NEW YORK STATE OF OPPORTUNITY. | Department of Environmental Conservation

MT. VAN HOEVENBERG INTENSIVE USE AREA

Draft Amendment

to the

1999 Mt. Van Hoevenberg Unit Management Plan

August, 2016

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Introduction

The Mount Van Hoevenberg Winter Recreation Area Intensive Use Area, also known as the Olympic Sports Complex at Mount Van Hoevenberg, is located in the Town of North Elba, Essex County, approximately seven miles southeast of the Village of Lake Placid. The management unit is classified by the Adirondack Park State Land Master Plan (APSLMP) as an Intensive Use Area. The Olympic Regional Development Authority (ORDA) provides facility management under a Memorandum of Understanding between ORDA and the Department of Environmental Conservation (Department).

The unit is comprised of 1593.8 acres of land – a combination of Forest Preserve, municipal, and private lands.

- Forest Preserve - Lands held in fee by the State of New York (SNY), comprising a portion of the Forest Preserve constitute, 1270.35 acres, including 352.58 acres which was purchased under the 1960 and 1962 Park and Recreation Land Acquisition Bond Acts.
- Permanent Easement – In 1965, SNY purchased a 323.45 acre permanent easement from the Town of North Elba for the purposes of developing, operating and maintaining a recreational area and facilities. This land comprises the site of the bobsled and luge runs. While these lands are not held in fee by SNY, the APSLMP considers them "State Lands" for the purposes of the APSLMP.
- Other private lands – A temporary trail easement was acquired by SNY from Harry Eldridge to allow extension of the Nordic Ski Trail system. This parcel was subsequently subdivided. The term of this easement expired and has not been renewed. These lands are not, and have not been, subject to the provisions of the APSLMP. They have been included in the UMP due to the role the trail easements play in the overall management of the Olympic Sports Complex.

Maps depicting the location of the Forest Preserve and Permanent Easements are located in Appendix 2 (Original Acquisition Map), as is a map depicting the location of the temporary trail easement.

The initial Unit Management Plan (UMP) and Generic Environmental Impact Statement (GEIS) for this Intensive Use Area was completed in 1986. In 1999 an UMP Update and Amendment and GEIS was completed by ORDA.

This current amendment serves as a project-specific amendment to the 1999 plan, authorizing relocation of a portion of the trail system that is presently located on the expired temporary trail easement onto Forest Preserve lands.

Proposed Management Actions

Background

The trail system at the Olympic Sports Complex consists of approximately 50 km of Improved Cross Country Ski Trails, groomed and maintained to FIS Homologation Standards (http://www.fis-ski.com/mm/Document/documentlibrary/Cross-Country/04/26/87/FIShomologationmanual2016_layoutJudith_English.pdf).

These trails lie in three distinct areas and are depicted on a map in Appendix 2 (Existing Trail Network),

1. a biathalon area north of the public access road,
2. a cross country area south of the access road mainly dominated by a series of loops that were utilized during the 1980 Olympics for various cross country race courses, and

3. a third area on the east side of the property comprised of a series on nested loops. The latter is referred to as the Porter Mountain Trail System. The Porter Mountain System comprised a portion of the 1980 50-km Olympic course and continues to comprise a portion of the Lake Placid Loppet 25/50-km courses.

The main nordic complex and the Porter Mountain System are connected by a pair of one-way trails which cross the private lands on which the State held a term trail easement. The private property where the trail easement was located has since been subdivided into at least two separate ownerships. The temporary easement has expired over 10 years ago, and since that time the two owners of the properties where the trails are located have allowed the trails to remain. While the western property owner has indicated a willingness to continue to allow the trails to cross his property, the eastern owner has begun to develop their property and has notified ORDA that they intend to disallow the trail to on their property, essentially closing access to the Porter Mountain Trail System.

Facilities Development

ORDA staff have identified a location where the two trails could be relocated off of the eastern property and onto state lands. The relocation is depicted in Appendix 2 – Proposed Trail Relocation Map. This proposal would result in

1) the closure of the trails where they cross the eastern property;
2) relocation of trails on the western property;
3) creation of new facilities on the Forest Preserve:
    - two side-by-side Improved Cross Country Ski Trail segments (total width 19 meters), 360 meters in length (1170 ft), and
    - two trail bridges crossing South Meadow Brook on the Forest Preserve; and
4) two new short trail connectors which will be built on private property to connect the west ends of the new trail segments to the existing in and outbound existing trails. This later action is entirely on private land and not subject to this UMP amendment.

The new trail construction will include stump removal and light grading. The two new bridges will be laid on abutments made of 8’ x 8’ hemlock and/or softwood logs felled during the trail clearing process. Each bridge will be 18’ wide and approximately 20’ long decked with either 3” x 8” hemlock or pressure-treated spruce. Stringers will be comprised of salvaged utility poles and/or salvaged steel.

Trail and bridge construction will require removal of 367 trees over 3” diameter at breast height (DBH), of which 241 of these trees are 6” DBH or less. A complete tally of trees to be removed is attached as Appendix 2. Tree tops will be chipped on site and stumps will be buried below the trail surface. As the terrain is relatively gentle, minimal grading will be required. Trails will be mulched with straw and seeded with a conservation seed mix.

Trees will be felled by hand. Small to moderate sized landscaping equipment may be utilized for construction activities including stump removal, light grading and to assist in setting abutments and stringers for the bridge crossing.

Based on a site visit with APA staff in the spring of 2016, no wetlands will be impacted by this project.

This construction will result in a total of 1.69 acres impacted. A Storm Water Pollution Prevention Plan (SWPPP) is required by the Environmental Conservation Law where land clearing greater than one acre will be

undertaken. A SWPPP has been developed for this project and is included as Appendix 3. Work will be undertaken under the Department's SPDES General Permit for Storm Water Discharges from CONSTRUCTION ACTIVITY General Permit GP-0-15-002. A Notice of Intent has been already been filed with, and accepted by, the Department's Division of Water.

With adoption of this Amendment, ORDA intends to initiate and complete this project immediately upon approval by the Commissioner of the Department.

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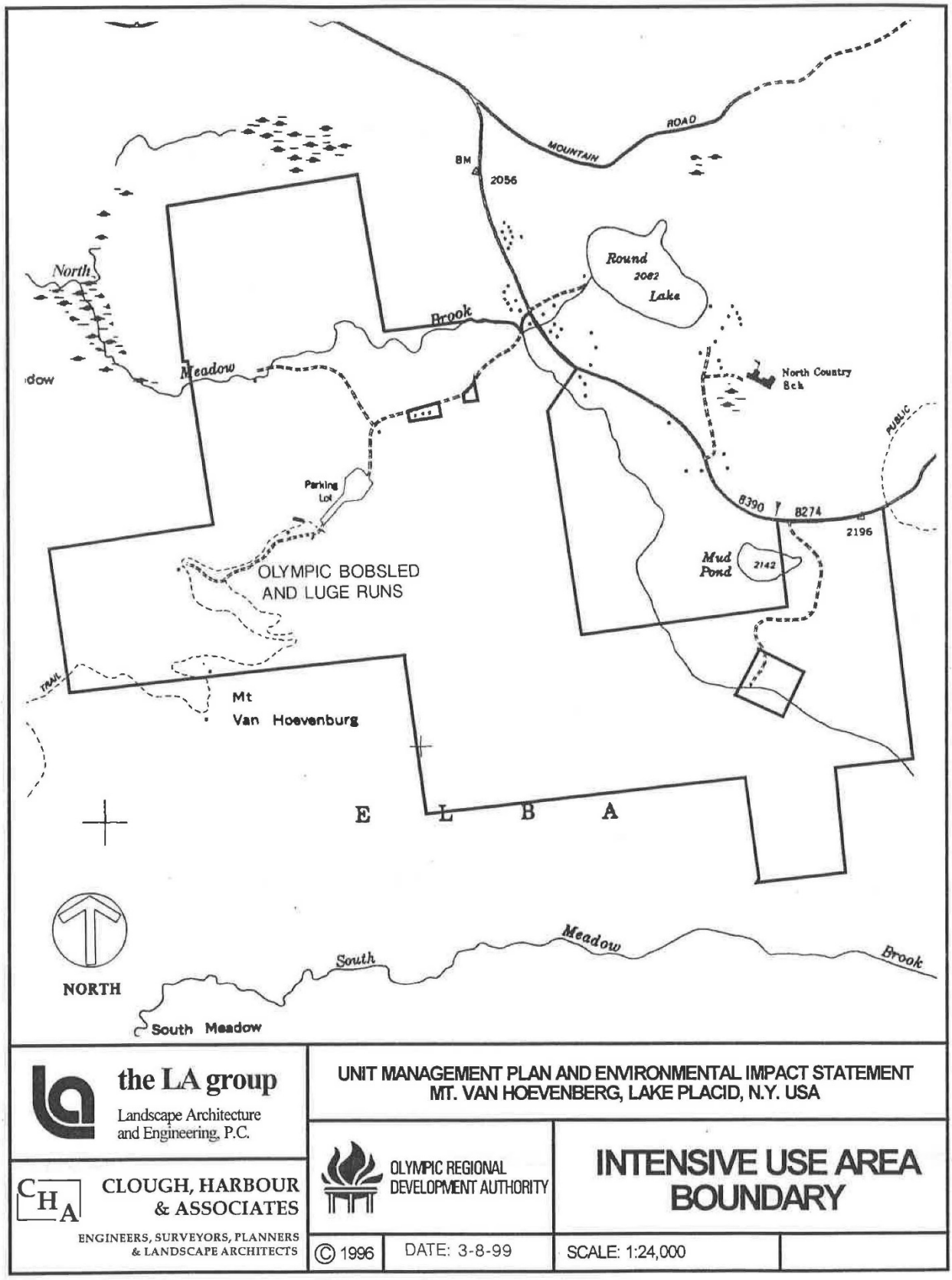
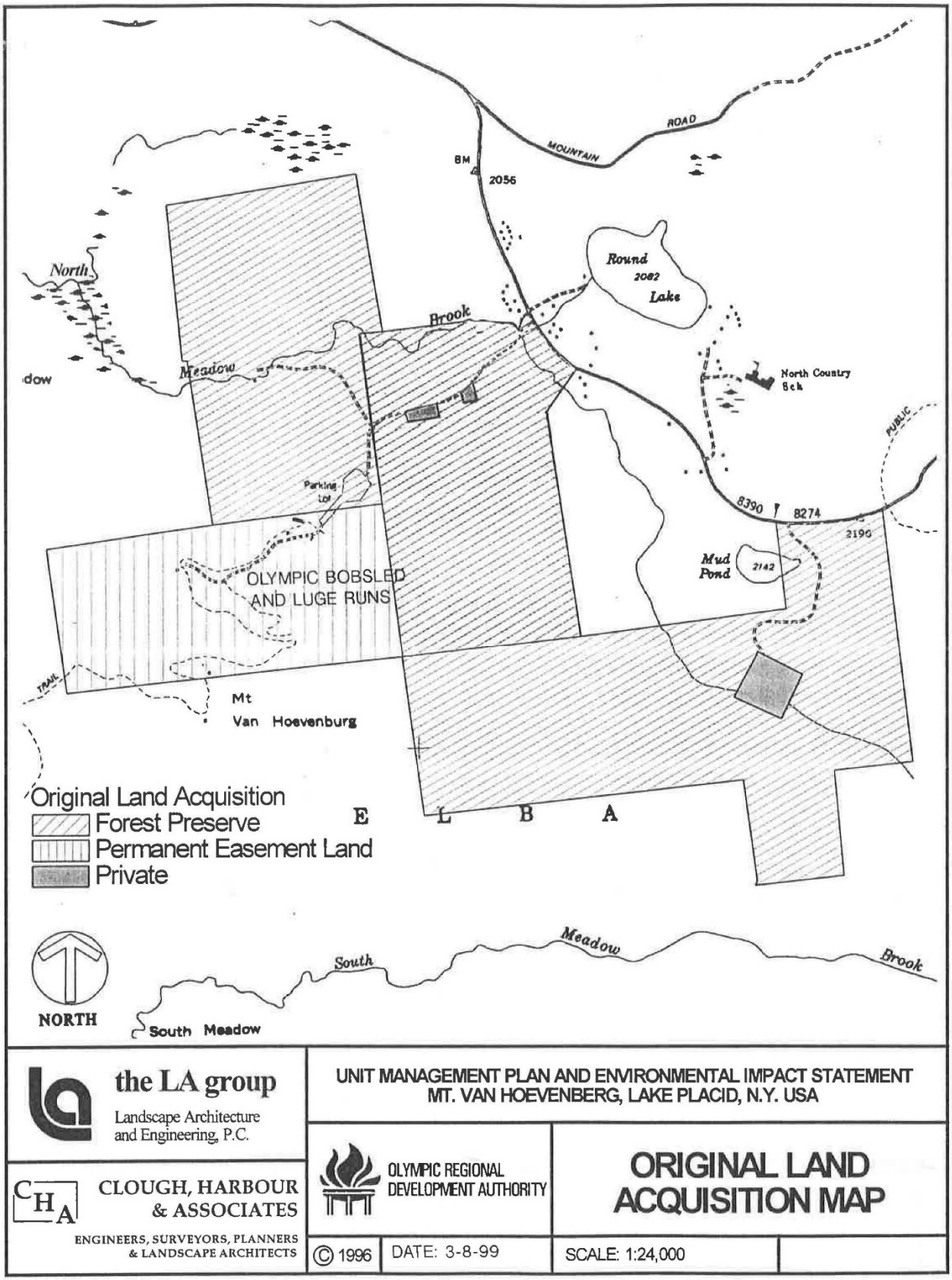
Appendix 1 – Maps

- Unit Area Boundary Map
- Original Acquisition Map
- Temporary Ski Trail Easement Map
- Existing Trail Network Map
- Proposed New Facilities Map

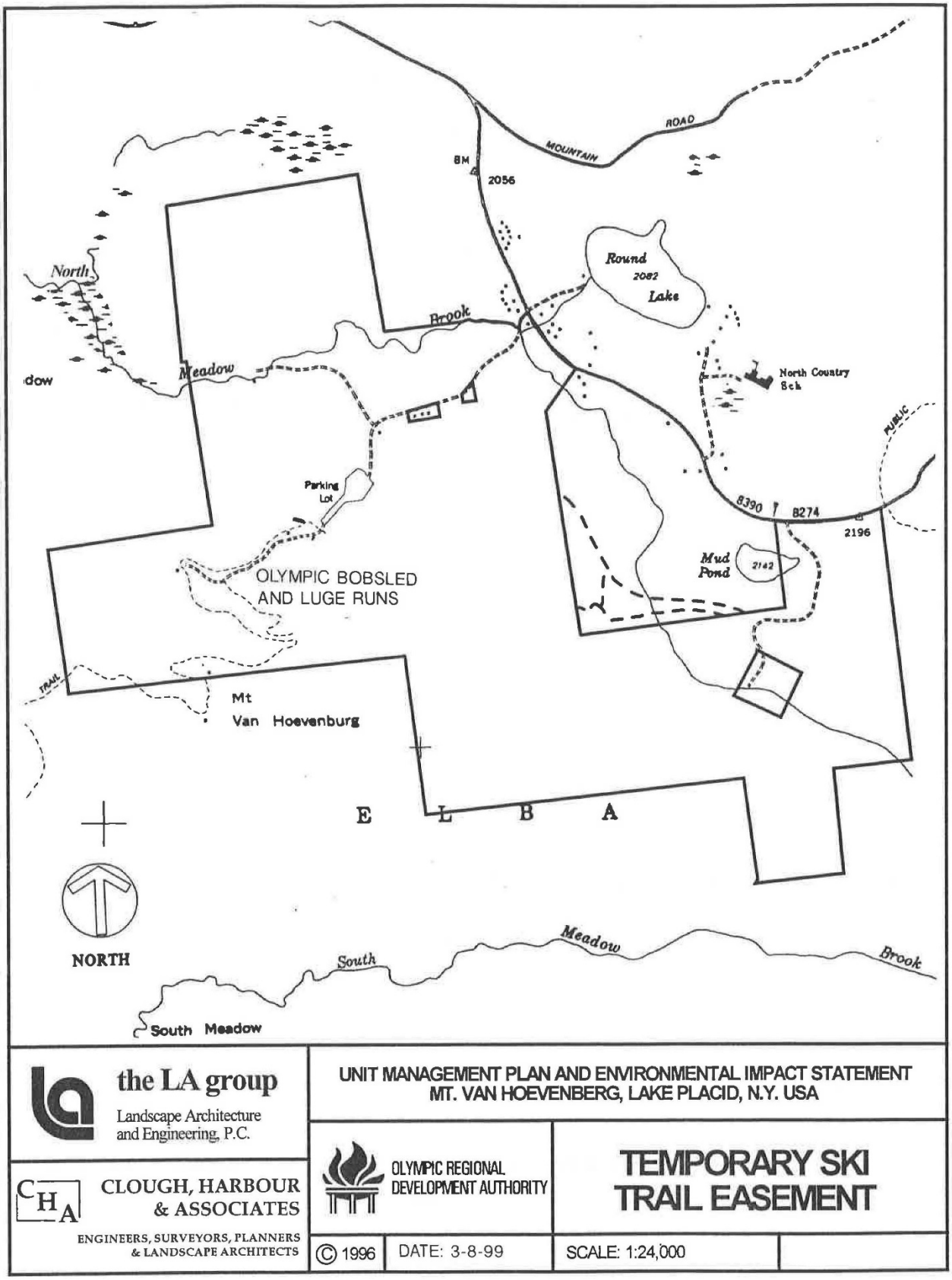
Unit Area Boundary Map



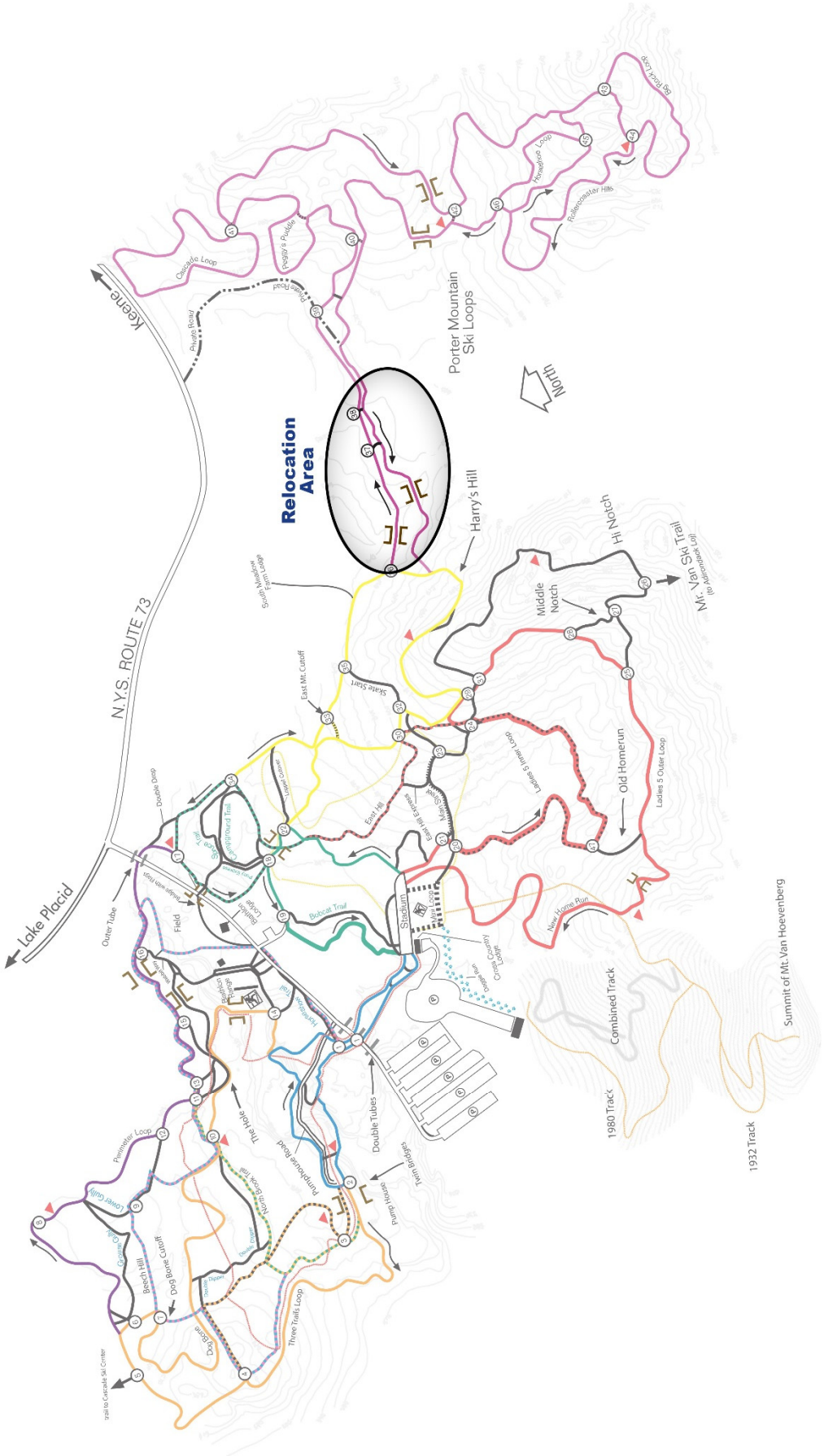
Original Land Acquisition Map



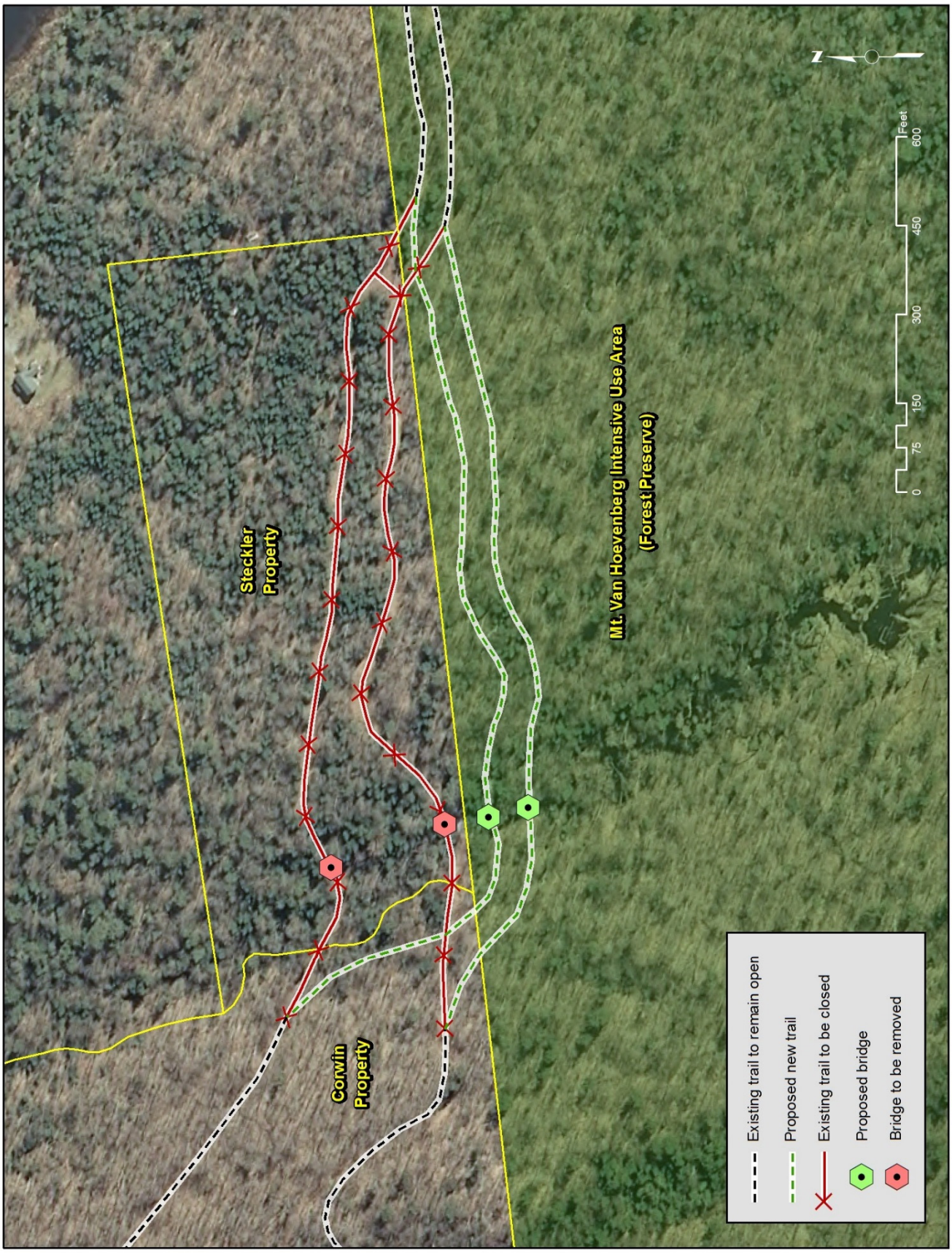
Temporary Ski Trail Easement



Existing Trail Network Map



Proposed New Facilities Map



Appendix 2 - Tree Cutting

Species	Diameter											Total
	4	6	8	10	12	14	16	18	20	24	26	
American beech	53	68	22	4	3	1			1			152
paper birch		2	2	4	6	4	2	5	6		1	32
yellow birch		2										2
black cherry		1										1
balsam fir	22	36	19	6	4	1	1	2				91
red maple		3	2	3	2	1						11
stripped maple	5	6										11
sugar maple	7	10	13	5	4	5	4	4	3	2		57
red spruce	1	5	1	1	1			1				10
TOTAL	88	133	59	23	20	12	7	12	10	2	1	367

Appendix 3
Storm Water Pollution Prevention Plan

Mt. Van Hoevenberg Recreation Area
Porter Mt./Steckler Re-Route Trail

The work plan lays out the location of trail modification, bridges, water bars and other trail structures. This SWPPP designates the procedures and BMPs to be used in construction of these structures. The SWPP is an integral part of the trail project work plans.

Water is by far the worst enemy of a sustainable trail. Through proper layout the trail is designed to avoid or minimize developed drainage devices. Using water bars, broad-based dips, trail hardening and other trail building methods, we will divert water off the trail tread and minimize down-trail water travel to reduce erosion and sedimentation and create a sustainable trail tread. New construction where possible will be built in a method that results in water being shed to the side of the trail, preventing "trail rutting." Bench-cut areas will be out-sloped to encourage lateral shedding of water.

Background:

The project consists of constructing an 1170 foot long Improved Cross Country Ski Trail on Forest Preserve Lands in the Mt. Van Hoevenberg Intensive Use Recreation Area. This detours the existing trail off the private property of David Steckler, who does not wish to renew an expired recreational easement. The project will involve construction of new trail over the length of the project. The project will require 2 bridges (one on the private land of Tony Corwin) to cross North Brook. Specific Information about the scope of the project, including the location, type and size of project can be found in the work plans.

Site Map:

A site map is included in the work plans.

Soils:

Most soils in the Mt. Van Hoevenberg Recreational Area are derived from glacial deposits that have been moved and deposited as glaciers advanced and retreated and are thus, quite different from the bedrock beneath them.

Because soils in these series are well-drained, they can be appropriate for trail development. Soils in these series are often bouldery, sometimes hindering bicycle and snowmobile trail layout. However, soil classifications are rarely the limiting factor in trail layout. Wetlands, topography, and scenery (among other things) generally dictate trail layout. Additional information on area soils may be obtained from the Essex County Soil & Water Conservation District office located at the Cornell Cooperative Extension Center in Westport, New York, or can be found online at the USDA NRCS soil survey website. The only soil type encountered along this new trail corridor is:

Muc- Mundalite fine sandy loam, 8 to 15 percent slopes, very bouldery.

Setting:

This soil is loamy, very deep, strongly sloping, and well drained. It is on shoulders and backslopes of glaciated hillsides and mountainsides in the Adirondack Upland. Parent material: loamy lodgment till derived from gneiss

Hydrologic Soil Group is C

Construction phasing plan and sequence of operations:

Trail construction will consist of three main phases:

- Tree cutting and blowdown removal.
- Terrain modification and installation of erosion control best management practices.
- Bridge construction

Tree cutting as a first step will remove identified and marked trees which fall inside the trail corridor. Trees will be cut flush to the ground with chainsaws and removed from the trail.

Terrain modification and installation of water control devices performed by the mini excavator will be another step of the trail construction process. During this process the mini excavator will make two planned trips along the trail length. The first trip will allow for terrain modification in select locations consisting of bench cuts, rearrangement of specific rocks, and installation of water bars.. The second trip will be performed after all of the bridges are installed, in order to perform any final terrain work that may be needed for a final trail bed.

Bridge construction will be another step of the trail construction process. Once the trees have been removed from the trail bed bridge materials will be brought to the bridge sites either during the winter or during times when the soil conditions will support the transportation of these materials.

Water / sediment control structures will be installed at locations of bridge construction and terrain modification locations as required to minimize any potential sources of erosion or sedimentation. When active work is complete, disturbed portions of this trail will be seeded and mulched and any temporary erosion and sediment control structures will be left in place until the site is stabilized.

It is anticipated that clearing of vegetation from trail bed will be completed by the summer of 2016. Installation of water/erosion/sediment control structures will be in place as necessary for bridge hauling and construction, or terrain modification by the fall of 2016. It is anticipated that by the winter of 2016-2017 the trail will be completed. Temporary drainage/erosion/sediment control structures will remain in place until the area has stabilized.

Description of the minimum erosion and sediment control practices:

All erosion and control practices will be installed during the terrain modification or bridge construction phases of this project. Areas targeted for ground manipulation or rehabilitation and subject to erosion will be identified and control practices will be installed to avoid, minimize, or repair erosion hazards. All temporary practices will remain in place until the area has stabilized.

The following sedimentation and erosion control practices will be utilized in implementation of this work plan:

Drainage

- Proper drainage will carry the water either over the trail, under the trail, or will intercept the water before it crosses the trail.
- Surface runoff which is intercepted by erosion-control measures must be collected by drainage ways and discharged in stabilized areas or sediment basins.
- The drier the terrain, the more stable the trail, which keeps potential erosion problems at a minimum.

- Examine topography, surface flow patterns, soils, and the water table to help determine the area's potential wetness, preferably during the wettest months of the year, to help prevent future erosion problems.
- The ideal trail would be located on soil which has a seasonal high water table of two to four feet below the surface.
- Poor drainage is the primary cause of a majority of trail maintenance problems which can be avoided with proper planning.
- Cross-drainage techniques, such as swales, and water bars should be utilized to divert water off of the trail as soon as possible.
- Attempts should always be made to maintain natural drainage patterns.

Outsloping

- Outslope will be used on bench cuts and other locations prescribed in the work plan.
- Outsloping is a process where the trail surface is sloped in the same direction (with) as the slope on which it is located
- Outsloping is appropriate in areas where the grade of the slope is relatively high. In areas where the amount of water flow is relatively low.
- Be sure to maintain the slope pitch at approximately 1-2%.
- No intermittent or perennial streams should cross over the trail.
- No drainage ditches should be laid on the upslope side of the trail.
- Make sure the water is not being diverted towards streams or other bodies of water. If water drainage is unavoidable in areas adjacent to streams, make sure there are vegetative buffers.
- If water flow is more extensive than outsloping can control, larger structures such as diversion ditches may be necessary.

Swales, Dips and Berms

- A depression constructed across a slope, above and in conjunction with an earthen berm.
- In areas where surface runoff might create erosion problems running across a trail.
- On slopes which have a trail grade less than 10%.
- Install swales at the top of any slope and at proper spacing along sloping sections of the trail.
- The swale can be as shallow or as deep as necessary, taking into consideration the expected trail use and the conditions.
- Soil should be removed from the swale and transferred to the downhill side to form the berm.
- The swale should be constructed at a 30-45 degree angle downslope from a line perpendicular to the direction of the trail.
- The downhill end of the swale should extend far enough to disperse the water flow away from the trail.
- If erosion is a potential problem at the outlet (downhill end) of the swale, riprap or other velocity dissipaters should be utilized.
- The uphill end of the swale should extend far enough beyond the trail in order to fully intercept the flow of water.
- Alternative water drainage techniques may be required if the swales are consistently becoming filled or breached.
- The frequency that the swale and the berm may need to be cleaned or restored depends on the amount of sedimentation which occurs.
- A broad-based dip is the recommended practice on trails where distinct bumps pose an erosion problem.

Water Bars

- A rock, earthen, or log barrier, or excavated channel, angled across a trail to divert the runoff water off of a trail.
- In general, the greater the slope and the higher the velocity or volume of water, the greater the need for waterbars as opposed to other drainage techniques.
- Earthen water bars will be preferred method of construction.
- Place each rock or log solidly into the ground, preferably using flat rocks or rot-resistant logs.
- Water Bars will be installed at locations prescribed in the work plan and as needed in other locations to prevent erosion of the trail tread.
- All water bars prescribed in the work plan will be constructed according to New York State Forestry Best Management Practices for Water Quality 2011 Edition.
- All water bars prescribed within 100' of a stream will have a catchment basin/rock trap to prevent sedimentation of the stream.
- Install waterbars at the top of slopes and at steep sections of the trail as needed.
- The waterbar should be constructed at a 30-45 degree angle downslope from a line perpendicular to the direction of the trail.
- Extend the outlet end of the waterbar beyond the edge of the trail and place rocks or logs there to filter the water.
- Construct the waterbar so that it extends at least 12" beyond both sides of the trail.
- As a minimum, the waterbar should drain at a 3% outslope.
- In a rock waterbar, each rock should overlap the rock below it and be overlapped by the rock directly above it.
- A log waterbar should be constructed with peeled logs at least 10" in diameter.
- Log waterbars should be held in place with large stones.
- Observe the trail during a rainstorm to more accurately determine the need for waterbars.
- The channel created by the waterbar outlet and the waterbar itself can be lined with stone to reduce erosion.
- Species appropriate for log waterbars include spruce, hemlock, beech, and oak trees.
- Consider using box culverts where the bumps caused by waterbars pose a problem.

Spacing for Water Bars

Road/Trail Grade (percent)	Spacing Between Water Bars (feet)
2 %	250 ft.
5	135
10	80
15	60
20	45
30	35

Open Top Culverts

- Open top constructed of 4x4"s will be used where small drainages and seeps cross high traffic sections of the trail.

- Open top culverts will be in place before machinery crosses small drainages.
- Larger drainage crossings will follow BMP guidelines appropriate for the site.
- Crossing streams prior to bridge construction will follow BMP guidelines.
- Can be constructed of either stone or sawn timber, depending on the availability of materials.
- Log culverts may be constructed with two 6-10" logs set into the trail and pinned to prevent movement.
- Line the base of the culvert with riprap and install spreaders if necessary.
- Sawn timber open-top culverts are usually constructed of two 3" x 8" planks set on a 3" x 12" plank, spiked at the bottom. This would create a water flow area 8" deep x 6" wide.
- Open-top culverts are most appropriate when water runoff is light.

SEDIMENT BARRIERS

Silt Fences

- Silt fences will be used around all bridge foundations where possible to keep sediment from entering the stream. Silt Fences will remain in place until the area is firm and stable. After the area has stabilized the silt fence can be removed. If silt fences will not fit beneath and around bridge foundations any exposed soil will be covered with native stone to slow runoff and prevent erosion until the area is stabilized with grass seed and mulch.
- The filter fabric should be purchased in a continuous roll and cut to the length of the carrier to avoid the use of joints. When joints are unavoidable, filter cloth should be spliced together only at a support post, with a minimum of a six-inch overlap, and sealed.
- When wire support is used, a standard-strength filter cloth may be used. When wire support is not being used, extra-strength cloth should be used.
- The fabric should be stapled or wired to the fence and a minimum of 4" of the fabric should be extended into the trench.
- The trench should be backfilled and the soil compacted over the filter fabric.
- Inspect bales and barriers after heavy rains.
- Sediment deposits should be removed when the level of deposits reaches one-half of the height of the bale or the silt fencing.
- Barriers should be removed when the area has revegetated and the barriers are no longer needed. The sediment should be removed or graded out before removal.
- Straw (weed free) barriers require more maintenance than geotextiles due to the permeability of the bales being less than that of silt fencing.
- Silt fences should be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

STABILIZATION

Mulching and Seeding

- Upon completion of the trail, the area will be seeded with a DEC approved conservation mix and mulched with straw to stabilize the trail tread. Disturbed areas outside of the trail tread may also be additionally mulched with woody debris from on site to aid in stabilization.
- Active work areas will not require mulch, until work in the area is completed.
- Seed will be non-invasive grass species.
- Seeded areas should be inspected periodically and after rain heavy rain events to check for erosion and loss of vegetative cover.
- Areas that have lost mulch prior to establishment of vegetation will be re-established.

Water Crossings

- Water crossings are a major concern in the construction and use of trails because of the potential for large amounts of sediment to enter a stream.
- Avoid water crossings if at all possible. Rerouting the trail away from water crossings will save construction time and money, as well as create less of an impact to the environment.
- When needed, crossing sites should be selected at right angles to the stream and should not interfere with natural water flow.
- Erosion and sedimentation-control devices should be utilized whenever trail construction occurs in or near a wetland, stream, or water body.
- Before constructing any type of water crossing on trails, a permit or notification from the APA is needed.

Fords

- A shallow stream crossing that utilizes the hardened streambed.
- Fords will only be used a temporary crossing for machinery, until a bridge is constructed.
- Use only on perennial streams having intermittent flow.
- Fording should be a last resort due to the potential impacts on water quality.
- Where the streambed is hard or easily hardened.
- Where recreational use is non-motorized.
- When no other stream crossing alternative is viable or permitted.
- Attempt to minimize extensive work within the streambed.
- Provide for a hardened stream bank to prevent bank erosion.
- Fording can generate bank erosion, disturb aquatic life, may be potentially dangerous for the user.
- Fords will be closed if water turbidity is increased.

Constructed Bridge

- Bridges will be constructed to cross streams at locations prescribed in the work plan according the departments snowmobile bridge design.
- Culvert bridges will not be used as a permanent structure. Only for temporary crossings during the first winter if bridges are not able to be constructed (not anticipated).
- When the terrain is not conducive to any other type of construction or there is a need to protect/maintain the stream bed in an unaltered condition.
- Place the sills back from the top of the bank and have no work or materials within the banks (bank-to bank bridge).
- Bank-to-bank bridges (outside top of banks) are preferred. The bridge should span the total width of a stream and its adjacent flood plain.
- It is a good idea to be prepared for washouts by anchoring one end of the bridge with a cable, so that in the event of the bridge being swept away, it can be retrieved and reset.
- Use large rocks or ledges as abutments whenever possible.
- For larger streams, complete hydrologic studies to compute peak flow rates for proper design of the bridge.
- A dredge and fill permit or notification is required for work within the body of a stream or water body, or within the banks of a stream and in any adjacent seasonal wetlands.
- Bridges should use native materials compatible with the adjacent trail environment whenever possible.
- Because of the proximity to wetlands, it is especially important to have erosion-control measures in place before bridge work begins.
- Rocks or logs should be used as fill around logs to bring the trail surface up to the level of the bridge deck to allow for drainage.

- Abutments, such as rock, logs, and sawn timbers should be firmly anchored into the stream bank and placed parallel to the stream thread.

Wet Soil Crossings

- Avoid constructing new trails through wet soils and consider rerouting those sections of existing trails that cross wet soils.
- Trails located on wet soils may not be appropriate for frozen ground conditions.
- When designing trails, attempt to provide alternative routes during wet seasons.
- Rake out ruts caused by machinery.

Corduroy

- A structural unit composed of a series of logs or other material placed perpendicular on the trail to provide a method of crossing wet areas.
- Can be used as a temporary means of stabilizing a wet area of the trail until more extensive construction can be arranged.
- Can be used on winter-use trails to protect wet areas which are usually frozen but may soften occasionally during the winter months.
- Lay a mat of green brush, posts, or small logs parallel to the direction of the trail.
- Use geotextile fabric or other appropriate bedding if needed.
- Cover the mat with a series of logs laid side by side, perpendicular to the trail.
- The corduroy should be removed in the spring to prevent damage to the area and should be left in place during the summer until drainage problems can be corrected or until trail rerouting can be completed.
- Cover logs with gravel or native material to create the treadway.
- An alternative to constructing corduroy is geotextiles with gravel cover.

Temporary Culverts

- A metal, plastic, cement, or wood pipe placed under a trail to permit crossing an intermittent or active stream.
- On trails where water consists of small or intermittent flows that have not been bridged before winter.
- In general, cross-drainage culverts are more effective for drainage areas under ten acres.
- Culverts should be of a size appropriate to carry potential maximum water flow. The minimum size recommended is 12" to facilitate cleaning with a shovel.
- The culvert should extend one foot beyond the base of the trail on either side.
- Culverts should be sloped at least 6% to produce water velocities that will prevent the pipe from becoming unduly silted.
- It may be necessary to construct a berm across the side ditch to assist in water removal.
- Stream alignment should be straight at the point of crossing and of uniform profile so as not to obstruct the flow of water.
- For larger water flows, a corrugated metal culvert is recommended.
- Seat the pipe, backfill to half the diameter with clean fill, and tamp.
- Then fill over and around the culvert with snow and tamp at six inch intervals to pack in, add strength to the pipe, and to prevent seepage along the pipe. Cover the pipe with 12” of snow.

Temporary and Permanent Soil Stabilization Plan:

Trail construction will begin with clearing of identified and marked trees, clearing of blowdown and grubbing. All water/sediment control structures will be installed on the first pass of the mini excavator or around bridge sites if bridge construction begins before the pass of the mini excavator. When active work is complete on the trail, it will be mulched and seeded. Any temporary structures will be removed only after the trail is stabilized.

It is anticipated that clearing of vegetation from trail bed will be completed by the summer of 2016. Installation of water/erosion/sediment control structures will be in place as necessary for bridge hauling and construction, or terrain modification by the fall of 2016. It is anticipated that by the winter of 2016-2017 the trail will be completed. Temporary drainage/erosion/sediment control structures will remain in place until the area has stabilized.

Maintenance inspection schedule for the contractors:

No contractors will be used in construction of the facility. Maintenance inspections will be carried out by Departmental personnel on a weekly basis and after significant rain events and after the spring thaw. After completion of the trail it will be inspected seasonally.

Pollution Prevention Measures:

- All equipment and machinery will be maintained in accordance with manufactures maintenance recommendations.
- All equipment will be inspected for leaks.
- Care will be taking during refueling of equipment to avoid spills.
- Refueling will be done at least 100 ft. from wetlands and streams.
- A spill kit will be available on site in case of fuel spills.
- Carry it in, Carry it out. All materials and litter not used in construction of the trail or trail structures will be removed from the site.
- Work area will be inspected for litter at the end of each day.

Storm water *discharges* associated with industrial activity

There are no other discharges associated with the project area.

Conformance with New York State Standards and Specifications for Erosion and Sediment Control

All proposed structures are in conformance with required standards.

Prepared by:

Michael Battisti, Department Head of Trails, Mt. Van Hoevenberg Recreation Area.