REGIONAL DEVELOPMENT
THORITY

DATE OF APPLICATION:
7/13/98

DDRESS:

CONTACT PERSON: GREG STRATFORD

S DEC
oute 86
y Brook, NY 12977-0296

OCATION OF PROJECT(S): MT VAN HOEVENBERG CROSS COUNTRY TRAILS

SCRIPTION OF PROJECT(S): (Attach additional sheets if necessary)
CUT 99 DEAD HAZZARD TREES ON THE MT. VAN HOEVENBERG CROSS COUNTRY TRAILS.

HO IS TO DO WORK:
OLYMPIC AUTHORITY EMPLOYEES

STIMATED STARTING DATE:
UPON APPROVAL

ESTIMATED COMPLETION DATE:
NOVEMBER 98

PPLICANT'S SIGNATURE: Greg Stratford

enior Forester

OJECT ACTION:

PROVED: ✓ DISAPPROVED: ____ Thomas D. Martin
REGIONAL FORESTER

July 15, 1998
DATE

MARKS:

Appendix B

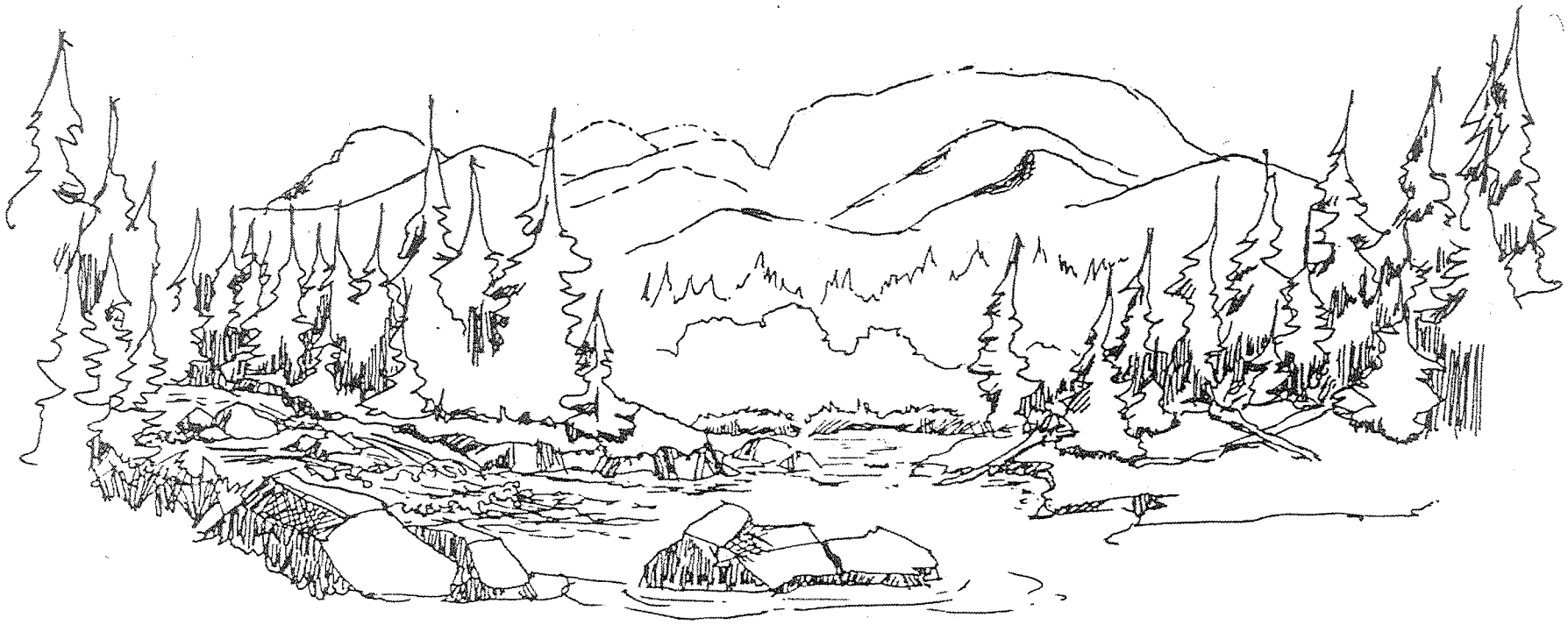
Soil Survey

SOIL SURVEY OF LAKE PLACID AREA NEW YORK

USDA Soil Conservation Service

Syracuse, New York

June, 1978



RUGGED PEAKS...AND FRAGILE SOILS

To man, the high peaks of the Adirondack Mountains present a majestic and awesome appearance. But these rugged mountains are fragile when compared with other ecological systems. On the steep slopes the soil is easily eroded, especially at high elevations where it is only an inch deep.

This scenic region will be the setting for the 1980 Winter Olympic Games. In planning for the event, the Olympic Committee and the local people have given special attention to safeguarding the irreplaceable resources of these old and valued mountains.

As part of the comprehensive planning, local governments asked the USDA Soil Conservation Service (SCS) to survey soils in an area comprising 45,000 acres in the vicinity of the Olympic Games. The information will be used to determine suitable building sites and measures needed to control erosion during construction.

The Lake George-Lake Champlain Regional Environmental Management Council provided SCS with part of the funds needed to conduct the soil survey and to publish the report.

THE SURVEY

This survey contains three separate soils maps which make up the soil survey of the Lake Placid Area, New York. The maps are broken down into the Wilmington Part, Ray Brook Part, and Lake Placid part. Five tables summarize ratings of soil potential for specified uses for all three maps.

Table 1 - Engineering Properties
Table 2 - Building Site Development
Table 3 - Recreational Development
Table 4 - Construction Materials
Table 5 - Sanitary Facilities

EXPLANATION OF SOIL RATINGS

TABLES 1, 2, 3

Limitations for soils in these tables according to use are listed as *slight*, *moderate* or *severe*. One or more chief limitations for the use specified are listed if the limitations are rated *moderate* or *severe*.

Slight: a rating of slight indicates that the soil has few or no limitations and is considered desirable for the specified use.

Moderate: a rating of moderate indicates that a moderate problem is recognized but can be overcome or corrected.

Severe: a rating of severe indicates that the use of the soil is seriously limited by one or more hazards or restrictions that are difficult and costly to overcome. A rating of severe for a particular use does not imply that a soil so rated cannot be put to that use.

TABLE 4

The suitability of each soil as a source of roadfill, sand, gravel and topsoil is indicated in table 4 by ratings of *good*, *fair* or *poor*. The texture, thickness and organic-matter content of each soil horizon are important factors in rating soils for use as construction materials. Each soil is evaluated to the depth observed, generally about six feet.

Roadfill is soil material used in embankments for roads. Soils are evaluated as a source of roadfill for low embankments, which generally are less than six feet high and less exacting in design than high embankments. The ratings reflect the ease of excavating and working the material and the expected performance of the material where it has been compacted and adequately drained.

Soils rated *good* are coarse grained. They have low shrink-swell potential, low potential frost action, and few cobbles and stones. They are at least moderately well drained and have slopes of 15 percent or less. Soils rated *fair* have a plasticity index of less than 15 and have other limiting features, such as moderate shrink-swell potential, moderately steep slopes, wetness or many stones. If the thickness of suitable material is less than three feet, the entire soil is rated *poor*.

Sand and *gravel* are used in great quantities in many kinds of construction. The ratings in table 4 provide guidance as to where to look for probable sources and are based on the probability that soils in a given area contain sizable quantities of sand or gravel. A soil rated *good* or *fair* has a layer of suitable material at least three feet thick, the top of which is within a depth of six feet. Fine-grained soils or soils with excess humus are not suitable sources of sand and gravel and are rated *poor* or *unsuited*.

Topsoil is used in areas where vegetation is to be established and maintained. Suitability is affected mainly by the ease of working and spreading the soil material in preparing a seedbed and by the ability of the soil material to support plantlife.

Soils rated *good* have at least 16 inches of friable loamy material at their surface. They are free of stones and cobbles, are low in content of gravel and have gentle slopes. They are low in soluble salts that can limit or prevent plant growth. They are naturally fertile or respond well to fertilizer. They are not so wet that excavation is difficult during most of the year.

Soils rated *fair* are loose sandy soils or firm loamy or clayey soils in which the suitable material is only eight to 16 inches thick or soils that have appreciable amounts of gravel, stones or soluble salts.

Soils rated *poor* are very sandy soils and very firm clayey soils; soils with suitable layers less than eight inches thick; soils having large amounts of gravel, stones, or soluble salt; steep soils; and poorly drained soils.

TABLE 5

In addition to ratings of *slight*, *moderate* and *severe* (as explained for table 1, 2, 3), this table also uses ratings of *good*, *fair* and *poor* for soil suitability applying to daily cover. These good, fair and poor ratings respectively mean about the same as the terms slight, moderate and severe.

Table 1 - Estimated Soil Properties Significant to Engineering

Soil Name and Map Symbol	Depth to Bedrock	Depth to Seasonal High Water Table	Depth from Surface of Typical Profile	USDA Texture	Unified Classification	Coarse Fraction Greater Than 3"	Coarse Fraction Greater Than 10"	Potential Frost Action	Permeability	Available Moisture Capacity	Reaction	Erosion K	Erosion T	Corrosivity Steel	Corrosivity Concrete	Hydrologic Group
	Feet	Feet	Inches						Inches per hr.	Ins./in. on soil	pH					
Adams: 19A, 19B, 19C, 19D, 19EF	>5	>6	0-11	loamy fine sand	SM	0	0	low	6.0-20.0	0.05-0.10	4.5-5.0	.17	5	low	high	A
			11-17	loamy sand	SP-SM	0	0		6.0-20.0	0.04-0.08	4.5-5.0	.17		low	high	
			17-60	sand	SP-SM	0-1	0		> 20.0	0.03-0.04	4.5-5.5	.17		low	high	
Aeric Haplaquods: 101BC, 158A	>5	0-1.5	0-14	gravelly fine sandy loam	SM;ML	10-20	3-10	high	0.6-6.0	0.06-0.28	4.5-5.5	.17	3	low	high	C
			14-24	gravelly sandy loam	SM	5-15	0-1		0.6-6.0	0.05-0.16	5.0-5.5	.43		low	high	
			24-60	stony loamy sand	SM	5-15	0-5		2.0-6.0	0.04-0.15	5.0-5.5	.43		low	high	
Becket: 80B, 80C, 80DE	>5	2	0-26	sandy loam; gravelly fine sandy loam	SM	5-15	0-5	moderate	0.6-2.0	0.08-0.16	4.5-5.0	.24	3	low	moderate	C
			26-60	gravelly loamy sand	GP-GM	5-15	0-3		0.06-0.6	0.03-0.09	5.0-5.5	.17		low	moderate	
Berkshire: 97A, 97B, 97C, 97D, 97E	>5	3-6	0-15	fine sandy loam	SM	0-10	0-2	moderate	0.6-6.0	0.07-0.20	4.5-5.5	.20	3	low	high	B
			15-32	sandy loam	SM	0-10	0-5		0.6-6.0	0.05-0.14	4.5-5.5	.17		low	high	
			32-60	gravelly loamy sand	SM	5-15	0-10		0.6-6.0	0.02-0.12	4.5-5.5	.17		low	high	
Beseman: "86"	>5	0	0-30	organic material	Pt.	0	0	high	2.0-6.0	0.55-0.65	3.6-5.0	-	-	high	high	D
			30-60	fine sandy loam	SM;ML	0-2	0		0.2-0.6	0.11-0.18	3.6-7.3	-	-	high	high	
Borosaprists-Humaquepts: 93																
Borosaprists part	>5	0	0-60	organic material	Pt.	0	0	high	0.2-6.0	0.35-0.55	4.0-5.0	-	-	high	high	A/D
For Humaquepts part see Humaquepts																
Colton: 114A, 114B, 114C, 114D, 114E	>5	>6	0-16	gravelly loamy sand	SM;SP	0-5	0	low	6.0	0.05-0.12	4.5-5.0	.17	3	low	high	A
			16-60	very gravelly loamy sand	SW;GW;GP	10-25	0-7		> 20.0	0.01-0.05	4.5-5.0	.17		low	high	
Crogham: 22A, 22B	>5	1.5-2.0	0-31	loamy sand	SP-SM	0	0	moderate	6.0-20.0	0.05-0.09	4.5-5.0	.20	5	low	high	B
			31-60	sand	SP-SM	0	0		> 20.0	0.03-0.07	4.5-5.0	.17		low	high	
Cryohumods-Lithic Borofolists: 192BC, 192DE, 192F 192G	1-2	1	0-13	loamy sand; sandy loam	SM	5-15	0-5	moderate	2.0-6.0	0.08-0.16	4.5-5.0	.28	2	low	high	C/D
			13	hard bedrock												
For Lithic Borofolists part, see Lithic Borofolists																

Table 1 - Estimated Soil Properties Significant to Engineering

Soil Name and Map Symbol	Depth to Bedrock	Depth to Seasonal High Water Table	Depth from Surface of Typical Profile	USDA Texture	Unified Classification	Coarse fraction Greater Than 3"	Coarse fraction Greater Than 10"	Potential Frost Action	Permeability Inches per hr.	Available Moisture Capacity ins./in. on soil	Reaction pH	Erosion K	Erosion T	Corrosivity Steel	Corrosivity Concrete	Hydrologic Group
	Feet	Feet	Inches													
Duane: 11S	>5	1.5-2.0	0-7	gravelly sandy loam	SM	0-10	0	low	6.0-20.0	0.07-0.13	4.5-5.0	.17	3	low	high	B
			7-23	gravelly loamy sand	SM;SP	5-10	0		6.0-20.0	0.02-0.05	4.5-5.0	.17		low	moderate	
			23-60	very gravelly sand; or loamy sand	GP;GW	5-15	0-1		6.0-20.0	0.01-0.02	4.5-5.5	.17		low	low	
Fluvaquentic Dystrochrepts 4	>5	1-3	0-8	silt loam	ML	0	0	high	0.6-6.0	0.11-0.30	5.0-5.5	-	-	moderate	moderate	B
			8-29	very fine sandy loam	SM	0	0		2.0-6.0	0.08-0.18	5.0-5.5	-	-	moderate	moderate	
			29-60	loamy fine sand; sand	SM;SP-SM	0	0		2.0-20.0	0.01-0.13	5.0-5.5	-	-	moderate	moderate	
Fluvaquents: 5	>5	0-1	0-10	silt loam	SM,ML	0	0	high	0.6-2.0	0.17-0.30	5.0-5.5	-	-	high	high	C
			10-30	silt loam	SM,ML	0	0		0.6-2.0	0.15-0.26	5.0-5.5	-	-	high	high	
			30-60	loamy very fine sand	SM,SP	0	0		0.6-6.0	0.10-0.20	5.0-5.5	-	-	high	high	
Fluventic Dystrochrepts 6	>5	3-10	0-9	fine sandy loam	SM	0	0	moderate	2.0-6.0	0.10-0.30	4.5-5.5	-	-	low	moderate	B
			9-34	fine sandy loam	SM	0	0		2.0-6.0	0.08-0.18	4.5-5.5	-	-	low	moderate	
			34-60	loamy fine sand	SM,SP	0	0		2.0-20.0	0.01-0.13	4.5-5.5	-	-	low	moderate	
Hermon: 96B 96C, 96D, 99B, 99C, 99D	>5	3-6	0-14	gravelly fine sandy loam	SM	10-30	2-20	low	6.0-20.0	0.05-0.20	4.5-5.0	.17	3	low	high	A
			14-29	cobbly sandy loam	SM,GM	10-20	2-10		6.0-20.0	0.02-0.14	4.5-5.5	.17		low	high	
			29-60	cobbly loamy sand	SM;GM	10-30	2-15		6.0-20.0	0.01-0.10	4.5-5.5	.17		low	high	
Humaquepts: 93 1GU	>5	0-0.5	0-24	mucky fine sandy loam	GM;OL	0	0	high	0.6-2.0	0.20-0.25	4.5-5.5	.17	3	high	high	D
			24-60	gravelly loamy sand	GM,SM	0	0		0.6-2.0	0.05-0.10	4.5-5.5	.24		high	high	
Lithic Borofolists: 192DE, 192F, 192G, 193DE, 193F, 193G	1-2	1	0-15 15+	organic material granite bedrock	Pt.	0-10	0-3	high	2.0-6.0	0.25-0.35	4.5-5.0	-	-	high	high	A/D
Lithic Haplohumods: 195BC, 195DE, 195F	1-1/2	1.5	0-17 17	gravelly fine sandy loam granitic bedrock	SM;GM	5-15	0-5	moderate	2.0-6.0	0.09-0.15	4.5-5.5	.20	2	low	moderate	C/D
Loxley: 8S	>5	0	0-60	organic material	Pt.	0	0	high	0.2-6.0	0.35-0.55	4.5-5.0	-	-	high	high	A/D
Naumberg: 23	>5	0.5-1.5	0-22	fine sandy loam; loamy fine sand	SP-SM	0	0	moderate	2.0-6.0	0.05-0.11	4.5-5.0	.28	5	high	high	C
			22-32	very gravelly sand	GW-GM	0-2	0		6.0-20.0	0.02-0.04	4.5-5.5	.17		high	high	
			32-60	sand	SW-SP	0	0		6.0-20.0	0.02-0.05	5.0-5.5	.17		high	high	

BUILDING SITE DEVELOPMENT

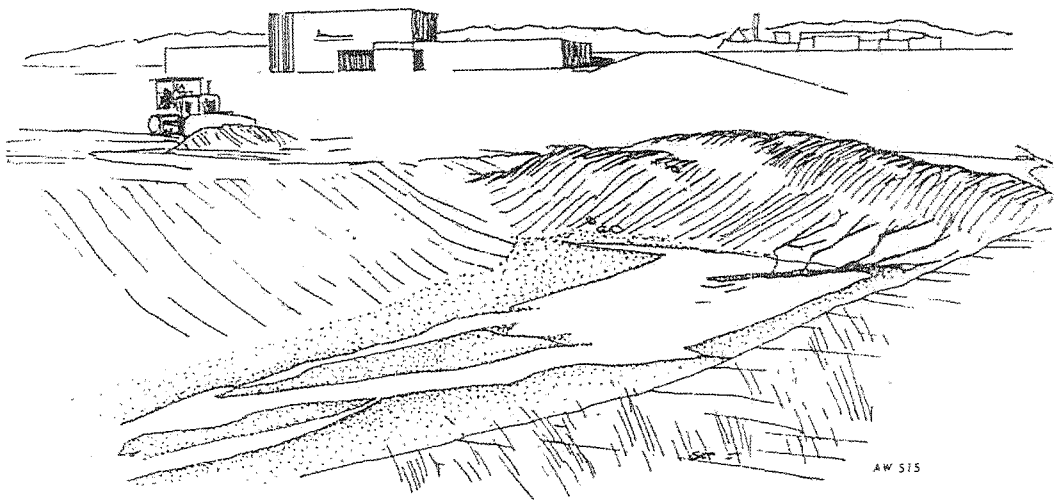


Table 2 - BUILDING SITE DEVELOPMENT

Map Unit	Dwellings Without Basements	Dwellings With Basements	Local Roads and Streets	Parking Lots
157B	MODERATE - wetness, frost action	SEVERE - wetness	MODERATE - frost action	MODERATE - slope, frost action
158A	SEVERE - Wetness, frost action	SEVERE - wetness	SEVERE - wetness, frost action	SEVERE - wetness, frost action
160	SEVERE - Wetness	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness
164A	MODERATE - wetness, frost action	SEVERE - wetness	MODERATE - frost action	MODERATE - frost action
164B	MODERATE - wetness, frost action	SEVERE - wetness	MODERATE - frost action	MODERATE - slope, frost action
192BC	SEVERE - depth to rock	SEVERE - depth to rock	SEVERE - depth to rock	SEVERE - depth to rock
192DE	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock
192F	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock
192G	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock
193DE	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock
193F	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock
193G	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock
195BC	SEVERE - depth to rock	SEVERE - depth to rock	SEVERE - depth to rock	SEVERE - depth t rock
195DE	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock
195F	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock
196	-	-	-	-

Table 3 - RECREATIONAL DEVELOPMENT
See text for definitions of "slight", "moderate", and "severe".

Map Unit	Camp Areas	Picnic Areas	Playgrounds	Paths and Trails
4	SEVERE - floods	MODERATE - floods	MODERATE - floods	SLIGHT
5	SEVERE - wetness, floods	SEVERE - wetness	SEVERE - wetness, floods	SEVERE - wetness
6	SEVERE - floods	MODERATE - floods	MODERATE - floods	SLIGHT
19A	MODERATE - too sandy	MODERATE - too sandy	SEVERE - too sandy	MODERATE - too sandy
19B	MODERATE - too sandy	MODERATE - too sandy	SEVERE - too sandy	MODERATE - too sandy
19C	MODERATE - slope, too sandy	MODERATE - slope, too sandy	SEVERE - slope, too sandy	MODERATE - too sandy
19D	SEVERE - slope	SEVERE - slope	SEVERE - slope, too sandy	MODERATE - slope, too sandy
19EF	SEVERE - slope	SEVERE - slope	SEVERE - slope, too sandy	SEVERE - slope
22A	MODERATE - too sandy	MODERATE - too sandy	MODERATE - wetness, too sandy	MODERATE - too sandy
22B	MODERATE - too sandy	MODERATE - too sandy	MODERATE - slope, wetness, too sandy	MODERATE - too sandy
23	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness
50B	SLIGHT	SLIGHT	MODERATE - slope	SLIGHT
50C	MODERATE - slope	MODERATE - slope	SEVERE - slope	SLIGHT
80B	SLIGHT	SLIGHT	MODERATE - slope	SLIGHT
80C	MODERATE - slope	MODERATE - slope	SEVERE - slope	SLIGHT
80DE	SEVERE - slope	SEVERE - slope	SEVERE - slope	MODERATE - slope
85	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus
86	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus
93	SEVERE - floods, wetness	SEVERE - floods, wetness	SEVERE - floods, wetness	SEVERE - floods, wetness
96B	SLIGHT	SLIGHT	MODERATE - slope	SLIGHT
96C	MODERATE - slope	MODERATE - slope	SEVERE - slope	MODERATE - slope
96D	SEVERE - slope	SEVERE - slope	SEVERE - slope	MODERATE - slope
97A	SLIGHT	SLIGHT	MODERATE - small stones	SLIGHT
97B	SLIGHT	SLIGHT	MODERATE - slope, small stones	SLIGHT
97C	MODERATE - slope	MODERATE - slope	SEVERE - slope	SLIGHT
97D	SEVERE - slope	SEVERE - slope	SEVERE - slope	MODERATE - slope
97E	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slope
99B	MODERATE - large stones	MODERATE - large stones	SEVERE - large stones	MODERATE - large stones
99C	MODERATE - slope, large stones	MODERATE - slope, large stones	SEVERE - slope, large stones	MODERATE - large stones
99D	SEVERE - slope	SEVERE - slope large stones	SEVERE - slope, large stones	MODERATE - slope, large stones
100BC	SEVERE - large stones	SEVERE - large stones	SEVERE - large stones	SEVERE - large stones
100DE	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones
101BC	SEVERE - wetness, large stones	SEVERE - wetness, large stones	SEVERE - wetness, large stones	SEVERE - wetness, large stones
102DE	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - large stones
102F	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones
103DE	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - large stones
103F	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones
114A	MODERATE - small stones	SLIGHT	MODERATE - small stones	SLIGHT
114B	MODERATE - small stones	SLIGHT	MODERATE - slope, small stones	SLIGHT
114C	MODERATE - slope, small stones	MODERATE - slope	SEVERE - slope	SLIGHT
114D	SEVERE - slope	SEVERE - slope	SEVERE - slope	MODERATE - slope
114E	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slope
115	MODERATE - small stones	SLIGHT	MODERATE - small stones	SLIGHT
117	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness
139A	SLIGHT	SLIGHT	SLIGHT	SLIGHT
139B	SLIGHT	SLIGHT	MODERATE - slope	SLIGHT
155B	SLIGHT	SLIGHT	MODERATE - slope	SLIGHT
155C	MODERATE - slope	MODERATE - slope	SEVERE - slope	SLIGHT
157A	SLIGHT	SLIGHT	SLIGHT	SLIGHT
157B	SLIGHT	SLIGHT	MODERATE - slope	SLIGHT

Table 1 - Estimated Soil Properties Significant to Engineering

Soil Name and Map Symbol	Depth to Bedrock	Depth to Seasonal High Water Table	Depth from Surface of Typical Profile	USDA Texture	Unified Classification	Coarse Fraction Greater Than 3"	Coarse Fraction Greater Than 10"	Potential Frost Action	Permeability Inches per hr.	Available Moisture Capacity Ins./in. on soil	Reaction pH	Erosion K	Erosion T	Corrosivity Steel	Corrosivity Concrete	Hydrologic Group
	Feet	Feet	Inches													
Potsdam: 50B 50C	>5	1.5-3.0	0-18	very fine sandy loam; loam	ML,SM	0	0	moderate	0.6-2.0	0.15-0.21	4.5-5.0	.49	3	moderate	high	C
			18-29	loamy very fine sand	ML,SM	0-2	0		0.6-2.0	0.14-0.20	4.5-5.5	.64		moderate	high	
			29-45	gravelly sandy loam	SM	5-10	0-2		0.06-0.2	0.05-0.08	5.0-5.5	.24		moderate	moderate	
			45-60	gravelly loamy sand	SM	5-15	0-5		0.2-2.0	0.02-0.04	5.0-5.5	.20		moderate	moderate	
Rock outcrop: 196	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salmon: 139A, 139B	>5	>6	0-7	very fine sandy loam	ML	0-1	0	low	0.6-2.0	0.16-0.22	4.5-5.0	.49	3	low	high	B
			7-28	very fine sandy loam	ML	0	0		0.6-2.0	0.15-0.20	4.5-5.0	.64		low	high	
			28-60	loamy very fine sand	ML	0	0		0.6-2.0	0.13-0.20	4.5-5.5	.64		low	moderate	
Skerry: 155B, 155C	>5	1.5-3	0-17	fine sandy loam	SM	5-15	0-5	high	0.6-2.0	0.10-0.23	4.5-5.0	.24	3	low	moderate	C
			17-25	gravelly sandy loam	SM	5-10	0-3		0.6-2.0	0.10-0.23	4.5-5.0	.28		low	moderate	
			25-60	gravelly loamy sand	SM,GM	3-10	0-3		0.06-0.6	0.03-0.09	5.0-5.5	.17		low	moderate	
Typic Cryohumods: 103DE, 103F	2.5-6	1	0-15	sandy loam	SM,SP	5-15	0-10	moderate	2.0-6.0	0.8-0.16	4.5-5.0	.28	2	low	high	C/D
			15-30	gravelly sandy loam	SM,SP	5-15	0-10		2.0-6.0	0.05-0.10	4.5-5.0	.17		low	high	
			30	anorthosite bedrock												
Typic Haplaquods: 117	>5	0-1.0	0-12	loamy fine sand	SM	0	0	moderate	2.0-6.0	0.07-0.23	4.5-5.5	.20	5	moderate	high	C
			12-26	loamy sand	SP-SM	0	0		2.0-6.0	0.03-0.13	4.5-5.5	.17		moderate	high	
			26-60	sand	SP-SM	0	0		6.0-20.0	0.01-0.10	4.5-5.5	.17		moderate	high	
Typic Haplohumods: 102DE, 102F			0-10	sandy loam	SM,SP	10-30	5-25	moderate	0.6-2.0	0.8-0.16	4.5-5.5	.24	3	low	moderate	C
			10-51	gravelly sandy loam	SM,SP	15-40	5-25		0.6-2.0	0.3-0.09	4.5-5.5	.17		low	moderate	
Typic Haplorthods: 100BC, 100DE	>5	3-6	0-14	gravelly fine sandy loam	SM	15-35	5-25	low	6.0-20.0	0.05-0.20	4.5-5.5	.17	3	low	high	A
			14-29	cobbly sandy loam	SM,GM	15-25	5-15		6.0-20.0	0.02-0.14	4.5-5.5	.17		low	high	
			29-60	cobbly loamy sand	SM,GM	15-35	5-20		6.0-20.0	0.01-0.10	4.5-5.5	.17		low	high	
Waumbeck: 157A, 157B, Variant 164A, 164B	>5	1-3	0-7	fine sandy loam	SM	2-10	2-5	moderate	2.0-20.0	0.07-0.20	4.5-5.5	.20	3	low	moderate	B
			7-14	gravelly sandy loam	SM	2-10	0-2		2.0-20.0	0.05-0.16	4.5-5.5	.17		low	moderate	
			14-30	gravelly loamy sand	SM,GM	5-15	0-5		2.0-20.0	0.04-0.14	5.0-5.5	.17		low	moderate	
			30-60	gravelly sand	SM,GM	5-15	0-5		6.0-20	0.02-0.12	5.0-5.5	.17		low	moderate	

Table 2 - BUILDING SITE DEVELOPMENT

Map Unit	Dwellings Without Basements	Dwellings With Basements	Local Roads and Streets	Parking Lots
4	SEVERE - floods	SEVERE - floods	SEVERE - floods	SEVERE - floods
5	SEVERE - floods, wetness, frost action	SEVERE - floods, wetness	SEVERE - wetness, floods, frost action	SEVERE - floods, frost action
6	SEVERE - floods	SEVERE - floods	SEVERE - floods	SEVERE - floods
19A	SLIGHT	SLIGHT	SLIGHT	SLIGHT
19B	SLIGHT	SLIGHT	SLIGHT	SLIGHT
19C	MODERATE - slope	MODERATE - slope	MODERATE - slope	SEVERE - slope
19D	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slope
19EF	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slope
22A	MODERATE - wetness	SEVERE - wetness	MODERATE - frost action	MODERATE - frost action
22B	MODERATE - wetness	SEVERE - wetness	MODERATE - frost action	MODERATE - slope, frost action
23	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness
50B	MODERATE - frost action	MODERATE - wetness	MODERATE - frost action	MODERATE - slope, frost action
50C	MODERATE - slope, frost action	MODERATE - slope, wetness	MODERATE - slope, frost action	SEVERE - slope
80B	MODERATE - frost action	MODERATE - wetness	MODERATE - frost action	MODERATE - slope
80C	MODERATE - slope, frost action	MODERATE - slope, wetness	MODERATE - slope, frost action	SEVERE - slope
80DE	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slope
85	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus
86	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus	SEVERE - wetness, excess humus
93	SEVERE - floods, wetness	SEVERE - floods, wetness	SEVERE - floods, wetness	SEVERE - floods, wetness
96B	SLIGHT	MODERATE - wetness	SLIGHT	MODERATE - slope
96C	MODERATE - slope	MODERATE - slope	MODERATE - slope	SEVERE - slope
96D	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slope
97A	SLIGHT	SLIGHT	SLIGHT	SLIGHT
97B	SLIGHT	SLIGHT	SLIGHT	MODERATE - slope
97C	MODERATE - slope	MODERATE - slope	MODERATE - slope	SEVERE - slope
97D	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slop
97E	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slop
99B	MODERATE - large stones	MODERATE - large stones	SLIGHT	MODERATE - sl
99C	MODERATE - slope, large stones	MODERATE - slope, large stones	MODERATE - slope, large stones	SEVERE - slop
99D	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slop
100BC	SEVERE - large stones	SEVERE - large stones	SEVERE - large stones	SEVERE - larg stones
100DE	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slop large stones
101BC	SEVERE - wetness, frost action, large stones	SEVERE - wetness, large stones	SEVERE - wetness, frost action, large stones	SEVERE - wetn large stones, slope
102DE	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slop large stones
102F	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slop large stones
103DE	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slop large stones
103F	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slop large stones
114A	SLIGHT	SLIGHT	SLIGHT	SLIGHT
114B	SLIGHT	SLIGHT	SLIGHT	MODERATE - slo
114C	MODERATE - slope	MODERATE - slope	MODERATE - slope	SEVERE - slop
114D	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slop
114E	SEVERE - slope	SEVERE - slope	SEVERE - slope	SEVERE - slop
115	MODERATE - wetness	SEVERE - wetness	SLIGHT	SLIGHT
117	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness	SEVERE - wetn
139A	SLIGHT	SLIGHT	MODERATE - low strength	MODERATE - low strength
139B	SLIGHT	SLIGHT	MODERATE - low strength	MODERATE - slo low strength
155B	SEVERE - frost action	SEVERE - wetness	SEVERE - frost action	SEVERE - frost action
155C	SEVERE - frost action	SEVERE - wetness	SEVERE - frost action	SEVERE - slope frost action
157A	MODERATE - wetness, frost action	SEVERE - wetness	MODERATE - frost action	MODERATE - fro action

RECREATIONAL DEVELOPMENT

Table 3 - RECREATIONAL DEVELOPMENT
See text for definitions of "slight", "moderate", and "severe".

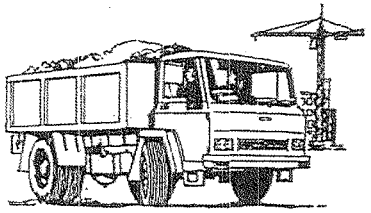
Map Unit	Camp Areas	Picnic Areas	Playgrounds	Paths and Trails
158A	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness
160	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness
164A	SLIGHT	SLIGHT	SLIGHT	SLIGHT
164B	SLIGHT	SLIGHT	MODERATE - slope	SLIGHT
192BC	SEVERE - excess humus	SEVERE - excess humus	SEVERE - slope, depth to rock, excess humus	SEVERE - excess humus
192DE	SEVERE - slope, excess humus	SEVERE - slope, excess humus	SEVERE - slope, depth to rock, excess humus	SEVERE - excess humus
192F	SEVERE - slope, excess humus	SEVERE - slope, excess humus	SEVERE - slope, depth to rock, excess humus	SEVERE - slope, excess humus
192G	SEVERE - slope, excess humus	SEVERE - slope, excess humus	SEVERE - slope, depth to rock, excess humus	SEVERE - slope, excess humus
193DE	SEVERE - slope, excess humus	SEVERE - slope, excess humus	SEVERE - slope, depth to rock, excess humus	SEVERE - excess humus
193F	SEVERE - slope, excess humus	SEVERE - slope, excess humus	SEVERE - slope, depth to rock, excess humus	SEVERE - slope, excess humus
193G	SEVERE - slope, excess humus	SEVERE - slope, excess humus	SEVERE - slope, depth to rock, excess humus	SEVERE - slope, excess humus
195BC	MODERATE - slope	MODERATE - slope	SEVERE - depth to rock	SLIGHT
195DE	SEVERE - slope	SEVERE - slope	SEVERE - slope, depth to rock	SEVERE - slope
195F	SEVERE - slope	SEVERE - slope	SEVERE - slope, depth to rock	SEVERE - slope
196	-	-	-	-

Table 4 - CONSTRUCTION MATERIALS
See text for definitions of "good", "fair", "poor", and "unsuited".

Map Unit Symbol	Topsoil	Gravel	Sand	Roadfill
4	GOOD	UNSUITED - excess fines	UNSUITED - excess fines	FAIR - frost action
5	POOR - wetness	UNSUITED - excess fines	UNSUITED - excess fines	POOR - wetness, frost action
6	GOOD	UNSUITED - excess fines	POOR - excess fines	FAIR - low strength
19A	POOR - too sandy	UNSUITED - excess fines	GOOD	GOOD
19B	POOR - too sandy	UNSUITED - excess fines	GOOD	GOOD
19C	POOR - too sandy	UNSUITED - excess fines	GOOD	GOOD
19D	POOR - slope, too sandy	UNSUITED - excess fines	GOOD	FAIR - slope
19EF	POOR - slope, too sandy	UNSUITED - excess fines	GOOD	POOR - slope
22A	POOR - too sandy	UNSUITED - excess fines	GOOD	GOOD
22B	POOR - too sandy	UNSUITED - excess fines	GOOD	GOOD
23	POOR - too sandy	UNSUITED - excess fines	FAIR - excess fines	POOR - wetness
50B	FAIR - small stones	UNSUITED - excess fines	UNSUITED - excess fines	FAIR - frost action
50C	FAIR - small stones	UNSUITED - excess fines	UNSUITED - excess fines	FAIR - frost action
80B	POOR - large stones	UNSUITED - excess fines	UNSUITED - excess fines	FAIR - frost action
80C	POOR - large stones	UNSUITED - excess fines	UNSUITED - excess fines	FAIR - frost action
80DE	POOR - slope, large stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - slope
85	POOR - wetness	UNSUITED - excess humus	UNSUITED - excess humus	POOR - excess humus, wetness, low strength
86	POOR - wetness	UNSUITED - excess humus	UNSUITED - excess humus	POOR - wetness, excess humus, low strength
93	POOR - wetness	UNSUITED - excess humus	UNSUITED - excess humus	POOR - wetness, excess humus, low strength
96B	POOR - large stones	POOR - excess fines	POOR - excess fines	GOOD
96C	POOR - large stones	POOR - excess fines	POOR - excess fines	GOOD
96D	POOR - slope, large stones	POOR - excess fines	POOR - excess fines	FAIR - slope
97A	FAIR - small stones	POOR - excess fines	POOR - excess fines	FAIR - frost action
97B	FAIR - small stones	POOR - excess fines	POOR - excess fines	FAIR - frost action
97C	FAIR - small stones	POOR - excess fines	POOR - excess fines	FAIR - frost action
97D	POOR - slope	POOR - excess fines	POOR - excess fines	FAIR - slope, frost action
97E	POOR - slope	POOR - excess fines	POOR - excess fines	POOR - slope
99B	POOR - large stones	POOR - excess fines	POOR - excess fines	GOOD
99C	POOR - large stones	POOR - excess fines	POOR - excess fines	GOOD
99D	POOR - slope, large stones	POOR - excess fines	POOR - excess fines	FAIR - slope
100BC	POOR - large stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - large stones
100DE	POOR - large stones, slope	UNSUITED - excess fines	UNSUITED - excess fines	POOR - large stones, slope
101BC	POOR - large stones, wetness	UNSUITED - excess fines	UNSUITED - excess fines	POOR - large stones, wetness, frost action
102DE	POOR - large stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - large stones, slope
102F	POOR - large stones, slope	UNSUITED - excess fines	UNSUITED - excess fines	POOR - large stones, slope
103DE	POOR - large stones, slope	UNSUITED - excess fines	UNSUITED - excess fines	POOR - large stones, slope
103F	POOR - large stones, slope	UNSUITED - excess fines	UNSUITED - excess fines	POOR - large stones, slope
114A	POOR - small stones	GOOD	FAIR - excess fines	GOOD
114B	POOR - small stones	GOOD	FAIR - excess fines	GOOD
114C	POOR - small stones	GOOD	FAIR - excess fines	GOOD
114D	POOR - slope, small stones	GOOD	FAIR - excess fines	FAIR - slope
114E	POOR - slope, small stones	GOOD	FAIR - excess fines	POOR - slope
115	POOR - too sandy, small stones	GOOD	FAIR - excess fines	GOOD

Table 4 - CONSTRUCTION MATERIALS
See text for definitions of "good", "fair", "poor", and "unsuited".

Map Unit Symbol	Topsoil	Gravel	Sand	Roadfill
117	POOR - wetness, too sandy	UNSUITED - excess fines	FAIR - excess fines	POOR - wetness
139A	GOOD	UNSUITED - excess fines	UNSUITED - excess fines	FAIR - low strength
139B	GOOD	UNSUITED - excess fines	UNSUITED - excess fines	FAIR - low strength
155B	POOR - large stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - frost action
155C	POOR - large stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - frost action
157A	POOR - small stones	POOR - excess fines	POOR - excess fines	FAIR - frost action
157B	POOR - small stones	POOR - excess fines	POOR - excess fines	FAIR - frost action
158A	POOR - wetness, large stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - wetness, frost action
160	POOR - wetness, large stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - wetness, frost action
164A	POOR - large stones	POOR - excess fines	UNSUITED - excess fines	FAIR - frost action
164B	POOR - large stones	POOR - excess fines	UNSUITED - excess fines	FAIR - frost action
192BC	POOR - small stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - thin layer
192DE	POOR - slope, small stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - slope, thin layer
192F	POOR - slope, small stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - slope, thin layer
192G	POOR - slope, small stones	UNSUITED - excess fines	UNSUITED - excess fines	POOR - thin layer, slope
193DE	POOR - excess humus, slope	UNSUITED - excess humus	UNSUITED - excess humus	POOR - excess humus, thin layer, slope
193F	POOR - excess humus, slope	UNSUITED - excess fines	UNSUITED - excess fines	POOR - excess humus, thin layer, slope
193G	POOR - excess humus, slope	UNSUITED - excess humus	UNSUITED - excess humus	POOR - excess humus, thin layer, slope
195BC	POOR - thin layer	UNSUITED - excess fines	UNSUITED - excess fines	POOR - thin layer
195DE	POOR - slope, thin layer	UNSUITED - excess fines	UNSUITED - excess fines	POOR - thin layer, slope
195F	POOR - slope, thin layer	UNSUITED - excess fines	UNSUITED - excess fines	POOR - thin layer, slope
196	-	-	-	-



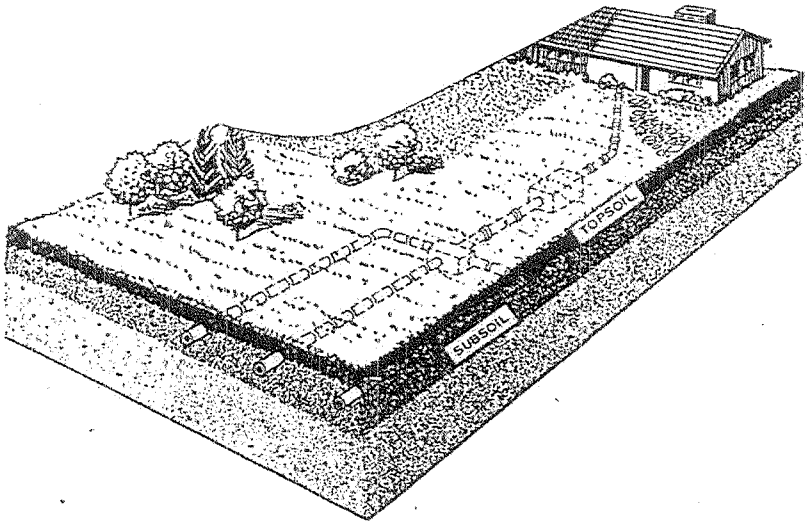
CONSTRUCTION MATERIALS

Table 5 - SANITARY FACILITIES
See text for definitions of "slight", "moderate", "severe", "good", "fair", and "poor".

Map Unit Symbol	Septic Tank Absorption Field	Shallow Excavations	Sanitary Landfill Trench Type	Daily Cover for Landfill
4	SEVERE - floods, wetness	SEVERE - floods, wetness	SEVERE - floods, wetness	GOOD
5	SEVERE - floods, wetness	SEVERE - floods, wetness	SEVERE - floods wetness	POOR - wetness
6	SEVERE - floods	SEVERE - floods	SEVERE - floods, seepage	GOOD
19A	SLIGHT	SEVERE - cut-banks cave	SEVERE - seepage	POOR - too sandy
19B	SLIGHT	SEVERE - cut-banks cave	SEVERE - seepage	POOR - too sandy
19C	MODERATE - slope	SEVERE - cut-banks cave	SEVERE - seepage	POOR - too sandy
19D	SEVERE - slope	SEVERE - slope, cutbanks cave	SEVERE - seepage	POOR - slope, too sandy
19EF	SEVERE - slope	SEVERE - slope, cutbanks cave	SEVERE - slope, seepage	POOR - slope, too sandy
22A	SEVERE - wetness	SEVERE - wetness, cut-banks cave	SEVERE - seepage	POOR - too sandy
22B	SEVERE - wetness	SEVERE - wetness, cut-banks cave	SEVERE - seepage	POOR - too sandy
23	SEVERE - wetness	SEVERE - wetness, cut-banks cave	SEVERE - wetness, seepage	POOR - wetness
50B	SEVERE - percs slowly	MODERATE - wetness	MODERATE - wetness	GOOD
50C	SEVERE - percs slowly	MODERATE - wetness	MODERATE - wetness	FAIR - slope
80B	SEVERE - percs slowly	MODERATE - wetness	MODERATE - wetness	FAIR - large stones
80C	SEVERE - percs slowly	MODERATE - slope, wetness	MODERATE - slope, wetness	FAIR - large stones
80DE	SEVERE - slope, percs slowly	SEVERE - slope	SEVERE - slope	POOR - slope, large stones
85	SEVERE - floods, wetness	SEVERE - floods, wetness	SEVERE - floods, wetness	POOR - wetness, excess humus
86	SEVERE - floods, wetness	SEVERE - floods, wetness	SEVERE - floods, wetness	POOR, wetness, excess humus
93	SEVERE - floods, wetness	SEVERE - floods, wetness	SEVERE - floods, wetness	POOR - wetness, excess humus
96B	SLIGHT	MODERATE - cut-banks cave	SEVERE - seepage	POOR, large stones
96C	MODERATE - slope	MODERATE - slope, cut-banks cave	SEVERE - seepage	POOR - large stones
96D	SEVERE - slope	SEVERE - slope	SEVERE - seepage	POOR - slope, large stones
97A	SLIGHT	SLIGHT	SEVERE - seepage	FAIR - small stones
97B	SLIGHT	SLIGHT	SEVERE - seepage	FAIR - small stones
97C	MODERATE - slope	MODERATE - slope	SEVERE - seepage	FAIR - small stones, slope
97D	SEVERE - slope	SEVERE - slope	SEVERE - seepage	POOR - slope
97E	SEVERE - slope	SEVERE - slope	SEVERE - slope, seepage	POOR - slope
99B	MODERATE - large stones	MODERATE - large stones	SEVERE - seepage	POOR - large stones
99C	MODERATE - large stones, slope	MODERATE - large stones, slope	SEVERE - seepage	POOR - large stones
99D	SEVERE - slope	SEVERE - slope	SEVERE - seepage	POOR - large stones
100BC	SEVERE - large stones	SEVERE - large stones	SEVERE - large stones, seepage	POOR - large stones
100DE	SEVERE - large stones, slope	SEVERE - large stones, slope	SEVERE - large stones, slope, seepage	POOR - large stones slope
101BC	SEVERE - wetness, large stones	SEVERE - wetness, large stones	SEVERE - wetness, large stones	POOR - wetness, large stones
102DE	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, seepage, large stones	POOR - slope, large stones
102F	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, large stones	POOR - slope, large stones
103DE	SEVERE - slope, large stones	SEVERE - slope large stones	SEVERE - slope, seepage, large stones	POOR - slope, large stones
103F	SEVERE - slope, large stones	SEVERE - slope, large stones	SEVERE - slope, seepage, large stones	POOR - slope, large stones
114A	SLIGHT	SEVERE - small stones	SEVERE - seepage	POOR - too sandy, small stones
114B	SLIGHT	SEVERE - small stones	SEVERE - seepage	POOR - too sandy, small stones
114C	MODERATE - slope	SEVERE - small stones	SEVERE - seepage	POOR - too sandy, small stones
114D	SEVERE - slope	SEVERE - slope, small stones	SEVERE - seepage	POOR - small stones slope, too sandy
114E	SEVERE - slope	SEVERE - slope, small stones	SEVERE - slope, seepage	POOR - small stones slope, too sandy

Table 5 - SANITARY FACILITIES
See text for definitions of "slight", "moderate", "severe", "good", "fair", and "poor".

Map Unit Symbol	Septic Tank Absorption Field	Shallow Excavations	Sanitary Landfill Trench Type	Daily Cover for Landfill
115	SEVERE - wetness	SEVERE - cut-banks cave	SEVERE - wetness, seepage	POOR - too sandy
117	SEVERE - wetness	SEVERE - wetness, cutbanks cave	SEVERE - wetness, seepage	POOR - wetness
139A	SLIGHT	SLIGHT	SLIGHT	GOOD
139B	SLIGHT	SLIGHT	SLIGHT	GOOD
155B	SEVERE - percs slowly	SEVERE - wetness	SEVERE - wetness	FAIR - large stones
155C	SEVERE - percs slowly	SEVERE - wetness	SEVERE - wetness	FAIR - large stones
157A	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness, seepage	FAIR - small stones
157B	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness, seepage	FAIR - small stones
158A	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness, seepage	POOR - wetness
160	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness	POOR - wetness
164A	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness, seepage	FAIR - large stones
164B	SEVERE - wetness	SEVERE - wetness	SEVERE - wetness, seepage	FAIR - large stones
192 BC	SEVERE - depth to rock	SEVERE - depth to rock	SEVERE - depth to rock	POOR - excess humus, thin layer
192DE	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	POOR - excess humus, thin layer, slope
192F	SEVERE - slope depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	POOR - excess humus, thin layer, slope
192G	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	POOR - excess humus, thin layer, slope
193DE	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	POOR - slope, excess humus, thin layer
193F	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	POOR - slope, excess humus, thin layer
193G	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	POOR - slope, excess humus, thin layer
195BC	SEVERE - depth to rock	SEVERE - depth to rock	SEVERE - depth to rock	POOR - thin layer
195DE	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	POOR - slope, thin layer
196F	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	SEVERE - slope, depth to rock	POOR - slope, thin layer
196	-	-	-	-



SANITARY FACILITIES

Appendix C

Visual Resource Impact Assessment

VISUAL RESOURCE IMPACT ANALYSIS

Existing Conditions Assessment

Methods

The first step of the Visual Resource Impact Analysis was to examine the limits of visibility of the project. Figure 1, "Limits of Visibility Map," indicates the study area which is limited to a 8.05 kilometer (5 mile) radius from the center of the existing bobsled site at Mount Van Hoevenberg. This distance has been selected as the generally accepted maximum distance where normal eyesight can discern detail or a significant visual impact. (USDA Forest Service. 1973)

A preliminary assessment of the limits of visibility within that 8.05 kilometer (5 mile) radius was performed to verify that the peak and ridgeline of Mount Van Hoevenberg south of the proposed project blocked views into the project site from the south. A number of cross sectional views were drawn in order to determine if views of the existing bobsled site were possible from each vantage point, and where visibility from the vantage points was blocked by this ridge.

This analysis determined that the forested ridges of Mount Van Hoevenberg block views from Big Slide Mountain (at approximately 45°, given 0° is the bobsled site) to Sugarloaf Mountain (at approximately 310°), therefore indicating available views extend approximately from only 310° northwest to 45° east.

Next, a digital terrain model was prepared of the Mount Van Hoevenberg site in its existing condition. This model utilized topographic data compiled both from the USGS mapping and on-site survey data. Aerial photography indicating the existing limits of clearing was also included in this model. The lower surface represented the ground. The upper surface represented the top of the tree canopy. Tree height in the model was simulated based on an average of measurements taken in the field. The height of the canopy in the terrain model was set at 18.4 meters (60 feet) above the ground. The readings of tree height taken in the field varied from 15.2 meters (50 feet) to 25.9 meters (85 feet) in height.

As shown on Figure 1, "Limits of Visibility Map," six sites were chosen for additional computer modeling and study. Two sites, Sugarloaf Mountain and Big Slide Mountain, were modeled to confirm that there would be no views of the project site from these two locations due to the blockage provided by the forested ridge and peak at Mount Van Hoevenberg. Four other sites were studied due to their potential sensitivity to changes at the project site. These included Cascade, Pitchoff, Slide Mountain (Sentinel Range), and the 90 Meter Ski Jump.

Developing the "Existing View, Visual impact Assessment," which is actually a wireframe perspective for each of the six locations, involved choosing a location on the digital terrain model (in this case, the starting point at the top of the 1980 bobsled run) and then locating each view location (i.e. 90 Meter Ski Jumps or Slide Mountain) so that it is the proper distance, elevation, and angle (view line) in relationship to the start of the bobsled run. To provide greater detail for some of the more distant views, the views were then "moved in" on the view line so they were the equivalent of a view from a 50 mm camera lens at 2000 meters (1.2 miles). The purpose for this was to have existing view figures which were all at a comparable scale, as well as to have figures on which details could be discerned.

Results

Figure 2, "Visual Impact Assessment, View from Sugarloaf Mountain (2000 meters)", and Figure 7, "Visual Impact Assessment, View from Big Slide Mountain (2000 meters), confirms the cross-sectional analysis that there are no views of the Mount Van Hoevenberg bobsled runs from these two vantage points. The remaining "Existing Views" for Figures 3, 4, 5, and 6, illustrate the existing condition of the bobsled and luge runs on the landscape as seen at the angle of view from the 90 Meter Ski Jump, Slide Mountain, Pitchoff Mountain, and Cascade Mountain, respectively.

The computer model was then used by the bobsled and luge designers to identify areas which would result from visual impacts from clearing versus areas which were not as sensitive to clearing. These factors were taken into account during the design of the various alternatives to minimize the impacts of clearing on visual resources.

Next, a wintertime windshield survey was conducted in December 1995 to confirm the results of the computer modeling, and to assess the visibility of the project from area roadways. Available views of the Complex from area roadways are indicated on Figure 1, "Limits of Visibility Map," as cross-hatched areas. The following is a description of the views of the facility from various locations.

Entrance Road: Existing vegetation filters views of the Olympic Sports Complex from NY Route 73. As indicated, views from the intersection of the Complex access road with NY Route 73 consist of the bobsled run and shading towers.

Adirondack Loj Road: The view available from Adirondack Loj Road consists of the bobsled run braking finish and the sides of trees adjacent to the lower half of the bobsled run.

Ski Jumps: From the deck of the 90 Meter ski jump, views of the luge run, part of the lower half of the bobsled run, part of the service road northeast of the luge run, and the luge run start with the bobsled run start behind it are available.

John Browns Grave Site: From John Brown's grave the sides of trees adjacent to the upper half of the bobsled and luge runs can be seen but views of the runs on the ground cannot. A base structure, one of the maintenance buildings, is visible.

Village of Lake Placid: While outside of the 8.05 kilometer (5 mile) study area, the Village of Lake Placid was surveyed for potential visibility. Within the Village a single vantage point was identified from the Holiday Inn parking lot behind the Olympic Ice Arena where the clearing for the two runs is visible. This view is also available for a short distance, approximately 122 meters (400 feet), when descending the entrance road, Olympic Drive.

NY Route 86: Vantage points of the Complex from NY Route 86 are located as shown in Figure 1, "Limits of Visibility Map" and consists of the upper half of the clearing for the bobsled run. This clearing is most visible with a covering of snow.

A windshield survey was also conducted at night to evaluate the visual impacts of the nighttime lighting. An improved nighttime lighting system was installed prior to the 1980 Olympic Winter Games to enhance the quality of the ice maintenance workmanship and to allow nighttime bobsled and luge training and competition. The quality of ice maintenance on the bobsled and luge has a direct relationship to the sled speeds and excellence of athlete competition events. Also, the quality of ice has a bearing on the safety of athletes and public riding the track. Track ice is maintained at night to avoid conflict with schedules and daytime use of the luge and bobsled runs. It is also advantageous to maintain the track ice at night to avoid the effects of sunshine. Night operation for the luge is also required by international standards. Night operation of the bob run depends upon scheduling and programming for particular events. The lighting system is in operation only during the winter season, approximately December to early March.

In as much as maintenance takes place almost every night during winter months, lighting is visible to nearby areas throughout this season.

The light is highly visible to motorists approaching Mount Van Hoevenberg on NY Route 73 from either direction. It is visible to a lesser extent from other areas, including the vicinity of the lower golf course adjacent to NY Route 86 (Wilmington Road) and to a still lesser extent from Main Street in the Village of Lake Placid. The practice of repairing the bobsled and luge runs at night, and conducting training with the assistance of lighting, has occurred over many years, with few complaints from the public being registered. A range of public acceptability may exist pertaining to the aesthetics or visibility effect of lighting at Mount Van Hoevenberg. In any event, this must be judged in context of the area's "Intensive Use" classification under the Adirondack Park State Land Master Plan.

Impact Assessment

Methods

The preliminary engineering studies completed for the redevelopment of the bobsled and luge runs analyzed the feasibility of removing the tracks from the existing site and locating a new track in the general area as the existing clearing. The existing track is located on the appropriate mountain face for development of this facility, and contains a roadway network and other infrastructure elements, and so the use of the existing cleared areas, with minor modifications to the clearing limits, was the focus of the alternative alignments. Analysis of five alternative layouts for the track geometry were prepared and each layout was located in this general area of existing clearing down the mountain face, with minor modifications.

Alternate 1B was preliminarily selected as the preferred track alignment by ORDA and the Bobsled and Luge Federation in July 1996, during the preparation of the Draft Generic Environmental Impact Statement. This track represents a design option which creates a track that provides good characteristics for the competitor (including adequate speed and driver skill requirements) and good spectator viewing areas.

The clearing envelope is essentially the same for any of the preliminary alternatives evaluated. This clearing envelope is shown on Figure 8, "Plan View, Typical Clearing Envelope." These typical limits of clearing are associated with any of the alternatives, and was incorporated into the computer digital terrain model. The clearing limits were re-assessed following selection of design Alternative D in December 1998, as shown on Figure 8A, "Plan View, Alternate D Clearing Envelope." The same method as was used for the existing views was used to develop the computerized perspectives for "View of Alternate D" for the four locations where views are present, at a view equivalent of a 50 mm camera lens length taken at 2000 meters (1.2 miles).

As shown on Figure 9, "Visual Impact Assessment Potential Viewpoints," the visual impact assessments have also been presented at the perspective of the actual view point location with the equivalent of an approximately 135 mm camera lens length for the design Alternate 1B.

Results

The potential visual impact of the proposed improvements has been assessed. The only proposed management action with the potential to have visual impact is the combined bobsled/luge track because it will be sited on a slope while the other proposed management actions call for work within mature dense woodland on areas with low relief. Figure 1, "Limits of Visibility Map," identifies those locations along roadways and mountain peaks and ridges from which the existing bobsled and luge tracks can be seen. The new combined track will be visible from the same vantage points.

Figures 3 through 6, "Visual Impact Assessment," illustrate the existing view and the proposed view of the combined track design referred to as "Alternate D" from the 90 Meter Ski Jump, Slide Mountain, Pitchoff Mountain and Cascade Mountain, respectively.

The perspective views presented from each of the vantage points are actually representations of the potential view of the project from a distance of 2000 meters (1.2 miles), and therefore illustrate a magnified view from the respective vantage point. The visual impact from each of these sites will therefore be substantially less than what is depicted. Comparing the "Existing Views" with "View of Alternative D" depicts the changes in the visual character, given the magnified nature of these views.

In general, as distance from the area of impact increases, the visual impacts are reduced. This is due to two factors.

First, as one moves away from the area of impact, the area of visual impact becomes a smaller and smaller percentage of the field of view. As shown on Figure 9, "Visual Impact Assessment Potential Viewpoints," the view of the bobsled/luge runs represents a larger percentage of the field of view from Pitchoff Mountain, 4.55 kilometers (2.83 miles) distant from the project site, than from Slide Mountain, which is 7.53 kilometers (4.68 miles) from the project site.

Second, as one moves away from the object, the ability to discern details regarding the pattern of clearing and texture is reduced. According to the USDA Forest Service, for background portions of views, which are designated as those portions of the views more than 4.8 kilometers (3 miles) distant from the viewer, the background texture is usually weak and provides only color on the stronger landform. There is a simplification of shapes, with little texture or detail apparent to the viewer, and objects are mostly viewed as patterns of light and dark. This is illustrated in Figure 9, "Visual Impact Assessment, Potential View Points," where the clearing details are more apparent in the perspective model for Pitchoff Mountain than they are from Slide Mountain.

This Figure demonstrates that the four sites with views can be ranked in order of potential impact due to their respective distance from the project site. The order of potential impact from greatest to least potential based on distance only is as follows:

Pitchoff	4.6 kilometers	2.8 miles
Cascade	5.2 kilometers	3.2 miles
The 90 Meter Ski Jump	5.8 kilometers	3.6 miles
Slide Mountain (Sentinel Range)	7.6 kilometers	4.7 miles

Given the fact that the bobsled/luge track will be developed in a designated intensive use area largely within an existing clearing and thus represents a consolidation of visual impacts, this alteration is not significant.

The position of the bobsled/luge runs on relatively steeper terrain makes it visible. The new combined run will continue to be night lighted for maintenance at night, as described in Section II.A.3.

The snowmaking pond will not create an obtrusive visual impact because it is a natural feature and will blend in with the visual character of the area. The pump/compressor storage building associated with the pond will be located adjacent to an existing stand of woods. This building will be sided in earthen tones in order to blend in with the natural environment. The approximate locations of these features is indicated on a map provided in Appendix I, "Snowmaking – General Information."

Mitigation Measures

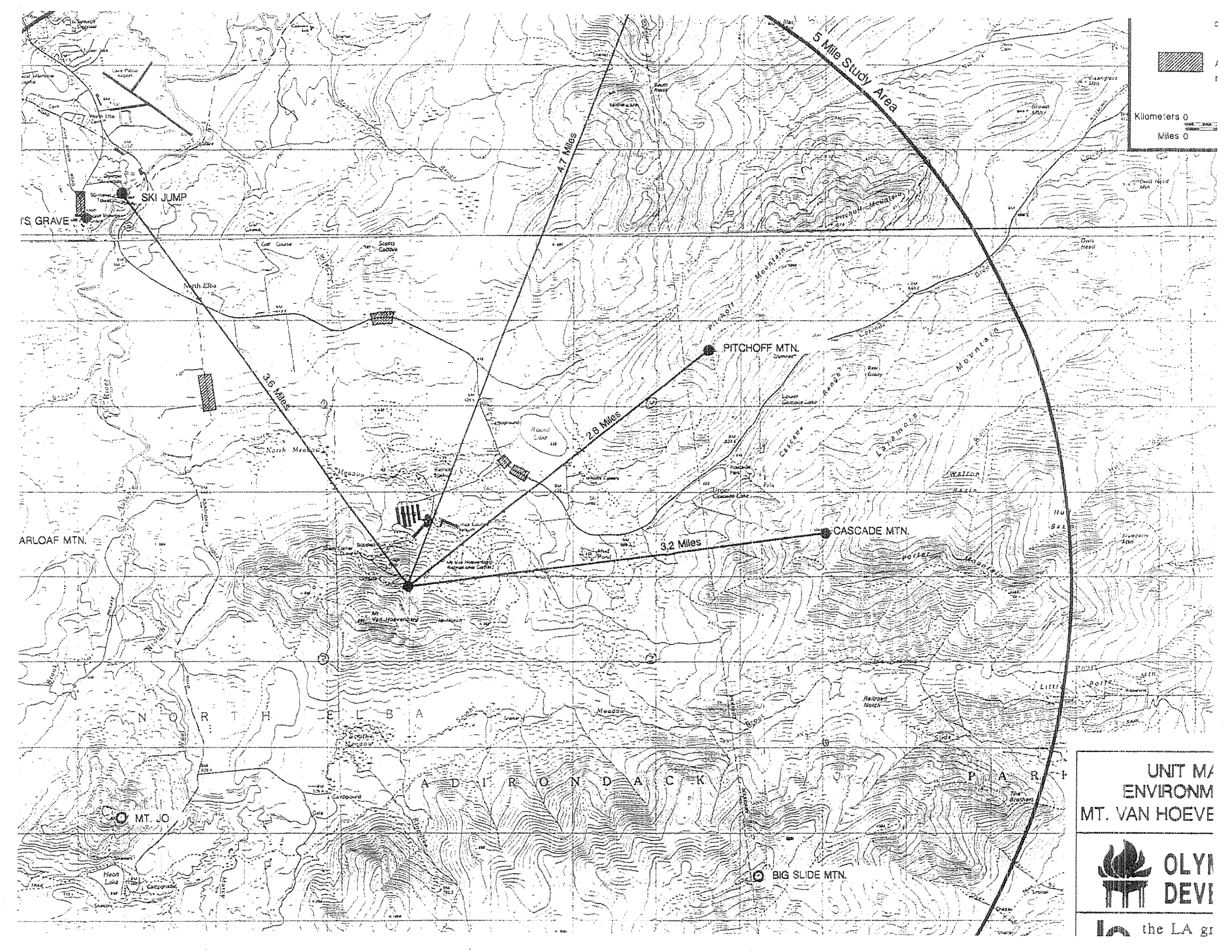
The upper portion of the existing bobsled run will be abandoned in place and will be allowed to reforest naturally, with some man made assistance in the form of erosion control, or the addition of topsoil or seeding, as deemed necessary. This will aid in mitigating the new clearing to a certain extent.

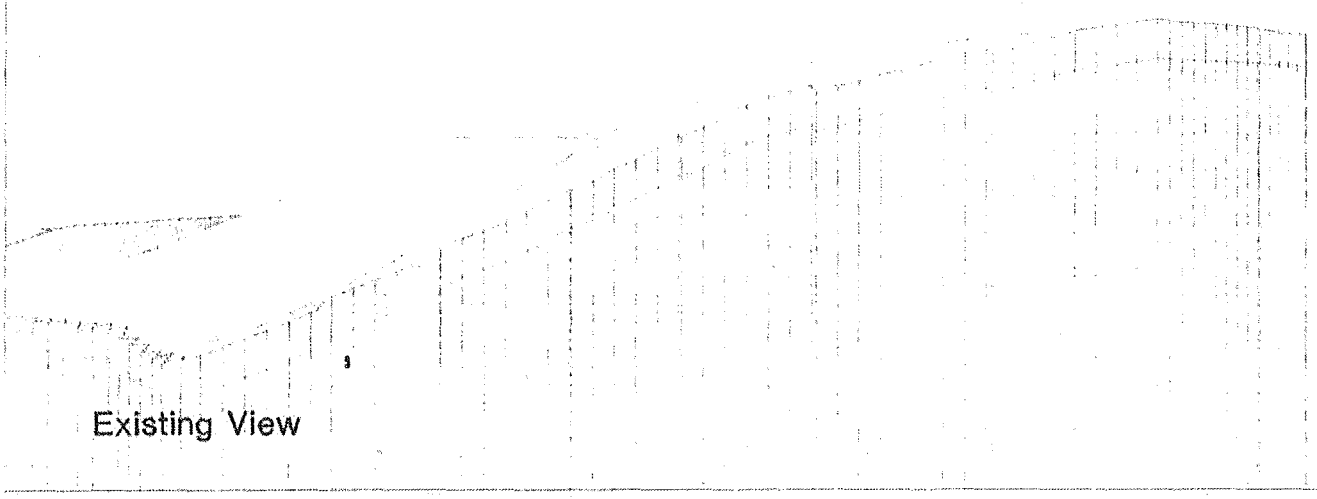
The lighting plan in the final design incorporates the same general lighting type as in the existing system, with the obvious benefits of providing sharp cut off fixtures and down-focused lights which will reduce the amount of light spill from the site. It is anticipated that lighting will not be necessary for ice maintenance such as in the existing condition because the newly constructed single track will not require nearly as much maintenance as the two existing tracks which are both several decades old. Therefore, the potential visual impact of the lighting of the new single track will be less than the existing condition.

The potential visual impact of the snowmaking pond pump/compressor building will be mitigated by design to the maximum extent practicable, that is, by carefully siting the structure and finishing it in earth tones.

REFERENCES

USDA. 1973. "National Forest Landscape Management. Volume 1." Forest Service. Agriculture Handbook Number 434. US Government Printing Office. Washington, D.C.


5 Mile Study Area
4.7 Miles
3.6 Miles
2.8 Miles
3.2 Miles
SKI JUMP
'S GRAVE
PITCHOFF MTN.
CASCADE MTN.
ARLOAF MTN.
MT. JO
BIG SLIDE MTN.
Kilometers 0
Miles 0
UNIT MA
ENVIRONM
MT. VAN HOEVE
OLYI
DEVI
the LA gr



Existing View

Since there are no project views from this location,

no proposed project views could be simulated

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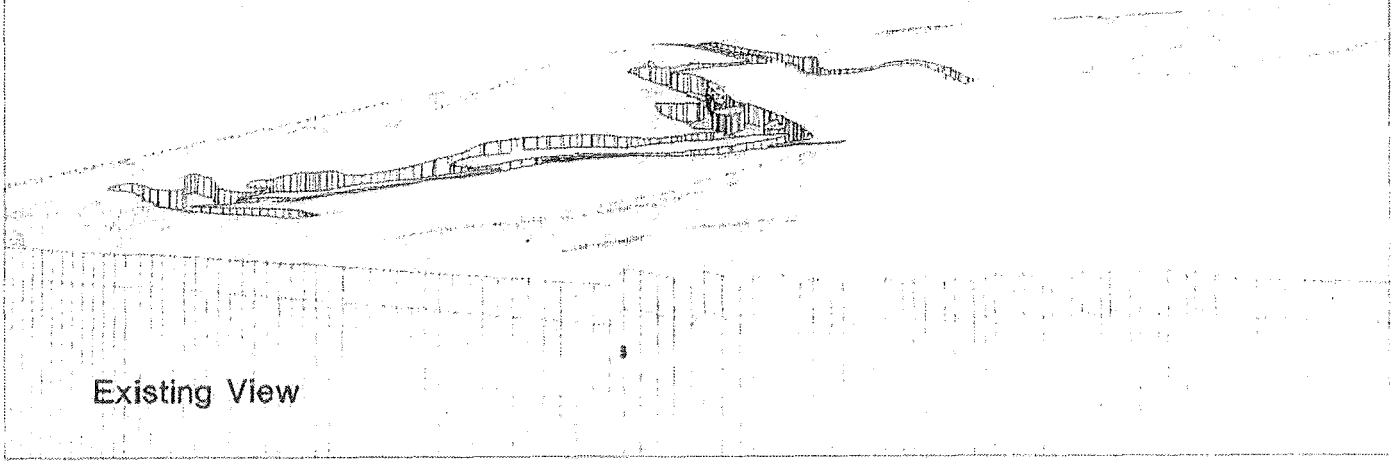
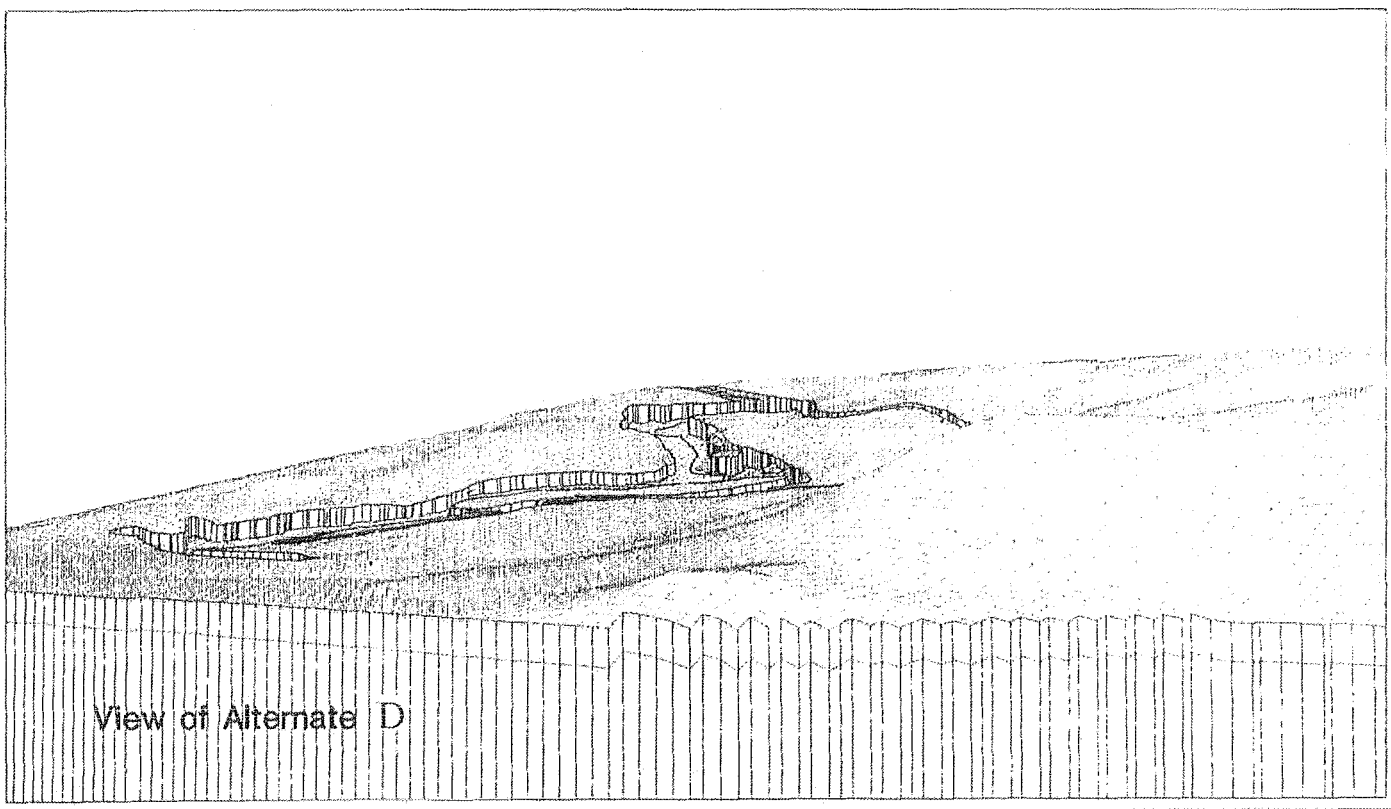
OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

VISUAL IMPACT ASSESSMENT
VIEW FROM SUGARLOAF MTN.
2000 Meters

© 1996	DATE: 3/29/96	SCALE:	FIGURE NO 2



Existing View



View of Alternate D

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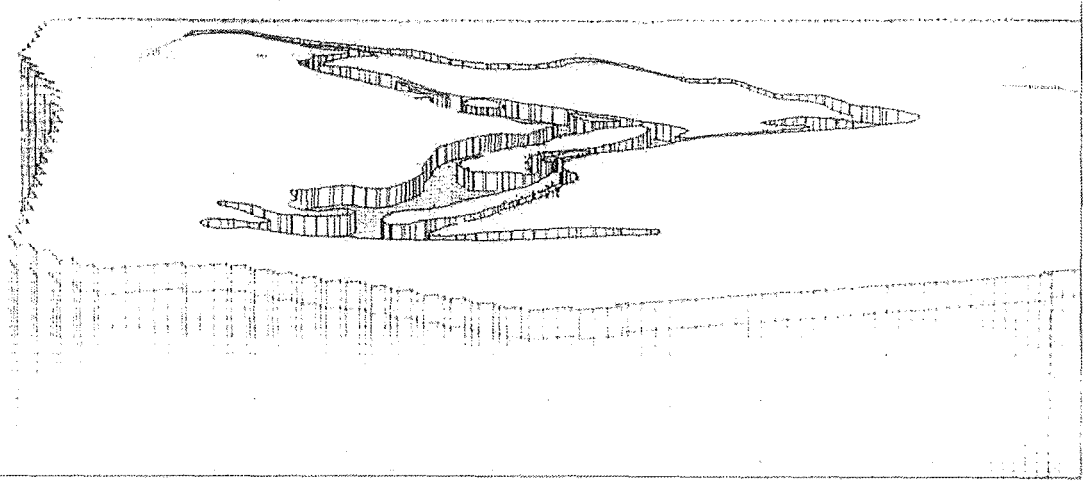
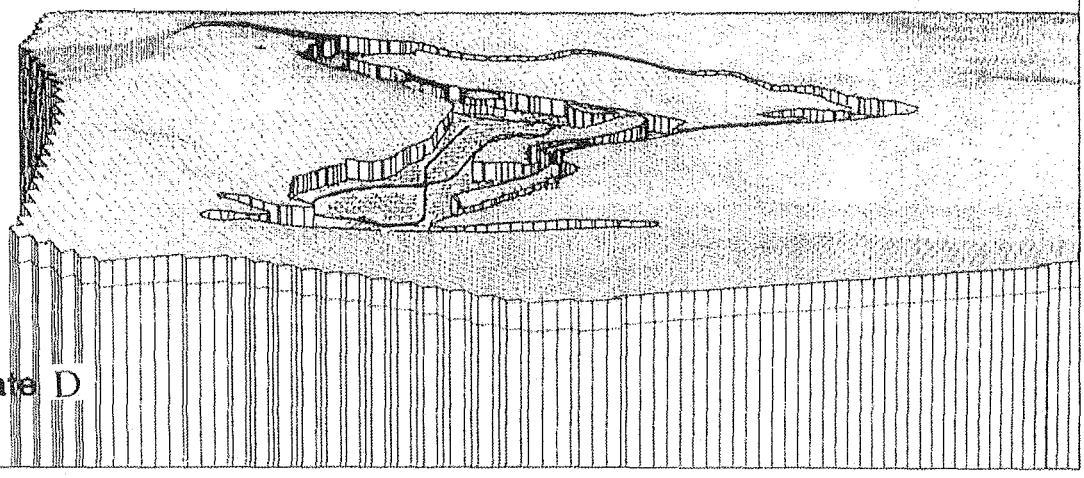
VISUAL IMPACT ASSESSMENT
VIEW FROM SKI JUMP
2000 Meters

[illegible]	DATE: 12-17-98	SCALE:	FIGURE NO.: 3



Existing View



View of Alternate D

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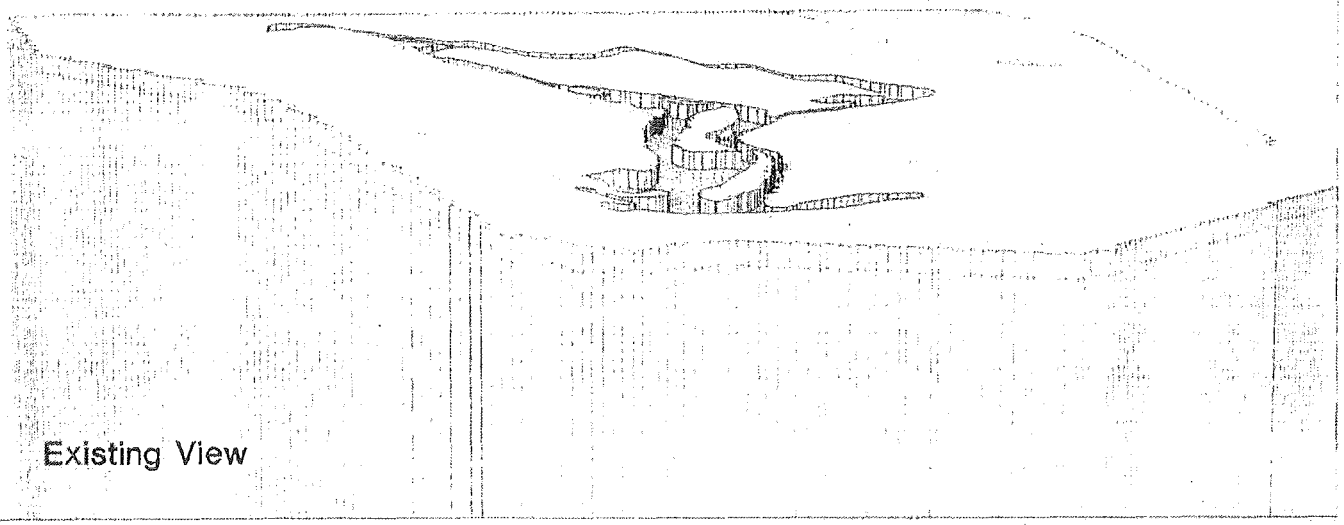
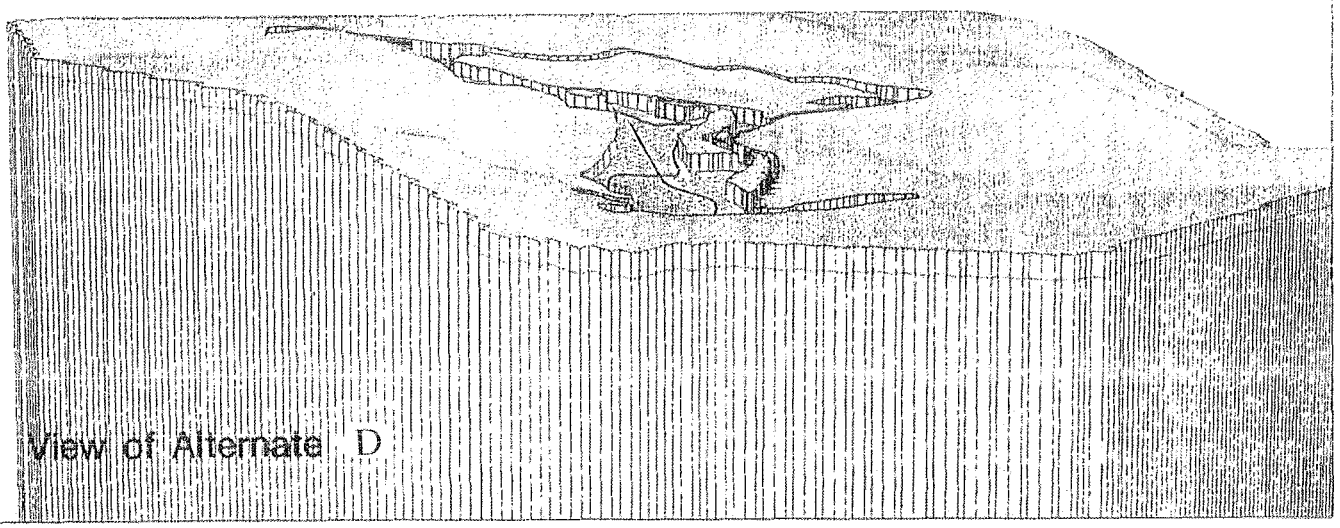
VISUAL IMPACT ASSESSMENT
VIEW FROM SLIDE MTN.
2000 Meters

 DATE: 12-17-98 | SCALE: | FIGURE NO. 4



Existing View



View of Alternate D

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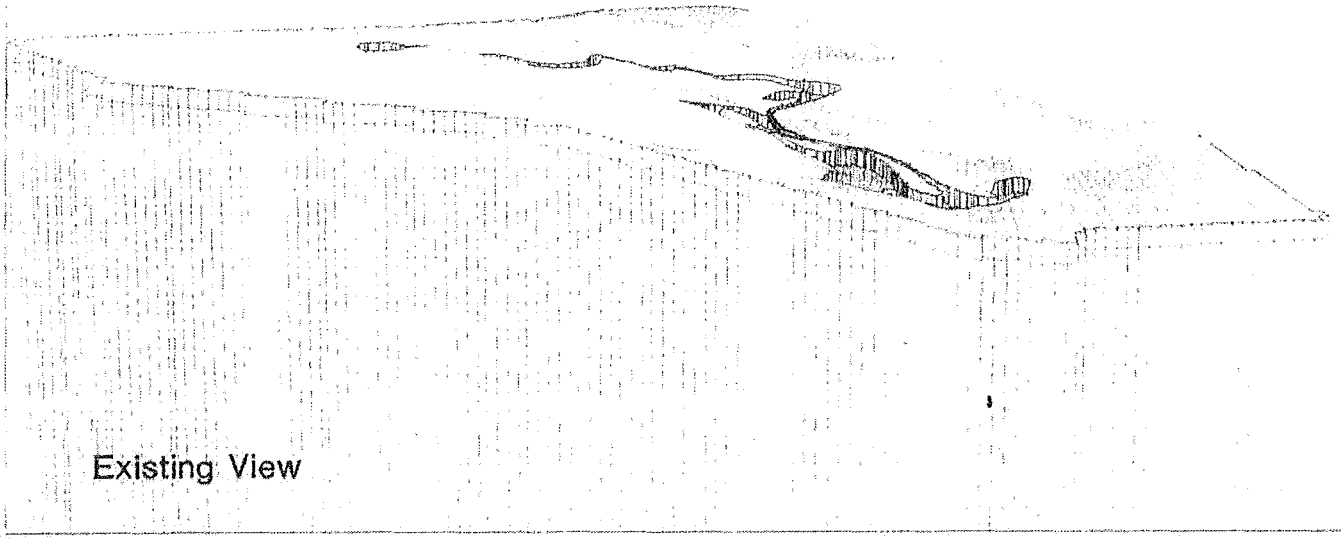
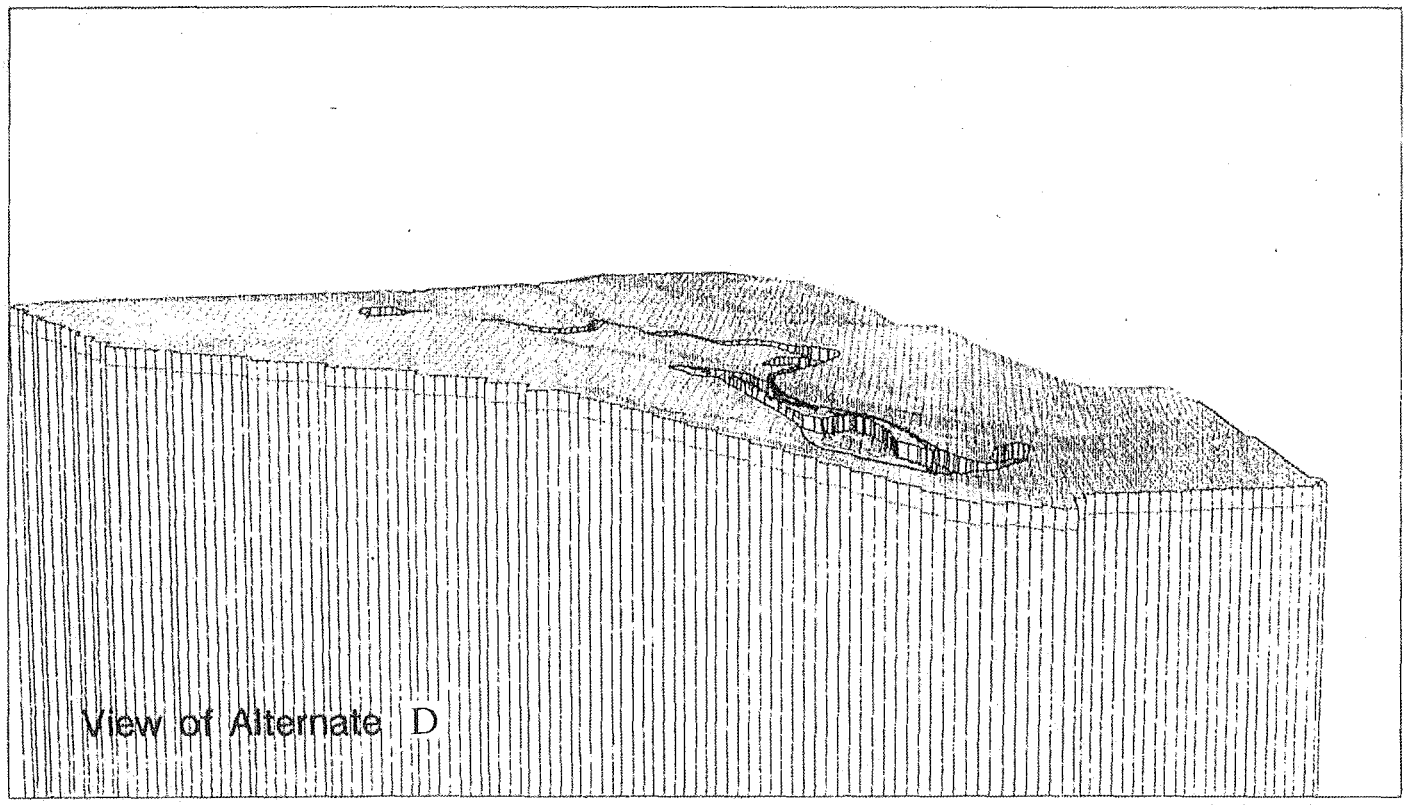
VISUAL IMPACT ASSESSMENT
VIEW FROM PITCHOFF MTN.
2000 Metere

DATE: 12-17-98 | SCALE: | FIGURE NO: 5



Existing View



View of Alternate D

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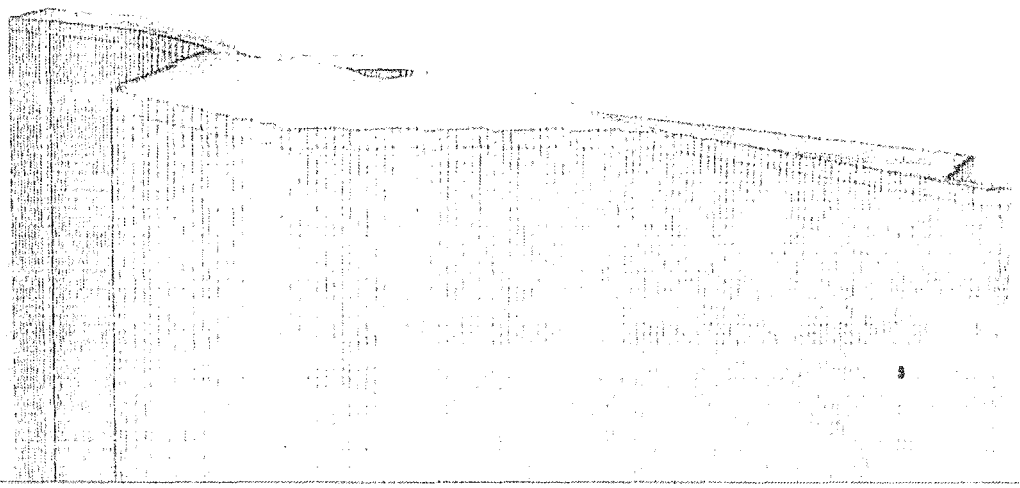
VISUAL IMPACT ASSESSMENT
VIEW FROM CASCADE MTN.

2000 Meters

DATE: 12-17-98 | SCALE: | FIGURE NO. 6

Existing View



Since there are no project views from this location,

no proposed project views could be simulated

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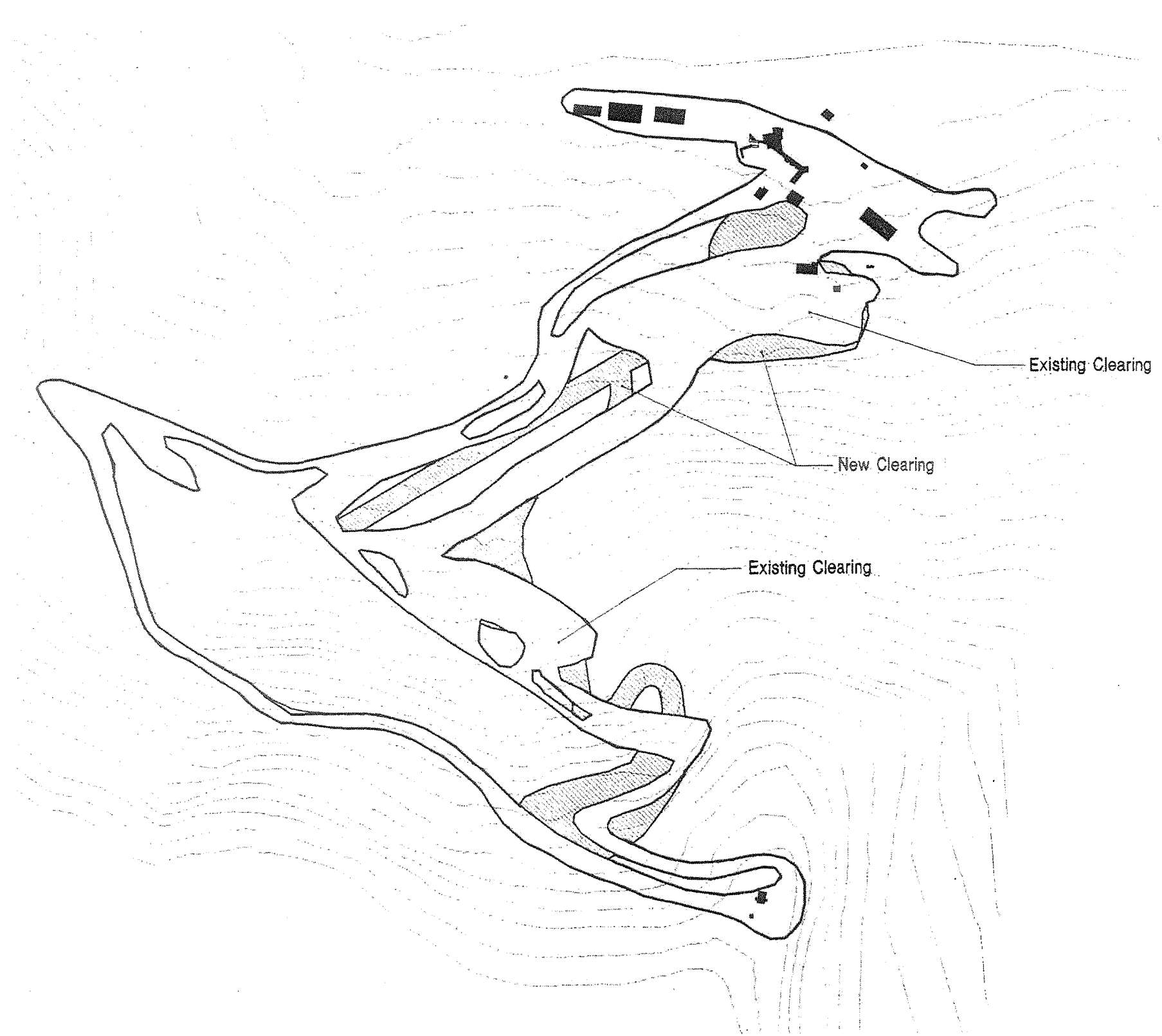
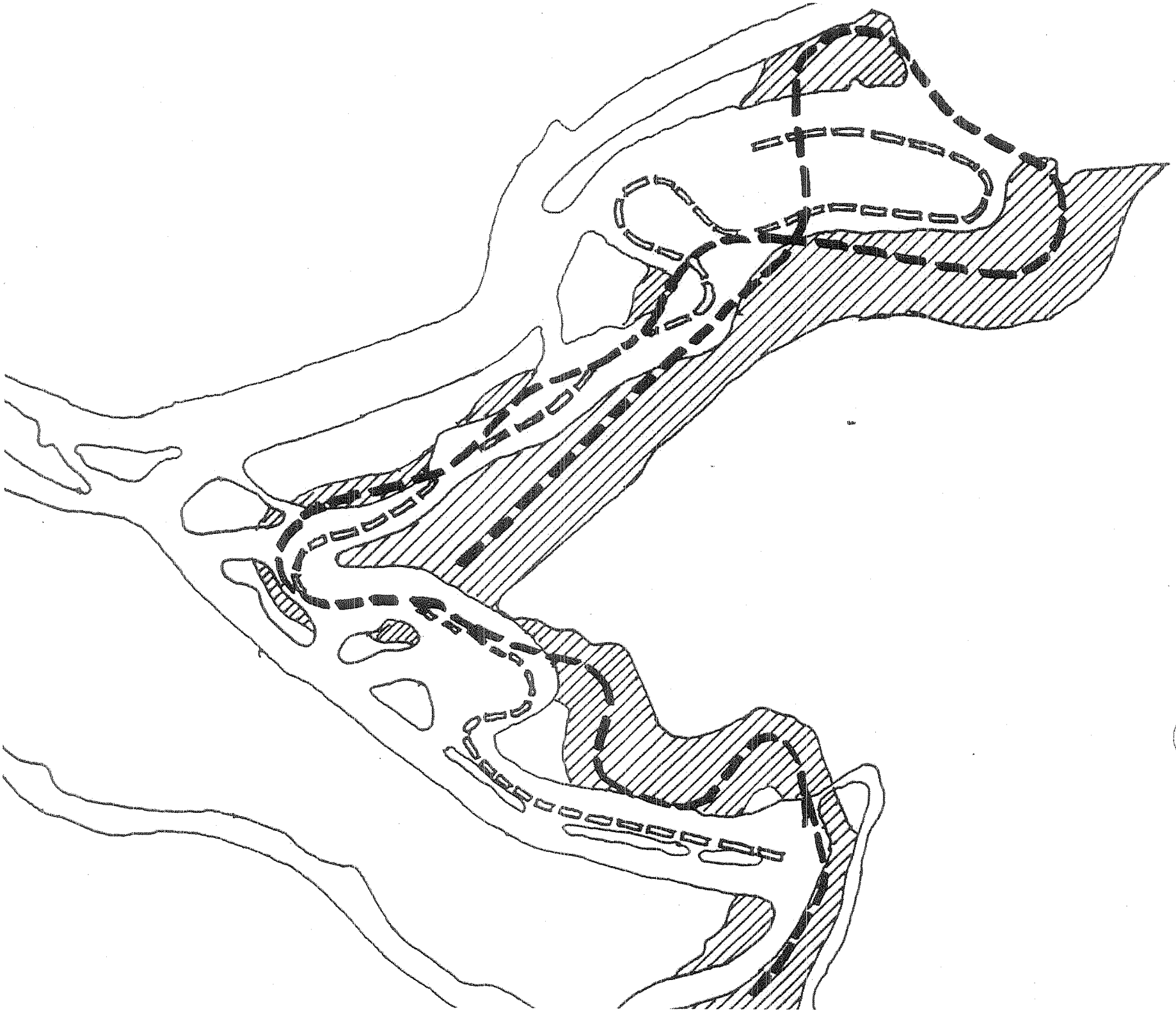
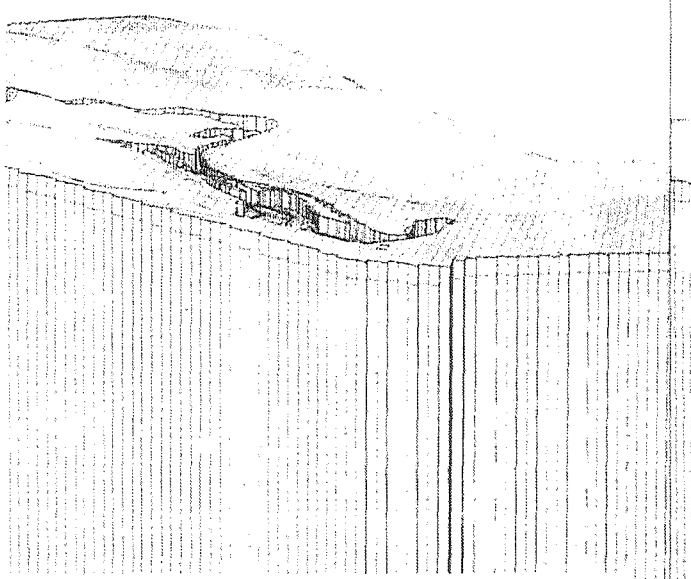
VISUAL IMPACT ASSESSMENT
VIEW FROM BIG SLIDE MTN.
2000 Meters

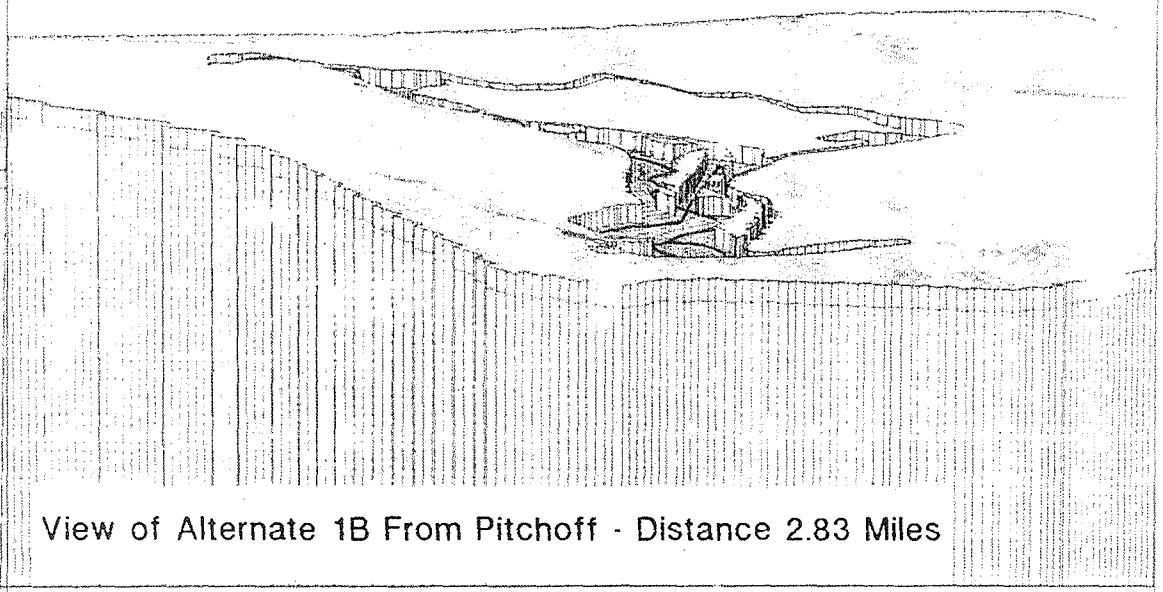
	DATE: 3/29/96	SCALE:	FIGURE NO. 7


New
Existing Clearing
New Clearing
Existing Clearing
North

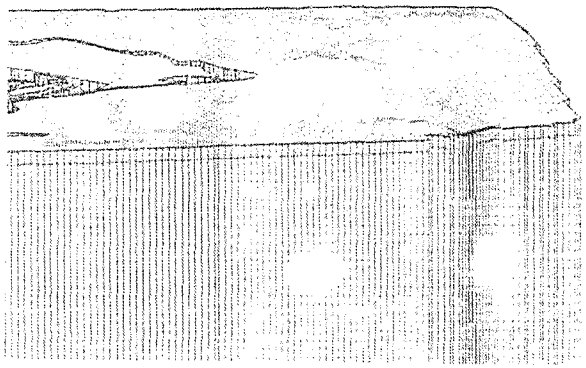

North

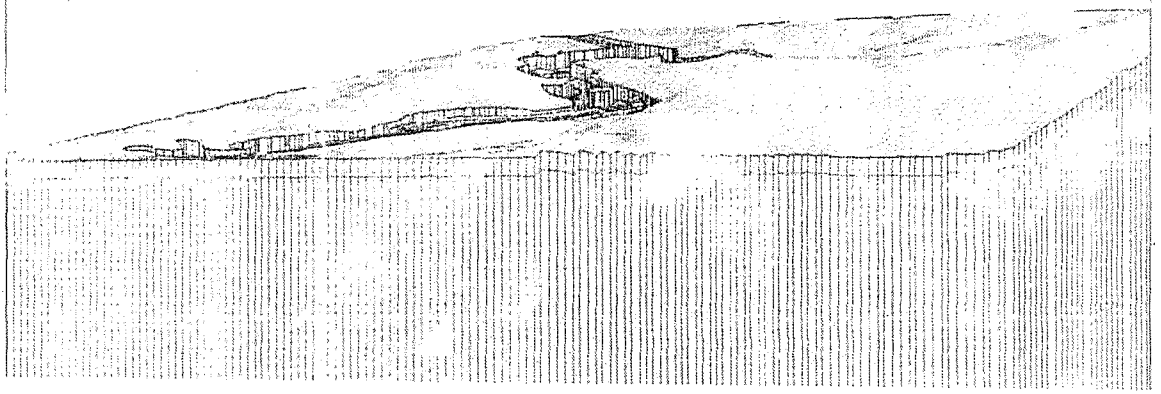


Cascade Mountain - Distance 3.15 Miles



View of Alternate 1B From Pitchoff - Distance 2.83 Miles





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Appendix D

List of Buildings and Structures

APPENDIX D

LIST OF BUILDINGS AND STRUCTURES

Buildings on Bob Run

New Mile Start	Upper level - 15'6 x 27'7" - 1 Clivus Mulstrum compost tank w/2 toilets.
	Lower level - 6'8" x 12' start/warm-up storage
1/2 Mile Start	Warm-up building, 19' x 20'
	Start building and storage - 10' x 10'
Finish	Warming Building - -7' x 9'
	Scale House - 8' x 16'
Sled Shed	Upper Level - Sled Storage - 40' x 75'
	ORDA - Supervisors Office - 40' x 12'
	Hallway - 10' x 10'
	1 toilet, 1 sink
	Lower Level - hallway 9' x 40' bobsled repair shop 28' x 40' - 2 toilets, 1 sink
Lounge (Club House)	Building At Bottom of Run
Upper Level	Lounge - 46' x 45'
	Outside Deck - 90' x 18'
Lower Level	Cafeteria - 46' x 45'
	Bathrooms - Women's - 3 toilets, 2 sinks, 1 handicap toilet.
	- Men's - 3 toilets, 4 urinals, 2 sinks, 1 handicap toilet.
	Press Room
	Timing Room
	First Aid Room - 1 toilet, 1 sink

(These five rooms in the lower level are included in one building - 90' x 18')

Ammonia Plant - Refrigeration Building - 48' x 86'

The refrigeration plant, which also serves the luge run, is located near the "Finish" curve. It is rated at 900 tons capacity. Three compressors totalling 1300 H.P. are used in various combinations to refrigerate the two runs. Power demand is 15 KV.

Maintenance Shop - 5 stall Garage - 46' x 98'

Usage: Truck Storage, Automobile Maintenance, Carpenter Shop, Electric Shop, Hand Tool Storage, and Locker Room

Log Building - Tool Room and Storage - 25' x 72'

Administration Office - 2 Offices, Waiting Room, Bathroom - (not public) 1 toilet, 1 sink - 20' x 38'.

Announcing Booth - 6' x 12 '

Valve House - At Bottom of Run - Controls ice making water on run - 6' x 10'

Store Room at Bottom of Luge Run - 12' x 16'

Pump House - At Brook - 3 pumps to supply reservoir - 12' x 10'

Salt Shed - In parking lot # 5, 30'L x 40'W x 18'H to store salt and sand.

Pole Shed - In parking lot #5 - Bobrun - 60' x 24'

Pole Shed - In back of Cross-Country Maintenance Garage - 20' x 48'

Resident House - 60' x 30' - 2 toilets, 2 sinks, 2 showers,

Modern kitchen

Garage - 20' x 20'

Buildings on Luge Run

Men's Start - Main Floor - 36' x 25'

Usage: Warm up of Competitors

Basement - Used for workmen and equipment - 36' x 25'

Women's Start - 17' x 27'

Usage: Warm-up of Competitors

Contains 1 500 gal. compost tank w/2 toilets

Luge - curve 5 warming hut - 8' x 10'

Finish Tower - 1st Floor - 12' x 12'

- 2nd Floor - 12' x 12' Storage

- 3rd Floor - 12' x 12' Jury Room

- 4th Floor - 24' x 25' Announce, Timing and Observation Room

- 4 lookout towers for observation of track - 6' x 6'

Finish Shed - For weighing sleds - 7' x 7'

Finish Building for Athletes - 35' x 23'

1 - 500 gal compost tank
2 - compost toilets
1 - weight room
1 - helmet room

Buildings at Cross-Country

Interval Timing Buildings (4 Each)

Dimensions: 6' x 6'

Usage: 3 unused, 2 buildings house emergency telephones

Old Cross-Country Timing Building

Dimensions: 8' x 36' with 4' x 12'

Usage: Race registration and administration

Furnishings: 4 benches, 2 ski waxing benches, 2 folding tables

Snow Making Building - Houses Pump - 12' x 12'

Ticket Booth

Dimensions: 6' x 6'

Usage: Cross-Country ski ticket sales

Cross-Country Timing-Building

Dimensions: 20' x 29' (2 story)

Usage: Timing for Cross-Country ski races

Furnishings: 28 folding chairs, 2 tables, 2 acoustic room dividers

Cross-Country Lodge

Dimensions: 40' x 70' (one story plus full basement)

Usage: Public warming and rest room facilities, food service, ski shop, ski patrol, administrative office, ski waxing

Furnishings: 28 benches, 5 picnic tables, 5 chairs, 23 ski waxing benches, 1 treatment table, 1 refrigerator, 6 rescue sleds w/ backboards, 1 amplifier and PA system, 1 water chlorinator

Office Trailer

Dimensions: 10' x 45'

Usage: NYSEF and employee lounge

Furnishings: 5 chairs, 2 folding tables

Buildings at the Biathlon

Biathlon Lodge Building

Dimensions: 55' x 57' (one floor)

Usage: Warming area for races and officials; kitchenette

Capacity: 300 - 4 lavatories, 7 toilets, 2 urinals, 6 showers; seating for 40

Furnishings: 12 benches, 1 refrigerator, 1 electric range, 3 picnic tables, 3 folding tables

Biathlon Timing Building

Dimensions: 24' x 40'

Usage: Timing ski races, houses intercom system

Furnishings: Amplifier and PA system

Biathlon Target Building

Dimensions: 12' x 325' (mostly below ground)

Usage: Targets for Biathlon range

Furnishings: 25 targets and framer, 25 stools for officials

Maintenance Shop

Dimensions: 50' x 80'

Usage: Storage and maintenance of grooming vehicles and equipment

Furnishings: Hydraulic lift, air compressor, gas and arc welding equipment, 4 storage cabinets

Vehicles and Equipment: Kassbohrer Pisten-Billy PB130D, Thiokel Imp. 1450 WT, Thiokel Imp. 1450 STD, Thiodel Imp. 1404, 3 Ski-Doo Alpiner, 2 Bachler double track-setter, 3 Valley Engineering, plows and framer; 2 Valley Engineering powder-maker, 1 Sno-Tiller, 2-12' culvert rollers, 2-8' culvert rollers, 1 Woodcrest double track-setter

Campsite Toilet

Dimensions: 20' x 24'

Usage: Unused

Range Officers Building

Dimensions: 8' x 36' with 4' x 12' extension

Usage: Storage of Biathlon range equipment, warming area for first-aid during races

Warehousing and Purchasing

Dimensions: 50' x 80'

Usage: Material and supply storage

LIST OF VEHICLES CURRENTLY AT MT. VANHOEVENBERG

VIN #	LICENSE #	YEAR	MAKE	IN	VENUE ONLY	OUT
1. 1FTEF14NXHNA75481	A80313	1987	FORD	X		
2. 1GTGU26KXH501815	A10792	1987	GMC	X		
3. 1G5EK1624FF516382	A11124	1985	GMC		X	
4. W21BE7S215741	A37315	1977	DODGE		X-plates off	
5. 2FTHF26G2DCA89943	A87228	1983	FORD		X	
6. W24BE7S182492	A11122	1977	DODGE	X		
7. TCE668V585436	A10831	1978	GMC	X		
8. DO622HHB38627	78-4331	1978	INT	X-plates off		
9. 1B7KW24R9BS146139	A37316	1981	DODGE	X-plates off		
10. W24BE7SO9O346	---------	1977	DODGE			X
11. AA162KHB15718	80-4352	1979	INT	X		
12. D14JE9S244483	A59408	1979	DODGE		X-plates off	
13. F61EVC76289	A10629	1976	FORD	X		
14. W24BE7S175568	--------	1977	DODGE	X		
15. W24BE7S217803	C32922	1977	DODGE	X		
16. 1G5CT18R5G0502694	A46347	1985	GMC			X
17. W24BE6S343649	--------	1976	DODGE	X		
18. 416060H020127	70-4099	1971	INT	X		
19. W24BE6S320214		1976	DODGE		X	
20. CGD2597204092	A73846	1979	CHEVY	X		
21. W21BE6S323807	--------	1976	DODGE	X		
22. T16DAAV578410	C32921	1980	GMC	X		
23. 1GDKP32M7F35092	A59879	1985	TH-BUS	X		
24. W24BE6S343414	--------	1976	DODGE		X-PARTS ONLY	
25. D24BE6S247366	--------	1976	DODGE		X-PARTS ONLY	

26.	1G8BK18H5BF135114	--------	-----	CHEVY			X	
27.	AA162KHB15712	--------	1979	INT			X	
28.	CKY244F477166	--------	1974	CHEVY		X		
29.	7172211G435884	A66334	1971	INT	X			
30.	VT124880	A74039	1946	FREUH	X			
31.	AA626283-12262	C32907	1968	KAISE		X		
32.	D24BE7S127036	--------	1977	DODGE			X-PARTS ONLY	
33.	1B7FD14POBS159877	A59410	1981	DODGE			X-PARTS ONLY	
34.	D14BE7S193770	--------	1977	DODGE			X-plates off	
35.	1GCGC23M7ES18632	A87229	1984	CHEVY		X-plates off		
36.	CA255KHA13652	--------	1980	INT			X	
37.	1GKCT18R5HO503259	--------	1986	GMC			X	
38.	1872-DAAKO1-67-CA988	--------	1967	ALLIS	X			
39.	S6H4503A-030	3902-BF	1971	GMC-BUS				X
40.	S6H4503A-025	--------	1971	GMC-BUS			X	
41.	S8H5304A-193	--------	1976	GMC-B US			X	
42.	1FMCV14T7KVC20920	A95275	1989	FORD	X			
43.	2GTEK14HXE1540652	A73844	1984	GMC	X			
44.	W24BE7S217866	C10315	1977	DODGE	X			
45.	030681	78-6001	1978	CASE-U	X-plates off			
46.	034475-031547	--------	1978	CASE-U	X-plates off			
47.	1GDJP37WXH3501461	A30151	1986	GMC-Trolly	X	CLOSED		
48.	9136745	--------	1978	CASE-L	X			
49.	333073T	301-A	-----	J-D	X			
50.	C212J120414M	212	-----	J-D			X	
51.	334200194	-------	1985	SKI-D	X			
52.	331900558	-------	1978	SKI-D	X			
53.	TRX351-JH3TE0705HK	105138	1987	HONDA	X			
54.	WKK81300001011386	-------	-----	PIST-B		X		
55.	T8C1166-1450STD	-------	1978	THIOL		X		

56.	TSC-1163-1450WT	-------	-----	THIOL	X
57.	JX452H007F0001034	-------	-----	YAMA X	
58.	----------	-------	-----	THIOL	X
59.	3523507	--------	1985	SKI-D X	
60.	M00240B120586	--------	-----	JD-240 X	
61.	1GDJP37WXH3504451	A10881	1985	TROLLY-OPEN	X
62.	1GDJ7DIEOGV518782	A11166	1985	GMC-LI X	
63.	1FDJE37G6BHA10042	A29889	1981	FORD-VAN-X	
64.	----------	A74147	-----	PLY-RELIANT-CAR NOT OURS	
65.	1GCEG25H8C7157346	A74038	-----	CHEVY-WHITE-VAN X	
66.	NO-ID #	---------	-----	GREEN-DEC-TRUCK	X
67.	1257038	A10760	-----	GEN-E-TRAILER	X
68.	334200183	--------	1985	SKI-D	
69.	AT SKI JUMPS	--------	-----	CASE-DOZER	
70.	W24BE65244340		1976	DODGE PICKUP (PARTS ONLY) X	
71.			1986	AEBI - TERRA TRAC X	
72.	600AR22021-SND0L026072-A			INGERSOL RAND COMPRESSOR X	
73.	W00780X004817		1984	JOHN DEERE - MANURE SPREADER X	
74.	W00680X004817		1983	JOHN DEERE - MANURE SPREADER X	

Appendix E

Memorandum of Understanding

Memorandum of Understanding
ORDA - DEC
Date: 03/08/91

Contents

VII. Unit Management Plan

A.) ORDA to provide DEC specific notice before any management action.

B.) ORDA comply with all DEC policies/delegations.

C.) Tree cutting: See Appendix II and Memorandum #84-06 as amended.

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- D-2 Change in use of structure
- D-3 Facilities/Structure Type II Action
- D-4 Projects where cutting of less than 10 trees
- J-5 Immediate action to insure public health and safety

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AND

THE OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION ("DEC") and THE OLYMPIC REGIONAL DEVELOPMENT AUTHORITY ("ORDA") entered into the following agreements in connection with the transfer of the management of certain winter recreational facilities under DEC's care and custody, to ORDA:

1. Agreement dated October 4, 1982, amended November 10, 1982 and amended April 1, 1984, in relation to Whiteface Mountain Ski Center and Memorial Highway, and Mt. Van Hoevenberg Recreation Area, and
2. Agreement dated April 1, 1984, in relation to Gore Mountain Ski Center.

There are a number of provisions in the aforesaid agreements requiring that certain specific actions be taken from time-to-time by the parties, including compliance by ORDA with all applicable laws and implementing regulations, whether federal, state or local, in all its activities relating to the facilities subject to the aforesaid agreements. The purpose of this memorandum is to establish mutually agreeable methods and procedures by which certain managerial requirements contained in the aforesaid agreements

can be fulfilled in an orderly and efficient manner. It is the further purpose of this memorandum to establish the means for the implementation of the Unit Management Plans described in Section VII. hereof.

It shall be the responsibility of the signatories or their designees to generally administer the provisions of this Memorandum of Understanding. This memorandum amends and supersedes that certain existing Memorandum of Understanding between DEC and ORDA effective December 15, 1984, which established mutually agreeable methods and procedures for implementation of the aforesaid agreements between DEC and ORDA relating to Whiteface Mountain Ski Center and Memorial Highway, Mt. Van Hoevenberg Recreation Area and Gore Mountain Ski Center.

The aforesaid requirements contained in the aforesaid agreements are set forth below, together with the methods and procedures to be followed for their implementation. Compliance with this memorandum and the individual Unit Management Plans for the above facilities shall occur immediately.

I. Inspections:

ORDA agrees to conduct a joint inspection of all facilities at least annually with the DEC. The ORDA also agrees that the DEC may conduct unannounced inspections of the facilities at any time in a reasonable manner.

Implementation:

Annually, during the month of July, joint inspections will be held at each of the facilities covered by the aforesaid agreements. The purpose of inspections shall be to document, in writing, compliance with all aspects of the agreements and with the aforesaid unit management plans. While the agreements allow for unannounced inspections, the parties shall enter into this agreement in the spirit of cooperation. DEC shall contact the ORDA Environmental Monitor and the Facility Manager to accompany the DEC staff only in connection with any non-regulatory or non-enforcement inspections of the facilities other than the annual inspection. Such non-regulatory or non-enforcement inspections, however, shall not be delayed due to the unavailability of said ORDA individuals. In the event of an emergency situation involving a non-regulatory or non-enforcement matter, said ORDA personnel shall also be contacted to the extent practicable. In ORDA's case, the annual inspection and non-regulatory or non-enforcement inspections will be conducted by the Facility Manager and ORDA's Environmental Monitor. In DEC's case, all annual joint inspections will be coordinated by the Region 5 Supervisor of Natural Resources; all non-regulatory or non-enforcement inspections shall

be coordinated by the appropriate DEC program supervisor.

II. Maintenance:

ORDA agrees to maintain and keep the facilities, personal property and equipment in good repair. All mechanical equipment shall be maintained and operated in accordance with manufacturers' recommendations and applicable industrial code rules.

Implementation:

This will be discussed during the annual inspection trips. A paragraph in the inspection letter will reference compliance with this section. In the case of personal property and equipment, this provision means such personal property and equipment owned by DEC, and not such personal property and equipment independently acquired by ORDA.

III. Repairs:

ORDA also agrees to undertake any repairs or manner of repairs to the facilities, personal property and equipment which the DEC specifically requests, so long as the funds therefor are made available to ORDA.

Implementation:

Any requests from DEC to ORDA shall be in writing at the time of request. During the annual inspection trip, if there are projects that were requested during the previous year, their completion should be referenced in the inspection letter.

IV. Public Recreation:

ORDA agrees to continue providing the space, facilities and level of public recreation, including youth sports, training, promotion and programming, which were provided by DEC at each facility during calendar year 1981.

Implementation:

The Appendix/Exhibit listing the Recreation Program (See Appendix B of the aforesaid Whiteface Mountain Ski Center/Mt. Van Hoevenberg Recreation Area agreement, and Exhibit 3 of the aforesaid Gore Mountain Ski Center agreement.) will be reviewed during the annual inspection trip and a note of compliance will be placed in the inspection letter.

V. Existing Agreements:

ORDA agrees to comply with all agreements to which DEC is a party concerning the facilities which were in existence on the date on which this Agreement was executed.

Implementation:

Each agreement listed in the Appendix/Exhibit (See Appendix C of the aforesaid Whiteface Mountain Ski Center/Mt. Van Hoevenberg Recreation Area agreement, and Exhibit 4 of the aforesaid Gore Mountain Ski Center agreement.) will be reviewed during the annual inspection trip and will be referenced in the inspection letter.

VI. Capital Improvements:

The DEC agrees that ORDA may undertake capital improvements to the facilities. ORDA agrees to obtain the prior written approval of DEC before undertaking any such improvements, and further agrees, if federal funds are to be sought for such improvement, to obtain the prior written approval of DEC of any application for such funds.

Implementation:

The Commissioner or his designee shall give written approval to each year's capital projects affecting

DEC's facilities before Board approval is obtained. Such action constitutes approval, within budget, to commence the project development process, including planning and design, Unit Management Plan planning, State Environmental Quality Review Act (SEQR) review, obtaining applicable regulatory approvals, and public bidding, etc., as necessary. ORDA shall also request prior written approval from the Commissioner or his designee for any federal funds sought to undertake such capital improvements. During the annual inspection trip, each capital improvement completed shall be listed in the inspection letter.

VII. Unit Management Plans:

Unit Management Plans, together with Final Environmental Impact Statements, were prepared by ORDA and DEC, in consultation with the APA, and adopted by the Commissioner of Environmental Conservation for the Mount Van Hoevenberg Recreation Area on December 2, 1986; the Whiteface Mountain Ski Center on May 19, 1987; and the Gore Mountain Ski Center on November 18, 1987.

Implementation:

A. ORDA will provide DEC with specific notice prior to undertaking any management actions described in a

Unit Management Plan or in an amendment thereto for determination of consistency with the applicable Unit Management Plan. (See Appendix I for Unit Management Plan amendment process). Such notice shall be given at least 30 days prior to the actual undertaking of construction of the management action. Such notice will include a project plan, the appropriate environmental assessment as may be required under SEQR, an erosion control plan for any projects that may result in disturbance of soils, together with the declaration of significance. It is understood that DEC will be an "involved agency" concerning these actions throughout the SEQR process.

B. ORDA shall comply with all formal DEC policies or delegations affecting Unit Management Plan compliance by DEC.

C. The Unit Management Plans provide that the cutting of trees associated with the implementation of management actions will be in accordance with the established policies and procedures of the Commissioner of Environmental Conservation (See Appendix II - Organization and Delegation Memorandum #84-06, as amended). The DEC procedures will be initiated by the Regional Forestry Manager for DEC upon notice by the ORDA facility manager

that tree cutting is contemplated in conjunction with a management action. The Regional Forestry Manager will inform the ORDA facility manager within five working days, in writing, as to whether the cutting may proceed or that notice will be required in the Environmental Notice Bulletin ("ENB") and that the cutting will be reviewed pursuant to the DEC tree cutting policy. Should notice be required, ORDA will provide DEC with the appropriate ENB notice including the designated contact person. The DEC will then complete the notice requirements and inform ORDA as to the decision in writing upon completion of the review process. It is agreed that Environmental Notice Bulletin publication and DEC review will not be required in cases where the tree cutting was specifically described in the detail required by the DEC policy in the Unit Management Plan and noticed in the ENB in the process of adoption of the Unit Management Plan or an amendment thereto. Such notice must include a count of the number of trees to be removed which exceed three inches in diameter and the acreage of land involved. Nor will such notice and review be required where a tree cut could constitute a "Type II Action" under the DEC rules and regulations governing the

implementation of SEQR (6 NYCRR 618.2). Any trees cut in accordance with this section can be removed from the premises in any manner deemed feasible by ORDA so long as such method is consistent with the guidelines of the State Land Master Plan, the Unit Management Plan, Article 8 of the ECL, and Division Direction Memorandum LF-84-2 dated May 31, 1984 and LF-84-2 Supplement dated July 3, 1986. (See Appendix III).

D. A new structure or improvement not described in a Unit Management Plan, or in an amendment to a Unit Management Plan, cannot be undertaken or constructed. This provision, however, does not prevent ORDA from undertaking the construction of the following activities, provided that all conditions in Items A, B, and C above are fully complied with and implemented.

1. Ordinary maintenance, rehabilitation and minor relocation of conforming structures or improvements as defined and interpreted in the DEC-APA Memorandum of Understanding governing implementation of the State Land Master Plan (SLMP), as last amended on April 3, 1985.

2. A change in the use of a structure or improvement as described in a Unit Management Plan that is not inconsistent with the guidelines and criteria of the SLMP for intensive use areas,

3. Any facility or structure that is listed as a Type II Action in the DEC rules and regulations governing the implementation of SEQR (6 NYCRR 618.2) and, in particular, the construction and location of single, small, new or existing facilities or structures where the total area of the structure or expansion does not exceed 400 square feet and the surroundings are returned to their original condition after the construction/installation of the structure or facility.

4. Any project consisting solely of the cutting of not more than ten (10) trees more than 3 inches in diameter at breast height.

5. Any action deemed immediately necessary to insure public health or safety. In such cases DEC will be immediately notified of the situation and what the proposed or ongoing action consists of.

E. The Unit Management Plans will be administered on a day-to-day basis by the Environmental Monitor for ORDA and the Region 5 Supervisor of Natural Resources for DEC. Notification of project

implementation, concerns dealing with potential environmental problems, requests for change in preapproved action plans, need for Unit Management Plan amendment and other similar communication will all take place between the Environmental Monitor for ORDA and the Region 5 Supervisor of Natural Resources for DEC. Agreements made by these individuals will be binding on both agencies. If agreement cannot be reached on a specific issue, the issue will be elevated in the respective agencies for resolution.

VIII. Removal of Property and Equipment:

No part of any facility, nor personal property or equipment of DEC used in connection therewith, shall be sold or removed from the facility without the prior written approval of DEC.

Implementation:

DEC currently maintains a computer program for the inventory of property. All DEC equipment transferred to ORDA is part of that inventory. DEC shall supply appropriate forms to ORDA and ORDA will advise DEC via the forms when equipment is surplused, destroyed or when new DEC equipment is acquired. DEC shall maintain the inventory and shall annually certify with ORDA that the list is

correct. Lead role in DEC for the above items is vested in the Division of Operations Central Office.

This Memorandum of Understanding will become effective upon its execution by each of the parties hereto.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

BY: Thomas C. Jorling

Thomas C. Jorling, Commissioner

Date March 11, 1991

OLYMPIC REGIONAL DEVELOPMENT AUTHORITY

BY: Ned Harkness

Ned Harkness, President, C.E.O.

Date March 8, 1991

APPENDIX I

REVISION/AMENDMENT TO UNIT MANAGEMENT PLANS

1. Any material modification or amendment to the unit management plans is to conform to the guidelines and criteria of the SLMP, and will be made following the same procedure prescribed in the master plan for original unit management plan preparation.

2. A proposed amendment will be presented in its complete form and content, including indication of the specific sections of the existing management plan being amended, and be accompanied by:

   (A) An evaluation of whether or not the proposed amendment will require a reexamination of the inventory and assessment section of the plan.

   (B) If the amendment represents a departure from the goals and objectives stated in the plan, a discussion of impacts of the new objectives on facilities, public use and resources of the unit.

   (C) An assessment of whether or not the proposed amendment is consistent with carrying capacity of the area.

   (D) A schedule for the implementation of proposed management actions.

Any action to amend a unit management plan in connection with a proposed management action is to be initiated no later than the required site-specific environmental assessment pursuant to SEQR.

3. Consistent with the DEC-ORDA management agreements, ORDA and DEC will cooperate and provide such staff assistance as may be necessary in the preparation of amendments to the unit management plans. Both agencies will designate an appropriate representative to be the lead contact person in the matter. Division of Responsibility shall be as follows.

ORDA -

Develop and make appropriate revisions, in response to comments, to all documents. These will include the actual plan and accompanying SEQR.

Provide for public comment including hearings/ meetings. Make a record of comments and responses.

Print and distribute all draft and final documents.

Present draft documents to designated DEC contact for DEC review, including the SEQR committee, posting in the Environmental Notice Bulletin, APA review and DEC Commission's final approval.

DEC -

Provide assistance to designated ORDA representative on format and procedure.

Coordinate APA review and comments.

Coordinate DEC review, comments and final approval.

Coordinate all notices in the ENB.

APPENDIX II

File Ref. 1620

HENRY G. WILLIAMS, Commissioner
New York State
Department of Environmental Conservation

February 16, 1984

TO: Executive Staff, Division and Regional Directors

FROM: Hank Williams

RE: ORGANIZATION AND DELEGATION MEMORANDUM #84-06

Purpose:

To establish a policy regarding the prohibition of cutting, removal or destruction of trees and other vegetation on all Forest Preserve lands pursuant to Article XIV of the Constitution of New York State.

Background:

Article XIV of the Constitution specifically states that the timber on the Forest Preserve shall not "...be sold, removed or destroyed." Over the years it has been necessary to occasionally cut trees in the interest of public safety, overall protection of the Preserve and for the development of facilities. Such cutting has been sanctioned through Consitutional Amendment or by Opinion of the Attorney General, who has interpreted the Constitution as allowing such cutting.

Policy:

Section 9-0105 of the Environmental Conservation Law provides that the Division of Lands and Forests has responsibility for the "care, custody and control" of the Adirondack and the Catskill Forest Preserve. In accordance with this responsibility, all construction of new facilities, expansion or modification of existing facilities and maintenance of facilities, that will result in the cutting, removal or destruction of vegetation on any of the lands constituting the Forest Preserve shall require approval of the Director of the Division of Lands and Forests in accordance with the following Procedure. However, under no circumstances will approval be granted for the cutting of trees for firewood, timber or other forest products purposes.

Procedure:

A. Construction of New Facilities and the Expansion or Modification of Existing Facilities

All projects that involve the cutting, removal or destruction of trees or other vegetation in the Forest Preserve must have approval from the Director of the Division of Lands and Forests to be applied for in the following manner:

1. Regional Facilities

Requests for approval will be submitted by the Regional Director to the Director of the Division of Lands and Forests

2. Non-Regionalized Facilities

Requests for approval will be submitted by the Director of the Division responsible for the facility to the Director of the Division of Lands and Forests

Requests for approval to cut, remove or destroy trees for the purpose of new construction, expansion or modification projects must be submitted in writing and include the following information:

- The location of the project including a map delineating the project
- A description of the project and its purpose
- A count, by species, of all trees to be cut, removed or destroyed
- A delineation of areas where vegetation, in addition to trees three inches or more in diameter, is to be disturbed
- A listing of any protected species of vegetation located within three hundred feet of the area to be disturbed during the project
- A description of measures to be taken to mitigate the impact on and restoration of vegetation, if appropriate, to the area impacted

All decisions to approve any cutting, removal or destruction of trees will be subject to individual SEQR determinations.

B. Routine Maintenance

Responsibility for approval of all routine maintenance projects involving the cutting, removal or destruction of trees or other vegetation is delegated to the Regional Forester for the region in which the project is to occur.

Routine maintenance projects include the following activities:

- Maintenance of foot trails, cross-country ski trails, etc., including "the cutting of the few trees necessary...." (1934 A.G. 268 January 18, 1934.)
- Boundary line surveys and the maintenance of such boundary lines as "an aid to the conservation work of the State...where the number of small trees utilized or removed...appear immaterial. (1934 A.G. 309 September 20, 1934.)
- Removal of "dead timber, either standing or fallen...for fuel at the public camp sites...." (1934 A.G. 315 October 30, 1934.)
- Maintenance of scenic vistas along trails when "tree removal may not be sufficient to pass the point of immateriality." (1935 A.G. 274 January 17, 1935.)
- Removal of dead and hazardous trees in developed areas such as campgrounds and ski centers "that endanger people." (1935 A.G. 30[illegible] June 26, 1985.)
- Salvage of windfall timber when "such blowdown timber constitutes a fire hazard." (1950 A.G. 154 December 28, 1950.)

1. Regional Facilities

Requests for approval of routine maintenance projects will be made to the Regional Supervisor for Natural Resources who will direct them to the Regional Forester.

2. Non-Regionalized Facilities

Requests for approval of routine maintenance projects will be made by the facility manager to the Regional Director of the Region in which the facility is located, who will direct them to the Regional Forester.

Requests for approval of routine maintenance projects should be submitted in writing as soon in advance of the date of beginning of the maintenance work as possible and include a description of the project and its location. If prior written or verbal approval cannot be obtained, hazardous trees involving imminent danger to human safety or damage to facilities may be removed without prior approval. However, such action must be reported within 24 hours following removal of the tree(s).

File Ref: 1620

MEMORANDUM FROM:
HENRY G. WILLIAMS, Commissioner
New York State
Department of Environmental Conservation

July 29, 1986

TO: Executive Staff, Division and Regional Directors

FROM: Hank Wi[illegible]

SUBJECT: Organization and Delegation Memorandum #84-06: Addendum

- -

Background:

The above memorandum was promulgated on February 16, 1984 "To establish a policy regarding the prohibition of cutting, removal or destruction of trees and other vegetation on all Forest Preserve lands pursuant to Article XIV of the Constitution of New York State."

Since that time it has come to our attention that the procedures established in the memorandum do not include provision for adequate notice to the public as to the number of trees proposed to be cut and the size of the land area involved on specific projects.

Amendment:

Therefore, Part A. under Procedure of Memorandum #84-06 is amended and expanded by the addition of the following paragraph at the end of such Part A. on page 2. of such Memorandum.

> Any construction or reconstruction activity involving land under the jurisdiction of the Department of Environmental Conservation within the Adirondack or the Catskill Park--regardless of the classification of such land--that is a Type I action or otherwise requires notice in the Environmental Notice Bulletin will include information in such notice as to the (1) acreage or extent of the land area proposed to be involved and (2) number of trees in excess of three inches stump diameter proposed to be cut, removed or destroyed. A copy of such notice as it appeared in such Bulletin (with the date of the Bulletin noted) will be included and made a part of the information constituting the "request for approval" just above described.

APPENDIX III

M E M O R A N D U M

July 3, 1986

TO: Chief, Bureau of Preserve Protection and Management
Regional Supervisors for Natural Resources

FROM: Norman J. VanValkenburgh

SUBJECT: DIVISION DIRECTION -- LF-84-2 Supplement
TOPIC: Cutting, Removal or Destruction of Trees and Other Vegetation on Forest Preserve Lands

As you will recall, Commissioner Williams promulgated Organization and Delegation Memorandum #84-06 on February 16, 1984 for the purpose of "...establish(ing) a policy regarding the prohibition of cutting, removal or destruction of trees and other vegetation on all Forest Preserve lands pursuant to Article XIV of the Constitution of New York State." In order to implement the provisions of #84-06, this Division issued procedures on May 31, 1984 under designation LF-84-2.

However, the question of whether or not live-standing trees could be cut and used for maintenance of trails including "the construction of structures such as foot bridges, dry tread and water bars" remained. Accordingly, an opinion on this question was formally requested of the Attorney General on November 8, 1985. A copy of such request is attached hereto for information and clarification purposes.

A reply from the Attorney General under date of June 24, 1986 has now been received. A copy of such Formal Opinion No. 86-F3, which allows for the "supervised selective cutting...of only those few scattered trees necessary for the maintenance of popular and steep trails to lessen soil compaction, erosion and the destruction of vegetation" within other specified constraints and parameters, is attached and made a part of this memorandum.

With Formal Opinion No. 86-F3 in hand, it is appropriate to now revise Division Direction-LF-84-2 to incorporate those added authorities. Accordingly, paragraph 1 (page 4) of Part II of LF-84-2 is hereby deleted and the following substituted therefor:

1. Maintenance of foot trails, snowmobile trails, cross-country ski trails, horse trails.

This includes projects that involve blowdown removal, hazard tree elimination (3" or more in diameter), problem tree removal (3" or more in diameter), mowing, etc.

Applications may be submitted by Area if appropriate (i.e., High Peaks Wilderness Area, St. Regis Canoe Area, Saranac Lake Wild Forest, Whiteface Mountain Intensive Use Area, etc.). Trails should be listed separately with the total length of the trail covered by a single Application, if appropriate, and in priority order of needed maintenance.

Live-standing trees may be cut or used for the construction of bridges, dry tread, waterbars or other minor trail structures only after considering the following alternatives and in accordance with the following conditions:

A. Alternatives to any type of trail hardening or structural development must be considered, especially in wilderness areas where such structures diminish the character of the area. Such alternatives include the closing or limitation of use of a trail where the impact of such use is leading to degradation of the other resources and the character of the Forest Preserve. A second alternative is to relocate the trail in such a way that trail hardening would not be necessary.

B. If, after considering the above alternatives, it is determined that structures are needed to protect the surface of the trail or the safety of the public, the following materials should be considered in order of priority:

1. Native rock or stone from near the site.

2. Native rock or stone from another location brought to the site.

3. Peeled, but untreated timber or logs from another location brought to the site.

4. On-site trees in accordance with the conditions under C. following.

C. If on-site trees are to be used, such use must be in accordance with the following conditions:

1. The Regional Forester or his designated representative must approve all trees to be cut, after considering any other previous cutting that has been done in the area.

2. Cutting must be discreet with tops fully lopped and dispersed out of sight of the trails, and with stumps cut flush to the ground.

3. Live trees must be between three to twelve inches in diameter (DBH), and must be at least 100 feet apart.

4. Structures requiring the use of live on-site trees are not to be replaced more frequently than 7-10 years, which is the range of normal life expectancy.

Dead and downed material may be used for such purposes although consideration must be given to human safety and the longevity or life of such structures when such material is used.

Director of Lands and Forests

Attachments

cc: D. Grant
H. Doig
J. Corr
G. Colvin
G. Sovas
K. Wich
R. Bernhard
Regional Directors
Bureaus of Fish and Wildlife
Bureaus of Lands and Forests
Bureaus of Marine Resources
Bureaus of Mineral Resources

MEMORANDUM

May 31, 1984

TO: Chief, Bureau of Preserve Protection and Management
Regional Supervisors for Natural Resources

FROM: Norman J. VanValkenburgh

SUBJECT: DIVISION DIRECTION — LF-84-2
TOPIC: Cutting, Removal or Destruction of Trees and Other Vegetation on Forest Preserve Lands

PURPOSE: The purpose of this memorandum is to establish administrative procedures for the implementation of Commissioner Williams' Organization and Delegation Memorandum #84-06 relating to the construction of new facilities, the expansion or modification of existing facilities and routine maintenance projects on lands of the Forest Preserve.

BACKGROUND: Such Organization and Delegation Memorandum states, in part: "Section 9-0105 of the Environmental Conservation Law provices that the Division of Lands and Forests has responsibility for the 'care, custody and control' of the Adirondack and the Catskill Forest Preserve. In accordance with this responsibility, all construction of new facilities, expansion or modification of existing facilities and maintenance of facilities, that will result in the cutting, removal or destruction of vegetation on any of the lands constituting the Forest Preserve shall require approval of the Director of the Division of Lands and Forests...." In order to carry out this direction and policy, the succeeding procedures will be followed by regional and non-regionalized personnel in requesting approval for such projects on lands of the Forest Preserve that involve the cutting, removal and/or destruction of vegetation. In all cases, the provisions and constraints of the Organization and Delegation Memorandum will be recognized and complied with.

PART I - Construction of New Facilities and the Expansion or Modification of Existing Facilities

PROCESS AND CALENDAR

October-November

Regional Operations Supervisor or Manager of Non-Regionalized Facility

1. Following conceptual approval of the project by the Regional and/or appropriate Central Divisional Officers, prepares a

October-November (Cont'd)	Forest Preserve Project Work Plan in the form attached hereto as Appendix A for each proposed project. Each such Plan shall include: (1) A description of the project and its purpose, (2) A sketch map delineating the project and showing its location, (3) A count by species and size class, of all trees to be cut, removed or destroyed, (4) Identification of any protected species of vegetation within 300' of the area to be disturbed, (5) A description of measures to be taken to mitigate the impact on vegetative cover, and (6) Proposed use of motorized equipment or motor vehicles, if any.
	2. Submits completed Work Plan to the Regional Supervisor for Natural Resources.
Regional Supervisor for Natural Resources	3. Reviews Work Plan for completeness and conformance to Delegation Memorandum #84-06 and forwards to the Regional Forester.
December	
Regional Forester	4. Enters receipt of Work Plan in Regional Log of Forest Preserve Projects (See Appendix B attached).
	5. Reviews Forest Preserve Project Work Plan to determine if project is appropriate taking into consideration Forest Preserve land classification, Unit Management Plan goals and management objectives for the land area involved.
	6. Makes on-site field inspections as necessary and appropriate.
	7. Insures that SEQR requirements for each project have been addressed.
	8. Consults with Operations Supervisor or Facility Manager to effect any changes or modification to Work Plan.
	9. Signs Work Plan signifying approval or indicates disapproval by stating reasons in Comments Section. If approved, forwards Work Plan through Regional Supervisor for Natural Resources to Regional Director or appropriate Division Director, in the case of non-regionalized facil-

December (cont'd)	ities. If disapproved, returns Work Plan to originator.
	10. Completes Regional Log.
January	
Regional Director or Director of Division responsible for Facility	11. Reviews Forest Preserve Project Work Plan.
	12. Signs Work Plan signifying approval or indicates disapproval by stating reasons in Comments section.
	13. If approved, forwards Work Plan to Director of Lands and Forests. If disapproved, returns Work Plan through Regional Supervisor for Natural Resources and Regional Forester to originator.
February	
Director of Lands and Forests	14. Effects review of Work Plan by appropriate Central Office staff to determine that Plan conforms to Division goals and is in keeping with responsibility for care, custody and control of lands of the Forest Preserve.
	15. Signs Work Plan signifying approval or indicates disapproval by stating reasons in Comments section.
	16. Returns Work Plan to Regional Director or appropriate Division Director.
March	
Regional Director or Director of Division responsible for Facility	17. Distributes Work Plan through Regional Supervisor for Natural Resources and Regional Forester to originator.
Current Fiscal Year	
Regional Operations Supervisor or Manager of Non-Regionalized Facility	18. Implements project in accordance with Work Plan approvals and conditions.
Regional Forester	19. Monitors implementation of Work Plan to insure conformance to approvals and conditions.

Current Fiscal Year (cont'd) 20. On completion of project, completes Inspection Report (See Appendix C attached) and retains in Project file.

PART II - Routine Maintenance Projects

PROCESS

Application for routine maintenance projects on lands of the Forest Preserve shall be submitted on the form attached hereto as Appendix D as soon as possible in advance of the starting date of the project. The Application should be directed to the Regional Supervisor for Natural Resources who will forward it to the Regional Forester. The Application will be reviewed as rapidly as possible by the Regional Forester and a determination made as to approval or disapproval.

When approvals have been granted, a copy of the Application will be forwarded to appropriate Regional Lands and Forests personnel to assure proper notification and provide for monitoring of the project.

Applicants should consider the following guidelines when submitting project requests:

1. Maintenance of foot trails, snowmobile trails, cross-country ski trails, horse trails, etc.

This includes projects that involve blowdown removal, hazard tree elimination (3" or more in diameter), problem tree removal (3" or more in diameter), mowing, etc.

Applications may be submitted by Area if appropriate (i.e., High Peaks Wilderness Area, St. Regis Canoe Area, Saranac Lake Wild Forest, Whiteface Mountain Intensive Use Area, etc.). Trails should be listed separately with the total length of the trail covered by a single Application, if appropriate and in priority order of needed maintenance. It is clearly understood that live standing trees are not to be cut or used for construction of bridges, dry tread, water bars or other structures. Dead and downed material may be used for such purposes although consideration must be given to human safety and the longevity or life of such structures when such material is used.

2. Maintenance of roads, 'phone lines, power lines, ski lifts, downhill ski trails, canoe carries, parking areas, openings around buildings, scenic vistas, etc.

This includes projects that involve the removal of hazardous, problem or dead trees 3" or more in diameter.

Projects should be listed individually but, several may be submitted on a single Application if they are similar in nature (i.e., 'phone lines A, B, & C). Tree counts are advisable where more than an occasional live tree

must be cut to avoid potential damage to the facility in question. Felled trees may not be utilized for any purpose and should be scattered near the site so as not to interfere with the facility and to be unobtrusive.

3. Removal of dead and hazardous trees in developed areas, such as campgrounds and ski centers that potentially endanger people.

This includes projects involving removal of dead and/or hazardous trees in developed or intensive use areas.

Applications should be submitted separately for each facility. However, all projects for a specific facility can be included on a single Application. Tree counts should be included with the Application. Trees that are proposed to be removed should be flagged. Trees that are felled may be cut up and used for fuel at the facility, but for no other purposes.

4. Boundary line surveys and maintenance.

This includes all projects on lands of the Forest Preserve whether done by Department employees or by others under contract to the Department.

More than one survey project may be included on a single Application but, separate Applications should be submitted for survey projects geographically distant from each other.

5. Salvage of windfall timber when such blowdown timber constitutes a fire hazard.

This includes projects of fire hazard circumstances and should be submitted on Applications for each Area involved.

In any of the above situations, projects will be checked and monitored by the Regional Forester.

Director for Lands and Forests

Attachments

c: D. Grant
H. Loiy
G. Colvin
G. Govas
K. Wich
R. Bernhard
Regional Directors
Bureaus of Fish and Wildlife
Bureaus of Lands and Forests
Bureaus of Marine Resources
Bureaus of Mineral Resources

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF LANDS AND FORESTS

Forest Preserve Project Work Plan
for
Construction of New Facilities and the Expansion or Modification of Existing Facilities

FY 19__ - __

Region/Facility	Project Title & Location	Land Classification	Project No.

Description & Justification (Attach Sketch Map Showing Location and other Required Supporting Documents):

Description of Use of Motorized Equipment or Motor Vehicles, if any:

Prepared by: Date:

APPROVALS OR DISAPPROVALS

Comments:

Date:

Regional Forester

Date:

Regional Supervisor for Natural Resources

Date:

Regional Director or Division Director

Date:

Director of Lands and Forests

APPENDIX A

REGIONAL ...G
FOREST PRESERVE PROJECTS

REGION ____ F.Y. ____

Planned	Originator	Project Description	Project: Maintenance	Project: Facility	Dates of Inspection	Date of Approval or Disapproval	Comments, including Approval or Disapproval Action

INSPECTION REPORT

FOREST PRESERVE PROJECT

REGION: _____ INSPECTED BY: _____ DATE: _____

PROJECT NO.: _____

PROJECT LOCATION:

_____

_____

_____

PROJECT DESCRIPTION:

_____

_____

_____

TREES CUT (NO. & SPECIES):

_____

_____

_____

VEGETATION DISTURBED AND MITIGATING ACTIONS TAKEN:

_____

_____

_____

COMMENTS:

_____

_____

_____

New York State Department of Environmental Conservation

MEMORANDUM

: John Plausteiner
nOM: Terry E. Healey
UBJECT: ORDA Project Development and Implementation
TE: March 20, 1991

At a meeting in November, 1990 between Tom Monroe; Ned Harkness; Richard Persico, acting as Counsel for ORDA; and me; and a subsequent meeting with you, it was agreed that it would be useful for ORDA to have an outline of procedures to follow to insure proper planning and authorization has been completed when developing projects for rehabilitation or improvement of facilities on the State venues at Whiteface Mt. Ski center, Mt. Van Hoevenburg and Gore Mt. Ski Center. These procedures, which are aside from funding procurement, should be followed for any project at the State owned venues which has been approved by the ORDA Board. Generally the sequence presented herein would apply but there may be exceptions for certain unique projects.

1. Facilitate the coordination of the ORDA Environmental Monitor and DEC Region 5 Natural Resources Supervisor on the proposed project in accordance with the provisions of the Memorandum of Understanding (MOU) between ORDA and DEC.

2. Consult the DEC/ORDA (MOU) to determine if:

   a. the project requires authorization within a Unit Management Plan (UMP) or

   b. may be considered as minor maintenance of rehabilitation work.

3. If answer to 2 a. is yes consult the specific UMP to determine if the project is authorized as proposed or if the UMP has to be amended.

4. If answer to 2 b. is yes proceed to secure confirming opinions from DEC.

5. If UMP amendment is required initiate process called for in provision VII E. of the MOU.

6. Address the provisions of the State Environmental Quality Review Act (SEQR) and complete appropriate Environmental Assessment Form. Determine if a public hearing should be held on the project proposal. (In any event the local municipality should be informed of the project proposal).

7. Develop preliminary project plans including all provisions called for in the appropriate UMP and DEC/ORDA MOU.

8. Secure from DEC a determination as to whether there is any DEC jurisdiction beyond the UMP which must be addressed (i.e. SPDES) and apply for necessary permits.

9. Secure from APA a determination as to whether there is any Adirondack Park Agency jurisdiction involved (Article 24, Section 809 and Section 814) and apply for necessary permits.

10. Insure that there is no other State agency involvement. DEC can assist with this.

11. When all UMP, SEQR and permit requirements have been established develop final plans.

12. Initiate bidding and contracting process.

13. Start construction phase of project.

14. Monitor the progress of the project and take additional environmental safeguards if necessary.

15. When the project has been completed include a letter of completion in the UMP for the facility for future reference and UMP updating.

I hope the above procedural outline is helpful to you in future project development and implementation.

Terry E. Healey
Supervisor of Natural Resources
Region 5

TEH:j
cc: T. Monroe

Appendix F

Spill Prevention Control and Countermeasure Plan

Spill Prevention, Control And Countermeasure Plan

for

The Olympic Sports Complex at Mount Van Hoevenberg
Lake Placid, New York 12946
(518) 523-2811
Contact Person: Greg Stratford

Prepared by:

The LA Group, P.C.
40 Long Alley
Saratoga Springs, NY 12866
(518)587-8100

February 1999

CERTIFICATION

I certify that this Plan will be implemented as herein described. The Facility Manager or, in the managers absence, the senior Olympic Regional Development Authority employee on the site has the authority to implement any and all of the procedures described herein in the event of a real, threatened or perceived emergency.

Olympic Regional Development Authority Date

I certify that this plan has been prepared in accordance with good engineering practice and fulfills the requirements of the U.S. Environmental Protection Agency as set forth in 40 CFR Part 112.

DATE

P.E. SEAL

TABLE OF CONTENTS

LIST OF APPENDICES

1.0 GENERAL INFORMATION

1.1 Introduction

This Spill Prevention, Control and Countermeasure Plan (SPCC) is intended to fulfill the requirements of the U.S. Environmental Protection Agency (USEPA) in 40 CFR 112. If a release of fuel should occur, Olympic Regional Development Authority (ORDA) employees will respond to it and use the information contained herein to guide and assist in their response.

This Plan has also been prepared in accordance with New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Parts 612, 613 and 614 Petroleum Bulk Storage (PBS) regulations. The regulations 6 NYCRR 613 and 614 pertain to the storage and management of petroleum products.

1.2 Site Description

The Olympic Sports Complex at Mount Van Hoevenberg is located approximately seven miles southeast of the Village of Lake Placid off NY Route 73 in the Town of North Elba, Essex County. A paved access road about one mile long leads southwest from NY Route 73 into the heart of the area.

The table below lists the petroleum product storage tanks currently existing and proposed for the facility. No. 2 fuel oil is used as fuel and to provide heat. The storage tanks are above ground steel tanks with a secondary containment dike.

Storage Tank Location	Contents	Tank Size (gallons)
Bob/Luge Maintenance Garage	gasoline	3,000
Bob/Luge Maintenance Garage	gasoline	2,000
Lamy Lodge @ Bobrun finish curve	fuel oil	5,000
Cross-Country Maintenance Garage	gasoline	2,000
Cross-Country Maintenance Garage	diesel	1,000
Cross-Country Maintenance Garage	fuel oil	2,000
Biathlon Lodge	fuel oil	1,000

1.3 Storage and Transfer Capacity

The fuel oil, gasoline and diesel are received at the facility via common carrier petroleum tank trucks, that connect to the fill line and transfer into the storage tanks. The fill line is arranged in such a way as to prevent gravity flow from the tank.

Gasoline is stored on the site in underground steel/carbon steel tanks.

1.4 Spill History

Each of the tanks are tested for tightness annually. The gasoline and diesel tanks are metered and have shown no indication of a leakage of fuel.

There is no recorded incidence of a release at this facility.

1.5 Arrangements for Outside Assistance

Local agencies and emergency response personnel may be requested to provide services in the event of an actual emergency. ORDA will contact the Essex County Sheriff and Lake Placid Volunteer Fire Department to familiarize them with the facility. The following information will be provided:

- Facility Layout
- Materials Handled
- Locations of Emergency Response Equipment
- Entrances to the Facility
- Copies of this SPCC

Appendix D includes the names, addresses and telephone numbers of the ORDA emergency response contacts.

2.0 PREVENTION AND CONTAINMENT

2.1 Facility Drainage

Storm water exits the facility by percolation and surface water drainage. Surface drainage is directed to a storm water system. The storm water system retains the majority of the runoff on-site.

The fuel storage tank(s) are located underground and are not affected by surface water runoff.

2.2 Anticipated Releases

The "worst case scenarios" for anticipated releases related to this facility are believed to be:

- Failure of a full tank (5,000 gallons of Fuel Oil).
- Release during loading of the tank(s).
- Release from feed pump and transfer lines.

A release outside the containment area could possibly enter into the storm water system. In this case, ORDA facility personnel will respond to mitigate the impact by containing, absorbing and removing the released materials. Any flow into the system will be minimized by diverting the fuel. Materials used to contain the fuel will be put into containers and shipped off-site to a licensed disposal facility.

2.3 Over-fill Prevention

Measures to prevent over-fill will be employed for these storage tank(s). These are the only areas where filling is performed. Over-fill preventive measures include:

- High Level Alarm (electronic)
- Tank Gauge

These measures will minimize potential overfill of tanks.

2.4 Maintenance

The Facility Manager will establish and supervise all preventative maintenance procedures. The Manager will establish a regular procedure to assure that any required maintenance work is properly performed and that maintenance records are accurate and current. Facility personnel will perform all preventative maintenance on the facility except major, non-routine tasks. All such maintenance will be documented and there will be a periodic review of all maintenance by the Facility Manager.

The maintenance program will include, but not be limited to, exercising all valves, checking pumps, performing regularly scheduled equipment maintenance, routine inspections and housekeeping. The Chief Engineer will perform periodic facility inspections to ensure that the Facility Manager is performing required inspections and maintenance.

2.5 Transfer Measures

Protective measures to be taken during transfer of oil from tanker truck to tank(s) include those previously noted plus:

- Signs: No Smoking, No Open Flame, Set Handbrake and Engine Off.
- Inspections by facility personnel during transfer operations.
- Drip Prevention using drip pans, funnels and drybreak couplings.

2.6 Inspections

Storage tank(s) will be inspected on a monthly basis by the Facility Manager with additional inspections performed by facility personnel who will be routinely working in the area of the storage tank(s) and will be able to notice any incidental release. Inspection procedures and a documentation form are in Appendix C. All such records will be retained in the Facility Manager's office available for NYSDEC and/or USEPA inspection.

The Operations Director, in conjunction with the Facility Manager, will make a decision regarding the temporary or permanent closure of the storage tank if inspection results warrant such, or if the tank is out-of-service for 30 days or more in accordance with 6 NYCRR 613.9.

2.7 Security

This facility is normally attended on a 24-hour basis. Pump controls and valves that are not in service are normally locked to prevent tampering. Out-of-service lines will be capped and marked. The facility is routinely patrolled by ORDA personnel.

Facility lighting is provided for both operational and security purposes. It provides adequate illumination to detect and respond to a release within the active areas of the facility.

2.8 Training

Facility personnel will be trained to become familiar with this plan, the location and the proper use of emergency equipment, proper phone procedure for contacting critical personnel and various other response procedures. Personnel will be instructed in fire emergency procedures, proper fire extinguisher use and fire safety issues. Training also will be given on the use of the containment equipment (See Appendix B) to insure proper handling of a release.

3.0 RESPONSE, CLEANUP AND REMOVAL

3.1 General Procedures

The subsections which follow describe response actions directed to specific types of events in defined areas. A description of Emergency Response Procedures for the facility is in Appendix A and a list of Emergency Contacts, including the site Emergency Coordinator, is in Appendix D. The equipment available to implement response actions is listed in Appendix B.

If during an emergency situation the facility's Emergency Coordinator or Police or Fire Department officials deem an evacuation necessary or advisable, the Emergency Coordinator will organize the evacuation.

3.2 Release Outside the Containment

It is intended that this SPCC plan function as a guide to the organized and quick response by ORDA personnel in the rare event of a release. After containment has been completed (e.g., with absorbent and/or temporary earthen berms), cleanup will begin. Cleanup will consist of removing contaminated soil and debris and placing it on a paved surface or in a container pending off-site disposal.

APPENDIX A

EMERGENCY RESPONSE PROCEDURES

EMERGENCY COORDINATOR

An Emergency Coordinator will be available at all times, either on the facility premises or on-call (See Emergency Contacts List Appendix D). The Emergency Coordinator will be responsible for coordinating all emergency response measures and will have full authority to commit all resources needed to carry out the measures herein described. Each Emergency Coordinator will be thoroughly familiar with this SPCC Plan, all operations and activities at the facility, the location and characteristics of the materials handled, the location of all facility records, the facility layout, and the location of all emergency response and spill clean-up equipment.

a) Immediate Responsibilities:

In the event of an imminent or actual emergency, the Emergency Coordinator will immediately:

1) Activate internal facility alarms and/or communication systems to notify all facility personnel.

2) Ensure that all facility personnel are accounted for and isolated from danger.

3) Notify the local Fire and Police Departments.

4) Arrange for emergency services (EMT, ambulance) for any injured personnel.

5) Assess the extent of the emergency.

6) Notify 24-hour NYSDEC Spill Hot Line 1-800-457-7362. This must be performed within 2 hours of the release.

7) Notify the NYS Police at (518) 897-2000, if necessary.

b) Identification and Assessment

The Emergency Coordinator will identify the character, exact source, amount and extent of released materials through:

1) Direct observation

2) Review of operating records

3) Interviews with witnesses

The Emergency Coordinator must also assess the possible hazards to human health and/or the environment that may result from any release or fire (the threat of fire in the event of a release, the effects of gases generated in a fire, etc.) and must consider both direct/indirect effects of an actual or potential release or fire.

c) Danger Outside the Facility

If the emergency has the potential to threaten human health or the environment outside the facility, the Emergency Coordinator will immediately notify the National Response Center at 1-800-424-8802, providing the following information:

1) Name and telephone number of reporter.

2) Name and address of the facility.

3) Time and type of incident (e.g. release, fire, etc.).

4) Name and quantity of material(s) involved.

5) The extent of injuries, if any, if known.

6) The possible hazards to human health or to the environment outside the facility.

d) During an Emergency

The Emergency Coordinator will take mitigative measures, such as stopping the operation or isolating spillages, to ensure that fires or releases do not occur, recur or spread to other areas at the facility. If the facility halts operations, the Emergency Coordinator will monitor for leaks, vapor or gas generation.

The implementation of emergency procedures is the responsibility of the Emergency Coordinator. In the event of an imminent or actual emergency, the following procedures must be adhered to:

1) The Emergency Coordinator will activate the internal facility alarms and/or communication systems to notify personnel to implement emergency procedure.

2) When necessary, the Emergency Coordinator will immediately notify the Lake Placid Volunteer Fire Department and Essex County Sheriff and New York State Police Departments and the NYSDEC Spill Hot Line (1-800-457-7362). The Emergency Coordinator will be prepared to report:

- Name and telephone number of reporter;
- Name and address of the facility;
- Time and incident type (e.g. release, fire, etc.);
- Probable source of any release;
- Name and quantity of material(s) involved, if any;
- The extent of injuries, if any;
- Location of any discharge (geographic and in relation to North Creek);
- The possible hazards to human health, safety, welfare or the environment outside the facility.

3) The Emergency Coordinator will also notify the local hospital.

e) After an Emergency

After an emergency, the Emergency Coordinator will:

- Supervise the cleanup efforts and ensure that the recovered released material is properly stored and treated or disposed.
- Ensure that no material which may be incompatible with the released material is stored or disposed with or near it.
- Make sure emergency equipment is cleaned, recharged, reactivated and fit for its intended use.
- Ensure that all reporting and notification requirements of the NYSDEC and/or the USEPA have been carried out.

EMERGENCY PROCEDURES

Should an emergency situation arise, the Emergency Coordinator will be notified immediately. Subsequently, all facility personnel, federal, state or local agencies and contractor will be notified as specified in this Plan.

Release Emergency Procedures

In the event of a release of any kind, the following general steps will be followed:

1) Determine its source, character and extent, and the area affected or likely to become affected.

2) Notify the Emergency Coordinator.

3) Shut down operations if the operator's help is needed or the release is in or near their area. (After operations have been stopped, the Emergency Coordinator or designated assistant will monitor for leaks, gas generation and ruptures in valves, pipes or other equipment, wherever appropriate).

4) Eliminate all sources of ignition from the release area and areas downwind of it. Remove trucks and other vehicles from the area if the Emergency Coordinator determines it can be done safely. (The Emergency Coordinator will make the decision concerning moving vehicles based on the proximity of vehicles to the release and the adequacy of ventilation in the area.) Vehicles will not be allowed to enter the affected area until authorized to do so be the Emergency Coordinator. Also, any other equipment which may be sources of ignition may be shut down at the discretion of the Emergency Coordinator.

5) Summon aid (Fire Department, Rescue Squad) where required.

6) Position ABC type fire extinguishers near immediate clean-up area.

7) The Emergency Coordinator will assess possible hazards to human health and the environment. Releases and/or fires in the vicinity of the vessel or vehicles may result in the following types of direct and indirect effects on human health and the environment:

    a) Ingestion of materials may result in toxic health effects;

    b) Liquid runoff may be combustible, or may pose a threat to ground or surface water;

    c) Contact with the substance may irritate the skin and eyes;

    d) Surface runoff from the spill and fire fighting apparatus may be harmful to area vegetation, aquatic life and drinking water supplies;

e) Fires involving the substance may generate potentially toxic fumes on-site and off-site and

f) Odors may migrate to neighboring industries and residences.

Facility personnel who may have been exposed to releases of substances will undergo periodic physicals to assess possible health hazards resulting from such exposure.

Possible environmental hazards will be determined by analysis of soil samples taken from the spill areas.

8) Employees involved in clean-up will wear appropriate emergency equipment as directed by the Emergency Coordinator. (This can include boots, gloves and eye and respiratory protection.)

9) Stop point source to contain release in the smallest area possible. If the source is a leaking tank, pump the contents of the leaking or ruptured tank into another tank if possible. (Following the incident, the tank will be taken out-of-service and inspected to determine if it can be repaired. If not, it will be removed from service in accordance with NYSDEC regulations.)

10) Dike any liquid with standard industrial absorbent (pads, pillows and/or booms) as required. Pay special attention to prevent flow from entering storm drains.

11) Collect contaminated material. Use portable pumps or vacuum truck to recover liquid material. Absorb nonpumpable material with standard industrial absorbent. Use shovels to uniformly disperse absorbent over the affected area. For a release into the soil, stained dirt will be removed.

12) Decontaminate or dispose of protective equipment used during the clean-up.

13) Clean, restore, or replace emergency response equipment and return it to its original location.

14) Label used recovery drums in accordance with all applicable rules and regulations and manage properly.

15) Observe proper hygiene procedures during personal decontamination.

16) Manage all collected contaminated soil and/or water in accordance with applicable regulations.

Fire Emergency Procedures

To minimize the possibility of fires, smoking, welding (except by permit), open flames or other sources of ignition are NOT allowed in the storage, loading or unloading areas of the facility. All personnel will be trained in the use of fire extinguishers and emergency equipment to make them more fully aware of the dangers of fire.

The following is the emergency procedure to be implemented in the event of a minor spill or fire:

1) Sound the alarm and/or communicate the need for help.

2) Use the proper class of fire extinguisher to extinguish the flames. If unable to immediately extinguish the fire, close the door (if in a building) and leave the area. If the fire is not extinguished, follow the procedures below for a Large Fire Emergency.

3) If the fire is extinguished, notify Emergency Coordinator.

4) Eliminate and continue to restrict all sources of ignition so that the fire will not re-ignite.

5) Wear Personal Protective Equipment (boots, protective gloves and eye protection) when stopping any leak or absorbing any released materials.

6) Follow the release clean-up procedures described above.

Large Fire Emergency Procedures

The following emergency procedures will be implemented in the event of a large fire:

1) Notify the Emergency Coordinator.

2) Call the Lake Placid Volunteer Fire Department at (518) 523-2535. Describe the situation, type and quantity of material involved, location and caller's name.

3) Shut down all operations, if possible. Once facility operations have been stopped, the Emergency Coordinator will monitor for leaks, pressure buildups, and ruptures in valves, pipes or other equipment.

4) All personnel who may be endangered by the fire, except those designated by the Emergency Coordinator, will evacuate the facility upon sounding of the alarm.

5) When the Lake Placid Volunteer Fire Department arrives, the Emergency Coordinator will delegate primary responsibility to them and will standby to offer assistance.

6) The Emergency Coordinator and the Fire Department will determine the most accessible and safest route of approach to the fire, considering flame migration potential, associated dangers and physical limitations.

7) Designated personnel will control runoff from the fire-fighting activities using dikes, booms, or other appropriate equipment, to minimize release to environment.

8) When the fire is extinguished, remedy the point source of the release to stop all flow if it can be done without risk. Absorb liquid materials and/or pump to available truck. Use shovels to disperse standard industrial absorbent over the affected areas. Collect contaminated materials (such as absorbent, dry chemical, or rags) in recovery drums.

9) Decontaminate boots, gloves and other reusable emergency response equipment.

10) Clean, restore or replace emergency response equipment, and return it to its original location.

11) Label used recovery drums in accordance with all applicable rules and regulations and manage properly.

12) Observe proper hygiene procedures during personal decontamination.

13) All collected contaminated materials, soil and/or water will be managed in accordance with applicable regulations.

INCIDENT REPORTS

Within seven (7) days of any non-minor incident requiring the implementation of this SPCC, a written report will be submitted to the NYSDEC by the Corporate Safety, Health and Environment Manager. The report will include at least the following:

1) Name, address and telephone number of the facility;

2) Name, address and telephone number of the owner/operator of the facility;

3) Incident date, time and type (fire, explosion, spill, etc.);

4) Type and quantities of materials involved;

5) Extent of any injuries;

6) Assessment of actual or potential hazards to human health, safety or the environment;

7) Estimated quantity and disposition of recovered material;

8) Proposed measures to prevent incidents in the future.

Also the time, date and details of the incident will be recorded in the facility's operating records.

RESUMPTION OF OPERATIONS

Prior to resuming normal operation, the Emergency Coordinator will ensure that all emergency equipment is inspected and returned to operating condition. The Emergency Coordinator must notify the NYSDEC and the local officials that all clean-up procedures are complete, and that all emergency equipment and systems are fit for their intended use. Operations will not resume until there is no longer a threat to public health, safety or welfare, or the environment.

Following the clean-up operation, an assessment will be made as to the proper management of recovered materials. If necessary, tests will be made to ensure proper handling and disposal of all materials.

MEDICAL EMERGENCIES

First Aid equipment will be maintained on-site. The general response to injuries is as follows:

1) If certified in First Aid, examine person for injuries, treating any minor injuries as prescribed.

2) If major injuries are evident Call For Emergency Medical Care (See Emergency Contact List for appropriate telephone numbers).

3) Do Not Move injured unless there is imminent danger.

4) If injured is not breathing, administer artificial respiration, but only if CPR Trained.

5) Keep victim warm, await arrival of emergency medical care unit.

6) In case of contact with spilled materials, first check with MSDS before administering First Aid; if absolutely necessary, remove and isolate contaminated clothing & shoes.

CONTINGENCY DATA

Petroleum Based Liquids

Hazards: Combustible, if exposed to or involved in fire. May irritate skin and eyes on contact. If swallowed, causes nausea or vomiting. May be toxic. Poses threat to ground/surface water.

Personnel Protection: Wear non-porous gloves and eye protection when handling.

Storage: Away from ignition sources.

Release Response: Eliminate ignition sources. Stop source if possible. Stay upwind to avoid breathing vapors. Pump/absorb released material.

Fire Fighting: dry chemical, foam, carbon dioxide, or water fog to extinguish fire.

First Aid (Skin): Wipe off and wash with soap and water.

First Aid (Ingestion): Do Not Induce vomiting. Call for immediate medical assistance.

First Aid (Eyes): Flush with large amounts of water for 15 minutes and seek medical attention ASAP.

Oily Solids (dirt, sand, and other solid debris from cleanup work)

Hazards: Material may be toxic if absorbed or ingested. Liquid runoff from material may be combustible, toxic, or may pose threat to groundwater or surface water.

Personal Protection: Wear non-porous gloves and eye protection when handling.

Storage: Away from ignition sources.

Release Response: Shovel material into containers, trucks, etc. Absorb free liquids with appropriate materials.

Fire Fighting: Use dry chemical, foam, carbon dioxide or water in flooding quantities to extinguish any fire.

First Aid (Skin): Wipe off and wash with soap and water (Lis-toil works well).

First Aid (Ingestion): Do Not Induce vomiting. Call for immediate medical assistance.

First Aid (Eyes): Flush with large amounts of water for 15 minutes, seek medical attention as soon as possible.

APPENDIX B

EQUIPMENT LIST

EQUIPMENT LIST

Equipment	Capability
Absorbent - 4 Boom/Tubes 8 ft. long	Contain and Absorb Spills
Absorbent Pads - 2 Bags @ 50 ea.	Absorb Spills.
Hand Tools - 2 Shovels - 2 Squeegees - 2 Brooms and absorbent.	Aid distribution of absorbent, used for cleanup of spills.
Absorbent Speedy-Dri - 2 Bags @ 50 lbs.	Absorb Spills

APPENDIX C

INSPECTION PROCEDURES
and
RECORD KEEPING

INSPECTION PROCEDURES

Item	Method	What to look for
Valves, Flanges Piping, Pump	Visual	Leakage, misalignment damage, locks in place
Instrumentation	Visual	Proper function, liquid levels
Transfer Areas	Visual	Leakage, spillage, hose damage or deterioration
Tank	Visual	Leakage, liquid in secondary containment, structural damage
	Tapping	Corrosion, cracks, coating damage, buckles, or bulges
Vents	Visual	Obstruction
Emergency Equipment	Visual	Check contents of storage area and replenish if needed.

ORDA INSPECTION RECORDS	LOCATION Olympic Sports Complex at Mount Van Hoevenberg

Inspection Date	Inspector's Initials	Satisfactory (Y/N)	Comments

APPENDIX D

EMERGENCY CONTACTS LIST

EMERGENCY CONTACTS LIST

The following are addresses and telephone numbers of local, state and national emergency response teams and Government agencies. Copies of the National Response Center, police, fire and hospital telephone numbers will be posted at all key facility telephones.

PRIMARY EMERGENCY RESPONSE SERVICES:

Name	Location	Telephone
Lake Placid Fire Department Placid Memorial Health Center	River Street Extension Lake Placid, NY 12946 Church Street Lake Placid, NY 12946	Non Emergency - (518) 523-3211 Emergency - (518) 523-2535 (518) 523-1717
Adirondack Medical Center	Saranac Lake, NY	(518) 891-4141
New York State Police	Ray Brook, NY 12977	(518) 897-2000
NYSDEC Spill Hotline		24 hrs/day - (800) 457-7362
National Response Center Oil & Toxic Chemical Spill		(800) 424-8802
SPILL RESPONSE TEAMS:		
MC Environmental Services (Primary)	22 Hudson Falls Road South Glens Falls, NY 12803	(518) 747-3050
Clean Harbors (Secondary)	32 Bask Road Glenmont, NY 12077	(518) 434-0149
FACILITY EMERGENCY COORDINATORS:		
Primary Contacts		
Facility Manager Thomas Colby	office: ORDA - Ski Jump Complex Lake Placid, NY 12946	(518) 523-2202
	home: 39 1/2 Saranac Avenue Lake Placid, NY 12946	(518) 523-7507
Assistant Manager Fay Gonyea	office: Olympic Sports Complex Lake Placid, NY 12946	(518) 523-4436
Plant Operator Greg Stratford	office: Olympic Sports Complex Lake Placid, NY 12946	(518) 523-2811 Home: (518) 891-3384

Chris Conway

office:
Olympic Regional Development
Authority
216 Main Street
Lake Placid, NY 12946

(518) 523-1655

Appendix G

Construction Pollution Prevention Plan

CONSTRUCTION POLLUTION PREVENTION PLAN

for

The Olympic Sports Complex at Mount Van Hoevenberg
Lake Placid, New York 12946
(518) 523-2811

Operator:

Olympic Regional Development Authority
Main Street
Lake Placid, New York 12946

Prepared By:

The LA Group, P.C.
40 Long Alley
Saratoga Springs, New York 12866

February 1999

CONSTRUCTION POLLUTION PREVENTION PLAN

SITE DESCRIPTION			
Project Name and Location: (Latitude, Longitude, or Address)	Olympic Sports Complex at Mount Van Hoevenberg Improvements and Expansion Latitude 44° 13'00" Longitude 73° 56'00"	Owner Name and Address:	Olympic Regional Development Authority Main Street Lake Placid, New York 12946
Description: (Purpose and Types of Soil Disturbing Activities)	Maintenance of existing cross-country ski trails and trail bridges, grading of parking areas, cross country stadium straightaway lengthening, relocate timing building, and combined bobsled/luge run construction (includes demolition of old luge run)..		
Site Area: 1,594 acres	Area affected by construction: 9 acres		small areas throughout the site added together totaling approximately 9 acres.
Sequence of Major Activities:			

Relevant activities will take place in 5 phases over a 5 year period:

Phase I.

Construction of a new combined bobsled/luge run.

Phase II.

Rehabilitation and expansion of the cross-country ski lodge.

Phase III.

Providing snowmaking on portions of cross-country ski trails. Grade parking areas adjacent to ski lodges. The addition of biathlon course amenities including and rehabilitation of the biathlon course target change structure and the biathlon lodge. Lengthening of straightaway at the cross-country stadium and relocating of timing building. Construction of an equipment storage barn. On-going improvements to the cross-country trails, trail bridges, complex circulation and landscaping.

Phase IV.

Work begun in previous phases will be continued. Construction of the combined bobsled/luge run will be completed.

Phase V.

The updated UMP work plan will be completed. Routine maintenance projects will continue to occur.

SITE DESCRIPTION (CONT'D)

The sequence of trail construction is outlined below. In general, about 9 acres of terrain will be cleared, graded, seeded, and mulched. Work will be completed in each manageable section of trail before work begins on a new section of the trail.

1. Construction equipment will be staged in an area close to a work road, in order to keep movement of the equipment to a minimum.
2. The boundaries of the trail will be flagged and then brushed out.
3. Trees are cut with chainsaws, skidded to a central location and chipped or salvaged. Stumps are pulled out, preferably with a tracked backhoe.
4. Stumps, other non-chippable pieces of wood, and large rocks and boulders will be used to fill depressions and areas downslope of steep ledges. If a pocket of soil suitable for use as fill is found, it will be excavated and the resulting hole will be filled with stumps and boulders.
5. If possible, the cleared area will be graded smooth using a bulldozer. In steep places, no grading by machine will be done; instead, the trees stumps are cut flush with the ground and other work is done by hand to make the surface as smooth as possible.
6. On steep trail segments, haybale rows, several bales deep, are constructed across the slope to act as temporary water bars and filter barriers.
7. The trail is seeded with a restoration grass mixture and mulched with hay.

See attached map showing areas to be affected.

Name of Receiving Waters: North Meadow Brook

CONTROLS

Erosion and Sediment Controls

Stabilization Practices

The general erosion control practices will be similar in each area where ski trails will be maintained, or where soil will be disturbed by other construction activities.

In all construction zones the limits of grading will be staked out as part of the start of construction. Following stake out, the perimeter of downslope limits of construction in steeply sloped and adjacent wetland areas will be established with filter fabric fence line to contain erosion spoil. If necessary, spoil piles will be located within the construction zone and will be used for temporary storage of excavated materials which will be used as backfill within thirty days.

In areas of long-term construction and or repeated disturbance, the silt barrier will be constructed of filter fabric wrapped hay bales.

In sequence with the completion of a construction phase, restoration will be completed. Restoration will include regrading to match pre-existing contours or provide for adequate drainage. Once grading is completed, areas of disturbance will be seeded with restoration grasses. Two mixes are proposed with Restoration Mix 1 being adapted to full sun conditions and Restoration Mix 2 is a shade tolerant mix.

Following seeding, the excavated area will be mulched with hay at a rate of 100 pounds per 1000 sq. ft.

To minimize the need for structural practices for flow diversion, the site design has minimized the area of grading proposed, and has minimized the use of impermeable surfaces.

Structural Practices

Where blasting is required, small diameter drilling with high-speed equipment shall be utilized. Blasting mats shall be installed if overburden is not available. Prior to blasting, the contractor shall contact adjacent landowners to determine the proximity of existing drinking water wells such that appropriate precautions may be taken to prevent damage to any such wells.

Residents within a one-half mile radius of the site will be notified in advance of blasting events, if requested. The applicant will formally contact nearby residents to ensure all persons requesting notification are identified. Blasting will occur between the hours of 10:00 am to 5:00 pm only. All blasting will be conducted by a qualified licensed blaster pursuant to the applicable requirements of the State of New York and federal governments. Blasting will not occur during adverse weather conditions such as high winds unless a loaded charge must be detonated before the end of the day. Shots will be designed to minimize ground vibration and air blast.

There are no common drainage locations which serve an area of ten or more acres of disturbed areas at one time. Silt fences and other sediment controls described in "Stabilization Practices" above will be utilized on side slope and downslope boundaries of the construction areas.

OTHER CONTROLS

Waste Disposal:

Waste Materials: Waste materials generated during construction will be disposed at a suitable landfill, transfer station or C&D landfill. The closest transfer station is located on Dump Road off Route 73 in North Elba. An active C&D landfill is located at this same site. The crushed concrete from demolition of the luge run will be used for drainage rock, roadways, fill for ski wax test hill construction, etc., on-site. The ammonia supply lines on the luge and bobsled runs will be abandoned in place. The lines will be flushed and the runoff will be collected, neutralized, and trucked off site to an appropriate handling facility.

Hazardous Waste: It is not anticipated that any hazardous wastes will be generated during construction. If any are generated a licensed hazardous waste carrier will be contracted with to dispose the hazardous material at a suitable disposal site.

Sanitary Waste: Portable sanitary facilities will be made available to construction personnel at various locations and will be serviced regularly.

Offsite Vehicle Tracking

Gravel pads will be provided at each entry area onto any public roadways.

TIMING OF CONTROLS/MEASURES

Stormwater management has been incorporated into the project planning. Temporary silt fence is to be installed prior to construction initiation. All other stormwater devices will be installed as part of each facility. Disturbed areas will be reseeded within 14 days of construction completion. Temporary silt fences will not be removed until the area is revegetated.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

The Construction Pollution Prevention Plan was prepared in accordance with the New York State Department of Environmental Conservation SPDES General Permit for Stormwater discharges from Construction Activities that are classified as "Associated with Construction Activity" pursuant to Article 17, Titles 7, 8 and Article 70 of the Environmental Conservation Law. This SPDES General Permit implements The Federal Clean Water Act pertaining to stormwater discharges. Essex County and the Town of North Elba do not have specific ordinances relating to stormwater management and soil and erosion control.

MAINTENANCE/INSPECTION PROCEDURES

Erosion and Sediment Control Inspection and Maintenance Practices

These are the inspections and maintenance practices that will be used to maintain erosion and sediment controls:

The construction manager will supervise day-to-day activities on the site. The project engineer will make at least weekly inspections, and following any storm event of 0.5 inch or greater.

All measures will be maintained in good working order; if repair is necessary, it will be initiated within 24 hours of report.

Built up sediment will be removed from silt fence when it has reached one-third the height of the fence.

Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.

Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth. If necessary, spot reseeding will be implemented.

A maintenance inspection report will be made after each inspection. A copy of the report form to be completed by the inspector is attached.

Non-Storm Water Discharges

Any water pumped from excavations will be pumped to a temporary dewatering basin established in an upland area.

INVENTORY FOR POLLUTION PREVENTION PLAN

The materials or substances listed below are expected to be present onsite during construction:

Petroleum for fueling vehicles is stored in under ground storage tanks at the Bobsled/Luge Maintenance Garage and the Cross-Country Maintenance Garage at the Olympic Sports Complex at Mount Van Hoevenberg.

Hydraulic oil and lightweight cutting oils will be stored in their original containers.

SPILL PREVENTION

Material Management Practices

The following good housekeeping practices will be followed onsite during the construction project; these practices will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.

- An effort will be made to store only enough product required to do the job
- All the materials stored onsite will be stored in a neat, orderly manner in their appropriate containers, and, if possible, under a roof or other enclosure
- Products will be kept in their original containers with the original manufacturer's label
- Substances will not be mixed with one another unless recommended by the manufacturer
- Whenever possible, all of a product will be used up before disposing of the container
- Manufacturers' recommendations for proper use and disposal will be followed
- The site superintendent will inspect daily to ensure proper use and disposal of materials onsite
- The contractor shall prohibit washing of tools, equipment, and machinery in or within 100 feet of any watercourse along the construction corridor, and install sediment traps to filter runoff from washing operations that will enter any watercourse.

Hazardous Products:	

These practices are used to reduce the risks associated with hazardous materials.

- Products will be kept in original containers unless they are not resealable
- Original labels and material safety data will be retained; they contain important product information
- If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal will be followed.

Product Specific Practices

The following product specific practices will be followed onsite:

Petroleum Products:	

1. Construction personnel should be made aware that emergency telephone numbers are located in this CPPP.
2. The contractor shall immediately contact NYSDEC in the event of a spill, and shall take all appropriate steps as outlined in the site specific Spill Prevention, Control and Countermeasure Plan to contain the spill including construction of a dike around the spill and placing absorbent material over the spill.
3. The contractor shall instruct personnel that spillage of fuels, oils, and similar chemicals must be avoided.

SPILL PREVENTION (Continued)

4. Fuels, oils, and chemicals will be stored in appropriate and tightly capped containers, containers shall not be disposed of on the construction site.

5. Store fuels, oils, chemicals, material, and equipment and locate sanitary facilities away from trees and at least 100 feet from streams, ponds, wells, wet areas, springs used as potable water supplies, and other environmentally sensitive sites.

6. Dispose of chemical containers and surplus chemicals off the construction site in accordance with label directions.

7. Use tight connections and hoses with appropriate nozzles in all operations involving fuels, lubricating materials or chemicals.

8. Use funnels when pouring fuels, lubricating materials or chemicals.

9. Refueling and cleaning of construction equipment will take place from access roads, in staging areas or along roadside areas whenever practical to provide rapid response to emergency situations.

10. All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Any vehicle leaking fuel or hydraulic fuel will be immediately removed from the site.

Fertilizers:

No fertilizer is proposed to be stored onsite.

SPILL PREVENTION (Continued)

Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies. Any spill in excess or suspected to be in excess of five gallons will be reported to the NYSDEC Region 5 Spill Response Unit. Notification to NYSDEC (1 800/457-7362) must be completed within two hours of the discovery of the spill.

- Materials and equipment necessary for spill cleanup will be kept in the material storage are onsite. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.

- All spills will be cleaned up immediately after discovery.

- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with hazardous substance.

- Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size.

- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.

- The site superintendent responsible for the day-to-day site operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the office trailer onsite.

Spill Response Report

Within 2 hours of a spill discovery the following must be notified. Telephone numbers are located in Appendix C of the Spill Prevention, Control and Countermeasure Plan.

1. NYSDEC Region 5 Spill Response Unit
2. Spill Contractors
3. Olympic Sports Complex at Mount Van Hoevenberg
4. ORDA

Material Spill:	Approximate Volume:
Location:	
Distance to nearest down gradient drainage way:	
Distance to nearest down gradient open water:	
Temporary control measures in place:	

POLLUTION PREVENTION PLAN CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____

Name: _____

Title: _____

Date: _____

CONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Signature For Responsible for

_____

Date: _____

_____

Date: _____

_____

Date: _____

STORM WATER POLLUTION PREVENTION PLAN

INSPECTION AND MAINTENANCE REPORT FORM

TO BE COMPLETED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR MORE

INSPECTOR: _____ DATE: _____

INSPECTOR'S QUALIFICATIONS:

_____

_____

_____

_____

DAYS SINCE
LAST RAINFALL: _____

AMOUNT OF
LAST RAINFALL _____ INCHES

STABILIZATION MEASURES

AREA	DATE SINCE LAST DISTURBED	DATE OF NEXT DSTRBNCE	STBLZD? (Y/N)	STBLZD WITH	CONDITION

STABILIZATION REQUIRED:

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

STRUCTURAL CONTROLS

DATE: _____ COMPONENT(S): _____

FROM	TO	IS COMPONENT STABILIZED?	IS THERE EVIDENCE OF WASHOUT OR OVER-TOPPING?

MAINTENANCE REQUIRED FOR COMPONENT:

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

SEDIMENT BASIN

DEPTH OF SEDIMENT IN BASIN	CONDITION OF BASIN SIDE SLOPES	ANY EVIDENCE OF OVERTOPPING OF THE EMBANKMENT?	CONDITION OF OUTFALL FROM SEDIMENT BASIN

MAINTENANCE REQUIRED FOR SEDIMENT BASIN:

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

OTHER CONTROLS

STABILIZED CONSTRUCTION ENTRANCE:

DOES MUCH SEDIMENT GET TRACKED ON TO ROAD?	IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE?	IS THE CULVERT BENEATH THE ENTR. WORKING?

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:

REASONS FOR CHANGES:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best on my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE: _____ DATE: _____

Appendix H

Ammonia Spill Plan

SPILL PREVENTION, CONTROL AND COUNTERMEASURES PLAN

Prepared for:

Olympic Regional Development Authority
Olympic Center
Lake Placid, New York 12946

April, 1993

Prepared by:

CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS, SURVEYORS, PLANNERS,
& LANDSCAPE ARCHITECTS
Mirror Lake Drive
Lake Placid, New York

(518) 523-9000

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PREFACE

The Olympic Regional Development Authority (ORDA) has instituted this Spill Prevention, Control and Countermeasures Plan in order to provide an effective and organized procedure to prevent and/or control a spill of ammonia, and to protect the health and safety of its employees, its visitors, the community and the environment in the event of an ammonia spill at the Mt. Van Hoevenberg Recreational Area. This Plan allows for rapid response to ammonia releases and provides direction for handling release situations. This document represents the most practical measures that will minimize the potential for significant releases of ammonia to the environment.

For the purpose of this Plan, a release of ammonia is defined by regulations as, but not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.

This Plan is divided into two major parts. The first part covers emergency response procedures; the second covers spill prevention. This Plan is available for inspection by employees, their representatives, and authorized government personnel.

PART I: EMERGENCY RESPONSE PROCEDURES

1.0 EMERGENCY ALERTING AND RESPONSE PROCEDURES:

1.1 Notification Procedures:

Any person who discovers an ammonia release must immediately notify the person(s) listed below:

- Day Shift

  Any person who discovers an ammonia release during the day shall call:

Personnel	Work Number
Tom Colby	(518) 523-4436
Faye Gonyea	(518 523-4436
Mike Gonyea	(518) 523-4437

- Night Shift, Weekends, Holidays

  Any person who discovers an ammonia release during these periods shall immediately call one of the persons listed below:

Personnel	Home Number
Tom Colby	(518) 523-7507
Warren Ford	(518) 873-6693
Faye Gonyea	(518) 576-4737

The caller should provide the following information where applicable (See Release Incident Form, Figure 1):

1. Caller's name
2. Type and extent of release
3. Location of release
4. Release control measures in effect

FIGURE 1

SPILL INCIDENT FORM

Use this form to record any spills at the facility:

Date: _____ Time: _____ Reported By: _____

Location of Spill: _____

_____

Fluid Type: _____ Volume (Gallons): _____

Weather Conditions (Sunny, Rain, Snow, Wind Direction, Temperature, etc.):

_____

Watercourse Affected: _____

Control Measures Taken: _____

_____

_____

Personnel Involved: _____

Injuries: _____

Estimated Property Damage and Cost of Cleanup: _____

_____

Disposal of Contaminated Materials: _____

Cause of Spill: _____

_____

Action(s) Taken to Prevent Recurrence: _____

_____

5. Number and condition of injured, if any

6. Time the release occurred

7. Return telephone number

Only management personnel shall notify the appropriate state and/or federal authorities and shall complete the Regulatory Agency Reporting Log, Figure 2.

- Regulatory Agencies: Mandatory within two (2) hours after a spill

NYS Dept. of Environmental Conservation Hotline	1-800-457-7362
NYS Dept. of Environmental Conservation, Region 5	(518) 891-1370

Note: The NYS Dept. of Environmental Conservation Hotline must also be notified in the event of a suspected or probable release of ammonia, unless an investigation shows that a release has not occurred, as per NYS regulations 6 NYCRR Part 595.

- Other Regulatory Agencies (if required):

US Coast Guard National Response Center (NRC)	1-800-424-8802

Note: The NRC is required to be notified no later than 24 hours if a release of 100 pounds (approximately 14 gallons) or greater of ammonia occurs as per federal regulations 40 CFR Part 302.

EPA - Oil & Hazardous Chemical Spills and Radiation Leaks	(201) 548-8730
NYS Dept. of Transportation	(518) 457-6164

- Local Agencies (if required):

North Elba Volunteer Fire Department	(518) 523-2535
Village of Lake Placid Police Department	(518) 523-2306
Emergency Broadcast System	(518) [illegible]941

1.2 Response Procedures:

Response operations shall follow a sequence that is initiated with notification of an emergency and continue through preparation of equipment and personnel for the next potential emergency.

In the event of a major release, ORDA employees will not respond in order to contain or stop the release at its source. The function of ORDA employees during a major release is to notify proper authorities (as given in Section 1.1 of this Part) and to aid in the evacuation of all non-essential personnel from

FIGURE 2

REGULATORY AGENCY REPORTING LOG

A. Name of Personnel Making Phone or Personal Contact: _____

_____

B. Date and Time of Conversation: _____

C. Name of Agency, Person Contacted and Title: _____

_____

D. Location of Agency: _____

E. Nature of Incident Reported: _____

_____

_____

F. Verbal Commitments (if any) Made: _____

_____

_____

G. Demands Requested by Agency: _____

_____

_____

H. Verbal Commitments (if any) Made by Agency: _____

_____

_____

the incident area (refer also to Section 5.1 of this Part for further discussion of personnel roles). A major release is defined as an incident which results, or is likely to result, in an uncontrolled release of ammonia, which cannot be absorbed, neutralized, or otherwise controlled at the time of release by ORDA employees. In terms of state and federal regulations, a major (reportable) release of ammonia is a release of 100 pounds (14 gallons) or more. Examples of major releases include tank/pipeline failure. The New York State Department of Environmental Conservation (NYSDEC) Region 5 (Raybrook) Spill Response Unit will assume control of a major release incident upon arrival at the incident area. ORDA employees will fully cooperate with the NYSDEC and all other authorities.

In the event of a minor release (a release not defined as being major), appropriately trained ORDA employees (see Section 5.2 of this Part) will respond in order to contain or stop the release at its source. These persons shall also notify proper authorities (as given in Section 1.1 of this Part) and aid in the evacuation of all non-essential personnel from the incident area (refer to Section 5.1 of this Part for further discussion of personnel roles). These persons shall ensure that personal protective equipment is utilized during responses to releases. Examples of minor releases include releases resulting from maintenance operations (i.e., changing gaskets, valves, etc.), operational wear of equipment (i.e., gaskets, valves), and operating losses (i.e., fugitive emissions).

2.0 EMERGENCY AND FIRST-AID INFORMATION:

Refer to the Material Safety Data Sheet (MSDS) for ammonia included in Appendix 1.

For the Mt. Van Hoevenberg facility, ammonia is used as a refrigerant. As such, it is stored as a compressed liquid. Contact with liquid ammonia can severely burn the eyes and skin, with excessive burns potentially being fatal. Liquid ammonia, when released to the environment, forms a clear colorless gas with a characteristic pungent ammonia odor. Ammonia gas can be suffocating and extremely irritating to the eyes, throat, and respiratory tract. Effects of exposure range from mild irritation to severe corrosion of body tissue depending on exposure level and duration of exposure. Intense exposure (ammonia concentrations of 2,500 to 4,500 parts per million for 30 minutes) can be fatal. Elevated concentrations of ammonia gas can burn and blister skin and cause severe eye irritation resulting in permanent corneal damage.

Ammonia is classified as a nonflammable gas; however, it will burn if vapor concentrations range between 15% to 28%. Its potential as a fire hazard will increase in the presence of oil or other combustible materials; however, combustibility is not usually a common problem in the event of leakage.

Ammonia is soluble in water forming a corrosive liquid. Ammonia vapors are lighter than air, therefore, they rise; however, the vapors from a leak will initially hug the ground. Ammonia reacts vigorously with chlorine, chlorine bleach, scouring powers, bromine, iodine, chlorates, and hypochlorites, releasing heat and poisonous gases. Ammonia may form explosive compounds with mercury, gold, and silver. Moist ammonia corrodes copper, tin, zinc, and many alloys. Spill response equipment must be compatible with ammonia.

Specific emergency and first aid procedures are outlined below:

First aid for exposure to ammonia is described for each route of exposure as follows:

Inhalation: Move the victim to fresh air. Give oxygen or artificial respiration, if necessary. Keep the victim warm. Seek medical attention immediately.

Skin: Get to an ammonia free area. Flush the skin and ammonia soaked clothing immediately with large quantities of water for at least 15 minutes. Remove any frozen clothing only after allowing to thaw. No salves or ointments should be applied for 24 hours. Seek medical attention immediately.

Eyes: Immediately flush with large amounts of water for at least 15 minutes, holding eyelids out and open to wash entire surface. Seek medical attention immediately.

Ingestion: Drink large amounts of water only if conscious. DO NOT INDUCE VOMITING. If vomiting begins, place head lower than hips. Seek medical attention immediately.

Note to Physician: Severe exposure may require supportive measures for pulmonary edema.

Minor first aid shall be performed by appropriately trained and certified emergency response personnel. The Lake Placid Volunteer Ambulance Service and Emergency Medical Service (EMS) program shall also be utilized to provide emergency medical care for ORDA emergency response personnel, support personnel, and the general public. These services shall monitor personnel engaged in control, mitigation, and

support functions in the event of an ammonia release. At all times they will utilize adequate level of Personal Protective Equipment (PPE) for their own safety.

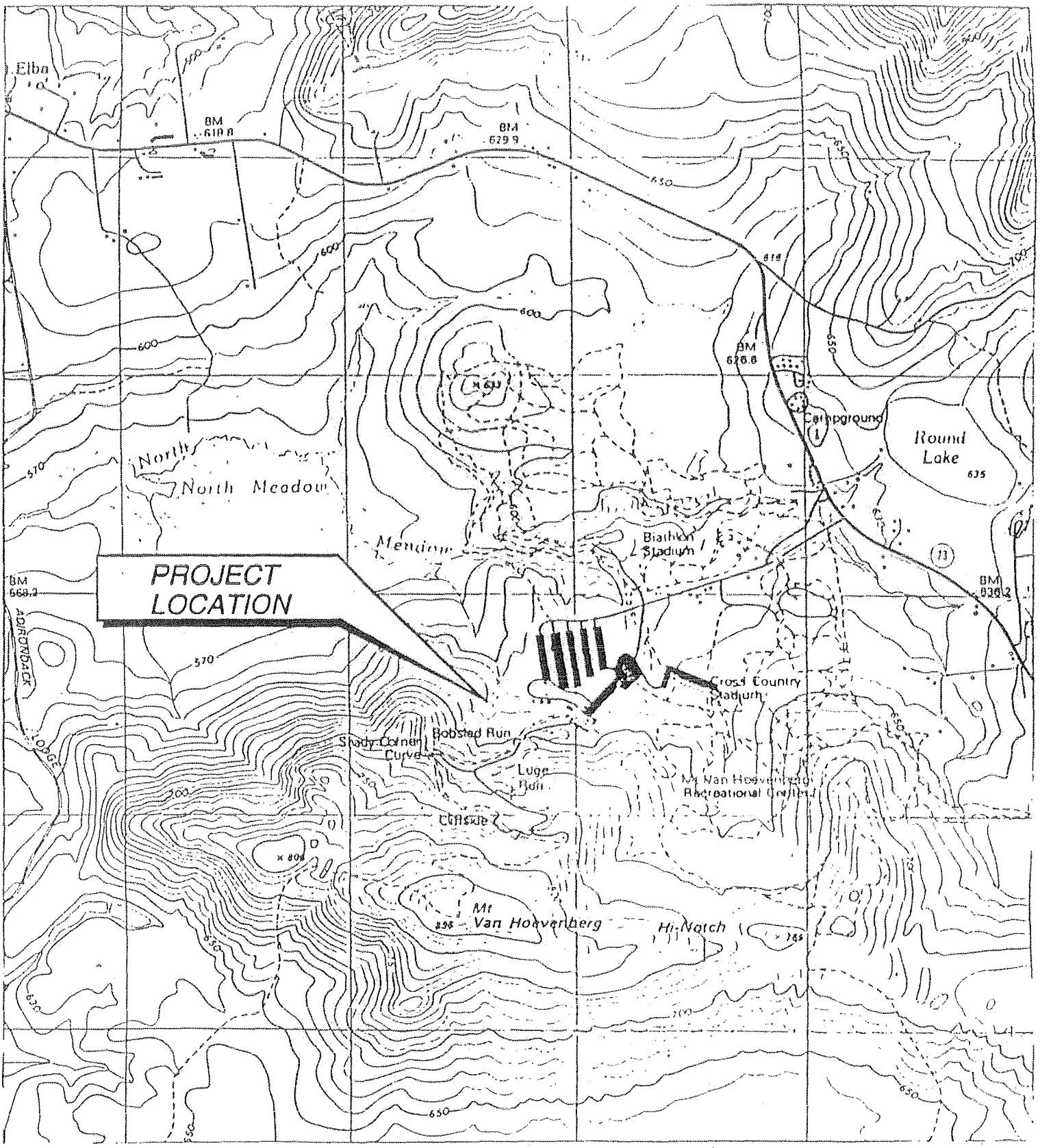
3.0 FACILITY DESCRIPTION:

The Mt. Van Hoevenberg Recreational Area, operated by ORDA, is located on the west side of Route 73 in Lake Placid, New York (Figure 3). The Recreational Area includes a luge track, a bobsled track, an administration building, a restaurant, a refrigeration pumphouse, a maintenance garage, and an employee lounge/sled shed. A Site Plan for the Recreational Area is presented in Appendix 2. The Recreational Area is open to visitors all year. During the winter season, the luge and bobsled tracks are in operation (iced), and the Recreational Area is manned 24 hours per day, seven days a week. During the non-winter season, the Area is open to visitors; however, the luge and bobsled tracks are not iced and the Recreational Area is manned daily 8:00 a.m. to 4:30 p.m. Access to the Recreational Area is secured with a chain link fence and gate. The gate is manned 24 hours per day.

The ammonia used to ice the tracks is stored as a liquid in the ammonia pumphouse in four aboveground storage tanks. Two of the tanks, 9,000 gallons each, service the luge run; two of the tanks, 12,000 gallons each, service the bobsled run. The ammonia is pumped to the luge and bobsled tracks when the tracks are in operation through filler mains. Ammonia is returned to the pumphouse via gravity through suction returns. The filler and suction mains for the luge run are underground from the pumphouse to the base of the luge run and then aboveground for the length of the track. The mains are located directly under the track. The filler and suction mains for the bobsled run are entirely underground. The process is a closed loop with ammonia being recirculated. Pumps and compressors are also located in the pumphouse. Two cooling towers are located outdoors adjacent to the pumphouse and are in operation when the tracks are in operation.

4.0 PRE-EMERGENCY PLANNING AND COORDINATION WITH OUTSIDE PARTIES:

Planning is essential in order to respond to emergencies effectively. Personnel must be ready to quickly respond.



SOURCE: USGS 7.5 Minute Series - 1979
QUADRANGLE: Keene Valley, New York

SCALE: 1:25,000

CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS, SURVEYORS & PLANNERS

Olympic Regional Development Authority
Mt. Van Hoevenberg Recreational Area
Lake Placid, New York
Site Location Map

FIGURE NO.	DATE:	BY:	CHK:
3	10/92	JKM	SED

The pumphouse, including the cooling towers , and the luge run are recognized as the areas most likely to be involved in a potential ammonia-release incident, and the areas which could result in a health concern in the event of a release.

Coordination with outside parties and agencies may be required for effective response to emergencies. The following parties have been notified, given a copy of, or made aware of the existence and contents of, as well as their involvement under this Plan:

ORDA Mt. Van Hoevenberg employees
Village of Lake Placid Police and Fire Departments
Area hospital, ambulance, and rescue services
Regional New York State Police
New York State Department of Environmental Conservation, Region 5, Raybrook
Bureau of Toxic Substance Assessment, Empire State Plaza, Albany

The above mentioned parties shall coordinate their actions when responding to an emergency in accordance with the procedures described in this Plan. Training on the contents and procedures covered in this Plan is provided to appropriate ORDA personnel as described in Section 5.2 of this Part.

5.0 PERSONNEL ROLES, LINES OF AUTHORITY, TRAINING:

5.1 Personnel Roles and Lines of Authority:

In the event of an incident which results, or is likely to result, in an uncontrolled release of ammonia (a major incident), ORDA employees will not respond to contain or stop the release at the source. In the event of a major incident, it is the function of ORDA employees to ensure the safe evacuation of visitors and non-essential personnel, to notify proper authorities, and to assist authorities where necessary. Specifically, in the event of a major incident, the General Manager or his/her designee, shall assume control of the incident. This person shall assign a team of trained ORDA employees to assist him or her, limiting the number of persons to only those necessary. The General Manager, or designee, shall direct the evacuation of all non-essential personnel and notify appropriate authorities as defined in Section 1.1 of this Part. The General Manager, or designee, shall ensure that ORDA employees do not attempt to contain or stop the release at the source during a major incident and shall ensure cooperation with authorities involved in containing or stopping the release. Only employees appropriately trained as described in Section 5.2 of this Part shall be allowed to remain on-site

during a major incident. Those employees likely to discover a release or potential release shall be trained as described in Section 5.2 of this Part.

In the event of an incident which is not likely to result in an uncontrolled release of ammonia (a minor incident), appropriately trained ORDA employees will respond in order to stop the release. These persons shall evacuate all non-essential persons from the area of the incident and ensure the proper use of PPE when required.

A Release Incident Form (Figure 1) and Regulatory Agency Reporting Log, when required (Figure 2), shall be completed by the General Manager or his/her designee as soon as practical after an incident (major or minor).

5.2 Training:

ORDA employees who may participate in ammonia release incidents and who are likely to discover a release or potential release shall be trained prior to participating in actual incident response and shall receive annual refresher training. Training shall include, at a minimum, knowledge of the contents of this Plan, hazards associated with ammonia (i.e., health, fire) and potential outcomes associated with an incident created when ammonia is released. Training shall also include how to recognize a release or potential release, appropriate notification procedures, and each employee's role during an incident. The use, selection, and care of PPE will also be included during training. Training shall be conducted by qualified personnel.

6.0 EMERGENCY RECOGNITION:

6.1 Recognition of Ammonia Releases:

Rapid recognition of potential ammonia releases can avert an emergency. On a day-to-day basis, personnel shall be constantly alert for indicators of potentially hazardous situations. Recognition will focus in determining whether a hazard exists, its potential, and precautions to take for safe operations during an incident. For the Recreational Area, an ammonia release incident can be recognized by olfactory observation, visual observation, a change in the operating conditions of the pumps located in the pumphouse, and use of air monitoring instruments (i.e., portable meters, mounted detection sensors).

Ammonia, in its natural state, is a clear colorless gas with a characteristic odor. Ammonia has a low odor threshold (17 parts per million); the odor threshold is essentially the lowest concentration of ammonia that can be readily detected by olfactory observation. Additionally, the strength of the odor is proportional to the concentration of ammonia present. As such, a pungent ammonia odor may be indicative of a release and the magnitude of a release; however, due to the low odor threshold of ammonia, visual observation, pressure reading of the pumps, or air monitoring instruments will be used in conjunction with olfactory observation to confirm the location and magnitude of a release.

The vapor evolved when liquid ammonia is released into the atmosphere can be visible at the point of release. As such, a visible vapor stream emanating from a pipeline, tank, or associated equipment may be indicative of a release. The volume and size of the stream may also be proportional to the magnitude of the release (i.e., a pinpoint release versus a fracture).

The refrigeration system for the bobsled and luge runs uses ammonia in a closed-loop system. The pumps responsible for transferring liquid ammonia to the tracks operate within a specified pressure range of 220 to 250 pounds per square inch (psi). Pressure readings below 220 psi may be indicative of a leak. The pumps are equipped with an automatic shut-off which is activated when the pumps operate outside this range. The pumps can also be manually shut-off. Pumphouse operators are required to record the pressure readings on a hourly basis. A change in pressure reading can be used to determine the magnitude of a release; a pressure change which results in the pumps automatically shutting down could mean a major leak has occurred within the system. Visual and olfactory observation may be used in conjunction with the pressure change to locate the source of the release. Caution must be used during any investigation, especially when entering any enclosed areas.

Portable air monitoring meters and ammonia detection sensors may be used to detect the concentration of ammonia in a specified area. A high concentration of ammonia may be indicative of a release.

6.2 Potential for Ammonia Releases:

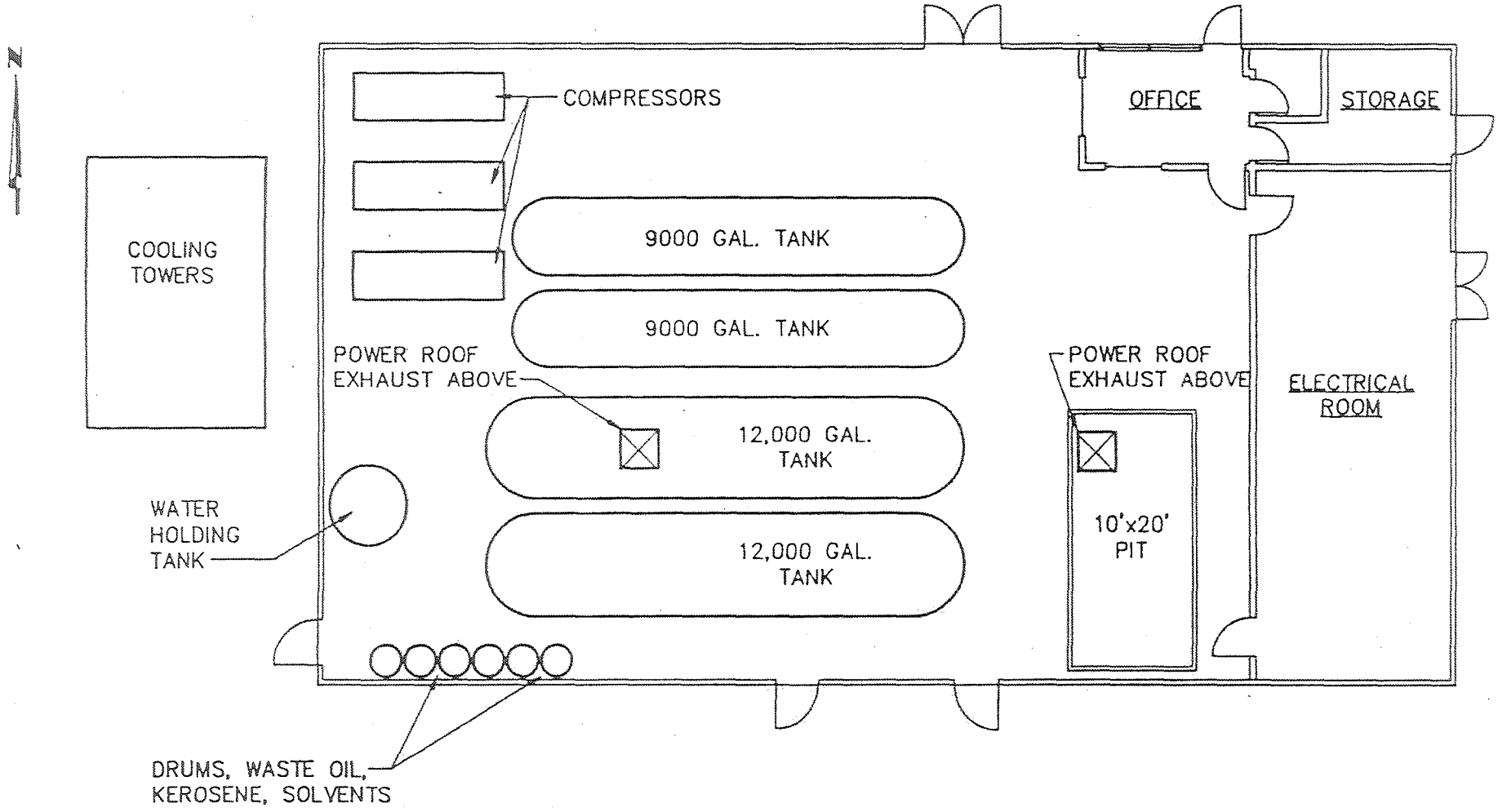
The luge run is approximately 2,950 feet in length. Ammonia is pumped from the pumphouse to the luge run through underground piping, and then through aboveground piping for the length of the track. The aboveground piping is situated directly under the luge track and consists of a 4-inch filler pipe

and a 10-inch suction return (ammonia mains). The track is separated into 56 sections. Each section contains its own grid which is isolated from the other sections by a suction header, and which connects to the ammonia mains. The ammonia mains and suction headers have the potential for a release of ammonia.

The bobsled run is approximately 4,600 feet in length. Ammonia is pumped from the pumphouse via underground piping to and along the length of the track. The piping consists of a 4-inch filler pipe and 8-inch suction return (ammonia mains). The track is separated into 66 sections. Each section contains its own grid which is isolated from the other sections by a suction return situated in an individual manhole and which connects to the ammonia mains. Ammonia is pumped through the grids as part of the freezing process. The ammonia mains and suction returns have the potential for a release of ammonia.

The pumphouse is located at the base of the tracks, and is comprised of a single building measuring 92 feet by 50 feet. The pumphouse contains an entrance-way, an electrical room, and an ammonia storage area. Figure 4 illustrates the layout of the pumphouse. The ammonia storage area encompasses most of the building and measures approximately 77 feet by 50 feet. The storage area contains four aboveground ammonia storage tanks with associated piping, three compressors with associated piping, three pumps with associated piping, one aboveground water storage tank with associated piping, and several 55 gallon drums used for storage of kerosene, cleaning solvents, and waste oil. The ammonia storage tanks are situated approximately in the center of the area. The pumps are situated adjacent to, and west of, the tanks. The compressors are situated in the northwest corner of the area. The water storage tank is situated in the southwest corner of the area. The 55 gallon drums are predominantly situated along the southern wall in the southwest portion of the area. Two cooling towers are located outdoors adjacent to and in the west side of the pumphouse. Associated pipelines run between the cooling towers and the pumphouse.

Releases of ammonia may occur as a result of maintenance operations (i.e., changing pumps, valves, gaskets), operational wear (i.e., failing gasket), equipment failure (i.e., tank failure, pipeline fracture), and ammonia transfer operations (i.e., loading the ammonia storage tanks).



NOT TO SCALE

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CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS, SURVEYORS & PLANNERS
III WINNERS CIRCLE ALBANY, NEW YORK, 12205

DWG. NO. FIGURE 4 | DATE OCT. 1992

OLYMPIC REGIONAL DEVELOPMENT AUTHORITY
AMMONIA SPILL CONTAINMENT

PUMPHOUSE PLAN

7.0 SAFE DISTANCES, PLACES OF REFUGE, AND EVACUATION ROUTES AND PROCEDURES:

7.1 Safe Distances:

Safe distances shall be determined by the General Manager or his/her designee at the time of an emergency for the safety of emergency response personnel as well as the general population, based on a combination of site and incident specific factors. Factors that shall influence safe distances shall include quantity released, rate of release, method of release, wind direction and speed, atmospheric stability, height of the release, air temperature, and local topography. The U.S. Department of Transportation handbook on emergency response indicates the following evacuation distances for various volume releases:

- For a major release, immediately isolate the release area for at least 300 feet in all directions, then protect those persons in the downwind direction for at least one mile.
- For a minor release, immediately isolate the release area for at least 150 feet in all directions, then protect those persons in the downwind direction for at least 0.2 mile.

7.2 Places of Refuge:

On-site refuge areas may be set up for localized emergencies that do not require evacuation. These refuge areas shall only be used for essential needs, such as short rest breaks, emergency response strategy meetings, or temporary relief. The refuge shall be located upwind of the incident.

Other refuges may be set up upwind of the incident, or in the case of evacuation, off-site at the safe distance destination. These shall provide for emergency needs such as first aid, emergency response supplies, water, and communication system.

7.3 In-Place Sheltering and Evacuation:

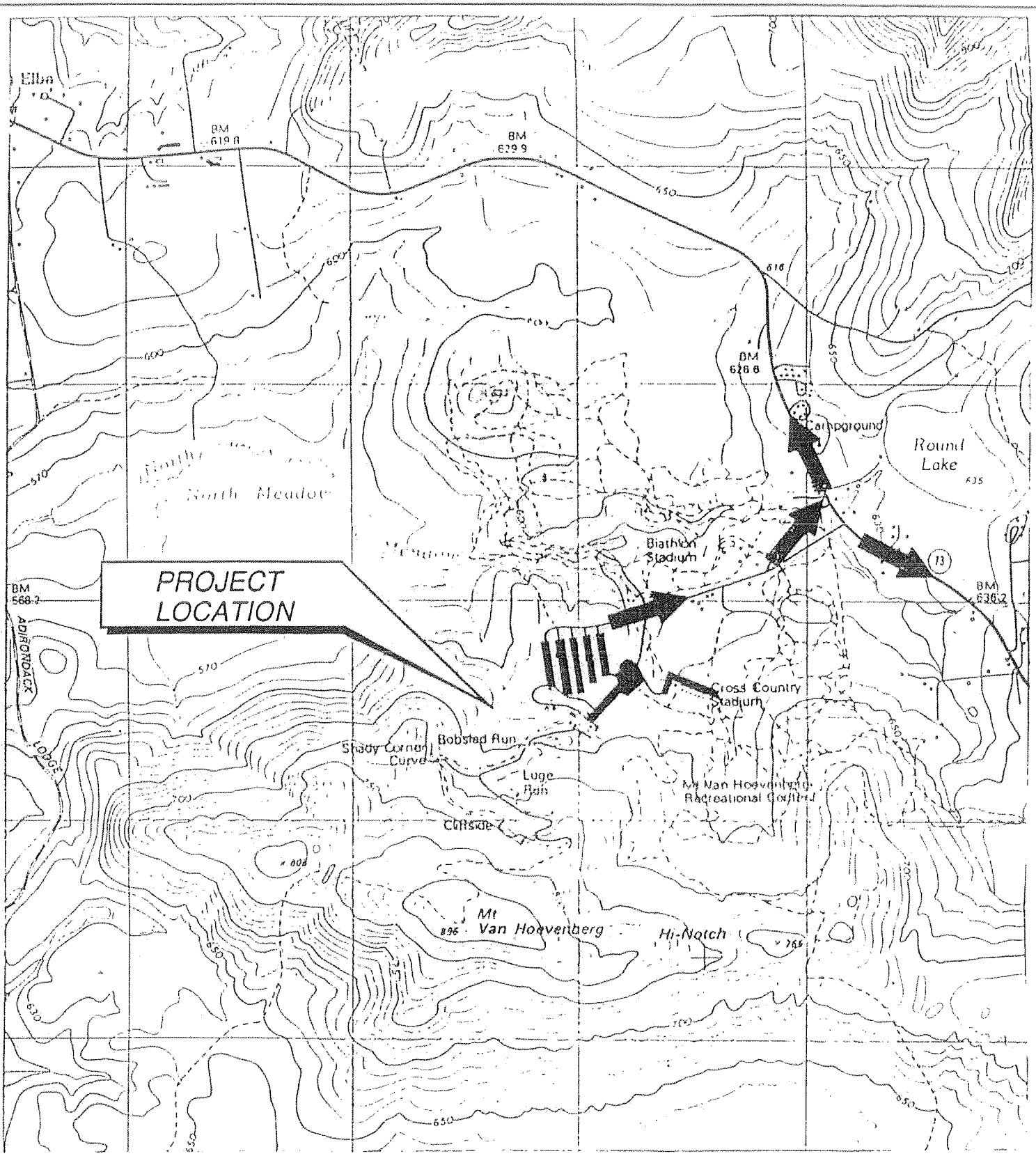
If in-place sheltering or evacuation of the general populace is determined to be necessary, notifications shall be made by door-to-door notification, messages over a public address system on emergency vehicles, or over the Emergency Broadcast System depending on available emergency personnel, and the amount of time available for notifications. Instructions for in-place sheltering shall include the need to seal doors, windows, and other exterior openings, shut down fresh air ventilation equipment, and information on where to receive further instructions and current news regarding the emergency including re-entry orders.

If a full-scale evacuation is required, centers capable of accommodating large numbers of people for an extended period shall be procured. Various buildings within the Village of Lake Placid may be utilized, including the Lake Placid Firehouse, area churches, Lake Placid Elementary School, Lake Placid Central School, Lake Placid Town Hall, and the U.S. Olympic Training Center. In addition, buildings outside the Fire District and/or the services of the American Red Cross may be utilized.

7.4 Evacuation Routes and Procedures:

Evacuation routes for victims and endangered personnel in the vicinity of the incident shall be established and marked. The routes shall be directed from the incident area through an upwind route to an off-site location in the event conditions necessitate a general site evacuation. A wind sock or flag may be used as a general indicator of wind direction.

If it is necessary to evacuate the general populace, notification shall be made by door-to-door notification, messages over a public address system on emergency vehicles, or over the Emergency Broadcast System. A long continuous siren originating from the fire department shall also be used to indicate an emergency. Evacuation routes will generally follow the New York State Route 73 transportation corridor. Figure 5 illustrates these routes in addition to subsidiary routes with respect to the Recreational Area.



SOURCE: USGS 7.5 Minute Series - 1979
QUADRANGLE: Keene Valley, New York

SCALE: 1:25,000

CLOUGH, HARBOUR & ASSOCIATES
ENGINEERS, SURVEYORS & PLANNERS

Olympic Regional Development Authority
Mt. Van Hoevenberg Recreational Area
Lake Placid, New York
EVACUATION ROUTES

FIGURE NO.	DATE:	BY:	CHK:
5	10/92	JKM	SED

8.0 CRITIQUE OF RESPONSE AND FOLLOW-UP:

A critique of all major incidents will be held as soon as practicable after termination of the incident. Discussion will focus on how well pre-incident plans worked, how the incident itself was handled, and what areas need improvement or change. The response of emergency and support personnel, the performance of equipment used, and all other aspects of the incident shall be evaluated.

The General Manager, or designee, shall initiate the investigation and documentation of the incident. Documentation of each incident shall include, at a minimum, chronological history of the incident, facts about the incident and when they became available, title and names of personnel and teams, actions taken, the effectiveness of the actions taken, types of samples collected and test results, possible exposures of personnel, and history of all injuries or illnesses during, or as a result of, the incident.

9.0 PERSONAL PROTECTIVE EQUIPMENT AND EMERGENCY EQUIPMENT:

Equipment shall be provided to enable the rescue and treatment of victims, to protect response personnel, and to mitigate hazardous conditions. Chemical protective clothing will be worn to prevent harmful ammonia vapors or liquid from coming into contact with the skin or eyes. Used with engineering controls and respiratory protection, properly selected chemical-resistant clothing can protect personnel.

Four levels of PPE are used. Level A provides the highest level of respiratory (supplied air), skin, and eye protection. Level B provides the highest level of respiratory protection (supplied air), but a lesser level of skin protection. level C provides air-purifying respiratory protection together with skin protection. Level D provides no respiratory protection and only minimal skin protection. The type of equipment required for each level is provided in Table 1. The level of equipment required is dependent on the nature of the incident and the potential hazards involved, and shall be determined prior to entering the incident area. Entry into the incident area will be denied to anyone not having the proper level of protection.

No person shall be allowed to wear any personal protective equipment for which he or she has not been fully trained on the use of, and for which he or she has not been medically approved to wear.

TABLE 1

HAZARD LEVEL VS. EQUIPMENT

	Level of Protection			
	A	B	C	D
Hard hat	X	X	X	X
Face shield/safety glasses			X	X
Boots	X	X	X	X
Inner gloves	X	X	X	
Outer gloves	X	X	X	
Work coveralls				X
Chemical-resistant coveralls			X	
Chemical-resistant suit		X		
Fully-encapsulating suit	X			
Air-purifying respirator			X	
SCBA/air-line respirator	X	X		
Two-way radio	X			

PART II: SPILL PREVENTION, CONTROL, AND COUNTERMEASURES

1.0 FACILITY SPILL HISTORY:

There have been no major releases or spills of ammonia. Minor releases have occurred as a result of facility maintenance operations (i.e., changing pumps, valves, gaskets), operational wear (i.e., failing gasket), and operating losses (i.e., fugitive emissions). Approximately 1,000 gallons total of ammonia is required to be added to the four ammonia storage tanks every two to three years to make up for lost product.

2.0 DESCRIPTION OF PREVENTATIVE PROCEDURES AND CONTAINMENT STRUCTURES:

2.1 Source by Source Description:

The following is a list of possible ammonia release points and ammonia release prevention methods for each ammonia storage tank.

Each section below presents the following for each tank:

- potentials for release,
- procedures and equipment in place to prevent a release,
- containment structures in place to contain a release.

2.1.1 Two-12,000 Gallon and Two-9,000 Gallon Aboveground Ammonia Storage Tanks:

Two-12,000 gallon and two-9,000 gallon aboveground ammonia storage tanks and associated piping are located in the pumphouse situated at the base of the bobsled and luge runs. The ammonia is used as a refrigerant during the icing of the tracks.

A. Release Potential: Transfer points from the bulk carrier to the storage tanks.

Prevention:

(1) Follow ammonia transfer procedures located in Section 3.1 of this Part.

(2) Each tank is equipped with a liquid eye-level gauge and a high/low level alarm which is sounded in the pumphouse.

(3) The tanks are contained and secured within the pumphouse. The Recreational Area is manned 24 hours

per day by a security guard; therefore, the possibility of a release due to vandalism or unauthorized access is minimal. Guard on duty 24 hrs/day Oct-Mar, and on until 9 p.m. April-Sept.

Containment: A release is controlled through emergency procedures described in Part I of this Plan.

B. Release Potential: Tank failure.

Prevention: The tanks are situated aboveground to allow monitoring for leaks, and are visually examined according to Section 2.2 of this Part.

Containment: The tanks are located inside the pumphouse. A release would be contained within the pumphouse for further handling. Should a release inside the pumphouse occur, ammonia concentrations could be deadly and appropriate air supplied respirators should be worn during emergency response.

C. Release Potential: Aboveground piping damage.

Prevention: Damage to transfer piping is prevented by limiting operations within the area. Piping supports are periodically inspected for leaks and maintenance deficiencies.

Containment: Piping is located inside the pumphouse. Releases from exterior, aboveground piping is controlled through emergency procedures described in Part 1 of this Plan.

D. Release Potential: Underground piping damage.

Prevention: Piping is located underground (as is the case for the bobsled run); therefore, damage caused by facility operations is unlikely.

Containment: There is no containment per se. It is expected that a release would be readily detected by a pressure change in the pumps located in the pumphouse or by olfactory observation of released ammonia emanating from soil surrounding the pipelines or from water drawn from downgradient groundwater wells.

2.2 Inspection and Monitoring:

ORDA employees will inspect the facility including the aboveground storage tanks and associated equipment, aboveground piping, valves, gauges, vents, and leak detection equipment for leaks.

The following will be performed on a monthly basis:

- Inspecting exterior surfaces of tanks, pipes, valves, dikes and associated equipment for leaks and maintenance deficiencies.
- Identifying cracks, areas of wear, corrosion and thinning, poor maintenance and operating practices, excessive settlement of structures, malfunctioning equipment, and other structural and foundation weaknesses.
- Inspecting and monitoring all leak detection equipment, spill/overfill prevention valves and warning systems, and interstitial spaces.

Any problems or discrepancies shall be immediately reported to the Pumphouse Supervisor for corrective action.

Pumphouse personnel will monitor and record the pressure reading for each pump on a hourly basis for each work day. During non-work days, the security guard will inspect and record the pumphouse and the pressure gauges periodically. If pressure readings indicate a release may have occurred and if aboveground piping and equipment indicate no obvious leak, the underground piping system shall be carefully inspected.

3.0 TRANSFER OPERATIONS:

The spill contingency plan for the transfer of ammonia into or from the Area's ammonia storage tanks is designed to prevent accidental release of ammonia and is discussed below.

3.1 Two-12,000 Gallon and Two-9,000 Gallon Aboveground Ammonia Storage Tanks:

Prior to commencing any off-loading operations, the driver of the truck must receive permission to unload from the pumphouse supervisor. Operating personnel are also on hand to inspect the off-loading operation. Drains, outlets, and all connections on the tank trucks are checked for leakage before unloading and departure. In addition, a pumphouse employee shall examine the liquid eye-level gauge to determine the amount of product which can be accepted, and compare this amount with the amount being delivered.

The pumphouse employee shall inspect the hook-up procedure of the bulk carrier truck as a precaution of overfilling and possible early release from the hook-up. In addition, the pumphouse employee shall be present at the time the bulk carrier truck disengages from the transfer and shall inspect the disengagement procedure to be sure all valves and caps are tightly closed and sealed.

APPENDIX 1

MATERIAL SAFETY DATA SHEET FOR AMMONIA

Genium Publishing Corporation
1145 Catalyn Street
Schenectady, NY 12303-1836 USA
(518) 377-8854

Material Safety Data Sheets Collection:

Sheet No. 1
Anhydrous Ammonia

Issued: 8/85 Revision: D, 4/90

Section 1. Material Identification

Anhydrous Ammonia Description: Manufactured primarily by using atmospheric nitrogen and a hydrogen source at high temperatures (752 °F/400 °C to 11,732 °F/6500 °C) and pressures (100 to 900 atm) in the presence of an iron catalyst (a modified Haber reduction process). Used as a refrigerant, a fertilizer, a cleaning and bleaching agent, a household cleaner, a condensation catalyst, a neutralizing agent in the petroleum industry, and a yeast nutrient; in nitriding of steel, developing diazo films, manufacturing nitric acid, synthetic fibers, and explosives; and in latex preservatives, dyeing, ureaformaldehyde, nitrocellulose, nitroparaffins, melamine, ethylenediamine, fuel cells, sulfite cooking liquors, and rocket fuel.
Other Designations: CAS No. 7664-41-7; NH_3; ammonia (ACGIH); ammonia anhydrous.
Manufacturer: Contact your supplier or distributor. Consult the latest *Chemicalweek Buyers' Guide*(TM) for a suppliers list.

NFPA

Gaseous

Liquified

R	1
I	3
S	4
K	-

HMIS

H	3
F	0
R	0

PPG*
* Sec. 8

Section 2. Ingredients and Occupational Exposure Limits

Anhydrous ammonia, ca 100%

OSHA PEL
15-min STEL: 35 ppm, 27 mg/m³

ACGIH TLVs, 1989-90
TLV-TWA: 25 ppm, 17 mg/m³
TLV-STEL: 35 ppm, 24 mg/m³

NIOSH REL, 1987
50 ppm
5-min ceiling: 35 mg/m³

Toxicity Data*
Human, eye: 700 ppm
Human, inhalation: 20 ppm inhaled affects the sense organs, special senses (conjunctiva irritation, ulcerated nasal septum), and the lungs, thorax, and respiration (change in trachea or bronchi)

* See NIOSH, *RTECS* (BO0875000), for additional irritative, mutative, and toxicity data.

Section 3. Physical Data

Boiling Point: -28.03 °F/-33.35 °C
Melting Point: -107.9 °F/-77.7 °C
Vapor Pressure: 10 atm at 78.3 °F/25.7 °C
Vapor Density (Air = 1): 0.6
Molecular Weight: 17.03 g/mol
Specific Gravity (H_2O = 1 at 39 °F/4 °C): 0.77 at 32 °F/0 °C (liquid), 0.7 at -27 °F/-33 °C (gas)
Water Solubility: 47% at 32 °F/0 °C, 34% at 68 °F/20 °C

Appearance and Odor: Colorless liquid or gas with a strong, pungent, and irritating odor. Their low and high odor thresholds are 0.0266 mg/m³ and 39.6000 mg/m³, respectively.

Section 4. Fire and Explosion Data

Flash Point: Gas at room temperature	Autoignition Temperature: 1204 °F/ 651 °C (iron catalyzed)*	LEL: 16% v/v	UEL: 25% v/v

Extinguishing Media: An explosive mixture may form in air if this gas continues to flow while the flame is extinguished. Thus the best procedure is first to stop the flow of gas. It may be necessary to use carbon dioxide or dry chemical to extinguish the flame surrounding the valve that controls the gas supply. Use water to cool fire-exposed containers and to protect personnel shutting off gas. The water reduces gas concentration due to its solubility in water. For fires involving liquified anhydrous ammonia, use dry chemical or CO_2.
Unusual Fire or Explosion Hazards: This material is a moderate fire and explosion hazard when exposed to heat and/or flame. The presence of oil and other combustible materials increases the fire hazard.
Special Fire-fighting Procedures: Since fire may produce toxic fumes, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in the pressure-demand or positive-pressure mode. If gas is leaking or tanks are exposed to intense heat, evacuate the area and the area downwind. Tanks should be equipped with appropriate pressure-relief devices. Violent rupture can occur if relief valves fail. Stay clear of tank heads. Be aware of runoff from fire control methods. Do not release to sewers or waterways.

* 850 °C/1562 °F (uncatalyzed).

Section 5. Reactivity Data

Stability/Polymerization: Anhydrous ammonia is stable at room temperature in closed containers under normal storage and handling conditions. Its decomposition to flammable hydrogen and nitrogen gas begins above 840 °F/450 °C. Hazardous polymerization cannot occur.
Chemical Incompatibilities: This material is an alkaline gas that gives off heat when it reacts with acids. Contact with interhalogens, boron halides, 1,2-dichloroethane (with liquid NH_3), ethylene oxide (polymerization reaction), chloroformamidnium nitrate, oxygen + platinum, magnesium perchlorate, nitrogen trichloride, and strong oxidants can cause potentially violent or explosive reactions. Contact with heavy metals and their compounds, chlorine azide, bromine, iodine, iodine + potassium, tellurium halides, pentaborane (9), silver oxide, silver chloride, silver nitrate, silver azide, and hypochlorites yield explosive products. Contact with chlorine or chlorine bleach can cause the evolution of hazardous chloramine gas. Ammonia forms sensitive explosive mixtures with air + hydrocarbons, germanium derivatives, stibine, 1-chloro-2,4-dinitrobenzene, ethanol + silver nitrate, and 2-, or 4-chloronitrobenzene (above 160 °C/30 bar). This material is also incompatible with acetaldehyde, acrolein, boron, chlorosilane, hexachloromelamine, sulfur, hydrazine + alkali metals, potassium ferricyanide, potassium mercuric cyanide, nitrogen dioxide, phosphorus pentoxide, and tetramethylammonium amide.
Hazardous Products of Decomposition: Thermal oxidative decomposition of anhydrous ammonia can produce toxic fumes of ammonia (NH_3) and nitrogen oxides (NO_x).

Section 6. Health Hazard Data

Carcinogenicity: Neither the NTP, IARC, nor OSHA lists anhydrous ammonia as a carcinogen.
Summary of Risks: Ammonia gas can be suffocating and extremely irritating to the eyes, throat, and respiratory tract. Depending on exposure level and time, effects range from mild irritation to severe corrosion of body tissue due to ammonia's alkalinity. Exposures to increasing concentrations may be hazardous since persons acclimated to its odors may suffer overexposure and adverse health effects. Intense exposure can be fatal. Fatalities may occur from exposure to ammonia concentrations of 2500 to 4500 ppm for 30 min. 700 ppm causes eye irritation. High gas concentrations can burn and blister skin and cause severe eye irritation with permanent corneal damage. Contact with liquid anhydrous ammonia can also severely burn the eyes and skin. Extensive burns can be fatal.
Medical Conditions Aggravated by Long-Term Exposure: Permanent eye damage, scars, and pulmonary impairment.
Target Organs: Respiratory system, eyes.
Primary Entry Routes: Inhalation, ingestion, skin and eye contact.
Acute Effects: Inhalation can cause dyspnea; bronchospasm; mucosal burns of the nose, pharnyx, and larynx (throat irritation at 408 ppm and laryngospasm at 1700 ppm); chest pain; pulmonary edema; saliva secretion; pink, frothy sputum; and urine retention. Ingestion causes nausea, vomiting, and swelling of the lips, mouth, and larynx. Skin contact with concentrated ammonia produces liquefaction necrosis (tissue death) and deep penetrating burns. Eye exposure results in lacrimation, conjunctivitis, iritis, corneal irritation, and temporary or permanent blindness.
Chronic Effects: Chronic bronchiectasis with small airway obliteration may occur. Interstitial fibrosis has been observed after chronic exposure.
FIRST AID
Eyes: Flush immediately, including under the eyelids, gently but thoroughly with flooding amounts of running water for at least 15 min. Time is the most important consideration! *The first 10 seconds are critical to preventing blindness.*
Skin: *Quickly* remove contaminated clothing. After rinsing affected skin with flooding amounts of water, wash it with soap and water.
Inhalation: Remove exposed person to fresh air and support breathing as needed.
Ingestion: Never give anything by mouth to an unconscious or convulsing person. If ingested, neither induce vomiting nor attempt to neutralize. Have the conscious person drink about 4 oz of water or milk to dilute. Caution! Excessive amounts may cause vomiting.
After first aid, get appropriate in-plant, paramedic, or community medical support.
Physician's Note: Serum ammonia levels are not clinically useful in managing exposures; instead, evaluate clinically for pulmonary edema and respiratory distress, with treatment as appropriate. Consider esophagoscopy if the patient has oral or pharyngeal burns. Do not induce gastric lavage. Steroid treatment is controversial and of questionable benefit. If ingestion is significant, observe for development of esophageal stricture. For eye exposures, irrigate until conjunctival sac pH is <8.5.

Section 7. Spill, Leak, and Disposal Procedures

Spill/Leak: *Design and practice an anhydrous ammonia spill control and countermeasure plan (SCCP).* Notify safety personnel, evacuate all unnecessary personnel, remove all heat and ignition sources, and ventilate area to disperse gas. Cleanup personnel should protect against vapor inhalation and skin contact. Before fixing a leak, use a water spray to reduce the concentration of gaseous ammonia around a leaking vessel. If a cylinder is the source of a leak, remove it to a safe place in open air. Then, either repair the leak or allow the cylinder to empty. If ammonia is liquified, isolate the hazard area and allow it to vaporize. Rapid neutralization of large amounts of ammonia is not advised since the heat generated may increase exposure of personnel. Do not release the water used during cleanup into sewers, drains, or surface water. Follow applicable OSHA regulations (29 CFR 1910.120).
Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.
EPA Designations
RCRA Hazardous Waste (40 CFR 261.33): Not listed
Listed as a CERCLA Hazardous Substance* (40 CFR 302.4), Reportable Quantity (RQ): 100 lb (45.4 kg) [* per Clean Water Act, Sec. 311(b)(4)]
Listed as a SARA Extremely Hazardous Substance (40 CFR 355), Reportable Quantity: 100 lb; Threshold Planning Quantity (TPQ): 500 lb
Listed as a SARA Toxic Chemical (40 CFR 372.65)
OSHA Designations
Listed as an Air Contaminant (29 CFR 1910.1000, Table Z-1)

Section 8. Special Protection Data

Goggles: Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133).
Respirator: Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a NIOSH-approved respirator. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA.
Warning: Air-purifying respirators do *not* protect workers in oxygen-deficient atmospheres.
Other: Wear impervious gloves, boots, aprons, and gauntlets to prevent any skin contact.
Ventilation: Provide general and local explosion-proof ventilation systems to maintain airborne concentrations below the OSHA PEL, ACGIH TLVs, and NIOSH REL (Sec. 2). Local exhaust ventilation is preferred since it prevents contaminant dispersion into the work area by controlling it at its source.[103]
Safety Stations: Make available in the work area emergency eyewash stations, safety/quick-drench showers, and washing facilities.
Contaminated Equipment: Never wear contact lenses in the work area: soft lenses may absorb, and all lenses concentrate, irritants. Remove this material from your shoes and equipment. Launder contaminated clothing before wearing.
Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9. Special Precautions and Comments

Storage Requirements: Store cylinders or tanks in a cool, well-ventilated, fire-resistant location away from oxidizing agents, combustible materials, incompatible materials (especially chlorine, bromine, iodine, and acids), heat and ignition sources, and exit points. Special outside storage out of direct sunlight is preferred. Protect containers from physical damage. Follow good practice for handling compressed gas in cylinders.
Engineering Controls: Work practices and equipment must be designed to prevent skin and contact with ammonia or ammonia solutions and inhalation of gaseous vapor. Provide workers with training on safe handling. Do not use ammonia near heat and ignition sources. All engineering systems should be of maximum explosion-proof design and electrically grounded and bonded. Cylinders in use should be in enclosed cabinets equipped with an individual air ventilation source to control accidental leaks. Do not use copper, brass, bronze, or galvanized steel in contact with ammonia. Welded, not threaded, joints are preferred in ammonia service. Do not use brazed joints. Iron and steel construction is preferred. Piping should be of rigid steel. Follow OSHA regulations (29 CFR 1910.11).

Transportation Data (49 CFR 172.101, .102)

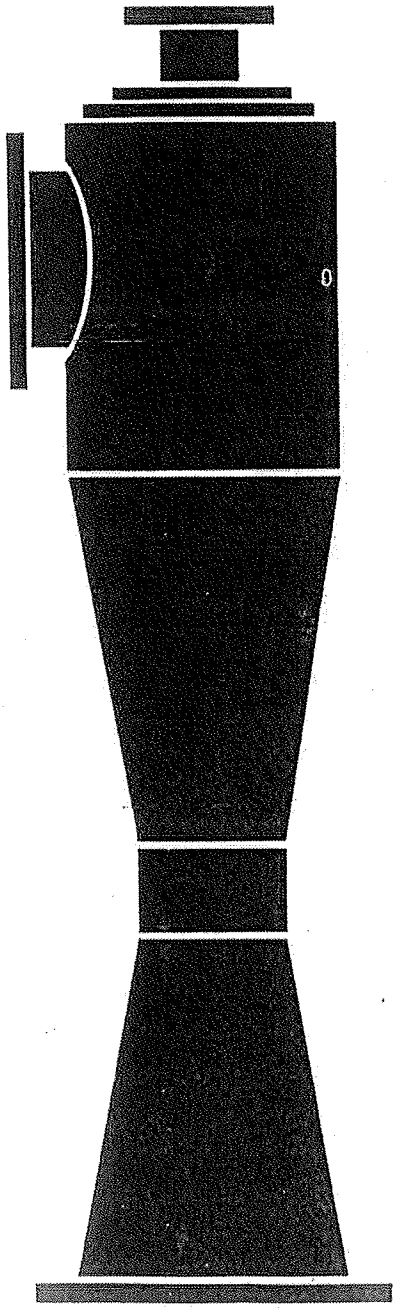
DOT Shipping Name: Ammonia, anhydrous
DOT Hazard Class: Nonflammable gas
ID No.: UN1005
DOT Label: Nonflammable gas
DOT Packaging Requirements: 173.304, 173.314
DOT Packaging Exceptions: 173.306

IMO Shipping Name: Ammonia, anhydrous, liquified, or ammonia solutions, density (specific gravity) less than 0.880 at 15 °C, in water, containing more than 50% ammonia
IMO Hazard Class: 2.3
IMO Label: Poison gas
IMDG Packaging Group: -
ID No.: UN1005

MSDS Collection References: 1, 2-9, 12, 17, 19, 20, 24, 26, 27, 31, 38, 73, 84, 85, 87, 88, 103, 109, 123, 124, 126, 127, 129, 133, 134, 136
Prepared by: MJ Allison, BS; Industrial Hygiene Review: DJ Wilson, CIH; Medical Review: MJ Hardies, MD M1

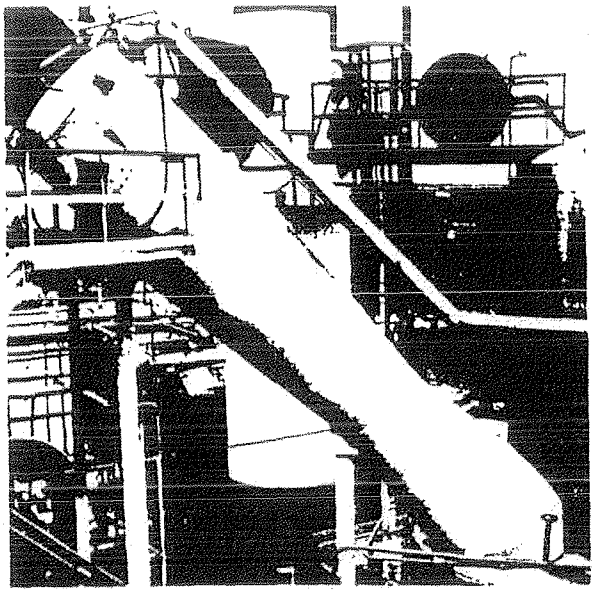
APPENDIX E

LITERATURE ON AIR POLLUTION CONTROL EQUIPMENT



FUME SCRUBBERS

The Croll-Reynolds Jet-Venturi Fume Scrubber is a dependable device designed to entrain and scrub large volumes of gases without the use of complicated baffles or moving parts. Motivating fluid, generally water, leaves the nozzle in a hollow cone spray, creating a draft which draws the gases and vapors into the moving stream where they are continuously scrubbed or absorbed. Subsequent separation is accomplished in units specifically designed by Croll-Reynolds to meet state and federal pollution requirements or to recover valuable product.



The Croll-Reynolds Jet-Venturi Fume Scrubber is one of the most economical answers to the growing problem of air pollution. It is an efficient means for minimizing smoke and undesirable odors, cleaning and purifying air and other gases as well as reclaiming valuable product which may be exhausting to atmosphere. It can also be used as a concentrator by having the motivating fluid absorb the fume for recirculation until a desired concentration is reached. And the Fume Scrubber can do all this with a minimum of maintenance since there are no moving parts and because it operates at low velocities.

EFFICIENCIES ARE HIGH

The efficiency of a Croll-Reynolds Fume Scrubber varies with a variety of factors including temperature, liquid-gas ratio, concentration of contaminants, operating pressures, etc. Here are some typical efficiencies of a single stage ejector Venturi Fume Scrubber which give an idea of the high efficiencies which can be achieved:

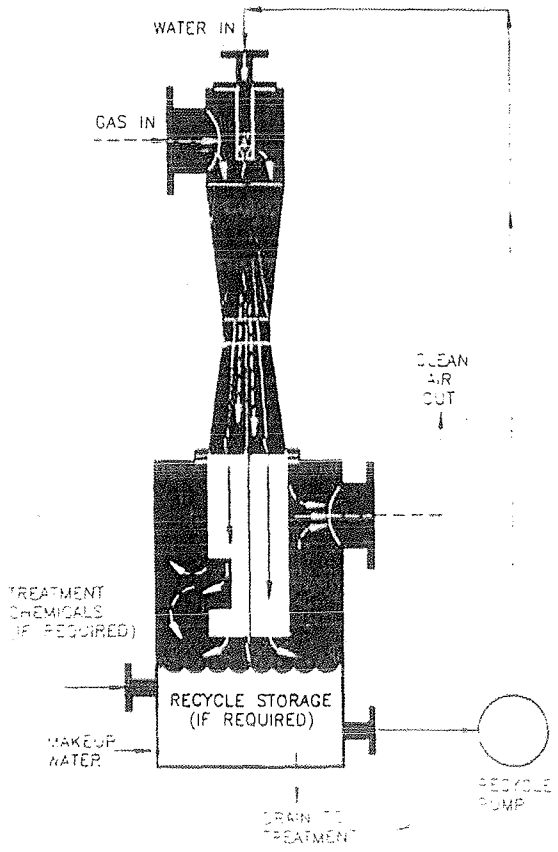
GAS	SCRUBBING MEDIUM	PERCENT REMOVAL PER STAGE
SO_2	Caustic 8-10%	95-98%
HCl	Water at 70°	90-95%
SiF_4	Water	90+%
Ammonia	Water under 75°F	97%
HF	Water	90-95%
HNO_3 Vapor	Water	Up to 95%

The Croll-Reynolds Fume Scrubber is also effective for simultaneously removing dust from the gas stream. With 80 psig water pressure, for example, the efficiency would be better than 99% on all particles over 4 microns in size. An efficiency of over 90% at this pressure could be anticipated for all particles over 2 microns in size. Special jet scrubbers are available for submicron size particles.

SEPARATORS

Fume scrubbing is just part of the job. The scrubbed non-condensibles must be separated from the contaminated liquid as they are discharged into a separator box. The gas can then be passed to atmosphere or to another fume scrubber in series if higher efficiency is required.

Because of the co-current nature of the Jet Venturi Scrubber, it is necessary to provide a method of separating the gas and liquid streams. Small liquid droplets and mist in the gas stream must simultaneously be reduced to meet state and federal pollution requirements. Croll-Reynolds Separators are individually engineered for each application, incorporating the necessary tanks, entrainment separators, recycling equipment, heating or cooling coils and other components.



FUME SCRUBBER

SCRUBBER SIZE	22	33	44	66	88
SIZE FACTOR	.063	0.14	.25	.56	1.00

SCRUBBER SIZE	24x24	30x30	36x36
SIZE FACTOR	9.0	14.1	20.3

FORMULA: if motive pressure is fixed

Required Flow (in GPM)

$$GPM = \frac{(\text{Hydraulic HP})(1714)}{(\text{PSIG})} \times \text{Size Factor}$$

FUME SCRUBBER DESIGN CONSIDERATIONS

Normally all Croll-Reynolds Fume Scrubbers are custom designed for a particular application. By doing this, each Fume Scrubber operates at the optimum efficiency at the design conditions. This would be impossible if each scrubber size were limited to standard dimensions.

Standard units are available, and make sense when conditions are not accurately known. These units are available for quick delivery in all fiberglass reinforced plastic with various capacities. Separator tanks including storage for recycle are also available in these units. For maximum efficiency it is important that the scrubber be carefully sized for the specific application. Here are some of the reasons it is important to let our specialists help you select the Fume Scrubber you need:

1 - Water Pressure. The higher the pressure the more efficient the unit, especially on dust collection. Whenever a recycle system is involved, it is better to specify a water pressure of 80-100 psig at the nozzle since this will normally result in a smaller unit and lower horsepower requirement than a system based on 40-60 psig. Some processes require large quantities of water whereas others can get by on much less. The optimum pressure and liquid consumption will be recommended for your application.

2 - Since the unit requires no fan, the exact amount of draft required should be computed if at all possible. This is a controlling factor in terms of both water volume and pressure.

3 - Systems Components. Croll-Reynolds Jet Venturi Fume Scrubbers are available as individual units for incorporation in your own design or in conjunction with complete package systems designed and engineered by our specialists. Where total design is desired, it is important that we know the requirements for auxiliary equipment such as motors, liquid level controls etc.

4 - Once-through vs. Recirculating. Depending upon the process or pollutant involved, further treatment may be required. A recycle loop will help to concentrate the contaminant to cut the size of further treatment equipment. Recycle can also be used for the recovery of material being scrubbed. For example, a stream containing air, HCl gas, and SO2 gas can be scrubbed with water to produce an HCl stream which

EXAMPLE 1 (motive pressure given)

Require a scrubber for 800 CFM of contaminated air at 80°F. Pressure drop to the scrubber is 1" w.c. Δ P. Available water supply is 60 PSIG.

Since the pressure drop to the scrubber is 1". 1" w.c. draft will be required.

From the capacity curve, 800 CFM can be handled by an 88 Fume Scrubber. The required horsepower is 2.6.

$$GPM = \frac{(HP)(1714) \times \text{Size Factor}}{PSIG}$$

$$= \frac{(2.6)(1714) \times 1}{60} = 74.2 \text{ GPM}$$

EXAMPLE 2 [illegible]

Require a scrubber for 9,000 ACFM of air at 1½" draft with 900 GPM of 10% NaOH solution.

Since the curve for an 88 Fume Scrubber begins to flatten out at about 1,000 CFM, we need a unit with approximately 10 times the capacity.

$$\text{Size Factor} = \frac{\text{Desired Capacity}}{\text{Capacity of 88 Fume Scrubber}}$$

Looking at list of available units, the size factor for a 24 x 24 units is 9.0.

$$\frac{(\text{Desired Capacity})}{\text{Size Factor}} = \frac{\text{Equivalent Required Capacity of 88 Fume Scrubber}}{}$$

$$\frac{9,000}{9.0} = \frac{\text{Equivalent Required}}{\text{Capacity of 88 Fume Scrubber}} = 1000 \text{ CFM}$$

From capacity curve, required HP = 4.6.

SIZING

10x10	12x12	14x14	16x16	18x18	20x20
1.56	2.25	3.06	4.0	5.07	6.3

42x42	48x48	60x60	72x72
27.6	37.8	59.1	85.1

FORMULA: if available liquid flow is fixed
Required Pressure (in PSIG)

$$PSIG = \frac{(\text{Hydraulic HP})(1714)}{(\text{GPM})} \times \text{Size Factor}$$

Since we must use 900 GPM for scrubbing, the required pressure is:

$$PSIG = \frac{(\text{Hydraulic HP})(1714) \times \text{Size Factor}}{(\text{GPM})}$$

$$= \frac{(4.6)(1714) \times 9.0}{900} = 79 \text{ PSIG USE 80 PSIG}$$

From the curve it is obvious we can reduce the motive pressure required by increasing the size of the unit.

Taking the same problem as above, we will use a 30 × 30 unit.

$$\text{Equivalent Required Capacity of 88 Fume Scrubber} = \frac{9,000}{14.1} = 638 \text{ CFM}$$

From curve

Required HP = 2.15

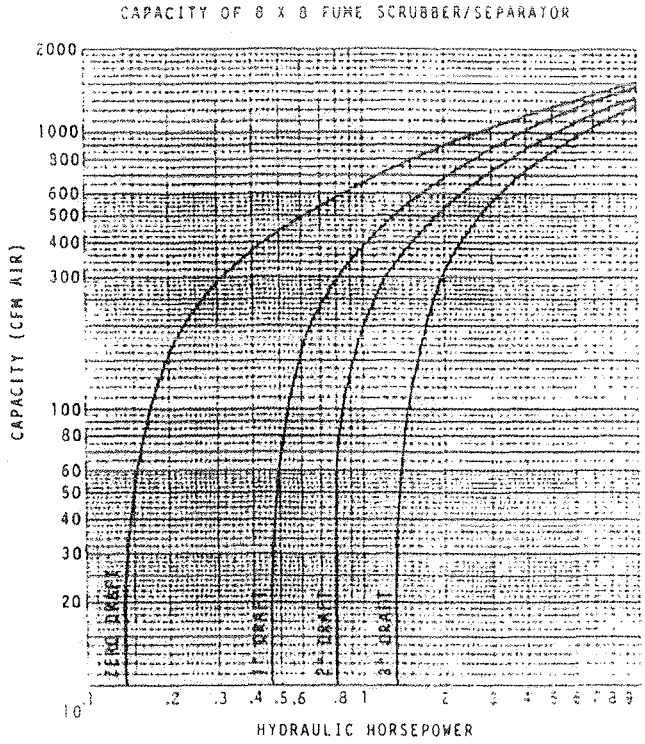
$$PSIG = \frac{(2.15)(1714)}{900} 14.1 = 58$$

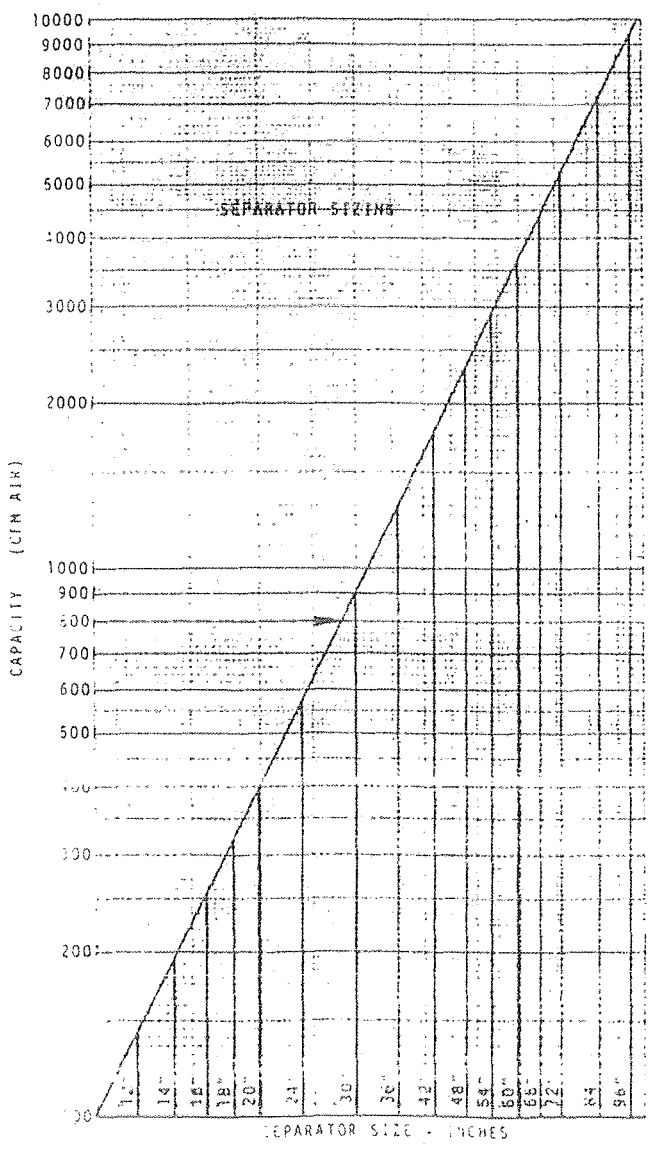
Use 60 PSIG

SCRUBBER SIZING

For EXAMPLE 1 of scrubber sizing, look on separator sizing curve for 800 CFM and draw a line across to the separator curve. A 30" diameter unit would be required.

For EXAMPLE 2, the required unit from the curve at 9,000 CFM is a 96" unit.



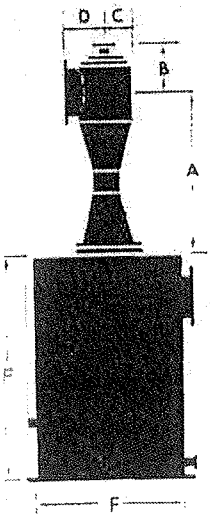


CUSTOM VERSUS STOCK UNITS

For optimum efficiency it is advisable to custom design Fume Scrubbers. When conditions are not accurately known, however, standard units may be the most economical answer. These units are available in fiberglass reinforced plastic construction which provides good general corrosion resistance. Their light weight allows use on roof areas without additional supporting steelwork. Roof mounting frees valuable floor space for other equipment. Separator tanks including storage for recycling are also furnished. Pilot plant test units are available for preliminary tests in your own plant. This may be particularly important if the pollutant is unusual or the actual operating conditions are unknown. Test facilities are also maintained at Croll-Reynolds for double checking on specific parameters.

MATERIALS OF CONSTRUCTION

Since the Croll-Reynolds Fume Scrubber has no moving parts or intricate construction, the problems of corrosion and erosion can be overcome much more readily. The choice of materials is almost unlimited. The Scrubber can be made from carbon steel, stainless steel, nickel or any of the non-ferrous alloys. It can be fabricated from fiberglass reinforced plastic (FRP), polyvinyl chloride (PVC), or other plastics, or it may be lined with an endless variety of appropriate material depending upon process need. Since various impurities in the gas flow may alter the resistance of materials to attack, your own experience with other equipment in similar service may prove to be the best judge. When this previous experience is not available, the answer may be found in our extensive case history file.



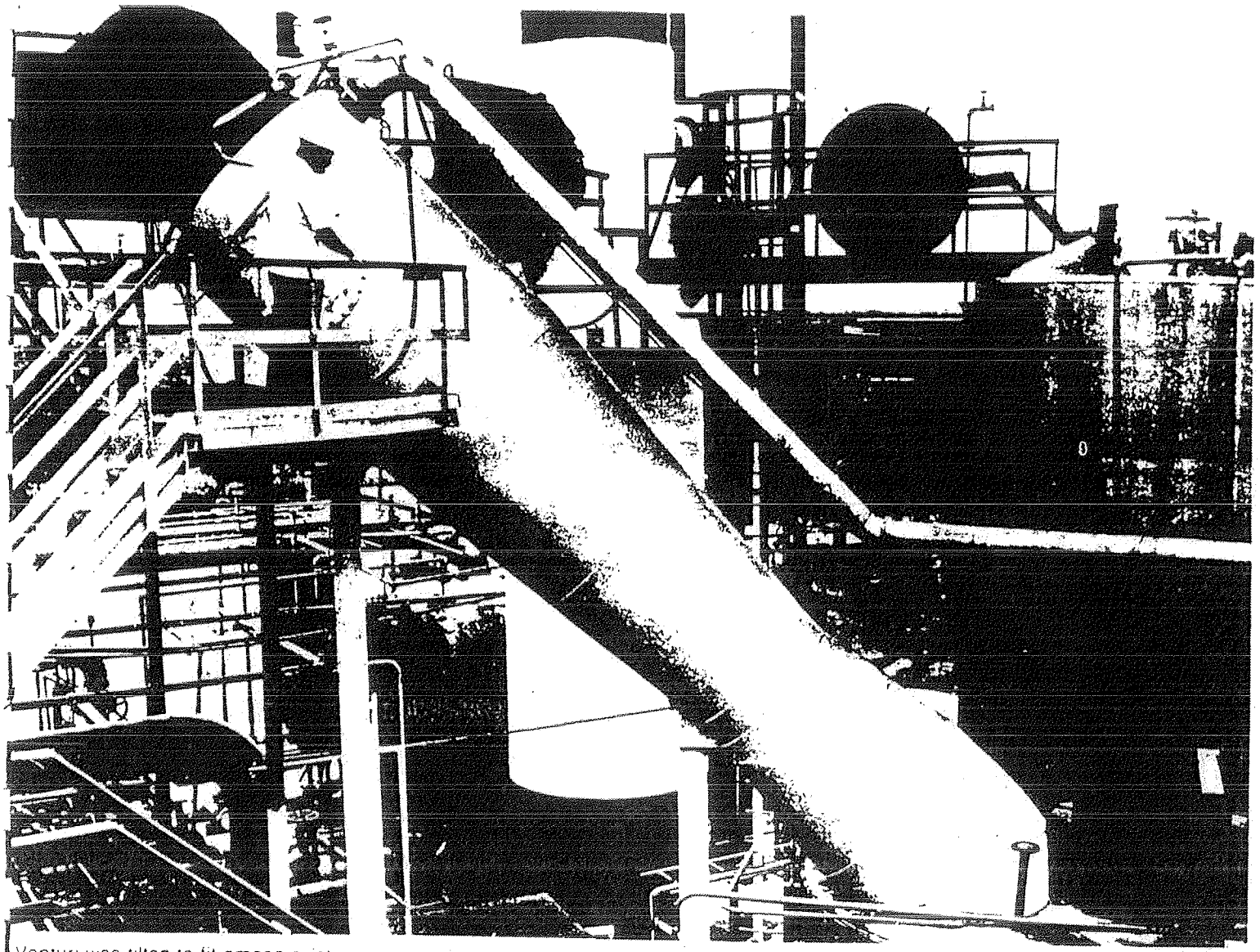
DIMENSIONS

	SCRUBBER					SEPARATOR	
Suct & Disch (For Scrubber)	A	B	C	D	Weight Lbs.	E	F
2"	12"	7"	–	5"		10	12
3"	16¼	7	–	5		12	12
4"	22⅜	6	–	6¼	45	16	18
6"	31	7⅝	–	7½	80	20	24
8"	3' - 3¾	9¼	9½	8¾	150	24	30
10"	4' - ¾	10⅜	10½	9¾	200	30	36
12"	4' - 10	11½	11½	10¾	280	36	48
14"	5' - 7½	12½	12½	11¾	330	42	48
16"	6' - 1½	13⅝	14	13½	430	48	60
18"	7' - 0	15⅜	15	14½	640	54	60
20"	8' - ¼	17	16	15½	900	60	66
24"	9' - 7½	25½	18½	18¼	1,250	72	78
30"	11' - 3½	29¼	21½	21¼	1,775	84	96
36"	13' - 1½	33½	24½	24¼	2,330	96	120
42"	14' - 11	3' - 2⅜	28½	28¼	3,025	120	144
48"	16' - 2	3' - 6⅜	31½	31¼	3,885	144	168
60"	17' - 8	4' - 3	3' - 1½	3' - 1⅝	7,275	144	180
72"	19' - 7	4' - 11¼	3' - 7½	3' - 8	10,200	144	192

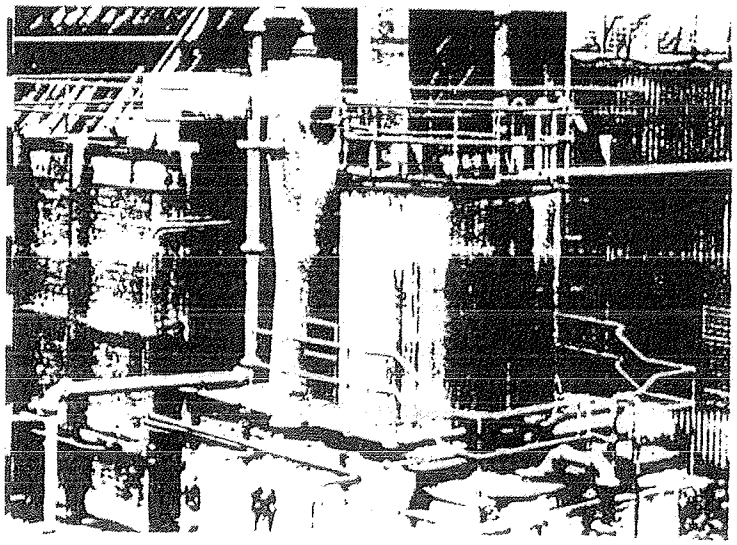
Water Flow GPM	Water Inlet
– 20	1¼
20 – 25	1½
25 – 60	2
60 – 90	2½
90 – 125	3
125 – 175	3
175 – 225	4
225 – 500	6
500 – 850	8
850 – 1300	10
1300 – 1800	12
1800 – 2500	14
2500 – 3000	16
3000 – 4000	18
4000 – 5000	20
5000 – 7000	24

The weights are based on light weight welded steel construction. All flanges conform with 125 lb. ANSI diameter and drilling. Flange thicknesses [illegible] [illegible] flange [illegible] Beginning [illegible] flange [illegible] shed heads are used at the [illegible] inlet end of the suction head rather than flat plate ends.

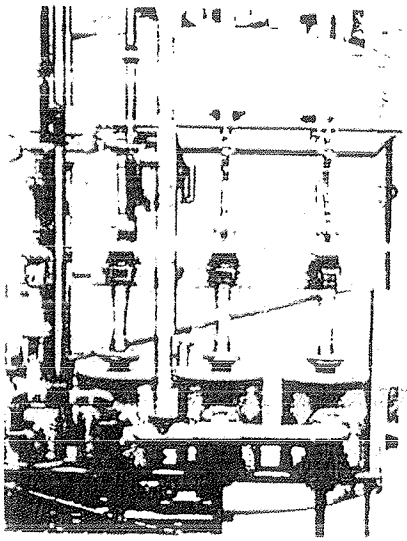
** [illegible] water [illegible] pipe sizes will [illegible] Please [illegible] these two columns [illegible] part of the Dimension table as su



Venturi was tilted to fit among existing plant equipment



36" diameter Fume Scrubber handling 12,500 cfm
Gas at 150°F
Fume from 30% Sugar Impregnate
Operation

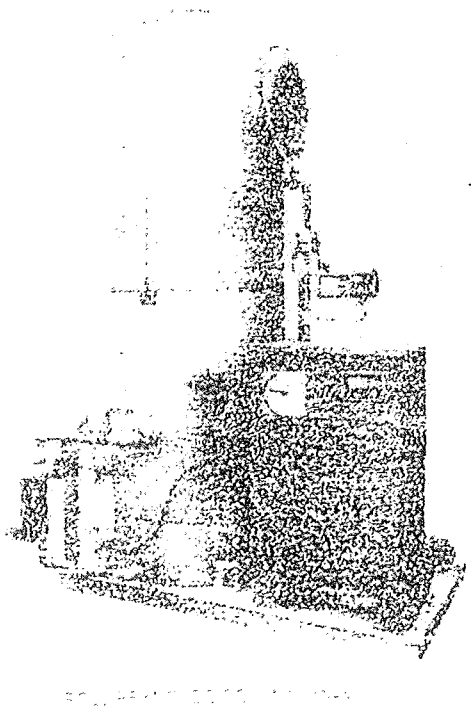


Several Croll-Reynolds Jet Venturi
Scrubbers handling
NO and NH at major
chemical manufacturer

CROLL-REYNOLDS PACKED TOWERS

This complete line of countercurrent packed tower type scrubbers lets you select the most efficient unit for your air pollution control problems. The basic design of the Croll-Reynolds type of unit channels the gas flow upwards through a packed bed while the scrubbing liquid flows downward by gravity over the packing. This method is well suited to high efficiency gas absorption but is not recommended for use on dust collection applications.

In addition to air pollution applications, it can also be adapted to process needs. The internal components of the tower consist of a packing support plate, a packing bed, a liquid distributor, and a mist eliminator (see Figure A). The tower can be designed for once-through operation, or to recycle the liquid, depending upon process conditions.



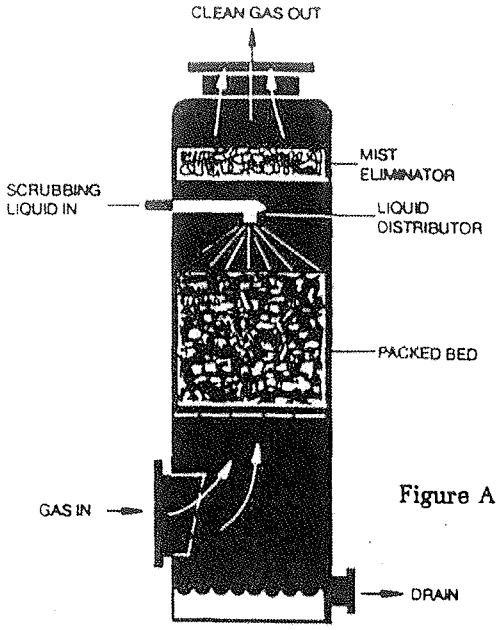


Figure A

EFFICIENCY

The Croll-Reynolds' countercurrent packed tower can be designed to achieve virtually as high an efficiency as required. Based upon actual test data and results from field installations, our engineers can select the type of packing, scrubbing liquid, and tower size best suited to your particular needs. Since these units are custom designed for each application, optimization of overall design results in an economic product at the required performance.

TYPE OF PACKING

The key to designing a packed column for air pollution control is the tower packing. It should be very open in design to minimize pressure drop while still maintaining a high surface where the absorption of the gas will occur. Spiral-Pac™ type tower packing will accomplish this. For other purposes, alternate packing may be selected. The type of packing most suitable for any application will vary with temperature, pressure, gas concentration, and efficiency requirements. Careful consideration is given to the various alternatives before selecting the packing for each application.

CONSTRUCTION MATERIALS

Croll-Reynolds packed towers are available in a wide variety of construction materials. Any material that can be fabricated can be made into a packed tower. For reasons of economy, tower shells are often made from FRP fiberglass reinforced plastic, stainless steel, Alloy 20, or any other material indicated for the specific application. Tower internal components can be made from polypropylene or other plastics for low initial cost, or any other materials including metals depending upon the process requirements.

DIMENSIONS AND APPROXIMATE SIZING

The overall dimensions shown in the table are based on a typical application of 1% HCl in an air stream with a 99% removal required. The dimensions given are for a fiberglass tower with typical nominal 2" Spiral-Pac™ and a standard mesh type mist eliminator.

ALTERNATE DESIGNS

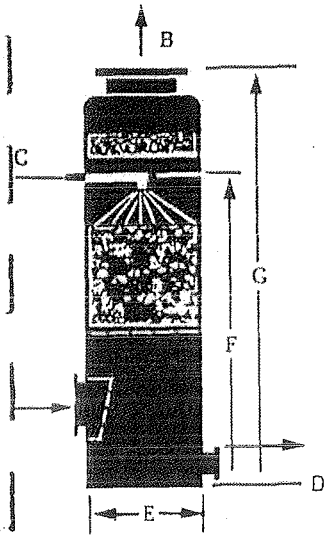
Counter-flow design towers offer the highest possible performance. Occasionally, space limitations or design limits require the use of cross flow or co-current flow. Croll-Reynolds has designed units for such applications and will design a custom unit for your needs.

High-pressure applications, Ethylene oxide removal, flue gas desulfurization, NO_x and phosgene scrubbing are examples of areas where Croll-Reynolds special experience can give you an economical and trouble-free system.

Where new or unusual problems face you, test units are available for in-plant use. In addition, our laboratory test facilities can be used to evaluate and select the packing and scrubbing solution best suited to your needs.

APPROXIMATE DIMENSIONS OF CROLL-REYNOLDS PACKED TOWERS

99% removal HCl (1% vol.) typical



Model #	Approximate CFM Capacity	Approximate Liquid Rate-GPM	Gas In & Out	Liquid In	Drain	Diam E	Height	
			A & B	C	D		F	G
12T-6H	300	3	8"	¾"	1"	1'0"	8'6"	10'0"
18T-6H	700	9	10"	1"	1½"	1'6"	9'6"	11'0"
24T-6H	1,300	16	14"	1½"	1½"	2'0"	10'0"	12'0"
30T-6H	2,000	25	18"	2"	2"	2'6"	11'0"	13'0"
36T-6H	3,000	35	20"	2"	2"	3'0"	11'6"	13'6"
42T-6H	4,000	48	24"	2"	3"	3'6"	12'6"	14'6"
48T-6H	5,000	60	28"	2"	3"	4'0"	13'6"	16'0"
54T-6H	6,500	80	30"	2"	3"	4'6"	15'0"	17'6"
60T-6H	8,000	100	36"	3"	4"	5'0"	15'6"	18'0"
66T-6H	10,000	120	36"	3"	4"	5'6"	16'0"	18'6"
72T-6H	12,000	140	42"	3"	4"	6'0"	16'0"	19'0"
84T-6H	16,000	190	48"	4"	6"	7'0"	17'0"	20'0"
96T-6H	21,000	250	54"	4"	6"	8'0"	18'0"	21'0"
108T-6H	27,000	320	60"	6"	6"	9'0"	18'6"	21'0"
120T-6H	33,000	400	66"	6"	8"	10'0"	19'0"	22'0"
132T-6H	40,000	475	72"	6"	8"	11'0"	20'0"	23'0"
144T-6H	50,000	575	84"	8"	8"	12'0"	20'0"	23'0"

Units normally include four hold-down lugs.

Towers up to 2'6" diameter have flanged tops. Towers 3'0" in diameter and up have manway for packing installation and inspection.

Dimensions do not include storage capacity, which varies. Most units will have storage so that liquid can be recirculated.

Larger capacity sizes shown in the bulletin can be shop fabricated and shipped direct to the job site. For larger applications, field-erection or multiple units would be required. Croll-Reynolds can provide the necessary technology to design larger units. Flows of close to 500,000 acfm have been handled in Croll-Reynolds scrubbers in a single unit. Please contact the factory directly for further information on a specific application.

Appendix I

Snowmaking-General Information

Appendix I

Snowmaking - General Information

Size Storage Reservoir

Withdraw from the pond at a rate of 1200 gpm and recharge from the brook at a rate of 500 gpm, therefore 1200 - 500 = 700gpm.
700 gpm x 73 hours to cover trails x 60 minutes/hour = 3,066,000 gallons

Estimate Pond Footprint

Volume = 3,000,000 gallons
Depth = 3 feet

$\frac{3{,}000{,}000 \text{ gal}}{7.481 \text{ gal/CF}}$ = 401,016 CF

$\frac{401{,}016 \text{ CF}}{3 \text{ FT}}$ = 133,672 SF

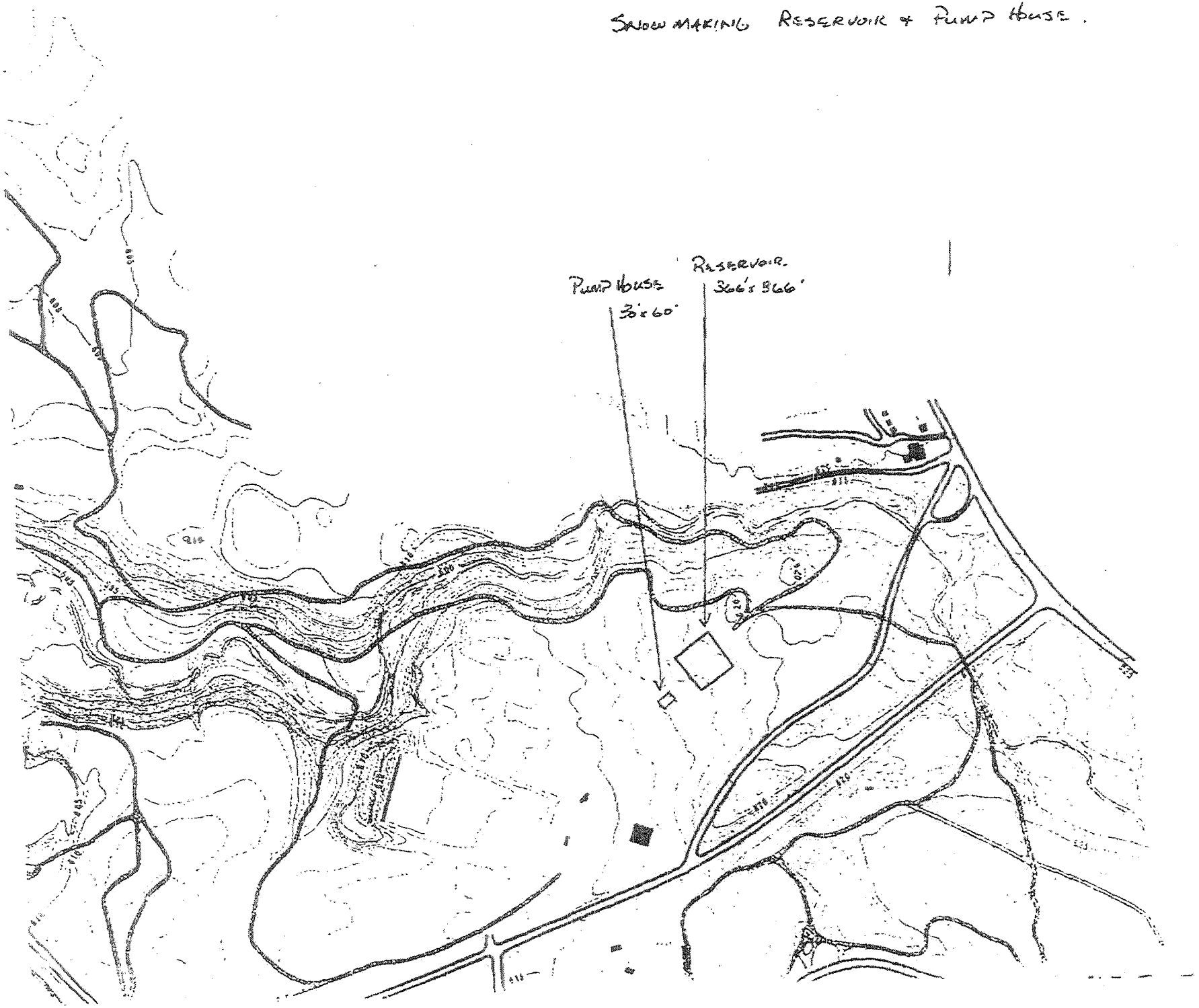
= 366 feet x 366 feet

3 feet of ice = 3×10^6 gal
3 feet of usable storage = 3×10^6 gal
2 feet of dead storage = 2×10^6 gal
(to keep intake off pond bottom)

Total = 8×10^6 gal
with a depth of 8 feet

A 6 inch diameter polyvinyl chloride pipeline from the existing pumphouse on North Meadow Brook to the reservoir (a distance of 2,600± feet) will be installed along existing accessways (therefore no vegetative cutting is required). A pump of 30-40 horsepower will be required to withdraw water at a rate of 500 gpm at the brook pumphouse.

APPROXIMATE LOCATIONS OF
SNOW MAKING RESERVOIR & PUMP HOUSE.



JOHN T. MATHEWSON COMPANY

ROUTE 44 WEST, NORFOLK, CONNECTICUT 06058 TELEPHONE: (203) 542-5418 SNOWMAKING SYSTEMS

MAY 16, 1996

OLYMPIC REGIONAL DEVELOPMENT AUTHORITY
MR. TOM COLBY
PO BOX 1980
LAKE PLACID, NY 12997

DEAR TOM:

I HAVE STUDIED THE SCALED TOPOGRAPHICAL LAYOUT OF THE CROSS COUNTRY TRAILS YOU ARE CONSIDERING COVERING WITH MACHINE MADE SNOW AND HAVE DESIGNED A SYSTEM I BELIEVE WILL BEST SUIT THE CONDITIONS YOU EXPLAINED TO ME.

MY NOTES TAKEN AT OUR MEETING SPELL OUT THE FOLLOWING;

1. YOU WANT TO HAVE THE ABILITY TO PRODUCE SNOW IN SUFFICIENT QUANTITY TO ASSURE BEING OPEN BY EARLY TO MID DECEMBER EVEN WHEN YOUR AMBIENT CONDITIONS ARE WARMER THAN AVERAGE.

2. THAT MACHINE MADE SNOW IS LAID DOWN LARGELY ON THE TRAILS TO AVOID DAMAGE TO ADJACENT FLORA.

3. PIPES WILL LARGELY HAVE TO BE ABOVE GROUND BECAUSE PREVALENCE OF ROCKS AND LEDGE ROCK WOULD MAKE THE COST OF BELOW GROUND INSTALLATION PROHIBITIVE.

(THE TRAIL LENGTH IS ABOUT 7.6 KM. (24,928').
THE TRAIL WIDTH AVERAGES --------- (28')
24,928' X 28'= 697,984 SQ.FT. / 43,560 SQ FT.= 16 ACRES
16 ACRES X 27,157 GALS. X 8 ACRE/INCHES = 3,476,096 GALS. OF WATER REQUIRED TO PRODUCE ABOUT 20" OF SNOW DEPTH.
3,476,096 X 1.25 = 4,345,120 GALS. (INCLUDING FACTOR FOR LOSSES DUE TO EVAPORATION, DRIFTING, ETC;)
THE TERRAIN IS UNDULATING, WITH A MAXIMUM ELEVATION OF ABOUT 300' ABOVE THE SNOW MAKING WATER LEVEL)

4. SNOWMAKING WILL MOST OFTEN COMMENCE IN MID OR LATE NOVEMBER WHEN A COLD FRONT ARRIVES THAT IS FORECAST TO LAST FOR SEVERAL DAYS AND CONTINUE UNTIL THE DESIRED SNOW COVERAGE IS ATTAINED. (AT THIS TIME STREAM FLOW IS USUALLY GOOD BECAUSE OF AUTUMN RAINS AND LACK OF SUSTAINED COLD WEATHER TO FREEZE THE STREAM TRIBUTARIES.)

5. ALL METHODS OF SNOW MAKING ARE TO BE EVALUATED, FAN TYPE WITHOUT COMPRESSED AIR, FAN TYPE USING COMPRESSED AIR, COMPRESSED AIR/WATER BASED ON EXTERNAL MIX AND COMPRESSED AIR AND WATER INTERNALLY MIXED.

BECAUSE IT IS A MAJOR FACTOR RELATED TO SEVERAL OF THE OTHER CONSIDERATIONS LET'S ADDRESS CONSIDERATION (5.) FIRST.

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TEL. 43 6245 4200

FAN TYPE WITHOUT COMPRESSED AIR.

THERE IS ONLY ONE UNIT OF THIS DESCRIPTION ON THE MARKET, THE SMI 320.

THE ADVANTAGES ARE:

THE RELATIVELY LOW DIRECT ENERGY COST TO MAKE SNOW IN COLDER TEMPERATURES. THEY OPERATE ON EITHER 230 OR 460 VOLT 3 PHASE ELECTRICAL POWER AND REQUIRE ABOUT 13.5 KWH PER UNIT. NO COMPRESSED AIR OR COMPRESSED AIR PIPING IS NEEDED. THE UNIT PRICE TO PURCHASE IS ABOUT HALF THAT OF ANY FAN TYPE BASED ON COMPRESSED AIR.

THE DISADVANTAGES ARE:

THEY ARE VERY POOR PERFORMERS UNTIL THE AMBIENT TEMPERATURE IS ABOUT 5 DEG. F. COLDER THAN THAT FOR AN INTERNALLY MIXED COMPRESSED AIR GUN. IN ORDER TO COMPENSATE IT IS COMMON PRACTICE TO TOWER MOUNT THEM TO HEIGHTS OF 15'- 40'. THEY HAVE VERY LITTLE 'THROW' SO THAT IN A 'NO WIND' CONDITION THE SNOW ACCUMULATES IN A PILE DIRECTLY UNDER THE FAN. THE RESULTING PILES WOULD HAVE TO BE MACHINE SPREAD BY GROOMING VEHICLES. THE UNITS EACH WEIGH SEVERAL HUNDRED POUNDS AND MOVING THEM FROM TOWER TO TOWER IS LABOR INTENSIVE. WITH ANY WIND, LARGE QUANTITIES OF SNOW WOULD LAND OFF THE TRAILS CAUSING ENVIRONMENTAL DAMAGE AND DELAY TRAIL COVERAGE.

FAN TYPE WITH COMPRESSED AIR

THESE UNITS CONSIST OF AN ELECTRICALLY DRIVEN FAN IN A VENTURI, MOUNTED ON A PORTABLE FRAME. MULTIPLE WATER NOZZLES ARE MOUNTED AROUND THE DOWNSTREAM END OF THE VENTURI ALONG WITH A FEW NOZZLES DELIVERING COMPRESSED FOR NUCLEATION. THE COMPRESSED AIR IS SUPPLIED BY A SMALL AIR COMPRESSOR MOUNTED ON THE FRAME WHICH IS DIRECTED INTO THE EMERGING WATER TO START THE FREEZING PROCESS. THE FAN BLOWS COLD AMBIENT AIR THROUGH THE VENTURI TO MIX WITH THE PLUME OF WATER AND COMPRESSED AIR TO PROVIDE 'MIX' AND 'THROW'.

THE ADVANTAGES ARE:

THEY CAN BE GROUND MOUNTED ON A SLED OR WHEELED FRAME SO THAT THEY ARE MORE PORTABLE THAN THE SMI 320. THEY PRODUCE A HIGH VOLUME OF SNOW IN COLD AMBIENT CONDITIONS, ABOUT TWICE THAT OF THE SMI 320. THEY REQUIRE ABOUT 20 TO 35 KWH SO ARE VOLUMETRICALLY EFFICIENT. LIKE THE SMI 320, NO COMPRESSORS OR AIR LINE ARE NEEDED.

THE DISADVANTAGES ARE:

THEY DELIVER A WIDE SNOW PATTERN UNDER ANY SNOWMAKING CONDITION SO THAT A LARGE PERCENTAGE OF SNOW FALL OFF THE TRAIL NETWORK. THE SNOW NOT LANDING ON THE TRAILS WOULD BE WASTED AND BE ENVIRONMENTALLY DAMAGING. THEY ARE HEAVY, WEIGHING FROM ABOUT 1000 TO 2500 POUNDS EACH. THEY ARE POOR PERFORMERS IN MARGINAL AMBIENT WEATHER CONDITIONS. THEY ARE LABOR/MACHINE INTENSIVE AND ARE COMPLETELY OUT OF THEIR ELEMENT ON 28' WIDTH TRAILS.

EXTERNAL MIX COMPRESSED AIR/WATER.

THIS TECHNOLOGY GOES BACK TO THE INVENTION OF THE SNOW MAKING PROCESS. IT IS THE SAME TECHNOLOGY USED WITH THE FAN GUNS USING COMPRESSED AIR BUT WITHOUT THE FAN AND VENTURI. ALSO, 'PLANT' COMPRESSED AIR IS USED WITH A PIPING NETWORK INSTEAD OF AN 'ON BOARD' COMPRESSOR FOR EACH GUN. THERE ARE CURRENTLY SEVERAL MANUFACTURERS OF THIS TYPE OF GUN. THEY ARE H.K.D., RATNIK AND SNOW DIAMONDS.

THE ADVANTAGES ARE:

THE EXTERNAL MIXING OF THE COMPRESSED AIR AND WATER RESULTS IN THE SAME LOW VOLUME OF COMPRESSED AIR USED UNDER ANY AMBIENT CONDITION. THEY REQUIRE FAR LESS ENERGY THAN INTERNAL MIX GUNS AND PRODUCE SNOW SIMPLY AND ECONOMICALLY. THEY COST FAR LESS TO BUY THAN ANY TYPE OF FAN GUN. THEY ARE, BY THEMSELVES, LIGHT AND SIMPLE.

THE DISADVANTAGES ARE:

THE MAIN DISADVANTAGE IS THE FACT THAT THESE UNITS ARE POOR PERFORMERS IN WARMER CONDITIONS. ANOTHER DISADVANTAGE IS THEIR NEED TO BE MOUNTED FROM 16 TO 40 FEET ABOVE THE GROUND TO PRODUCE SNOW EFFECTIVELY. THE H.K.D IS MOUNTED ON A TOWER ABOUT 36'IN HEIGHT. TO MAKE SNOW, THEY REQUIRE TEMPERATURES COLDER THAN 24 DEG. F. THE HEIGHT RESULTS IN THE SAME INABILITY TO LIMIT THE SNOW TO THE THE WIDTH OF THE TRAIL WHENEVER THE WIND IS BLOWING. THE SNOW DIAMONDS, (OF WHICH I AM A DISTRIBUTOR) CAN MAKE SNOW WHENEVER AN INTERNAL MIX GUN CAN AND IN THE SAME OR HIGHER QUANTITIES. IT HAS FAR TOO LARGE A PATTERN TO MERIT CONSIDERATION FOR USE ON TRAILS 28' WIDE, HOWEVER.

INTERNAL MIX COMPRESSED AIR/WATER GUNS

THIS IS THE BASIC TYPE OF GUN USED ON EVERY MAJOR SNOW MAKING SYSTEM. IT COMBINES COMPRESSED AIR AND WATER INTERNALLY WHICH ENTERS THE ATMOSPHERE AS AN EXPANDING AEROSOL, FREEZES, AND FALLS TO THE GROUND AS MACHINE MADE SNOW. THE COMPRESSED AIR USE IS INVERSELY RELATED TO THE VOLUME OF THE WATER FLOW.

THE ADVANTAGES ARE:

SIMPLICITY, RANGE OF EFFECTIVENESS FROM AMBIENT TEMPERATURES VERY CLOSE TO FREEZING TO EXTREME SUB ZERO, CAN EASILY BE DIRECTED TO MAKE SNOW WHERE YOU WANT IT, LIGHT WEIGHT EASY TO MOVE, ADJUST, START UP AND SHUT DOWN. FAR AND AWAY THE MOST VERSATILE SNOW MAKING DEVICE AVAILABLE. THERE ARE A LARGE NUMBER OF TYPES THAT CAN MEET A VARIETY OF CONDITIONS. THEY OPERATE EFFECTIVELY FROM CLOSE TO GROUND LEVEL MOUNTED ON STANDS OR SLEDS AND ARE THE ONLY TYPE THAT MEET YOUR CONDITIONS.

THE DISADVANTAGES ARE:

THE ONLY DISADVANTAGE IS THE FACT THEY CONSUME MORE DIRECT ENERGY THAN THE OTHER TYPES.

CONCLUSION

FOR YOUR APPLICATION OF MAKING SNOW ON NARROW TRAILS FOR LONG LINEAL DISTANCES UNDER A VERY WIDE RANGE OF WEATHER CONDITIONS THE USE OF THE INTERNAL MIX COMPRESSED AIR GUNS IS THE ONLY VIABLE SOLUTION. YOUR FAR LOWER LABOR COSTS WILL LARGELY OFF-SET THEIR HIGHER ENERGY COST. FEWER REPAIRS AND LESS 'DOWN TIME' WILL BE OTHER BENEFITS. ALSO, THEY WILL PROVIDE AN EARLIER OPENING DATE, QUICKER RECOVERY AFTER A THAW AND BETTER SNOW CONDITIONS ALL SEASON.

THE PROPOSED SYSTEM IS BASED ON THE USE OF SPECIALIZED SNOW GUNS TO MEET YOUR CONDITIONS. THE DESIGN WILL INCORPORATE PROVEN TECHOLOGY ALTERED TO PROVIDE A LONG, NARROW 'THROW'. THE GUNS WILL BE SLED OR TRIPOD MOUNTED. THEY WILL BE ENGINEERED TO CONVERT ABOUT 20 GPM TO SNOW AT ABOUT 25 DEG. F. AND USE ABOUT 200 S.C.F.M. AT 100 PSI UNDER THAT AMBIENT CONDITION. THAT IS A RATIO OF ABOUT 10 S.C.F.M. TO 1 GPM. UNDER COLDER CONDITIONS, ABOUT 15-18 DEGREES, THE RATIO WILL IMPROVE TO ABOUT 5 OR 6 S.C.F.M. TO I GPM.

WATER WILL BE SUPPLIED TO THE WATER LINES SERVING THE TRAILS BY TWO VERTICAL TURBINE PUMPS, EACH RATED TO DELIVER 600 GPM AT 750' TDH. (325 PSI), EACH PUMP WILL BE DRIVEN BY A 150 HP. 3/60/460 ELECTRIC MOTOR. THE PUMPS WILL BE INSTALLED IN 'PARALLEL' SO THAT EITHER OR BOTH CAN BE USED AS REQUIRED.

COMPRESSED AIR WILL BE SUPPLIED BY EITHER ELECTRICALLY DRIVEN AND/OR DIESEL DRIVEN AIR COMPRESSORS. THE COMPRESSED AIR VOLUME SHOULD BE 6000 S.C.F.M. AT 100 PSI. AND AFTERCOOLED.

PERFORMANCE OF THE SYSTEM WILL BE BASED ON THE USE OF ONE PUMP AND ABOUT 30 GUNS IN WARM AMBIENT CONDITIONS, (MID TO UPPER 20'S, AT WHICH POINT THE COMPRESSED AIR CAPACITY WILL BE ABOUT FULLY USED.

THE THIRTY GUNS WILL BE SET AT 135' SPACING, WHICH IS THE PREFERRED HYDRANT SPACING BASED ON TWO LENGTHS OF 50' AIR AND TWO LENGTHS OF 50' WATER HOSE. THE DOUBLE HOSE LENGTHS WILL PLACE THE GUNS ABOUT 35' TO 40' FROM THE NEXT SET OF HYDRANTS. THE GUNS WILL HAVE SUFFICIENT 'THROW' TO REACH THAT DISTANCE. THIRTY GUNS SET OUT IN THIS MANNER WILL ALLOW 4,050' OF TRAIL WILL BE COVERED AT A SETTING. (30 GUNS X 135'= 4,050'). EACH OF THE GUNS WILL HAVE TO BE MOVED BACK SEVERAL TIMES TO COVER ITS' ALLOTED 135'. EACH SETTING WILL BE FOR ABOUT 21 HOURS AND ABOUT 6.2 SETTINGS WILL BE REQUIRED TO COVER THE ENTIRE TRAIL LENGTH. (25,000'/4,050' = 6.2 SETTINGS, 6.2 X 21 HOURS = 130 HRS.)

IN COLDER WEATHER, 20 F. AND COLDER, UP TO 40 GUNS CAN BE OPERATED, EACH GUN DELIVERING ABOUT 30 GPM AND USING ABOUT 150 S.C.F.M. PER GUN. THIS WILL ABOUT USE UP THE WATER DELIVERED BY BOTH PUMPS AND ALSO THE 6000 S.C.F.M COMPRESSOR CAPACITY. IT WILL COVER ABOUT 5400' AT A SETTING (40 GUNS X 135'= 5400') AND REQUIRE ABOUT 14 HOURS PER SETTING. IT WILL REQUIRE ONLY ABOUT 5 SETTINGS

AND AS LITTLE AS 73 HOURS OF ACTUAL SNOWMAKING TO ACHIEVE THE PROJECTED COVERAGE.

TO THE ABOVE HOURS THE 1.25 FACTOR DESCRIBED MUST BE ADDED AND ALSO A TIME FACTOR TO SET OUT AND START UP THE GUNS. I RECOMMEND THAT ABOUT EIGHTY GUNS BE ON HAND, EACH WITH FOUR LENGTHS OF HOSE. THIS WOULD ALLOW UP TO 80 GUNS TO BE READY TO MAKE SNOW WITH THE ARRIVAL OF COLD WEATHER. THIS WAY, ONE CREW COULD BE SHUTTING DOWN AND DRAINING OFF A SECTION OF SNOWMAKING WHILE A SECOND CREW WAS STARTING UP THE OTHER GUNS. MANY HOURS CAN BE SAVED IN THIS MANNER.

DESCRIPTION OF THE PROPOSED SYSTEM

WATER IMPOUNDMENT

IT IS MY UNDERSTANDING WATER IS TO BE SUPPLIED BY THE SAME STREAM I USED IN SETTING UP THE TEMPORARY SYSTEM TO BUILD THE PILE OF SNOW TRUCKED TO THE CROSS COUNTRY TRAILS, FOR THE 1980 OLYMPICS. THAT WAS AN EMERGENCY SITUATION AND WATER WAS PUMPED BY A DIESEL DRIVEN PUMP RATED TO DELIVER ABOUT 900 GPM. WE MERELY SAND BAGGED THE STREAM AND PUMPED WATER TO THE GUNS. NO FLOW METERING WAS DONE. WE HAD PLENTY OF WATER FOR SNOW MAKING NEEDS BUT I HAVE NO IDEA OF THE FLOW RATE LEFT OVER.

THE D.E.C. WILL HAVE TO SIZE THE WATER STORAGE POND BASED ON THEIR KNOWLEDGE OF THE HISTORIC FLOW RATES OF THE STREAM FOR NOVEMBER, DECEMBER AND JANUARY. THEY CAN FACTOR IN AN ENVIRONMENTALLY SAFE FLOW RATE THE STREAM CAN PROVIDE, ICE THICKNESS, THE LEAST TIME IT WILL TAKE TO DELIVER THE SNOW TO THE TRAIL SYSTEM, (ASSUME 100 HOURS), ETC; AND SIZE THE STORAGE POND. FLOW OVER THE SNOW MAKING TIME SPAN ABOVE. (ABOUT 100 HRS. MINIMUM BASED ON CONTINUOUSLY COLD WEATHER). ASSUME A TOTAL INITIAL NEED, INCLUDING RESERVE, 4,475,000 GALLONS.

PUMPING STATION/STORAGE/COMPRESSOR BUILDING

THE PUMP/COMPRESSOR STORAGE BUILDING SHOULD BE A MINIMUM OF 30' X 60'. THE FOUNDATION SHOULD BE OF CONCRETE AND EQUIPPED WITH A PUMP SUMP, DRAIN SUMP, PIPE TRENCH AND CONCRETE FLOOR. ALSO, SINGLE PHASE ELECTRICITY FOR HEAT AND LIGHT, CONTROLS, ETC;

EQUIPMENT NEEDED

PUMPS

TWO (2) ELECTRICALLY DRIVEN (150 HP 3/60/460) VERTICAL TURBINE PUMPS, EACH RATED TO DELIVER 600 GPM AT 750' TDH. AND EQUIPPED WITH COLUMNS, STRAINERS, MECHANICAL SEALS, MANIFOLDING, VALVING, PRESSURE GAUGES AND FLOW METERS. ALSO, TWO 150 HP. COMBINATION REDUCED VOLTAGE STARTERS (SOFT START TYPE).

AIR COMPRESSORS

ELECTRICALLY DRIVEN, PORTABLE DIESEL DRIVEN, OR A COMBINTION OF

OF THE TWO, DATED TO DELIVER ABOUT 6000 S.C.F.M OF AMBIENT AIR COMPRESSED TO A MINIMUM OF 100 PSI. IN VIEW OF THE RECENT LEGISLATION PERTAINING TO ALLOWING COMPETITION BETWEEN ELECTRICAL UTILITY COMPANIES, LEASING DIESEL DRIVEN COMPRESSORS FOR SEASON MAY BE THE BEST OPTION INITIALLY. OF THE COMPRESSOR TYPES, ELECTRICALLY DRIVEN MULTI STAGE ARE PREFERRED DUE TO THEIR LOW COST TO PURCHASE AND OPERATE. DIESEL DRIVEN TWO=STAGE DRY SCREW COMPRESSORS ARE AVAILABLE FOR RENTAL AT A COST PER CFM THAT ONLY SLIGHTLY HIGHER THAN FOR SINGLE STAGE WET SCREWS AND SHOULD BE CONSIDERED.

TRAIL PIPING

WATER AND AIR, DOUBLE RANDOM, BLACK WALL, ROLL GROOVED FOR VICTAULIC STYLE #77 COUPLINGS. FIELD INSULATED.

8" X .219	WALL A.S.T.M. A-53 GR-B OR API 5L	12,000'
6" X .188	" " " " "	33,500'
4" X .188	" " " " "	5,000'

ESTIMATED VICTAULIC STYLE #77 COUPLINGS REQUIRED.

400	8"
1,120	6"
165	4"

ESTIMATED VICTAULIC ELBOWS AND REDUCERS REQUIRED.

80	8"
170	6"
35	4"

ESTIMATED NUMBER OF #300 WATER LINE HEATED ISOLATION VALVES REQUIRED.

5	8"
5	6"

ESTIMATED NUMBER OF 2" X #300 LOW POINT HEATED DRAIN VALVES REQUIRED.

FIELD DETERMINE + 10 (ONE WITH EACH ISOLATION VALVE AND ONE PAIRED WITH EACH LOW POINT SOLENOID VALVE)

ESTIMATED NUMBER OF 2" X #300 LOW POINT HEATED SOLENOID DRAIN VALVES REQUIRED.

FIELD DETERMINE

ESTIMATED SETS OF WATER AND AIR HYDRANTS/VALVES INCLUDING THREADOLETS AND CAMLOCK HOSE CONNECTORS.

225

ELECTRICAL TRAIL WIRING REQUIRED

220 VOLT SINGLE PHASE # 8 WIRE DESIGNED FOR DIRECT BURIAL 25,000'
CONDUIT REQUIRED.
TYPE-- (TO COMPLY WITH DEC AND CODE) UP TO 25,000'

SNOW GUNS

RECOMMENDED, SPECIAL DESIGN SNOW GUNS
80 TRIPOD MOUNTED, $600 EA. OR,
SLED MOUNTED, $700 EA.

SNOW HOSE

ESTIMATED LENGTHS OF SNOW HOSE, 50' X 1 1/2" FITTED WITH M AND F CAMLOCK TYPE FITTINGS, INCLUDING SPARES.
350

SUBMITTED BY:

JOHN T. MATHEWSON
JOHN T. MATHEWSON COMPANY

JOHN T. MATHEWSON COMPANY
ROUTE 44 WEST, NORFOLK, CONNECTICUT 06058 TELEPHONE: (203) 542-5418 SNOWMAKING SYSTEMS

MAY 23, 1996

THE L.A. GROUP
40 LONG ALLEY
SARATOGA SPRINGS
NY 12866

ATTN: HOLLY ELMER

DEAR HOLLY:

IT WAS A PLEASURE TO MEET YOU AND DISCUSS THE CROSS COUNTRY PROJECT.

YOU HAVE ALL OF THE BASIC INFORMATION IN MY SUBMITTAL. NOTHING CHANGES AS FAR AS THE PROPOSED SNOW MAKING IS CONCERNED EXCEPT A REVISION OF THE WATER VOLUME NEEDED FOR TRAILS 20 FEET WIDE AS OPPOSED TO 28 FEET WIDE.

AS BEFORE, I RECOMMEND LAYING DOWN ABOUT 8 INCHES OF WATER IN THE FORM OF MACHINE MADE SNOW. THE DENSITY OF BASE SNOW IS IN THE RANGE OF 40 PERCENT WATER SO EIGHT INCHES OF WATER PRODUCES A SNOW DEPTH OF ABOUT 20 INCHES. THIS IS EXCLUSIVE OF LOSSES DUE TO EVAPORATION IN THE SNOW MAKING PROCESS, WIND, SOME UNFROZEN WATER IF THE GUNS ARE ADJUSTED FOR COLDER TEMPERATURES AND IT TURNS WARM QUICKLY, ETC; IN PRACTICE, THERE WILL BE FAR IN EXCESS OF 20 INCHES IN THE CENTER OF THE TRAILS AND CONSIDERABLY LESS NEAR THE EDGES.

THE CRITICAL SNOW MAKING IS DONE EARLY IN THE SEASON, USUALLY IN MID NOVEMBER OR EARLY DECEMBER WHEN SEVERAL DAYS OF COLD WEATHER IS FORECAST. IT IS FAR MORE COST EFFICIENT TO MAKE SNOW 24 HOURS A DAY THAN BROKEN INTO SHORTER PERIODS BECAUSE OF THE HIGH WORK LOAD AND TIME REQUIRED TO SHUT THE SYSTEM DOWN, TRANSPORT HOSES AND GUNS TO THE STORAGE LOCATION, THEN HAVING TO REPEAT THE LENGTHY RESTART PROCESS.

SUFFICIENT WATER MUST BE AVAILABLE AT THIS TIME SO THAT YOUR INITIAL COVERAGE CAN BE ACHIEVED. IF IT REMAINS COLD LITTLE SNOW IS LOST. IF SNOW IS LOST AT THIS TIME OF THE YEAR IT VERY INFREQUENTLY DUE TO PROLONGED WARM DRY WEATHER. INSTEAD IT IS LOST TO WET WEATHER. WITH THE WET WEATHER, WATER FOR SNOW MAKING AGAIN IS PLENTIFUL.

WE ARE LOOKING AT ROUGHLY 25,000 LINEAL FEET OF TRAIL WITH AN AVERAGE WIDTH OF 20 FEET TO COVER WITH MACHINE MADE SNOW.

25,000 X 20 = 500,000 SQUARE FEET
500,000 / 43,560 = 11.48 ACRES (CALL IT 11.5 ACRES)

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TEL.: 43-6245/4200

11.5 ACRES X 27,157 (GAL. PER ACRE INCH) X 8 (INCHES OF DEPTH) = 2,498,444 GALLONS (CALL IT 2.500.000)
2,5 MILLION GALLONS X 1.25 (SAFETY FACTOR) = 3,125,000 GAL. NEEDED.

THE STORAGE POND, THEREFORE, SHOULD BE SIZED TO RELIABLY PROVIDE THIS VOLUME OF WATER. PROVISION MUST BE MADE FOR ICE. A DEEP POND IS FAR PREFERABLE TO A SHALLOW ONE, ESPECIALLY WHEN THE RECOVERY RATE IS SLOW BECAUSE OF THE COLD WEATHER DANGER OF IT FREEZING AT LOW LEVELS OF THE POND.

TWO PUMPS ARE PLANNED WITH EACH PUMP DELIVERING 600 GPM. IN WARMER WEATHER ONLY ONE PUMP MAY BE IN USE. IN COLD WEATHER BOTH PUMPS WILL OPERATE AND THE FLOW RATE COULD BE AT 1200 GPM. THE 'WORST CONDITION' FROM THE STANDPOINT OF WATER IMPOUNDMENT WOULD BE HAVING BOTH PUMPS RUNNING AT FULL CAPACITY PERIOD. LET'S LOOK AT IT.

3,125,000 GALLONS (INCLUDING SAFETY FACTOR) / 1200 GPM / 60 (MIN.) = 43.4 HOURS. AT THIS POINT THE TRAILS WOULD BE FULLY COVERED WITH VERY GOOD SNOW COVER THAT IS BOTH DENSE AND DEEP.

THE 1200 GPM FLOW RATE / 7.481 (GAL. PER CU. FT.) / 60 (SECONDS) = 2.67 CFS. IF RECORDED FLOW DATA FOR NOVEMBER AND DECEMBER SHOWS A GUARANTEED SUBSTANTIAL FLOW RATE ABOVE THE D.E.C. REQUIREMENT FOR THE BROOK, THE QUANTITY OF WATER AVAILABLE TO REPLENISH THE POND COULD BE CONSIDERED IN DETERMINING ITS SIZE.

A FINAL CONSIDERATION IS POSSIBLE FUTURE EXPANSION. IT WOULD BE MORE COST EFFECTIVE TO PLAN FOR IT NOW.

SINCERELY,

JOHN T. MATHEWSON

Station 4274000 West Branch Ausable River, near Lake Placid

MEAN DISCHARGE - cubic feet per second
Normal monthly means (all days)

Year	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Annual Mean
1916										229.0	58.5	87.0	
1917	117.2	158.6	187.1					453.8	565.3	101.4	69.4	103.1	
1918	333.4	137.5	67.4										
1919											68.1	186.0	
1920	152.8	99.5	97.2	48.0	55.0	280.0	532.2	379.6	97.2	191.7	74.5	74.3	173.8
1921	186.0	169.9	351.6	122.3	81.6	832.3	356.1	108.3	75.6	63.6	54.1	40.7	205.0
1922	105.4	225.0	144.4	57.1	148.4	385.6	704.2	345.0	342.4	117.2	65.0	44.0	223.1
1923	61.0	81.4	51.4	50.7	22.9	119.8	647.1	402.6	298.9	58.9	37.8	64.8	158.0
1924	87.4	87.6	226.5	242.6	68.3	78.1	439.8	933.3	179.5	82.1	85.5	218.6	228.3
1925	258.2	145.3	124.4	42.3	285.1	446.9	413.1	370.4	299.3	188.6	152.9	201.0	243.4
1926	347.6	343.5	219.3	138.5	61.1	74.9	600.6	615.3	349.5	106.0	183.5	135.3	265.2
1927	254.0	386.1	84.7	73.7	87.1	317.7	277.0	381.9	122.5	156.3	114.5	97.4	196.7
1928	260.6	553.8	402.6	161.6	112.6	301.6	631.3	527.1	246.4	139.7	158.6	145.4	303.5
1929	186.4	217.4	136.5	174.7	85.5	398.4	652.7	498.5	274.1	198.5	103.6	86.7	251.8
1930	165.7	190.4	190.7	366.1	147.2	192.8	570.4	611.1	294.6	117.7	65.3	57.9	248.0
1931	62.6	86.4	63.9	42.6	37.1	66.5	607.5	385.5	123.3	158.9	52.1	98.6	148.8
1932	83.5	200.6	110.8	291.8	147.6	78.6	564.4	543.7	181.4	304.7	131.2	65.3	225.4
1933	424.3	325.1	129.9	148.7	93.7	141.6	876.3	485.9	115.3	53.3	98.0	95.5	249.1
1934	85.2	93.1	97.8	93.5	38.6	206.5	650.0	331.4	227.6	53.0	40.8	52.4	164.2
1935	87.7	171.7	132.2	170.2	61.4	162.2	349.4	422.7	409.9	186.7	113.2	105.2	198.2
1936	118.3	166.6	84.8	56.8	46.9	651.3	442.3	471.9	91.7	65.4	73.5	177.4	204.6
1937	292.4	176.6	170.2	338.1	178.6	95.0	472.4	757.4	223.2	101.8	139.9	79.3	252.8
1938	187.7	213.6	92.8	133.9	237.9	400.0	433.7	292.1	106.4	179.8	198.7	493.1	246.8
1939	135.5	137.3	216.8	120.2	137.1	190.8	540.7	497.4	164.0	73.3	64.6	49.1	194.0
1940	85.6	72.8	72.6	50.6	42.8	52.2	365.1	873.2	236.9	116.0	65.6	82.6	177.1
1941	85.3	153.1	185.4	128.2	92.5	58.6	553.6	140.6	60.1	81.3	42.5	39.6	134.7
1942	110.8	131.7	128.5	85.4	51.8	174.8	723.2	335.7	247.1	54.3	47.5	201.4	190.7
1943	156.8	199.1	101.6	103.1	123.3	247.3	329.6	858.7	331.8	163.5	213.9	128.9	247.5
1944	168.0	234.7	95.3	89.6	87.9	128.4	490.2	663.6	199.0	101.3	53.6	104.7	201.4
1945	123.1	99.9	76.7	101.8	82.8	616.0	470.2	607.5	153.5	330.1	67.0	329.2	256.1
1946	511.5	263.8	117.2	147.0	83.7	460.9	265.2	407.4	168.4	100.6	71.4	70.7	223.8
1947	287.0	295.2	225.9	170.3	172.5	205.4	732.2	977.5	492.4	397.8	111.7	87.0	347.1
1948	66.6	108.4	78.3	58.7	65.8	442.5	477.5	440.8	184.8	113.0	107.7	55.0	183.7
1949	90.0	312.3	260.8	326.7	160.8	322.8	430.4	302.4	81.6	51.1	84.8	138.1	213.6
1950	113.3	169.0	239.6	301.4	81.3	127.7	455.1	356.2	124.3	50.1	104.4	181.1	192.4
1951	80.2	323.5	275.3	139.2	127.6	284.6	663.7	347.8	130.5	279.8	114.5	123.1	241.0
1952	104.4	291.2	234.2	165.0	122.4	147.6	722.5	390.7	206.7	69.0	91.1	63.8	216.8
1953	88.6	107.1	204.2	173.9	155.6	563.1	534.6	436.0	68.2	55.1	142.0	81.7	218.2
1954	85.4	118.5	198.1	88.8	270.5	246.3	986.9	433.3	277.4	139.3	126.5	397.0	279.0
1955	255.0	250.4	191.8	128.6	108.5	250.0	873.7	295.1	226.5	74.5	126.1	87.7	238.8
1956	209.5	222.8	92.2	69.6	70.7	79.3	545.1	762.4	210.6	87.7	45.1	76.5	206.5
1957	70.8	103.4	124.1	150.4	112.6	142.2	343.9	323.8	199.1	130.2	67.6	74.3	153.6
1958	82.4	180.9	408.5	108.1	71.8	84.3	807.9	361.5	241.7	140.9	100.2	187.0	231.2
1959	190.7	203.3	69.1	132.6	72.0	69.9	736.3	382.5	274.6	87.7	82.1	58.2	196.3
1960	303.8	362.9	231.9	108.9	191.8	139.7	998.7	341.2	149.6	111.7	92.6	91.0	259.2

West Branch Ausable River, near Lake Placid
MEAN DISCHARGE - cubic feet per second
Normal monthly means (all days)

Year	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Annual Mean
1961	144.6	165.8	85.2	58.0	114.7	145.8	366.0	431.1	239.2	172.4	77.4	87.2	174.0
1962	78.1	132.1	122.8	104.9	65.5	103.8	664.1	317.8	87.1	78.5	129.6	150.3	169.4
1963	204.0	191.1	210.6	76.8	62.1	163.6	653.6	452.7	122.2	81.5	220.3	61.5	209.0
1964	56.0	223.1	119.6	93.4	68.9	238.9	502.5	454.7	112.7	93.0	75.1	47.6	173.8
1965	51.2	98.8	102.8	76.9	136.4	59.6	215.9	325.5	102.6	63.7	176.5	140.6	129.0
1966	247.9	238.3	118.0	127.0	130.6	325.4	340.1	473.9	171.8	61.2	92.3	95.0	202.3
1967	97.1	138.6	116.9	94.1	77.6	73.0	521.2	334.1	242.0	86.3	99.9	96.1	164.5
1968	209.9	183.2	149.5	67.0	69.3	264.2	447.5	297.4	143.6	114.7	58.2	66.0	172.7
Statistical Summary, 1920-1968													
Avg.	161.2	196.9	158.5	130.6	106.3	237.5	550.6	458.9	198.1	124.2	99.9	118.1	211.9
Std. Dev.	99.3	94.5	82.6	78.4	56.9	172.9	178.7	184.7	92.9	74.9	45.1	87.9	42.8
Maximum	511.5	553.8	408.5	366.1	285.1	832.3	998.7	977.5	492.4	397.8	220.3	493.1	347.1
Minimum	51.2	72.8	51.4	42.3	22.9	52.2	215.9	108.3	60.1	50.1	37.8	39.6	129.0

Estimated discharge for North Meadow Brook, Mt. Van Hoevenberg, at Pump House

	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Annual Mean
Mean (cfs)	6.4	7.8	6.3	5.2	4.2	9.4	21.8	18.2	7.9	4.9	4.0	4.7	8.4

Appendix J

Vegetation Impacts

PARTIALLY EXISTING CONNECTOR TRAIL "#2"

	Sugar Maple	White Ash	Beech	Red Maple	Hemlock	Basswood	Yellow Birch	White Birch	Black Cherry	Aspen	Balsam Fir	Ironwood	Striped Maple	Red Oak	Red Spruce	Mountain Ash	Hard Maple	
3	4						1						3					
4	2		3				2						2					
5	6		4										2		1			
6	7		1												2			
7																		
8			2															
9																		
10			1															
11																		
12			1															
13																		
14																		
15																		
16																		
17																		
18																		
19			3															
20			4															
21			2															
22			3															
23																		
24																		
25																		
26																		
27																		
28																		

TOTAL: 19 24 3 7 3

GRAND TOTAL: 56

Tree Count for all 32 miles of trail as of 7/12/98:

	Sugar Maple	White Ash	Beech	Red Maple	Hemlock	Basswood	Yellow Birch	White Birch	Black Cherry	Aspen	Balsam Fir	Ironwood	Striped Maple	Red Oak	Red Spruce	Mountain Ash	Hard Maple
3			1								5				1		
4							2			1	7				3		
5	3		1				1				2				5		
6	1										5				2		
7	2								1								
8			3				3			2	3						
9			2								2						
10			5														
11										2	3				1		
12			1								2						
13															2		
14	1							2			3						
15																	
16			3												3		
17	2																
18			1					1									
19									2								
20			2														
21			5								2						
22	3		3												1		
23			5														
24			3				1				1						
25										1							
26																	
27																	
28																	
TOTALS	12		35				7	3	3	6	35				18		

GR[illegible] T[illegible] 119 Tre[illegible]

Reservoir Tree Cutting Needs

P.3

	Sugar Maple	White Ash	Beech	Red Maple	Hemlock	Basswood	Yellow Birch	White Birch	Black Cherry	Aspen	Balsam Fir	Ironwood	Striped Maple	Red Oak	Red Spruce	Mountain Ash	Hard Maple
5								2									
4								1		1					2		
5								1	1	2					3		
6								1							4		
7								1									
8								3									
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
TOTALS								9	1	3	-				9		

JUN 03 '96 11:14 LAKE PLACID, NY

Grand Total = 22

STRAIGHTAWAY @ XC STADIUM

	Sugar Maple	White Ash	Beech	Red Maple	Hemlock	Basswood	Yellow Birch	White Birch	Black Cherry	Aspen	Balsam Fir	Ironwood	Striped Maple	Red Oak	Red Spruce	Mountain Ash	Hard Maple
3															1		
4											1				2		
5											2						
6											3				1		
7											1				2		
8											2				1		
9											1				2		
10							1				2						
11											1						
12																	
13							1										
14											1						
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
TOTALS							2				14				9		

GRAND TOTAL: 25 TREES

TIMING BUILDING RELOCATION

	Sugar Maple	White Ash	Beech	Red Maple	Hemlock	Basswood	Yellow Birch	White Birch	Black Cherry	Aspen	Balsam Fir	Ironwood	Striped Maple	Red Oak	Red Spruce	Mountain Ash	Hard Maple
3											2						
4											2						
5											1						
6											1				1		
7																	
8											1				1		
9																	
10															1		
11																	
12															1		
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20															1		
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
TOTALS											7				5		

GRAND TOTAL: 12 TREES

Appendix K

Conceptual Stormwater Analysis Calculations

Appendix K

Conceptual Stormwater Analysis Calculations

SC-1

	Existing	Proposed
gravel	12.5 ac	8.4 ac
asphalt	3.7 ac	7.7 ac
buildings	.5 ac	.5 ac
meadow	63.3 ac	70.3 ac
woods	1060.3 ac	1053.4 ac
	1140.3 acres	**1140.3 acres**

SC-3

	Existing		Proposed
meadow	9.9 ac	*meadow*	11.87 ac
woods	1127.5 ac	*woods*	1125.53 ac
	1137.4 acres		**1137.4 acres**

Weighted C Calculation

SC-1

Existing

$$\frac{(12.5 \times .85) + (3.7 \times .98) + (.5 \times .98) + (63.3 \times .79) + (1060.3 \times .73)}{1140.3 \text{ Acres}}$$

$$\frac{10.62 + 3.62 + .49 + 50.0 + 774.02}{1140.3} = \frac{838.75}{1140.3}$$

Weighted C for SC-1 Existing ***.735***

Proposed

$$\frac{(8.4 \times .85) + (7.7 \times .98) + (.5 \times .98) + (70.3 \times .79) + (1053.4 \times .73)}{1140.3}$$

$$\frac{7.14 + 7.55 + .49 + 55.54 + 768.98}{1140.3} = \frac{839.7}{1140.3}$$

Weighted C for SC-1 Proposed ***.736***

Weighted C Calculation

SC-3

Existing

$$\frac{(9.9 \times .79) + (1127.5 \times .73)}{1137.4 \text{ Acres}} = \frac{7.82 + 823.07}{1137.4} = \frac{830.89}{1137.4}$$

Weighted C for SC-3 Existing .730

Proposed

$$\frac{(11.87 \times .79) + (1125.53 \times .73)}{1137.4} =$$

$$\frac{9.37 + 821.63}{1137.4} = \frac{831}{1137.4}$$

Weighted C for SC-3 Proposed .730

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