



# FRISCO PENINSULA RECREATION AREA

FINAL DESIGN REPORT - SEPTEMBER 17, 2009





September 17, 2009

Town of Frisco  
Rick Higgins  
Assistant Public Works Director  
PO Box 4100  
1 Main Street  
Frisco, CO 80443

RE: Final Conceptual Design Report for Proposed Improvements at the Frisco Peninsula Recreation Area

Dear Mr. Higgins,

DHM Design is please to provide this report on the Final Conceptual Design for the improvements proposed at the Frisco Peninsula Recreation Area (PRA). This report details the exhaustive work that has gone into the planning and design of the improvements first proposed in the 2007 Peninsula Recreation Area Land Use Plan. We appreciate the opportunity to be a part of this exciting design process and look forward to assisting the Town of Frisco with the preparation of construction documents and the subsequent construction.

Sincerely,



Russell Yawger, RLA  
Associate



*FRISCO PENINSULA RECREATION AREA*

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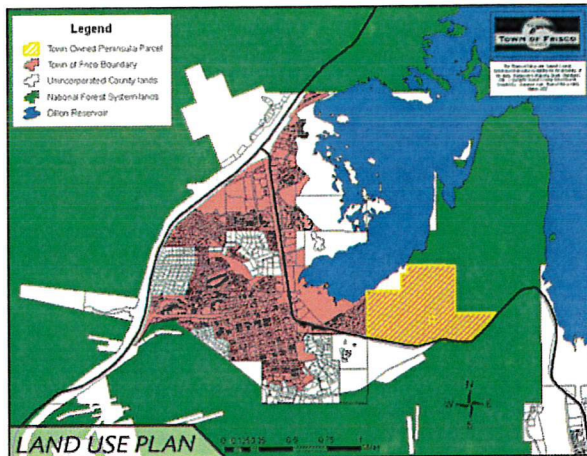


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## 2007 FRISCO PENINSULA RECREATION AREA

# LAND USE PLAN



Overall, the Frisco Peninsula has a total area of 807 Acres; 565 Acres are owned and managed by the U.S. Forest Service, 22 Acres are owned by Denver Water, and approximately 220 Acres are owned by the Town of Frisco. These 220 Acres, known collectively as the Peninsula Recreation Area (PRA), is the primary venue for winter and summer recreational opportunities for the Town of Frisco. Located east of downtown along Highway 9, the PRA is the single largest recreation space owned by the Town of Frisco.

In 2007 the Frisco Community Development Department conducted a series of community visioning meetings to gather public input on potential improvements the citizen's of Frisco would like to see at the PRA. From these meetings a Land Use Plan was prepared with defined goals and a prioritized list of proposed amenity improvements for the PRA. All community input was tabulated and statistically analyzed to determine an order of priority for the improvements. The top priority and tier one improvements were all related to repairing or expanding existing uses. These include:

- Implement the Forestry Management Plan
- Restore the Nordic trail system, snowshoe trails, sleigh ride trail, and the disc golf course
- Expand the skateboard park
- Add year-round trail signage and new entryway signage
- Amend the 20 year permit on USFS land to include summer uses
- Improve the "Lakeshore Trail" along the entire perimeter of the peninsula
- Expand the existing sledding hill or add a tubing hill

As of 2009 all top priority improvements had either been completely implemented or were in the process of being implemented. The majority of the next level of proposed improvements (tier two and three) identified in the 2007 Peninsula Recreation Area Land Use Plan are new amenities for the PRA. These new amenities include:

- Reconfigure the existing parking and add more parking lots with landscaping
- Add an outdoor skating rink
- Add another lodge building and/or expand the existing Nordic lodge
- Add a BMX / Mountain Bike skills course

The design and implementation of these new amenities, as well as the related infrastructure and utility improvements, are discussed in the following pages. The 2007 Peninsula Recreation Area Land Use Plan is included in the Appendix for detailed reference.



## FRISCO PENINSULA RECREATION AREA

# PROJECT OVERVIEW

The final design plan for the Frisco Peninsula Recreation Area (PRA) represents the culmination of seven months of rigorous work identifying, developing, and refining the design and program for the site. Throughout this process the consultant team has worked with Town of Frisco staff, Key Stakeholders, the general public, and the Frisco Town Council to explore conceptual design options and optimize them to achieve a final workable site design solution. Detailed review of the planning and design that went into each of the program components will be reviewed below.



The process began with a thorough review of existing survey materials and a detailed site analysis to map existing conditions. Next step was a two day visioning charrette with the consultant team and the Town of Frisco staff to review the site program components and identify opportunities and constraints of each use, individually and in relation to the overall site. The program conditions covered included the general site and infrastructure requirements, potential architecture, the tubing hill and terrain park, a BMX and mountain bike skills area, an ice skating rink, and overall site revegetation. Next, several site design alternatives were prepared to evaluate the ideas generated in the morning session. These preliminary alternatives were then reviewed with staff and some were discarded by the group as being impractical. In the end three design alternatives selected, refined by the design team, and presented at the end of the charrette. Based on input from the group, two design alternatives were selected for further study that incorporated all the desired design program components. A detailed meeting report for the staff charrette is included in the Appendix.

The final design alternatives were refined and graphically rendered in summer and winter conditions and then presented in a series of meetings to Key Stakeholders identified by the Town staff. The stakeholders included representatives from winter and summer user groups, nearby residential communities impacted by the proposed improvements, and related governmental agencies. Their comments were collected and reviewed with Town of Frisco staff and several of the recommendations were incorporated into the subsequent design refinement. A detailed meeting report is included in the Appendix.



Next the refined design alternatives were presented to the general public at an open house. The materials displayed were the rendered plans, graphic design boards to explained the intent of each of the program components as well as displays that reviewed the 2007 PRA Land Use Plan and it's role in defining the program for the site. The meeting was well attended, with 50 attendees per the sign in sheet and 39 comment cards submitted. All boards were displayed in the Town Hall lobby and comment cards continued to be collected over the next two weeks. In general the public response was overwhelmingly positive, with a breakdown of 72% positive, 7% neutral, and 21% negative. The sign-in sheet, a detailed breakdown of comment card responses as well as copies of all the cards submitted are included in the Appendix.

Based on all input thus far, the design consultant team and the Town of Frisco staff selected a preferred preliminary design alternative. The preferred alternative was then presented to the Frisco Town Council for approval to proceed with further design refinement and cost analysis. Also presented were the preferred architectural concepts for the proposed site buildings and engineering drawings explaining the new site access point and roadway realignment. There were numerous questions and comments from the Council Members, but the response was very positive and approval to proceed was given.

Next the preferred preliminary site design was further refined and then transferred into AutoCAD to provide exact layout and scaling. The AutoCAD rendering of the base also allows accurate length and area takeoffs to be made for the related financial analysis. The site architecture was also refined and incorporated into the overall site design. The final rendered version in both winter and summer conditions appears below.



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## FINANCIAL ANALYSIS

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### CONSTRUCTION COST ESTIMATE

The preliminary plan and estimate of probable costs for construction for the various components of the design program are based on comparison to equivalent projects in the region or direct input from equipment vendors or construction managers. The unit costs were readily available allowing a fairly accurate concept level estimate of probable cost to be made. However, due to the preliminary nature of this estimate an additional 15% contingency has been added to the total to account for potential issues unforeseen at this early stage of the design process. A more detailed construction cost estimate breakdown, including phasing is provided in the sections that follow. The complete Preliminary Design – Opinion of Probable Construction Costs is included in the Appendix.

Description	Total Estimated Costs
General Site	\$ 314,772
General Civil, Roadway, Parking, Infrastructure, and Utilities	\$ 1,977,755
Architecture	\$ 2,325,296
Tubing Hill and Terrain Park	\$ 922,000
Skating Rink	\$ 777,300
Bike Park	\$ 354,658
Planting and Revegetation	\$ 979,000
	Total \$ 7,650,781
	15% Contingency \$ 1,147,615
	<b>Grand Total \$ 8,798,398</b>

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### YEARLY OPERATIONAL COSTS

Yearly costs for the operation and maintenance of the overall project are difficult to estimate at this early stage of the design process. However it is important to begin to evaluate these costs and incorporate them into the overall project planning to insure the successful, long-term viability of the project. Preliminary estimates of operation and maintenance costs were provided by the Town of Frisco Public Works Department. The detailed breakdown of operational costs is discussed in the sections that follow. The complete Preliminary Design – Opinion of Yearly Operational Costs is included in the Appendix.

Description	Total Estimated Costs
General Site	\$ 38,500
Architecture	\$ 28,500
Tubing Hill and Terrain Park	\$ 85,500
Skating Rink	\$ 17,500
Bike Park	\$ 20,500
	Total \$ 190,500



## FINANCIAL ANALYSIS

### YEARLY EMPLOYEE ESTIMATE

The employee estimates for the various program components at the PRA are based on evaluations of similar operations. Detailed review the positions required for each of the operational areas is discussed in the sections that follow. The positions reviewed below are required for general site operation.

- 1 Site Supervisor – Full time employee, responsible for managing and coordinating all site operations and maintenance at the PRA, including winter operations (tubing hill / terrain park, snowmaking, snow grooming, skating rink, ice grooming, programs and events), summer operations (bike park, skateboard park, programs, and events), buildings and infrastructure.
- 1 Guest Relations – Seasonal, full time employee, position required for both summer and winter operations, responsible for ticketing and guest relations for all activities.
- 1 EMT – Seasonal, full time employee, position required for both summer and winter operations, responsible for all emergency medical situations on site. May be a dedicated position on site, or there may be cross-training opportunities with other staff already on site.

- 1 Full Time Employee Required per Shift
- 2 Seasonal, Full Time Employees Required per Shift

Overall the employee cost estimates are based on the prevailing wage rates provided by the Town of Frisco HR Department. There is also an estimate of the cost of benefits and taxes related to the employees. The summary of the employee requirements for each program component is covered in detail in the sections that follow. The complete Preliminary Design – Opinion of Yearly Employee Costs is included in the Appendix.

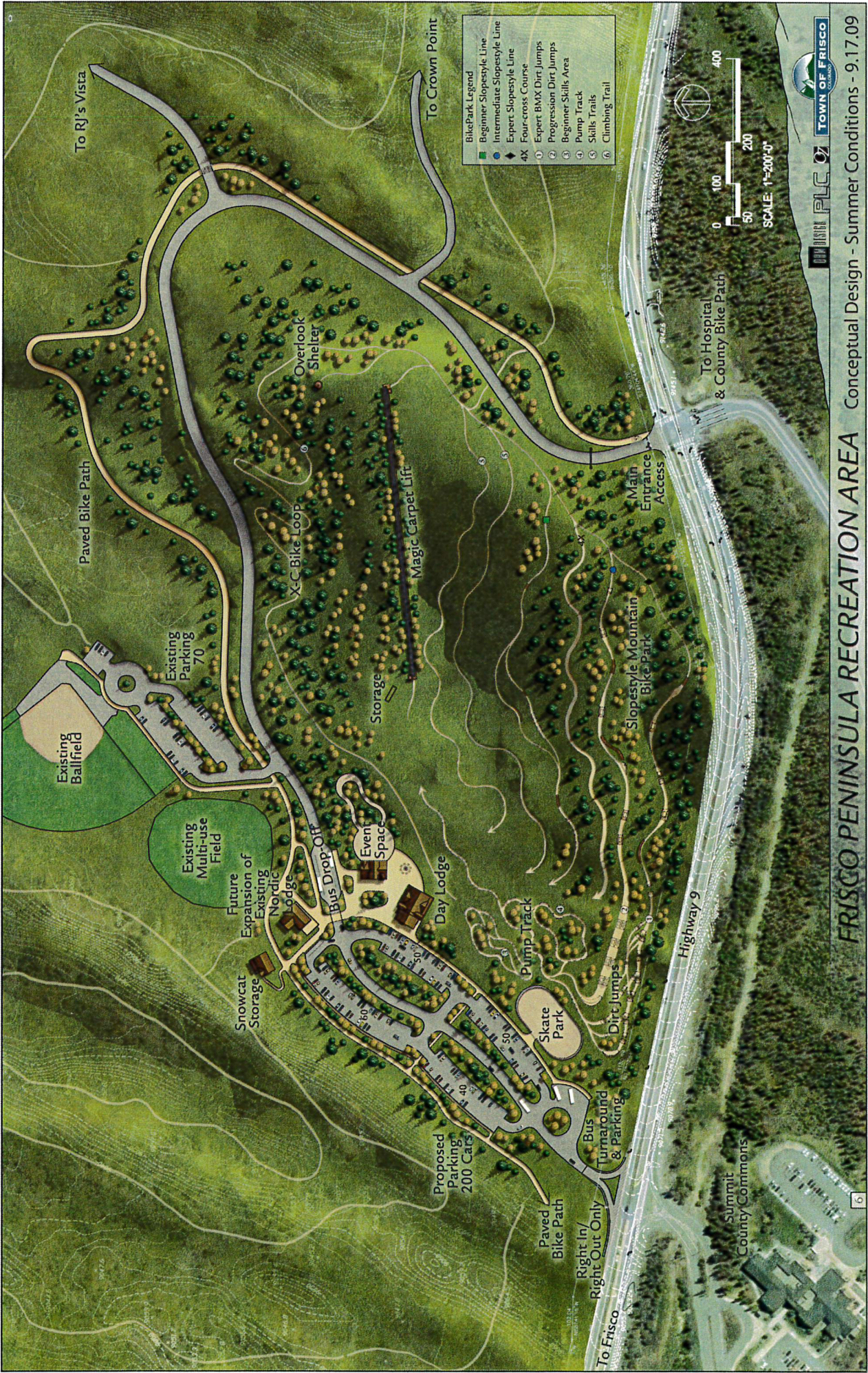
Description	Total Estimated Costs
General Site	\$ 91,520
Architecture	\$ 26,400
Tubing Hill and Terrain Park	\$ 135,520
Skating Rink	\$ 32,560
Bike Park	\$ 27,104
Benefits and Taxes	\$ 45,000
<b>Total</b>	<b>\$ 358,104</b>

### YEARLY REVENUE PROJECTIONS

Estimations of potential revenue from the various operations at the PRA are difficult to project due to the preliminary nature of the project. The revenue projections provided are based on comparison to similar operations, as well as input from informed experts. The estimations assume a mature operation and do not take into account the operational scaling typical of new projects. Revenues are divided into direct revenues, those generated directly from the daily operation and revenues related to special events and programs. In some cases a concessionaire will be chosen to run a certain operation, with Frisco receiving a fix fee from the operator. A summary of revenue projections for each of the program components is covered in detail in the sections that follow. The complete Preliminary Design – Opinion of Yearly Revenue Projections is included in the Appendix.

Description	Total Estimated Revenue
General Site	\$ 40,000
Architecture	\$ 72,000
Tubing Hill and Terrain Park	\$ 1,170,800
Skating Rink	\$ 120,102
Bike Park	\$ 149,500
<b>Total</b>	<b>\$ 1,552,402</b>





**BikePark Legend**

Green line	Beginner Slopestyle Line
Blue line	Intermediate Slopestyle Line
Red line	Expert Slopestyle Line
Orange line	Four-cross Course
Yellow circle	Expert BMX Dirt Jumps
Green circle	Progression Dirt Jumps
Blue circle	Beginner Skills Area
Red circle	Pump Track
Orange circle	Skills Trails
Yellow circle	Climbing Trail

FRISCO PENINSULA RECREATION AREA Conceptual Design - Summer Conditions - 9.17.09







FRISCO PENINSULA RECREATION AREA Conceptual Design - Winter Conditions - 9.17.09



Highway 9

Summit County Commons



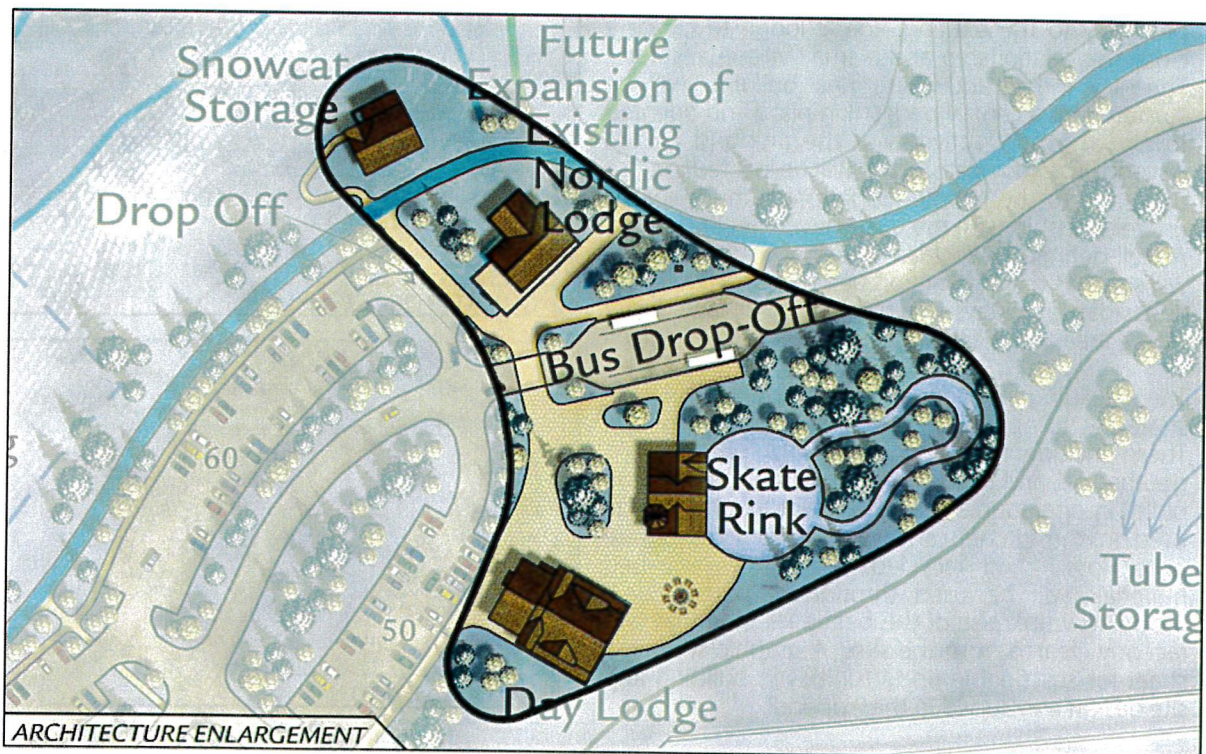
## FRISCO PENINSULA RECREATION AREA

# ARCHITECTURE



The 2007 Land Use Plan for the Frisco Peninsula Recreation Area (PRA) defined the addition of a day lodge to help alleviate the overuse of the existing Nordic lodge and support the new operations at the PRA. The new day lodge was envisioned to be architecturally compatible with the Nordic lodge and was intended to create an iconic centerpiece for the new activities area at the PRA.

Although the initial planning conceived of a single, large day lodge for the proposed PRA improvements, review of the building program requirements with Town of Frisco staff and key stakeholders revealed that proposed design program would be best served by three distinct buildings. The buildings include the day lodge, seen as the main building amenity for the site, the rink building, with elements specific to the skating operation, and the snowcat storage building, to serve the maintenance and storage requirements for the site, as well as provide additional breakout meeting and multi-purpose space on the second level. Detail program and related square footages are listed below. Additional small outbuildings support the outlying operations. These include a remote storage building for the tubes and other equipment related to the tubing hill, two lift shacks, one at the bottom and one at the top of the conveyor lift, and an overlook pavilion, planned as a rustic open-air shelter at the top of the ridge with views of the PRA and Lake Dillon.

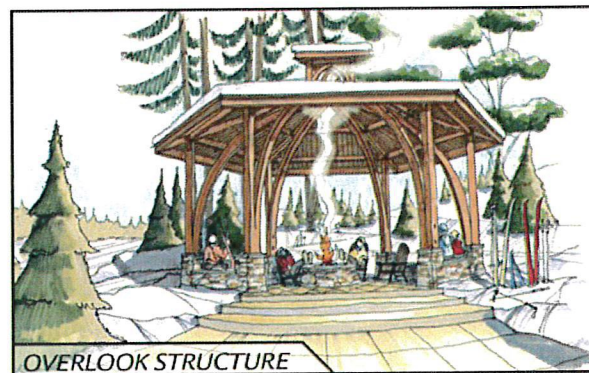
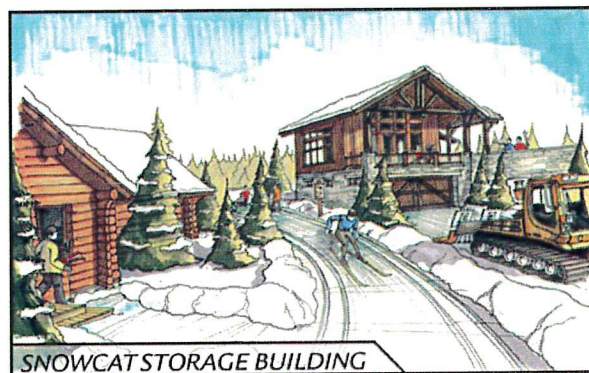
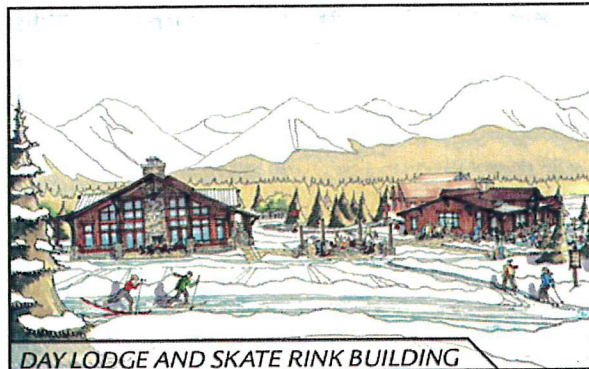




The architectural style of the buildings is meant to be complementary to the existing Nordic lodge without directly copying its style or method of construction. Rustic post and beam construction referential of the Nordic lodge's log style will be married with a mountain contemporary architectural style to create distinctive buildings that will be the centerpiece for this new area of the PRA. Ample use of stone, exposed timbers, logs, and beams, and sizable windows will ground the architecture to the site, celebrating their unique mountain and lakeside environment. Architectural building plans, elevations, and material precedents for all the planned structures are included in the Appendix.

The main buildings will be grouped in close proximity to the existing Nordic lodge to create a close use relationship and a small village aesthetic. The day lodge and skate rink building will be clustered on a central pedestrian plaza and oriented toward the new activities at the rink and hillside beyond. The snowcat storage will be located in close proximity to the Nordic lodge, providing a shared use relationship with the upper level meeting space. A well-defined pedestrian crossing of the roadway will serve as the connection between the two areas. Pedestrian pathways will connect parking with the village area and many of the surrounding activities.

The building design will employ sustainable strategies to optimize water and energy efficiency. These include the potential use of photovoltaic, geothermal, and wind energy to power many of the building operations. Water efficient fixtures will be used in the kitchen and bathrooms to minimize water loss. And recycled, reused, or reclaimed materials will be used throughout construction, including visible use of the beetle kill pine that was recently cleared from the site. A graphic summary sheet for sustainable opportunities in building and site design is included in the Appendix.



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## ARCHITECTURAL BUILDING PROGRAM

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### DAY LODGE (Level - 3652 sqft / Basement - 1632 sqft)

Living Room	2,000 sqft
Gallery	258 sqft
Catering Kitchen	230 sqft
Men's Restroom	194 sqft
Women's Restroom	194 sqft
Janitor Closet	40 sqft
Mechanical	444 sqft
Recycling and Trash	70 sqft
Stairway to Basement	975 sqft

### SKATE RINK BUILDING (1,710 sqft)

Ticket, Skate Rental, Concessions	414 sqft
Lockers, Vending	172 sqft
Employee Break Room	100 sqft
Private Office	80 sqft
Men's Restroom	163 sqft
Women's Restroom	168 sqft
Janitor Closet	19 sqft
Storage Closet	19 sqft
Mechanical	110 sqft
Zamboni Garage	180 sqft

### SNOWCAT STORAGE BUILDING (Upper Level - 1,750 sqft / Garage Level - 1,956 sqft)

Snowcat Parking (Garage Level)	1,072 sqft
Snowmaking Storage (Garage Level)	400 sqft
Snowmobile Parking (Garage Level)	147 sqft
Private Office (Garage Level)	100 sqft
Covered Porch	390 sqft
Multi-purpose Room	1,100 sqft
Men's Restroom	130 sqft
Women's Restroom	130 sqft

### TUBE STORAGE BUILDING (600 sqft )

### LIFT SHACKS (100 sqft each)

### OVERLOOK PAVILION (150 sqft )



## FINANCIAL ANALYSIS

### CONSTRUCTION COST ESTIMATE

The preliminary plan and estimate of probable costs for construction of the various structures on the site are based on detailed knowledge of equivalent projects in the region. The dollar numbers related to the required components were readily available allowing a fairly accurate concept level estimate of probable cost to be made. An additional 15% contingency has been added to the total estimated construction costs to account unforeseen issues at this early stage of the design process. See the Appendix for detailed review of the probable construction costs.

Description	Total Estimated Costs
Day Lodge – Upper Level	\$1,241,680
Day Lodge – Lower Level	\$ 143,616
Day Lodge Furnishings	\$ 30,000
Ice Rink Building	\$ 293,760
Snowcat Storage Building – Upper Level	\$ 262,500
Snowcat Storage Building – Lower Level	\$ 176,040
Tube Storage Building	\$ 52,200
Lower Lift Shack	\$ 9,000
Upper Lift Shack	\$ 9,000
Overlook Pavilion	\$ 7,500
Entry Monument / Gateway	\$ 100,000
	Total \$2,325,296
	15% Contingency \$ 348,794
	<b>Grand Total \$2,674,090</b>

### YEARLY OPERATIONAL COSTS

Yearly costs for the operation and maintenance of the various buildings and structures are difficult to estimate at this early stage of the design process. However it is important to begin to evaluate these costs and incorporate them into the overall project planning as high quality operation and timely maintenance are critical to the successful, long-term viability of any business. A detailed summary of probable yearly operational costs is included in the Appendix.

Description	Total Estimated Costs
Routine Maintenance for Interior and Exterior of Buildings	\$ 7,000
Utility Costs Related to Buildings (~1.00/sf)	\$ 11,500
Snow Removal and Other Winter Upkeep in Building Proximity	\$ 5,000
Landscape Maintenance and Other Summer Upkeep in Building Proximity	\$ 5,000
	<b>Total \$ 28,500</b>

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## FINANCIAL ANALYSIS

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### YEARLY EMPLOYEE ESTIMATE

The employee estimates are based on evaluations of similar operations in the region. The staffing requirements are for the Phase 2 operation only, Phase 1 operation assumes no staff support. There can also be some floating personnel that can fill in as needed at different areas during peak times. See the Appendix for wage estimates per the Town of Frisco.

- 2 Concessions – Seasonal, full time employees, responsible for hosting concessions, 1 each at Day Lodge and Skate Rink Building.
  - 2 Total, Seasonal, Full Time Employee Required per Shift
- 

### YEARLY REVENUE PROJECTIONS

There will be a concession area in the day lodge and the rink building. Revenue estimations are based on comparison to similar operations. The estimations for events and programs are based on projections provided by the Town of Frisco marketing coordinator and events coordinator. Detailed explanation of the estimations of revenue projection for this area is included in the Appendix.

Description	Total Estimated Revenues
<b>Direct Revenue</b>	
Day Lodge Concessions	\$ 10,000
Rink Building Concessions	\$ 5,000
<b>Revenue from Events and Programs</b>	
Sponsorship, On-Site Advertising, and Promotions	\$ 20,000
Base for Summer Camps and other Programs	\$ 17,000
Facility Rental for Events	\$ 15,000
Day Lodge Basement Rental Storage Space	\$ 5,000
<b>Total</b>	<b>\$ 72,000</b>





FRISCO, TEXAS  
PLC 07

# FRISCO PENINSULA RECREATION AREA

View Looking East of Day Lodge Plaza - 9.17.09





**FRISCO PENINSULA RECREATION AREA**

View Looking West of Day Lodge Plaza - 9.17.09

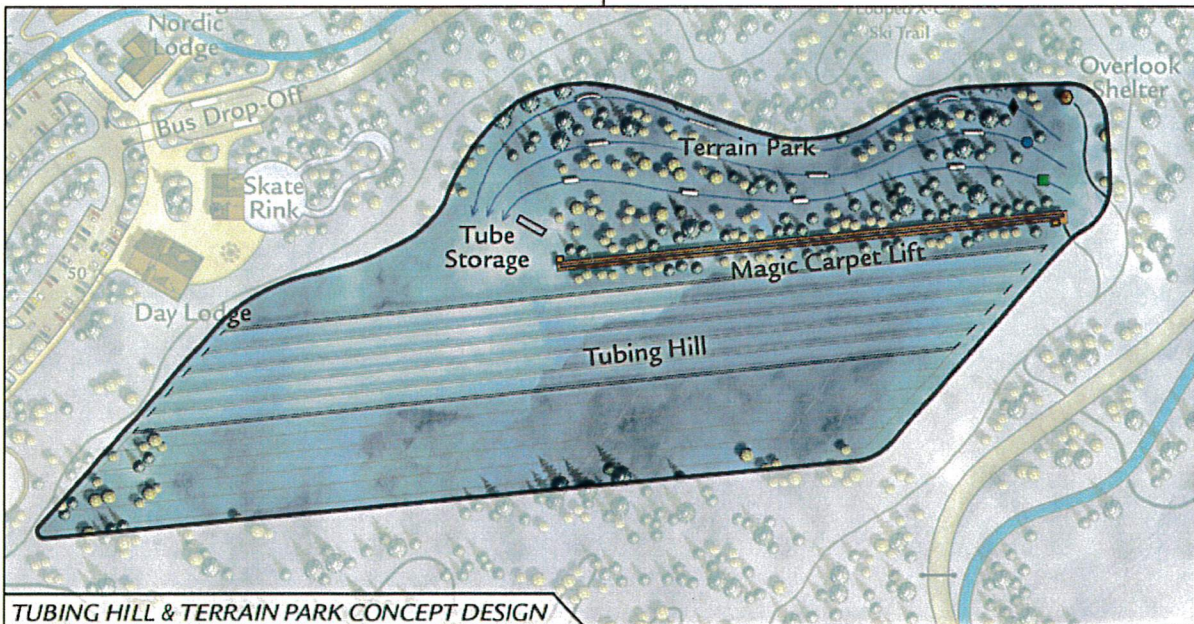




## FRISCO PENINSULA RECREATION AREA

# TUBING HILL & TERRAIN PARK

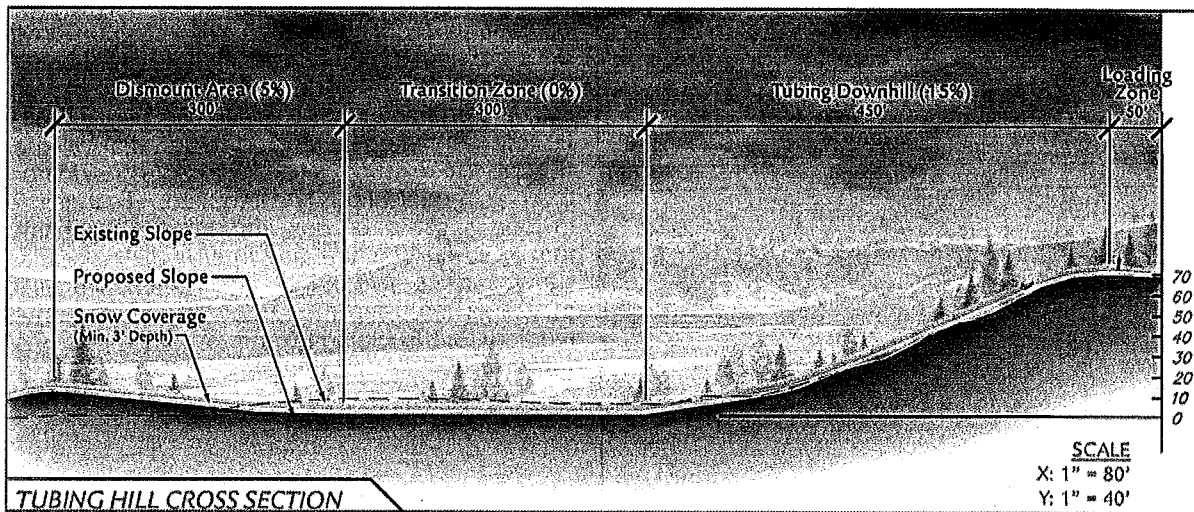
The 2007 Land Plan for the Peninsula Recreation Area (PRA) identified the addition of a tubing hill as a top priority for the citizens of Frisco. A tubing hill at the peninsula would provide an exciting new winter venue for the residents and guests of Frisco and a significant new revenue source for the Town. There are currently two tubing hill operations in Summit County, one at the base of the Super B lift at the Copper Mountain Resort and one at the top of the River Run Gondola at the Keystone Mountain Resort. Both have proved wildly successful with guests with reported gross revenues of nearly \$1 million each.



In preparing a design for the tubing hill at the PRA, the consultant team studied the operations at both Copper and Keystone to understand the pros and cons of each. We spoke with the managers at both areas to discuss their operations and what they might do differently, if given the chance. We learned of the importance of safety, people management, efficient operation, employee enthusiasm, and the unpredictable variability of the weather. All this operational knowledge was used in the design and layout of the tubing hill at the PRA.

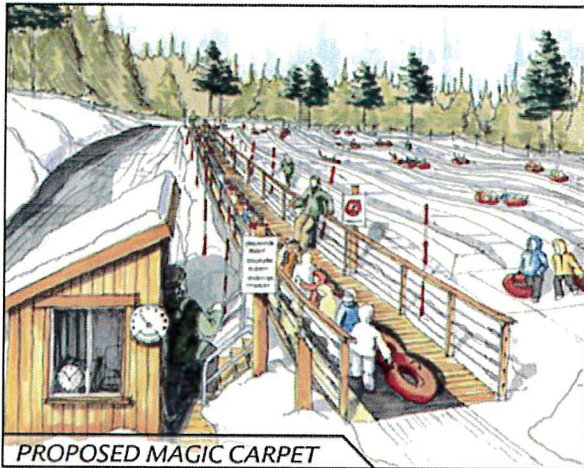


Although a tubing hill is created from snow, the total vertical elevation and average slope are critical elements for a successful operation. As a result existing site conditions were studied carefully and several potential locations were considered. Also factored into the preferred location were minimizing impacts to the site and the existing operations at the PRA. The final proposed location was the main ridgeline to the east of the existing Nordic Lodge. The ridge has a total vertical drop of approximately 85 feet, which is roughly equivalent to the tubing facilities at Copper and Keystone. However the natural slope of the ridge, although having areas of 30%, averages overall at less than 10%. This is compared to the 20-30% slope at the ski resorts. As a result some earth grading will be necessary to create the basic slope and drop requirements. Although requiring grading modification, the site offers excellent visibility from Highway 9 and will have limited impact on the site and the existing operations.

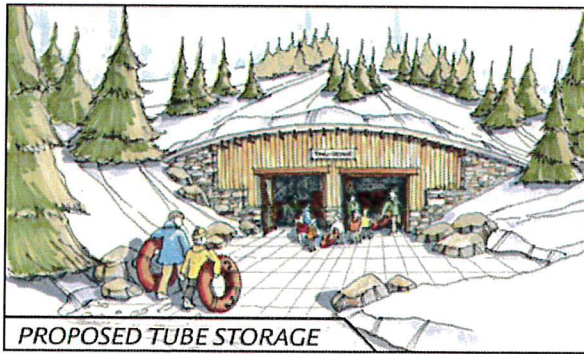


Initial studies of the Copper Mountain tubing hill showed the need for a substantial run-out at the base of the hill. This was necessary to accommodate the variable stopping distances inherent in changing temperature and weather conditions throughout the day and season. To fit on the site, the layout required a tubing hill alignment that curved 50 degrees at the base of the hill. However, after doing more thorough research into tubing hills across the country, the consultant team discovered that a straight alignment is a significantly safer operation, allowing for easier grooming, and reduced infrastructure requirements. A straight layout also allows for greater flexibility locating the conveyor lift that moves the tubers back to the top of the hill and results in simpler and safer circulation of tubers throughout the activity. During our research we learned of techniques for controlling the speed of tubers in the run-out zone that has allowed that area to shorten significantly, making a straight tubing hill configuration practical within the confines of the site. In addition, snowmaking and grooming techniques will allow for reduced site grading and more flexible layout. As a result a straight tubing hill layout was recommended as the preferred concept design.





PROPOSED MAGIC CARPET



PROPOSED TUBE STORAGE

The final conceptual design has a tubing hill that is approximately 1200 feet long. The drop zone is about 450 feet long with a vertical drop of 90 feet and an average slope of 20%, with areas that exceed 30%. The final format of the tubing hill will be crafted in snow; however these specifications represent an ideal foundation for a truly great operation.

The terrain park is intended as an additional winter use that is compatible with the infrastructure required for the tubing hill and complimentary to its operational requirements. It will be setup on the opposite side of the conveyor lift from the tubing hill and will be maintained and operated using the same staff and equipment. The terrain park's layout will be flexible with an open, ranging design that will make use of the existing site slope, so no additional grading modifications are required. Features will include a series of box and rail style apparatus formatted for beginner and intermediate skiers and snowboarders. Grooming and maintenance will be accomplished using the same staff and equipment required for the tubing hill.



## FINANCIAL ANALYSIS

### CONSTRUCTION COST ESTIMATE

The preliminary plan and estimate of probable costs for construction for the tubing hill and terrain park are based on comparison to equivalent projects in the region. The dollar numbers were readily available allowing a fairly accurate concept level estimate of probable cost to be made. A preliminary grading analysis indicates roughly 60,000 cubic yards of cut needs to be made at the base of the hill to achieve the required slope. This will all be used as fill on site; at the top of the hill for leveling and in the Mountain Bike Park for jumps and other features. The costs related to all other elements are based on input from either vendors or the operations at Copper and Keystone. Due to the preliminary nature of this estimate an additional 15% contingency has been added to the total to account for potential issues unforeseen at this early stage of the design process. See the Appendix for detailed review of the probable construction costs.

Description	Total Estimated Costs
Tubing Hill Grading	\$ 150,000
Conveyor Lift System w/ Installation (700ft long / 36in belt width)	\$ 300,000
Snowmaking System w/ Installation	\$ 350,000
Snowcat and Related Grooming Attachments	\$ 75,000
Tubes (120)	\$ 12,000
Snowmobile	\$ 5,000
Signage, Wayfinding, Snow Fence, Safety Padding, etc.	\$ 10,000
Terrain Park Boxes and Rails (20 each)	\$ 20,000
	Total \$ 922,000
	15% Contingency \$ 138,300
	<u>Grand Total \$ 1,060,300</u>

### YEARLY OPERATIONAL COSTS

Yearly costs for the operation and maintenance of the tubing hill and terrain park are difficult to estimate at this early stage of the design process. However it is important to begin to evaluate these costs and incorporate them in to the overall project planning as a high quality operation and timely maintenance are critical to the successful, long-term viability of any business. A detailed summary of probable yearly operational costs is included in the Appendix.

Description	Total Estimated Costs
Initial Setup and Routine Grooming of Tubing Hill	\$ 10,000
Initial Setup and Routine Grooming of Terrain Park	\$ 15,000
Operational Cost and Maintenance for Snowmaking System	\$ 11,000
Operational Cost and Maintenance for Conveyor Lift System	\$ 15,000
Operational Cost and Maintenance for Snowcat, Snowmobiles	\$ 11,000
Operational Cost and Maintenance for Lighting and Sound System	\$ 5,000
Repair and Replacement of Tubes	\$ 3,000
Repair and Replacement of Terrain Park features	\$ 3,000
Routine Maintenance for Lift Shacks and Wood Structures	\$ 2,500
Repair and Replacement of Signage, Wayfinding, Snow Fence, Safety Padding, and other Miscellaneous Items	\$ 5,000
Spring Revegetation	\$ 5,000
	Total \$ 85,500



## FINANCIAL ANALYSIS

### YEARLY EMPLOYEE ESTIMATE

The employee estimates are based on evaluations of the tubing hill operations at Copper Mountain and Keystone. The positions listed are full time, seasonal employees specific to the Tubing Hill and Terrain Park operations and do not include the general site employees listed in the earlier section. They represent the full staffing required to operate a five lane tubing hill and three trail terrain park. There may also be a certain number of floating personnel available to fill in as needed during peak times. There will need to be extensive cross training between personnel to allow switching during shifts. Also there will need to be additional training in various mountain operations such as snowmaking and snow grooming, since the Frisco tubing hill will not have the knowledge resources of a ski resort to back it up. See the Appendix for wage estimates per the Town of Frisco.

- 8 Tubing Monitors – Seasonal, full time employees, responsible for starting all tubers, controlling traffic, and monitoring safety at the top and bottom of the hill.
- 1 Safety Review – Seasonal, full time employee, responsible for reviewing site safety requirements for all tubers.
- 1 Tube Distribution – Seasonal, full time employee, responsible for handing out and collecting tubes.
- 2 Terrain Park Monitors – Seasonal, full time employees, responsible for monitoring safety throughout the terrain park.
- 2 Lift Operators (Top & Bottom) – Seasonal, full time employees, responsible for monitoring loading and unloading of guests on the conveyor lift system.

14 Total Seasonal, Full Time Employees Required per Shift.

### YEARLY REVENUE PROJECTIONS

Selling lift tickets to access the tubing hill and terrain park will be the primary source of revenue for this activity area. It is estimated that a five lane tubing hill can accommodate 120 tubers per hour during peak operation, while typical terrain park use is estimated at another 60-120 users. Additional revenue opportunities exist for equipment rental and lessons for beginner skiers and snowboarders as well as large events were the entire facility is rented. Some of these programs may be operated by a concessionaire. Detailed explanation of the estimations of revenue projection for this area is included in the Appendix.

Description	Total Estimated Revenues
<b>Direct Revenue</b>	
Tubing Hill Admission (Adult \$25/hr, Child \$20/hr)	\$ 924,300
Terrain Park Admission (Adult \$25/day, Child \$20/day)	\$ 197,500
Equipment Rental (Concessionaire Fee)	\$ 5,000
Guest Photography	\$ 4,000
<b>Revenue from Events and Programs</b>	
Sponsorship, On-Site Advertising, and Programs	\$ 20,000
Terrain Park Lessons and Clinics	\$ 5,000
Winter Facility Rental for Large Event	\$ 15,000
<b>Total</b>	<b>\$ 1,170,800</b>





UPPER PLC

Tubing Hill Concept Design - 9.17.09

# FRISCO PENINSULA RECREATION AREA



## FRISCO PENINSULA RECREATION AREA

# BIKE PARK

The 2007 Land Plan for the Peninsula Recreation Area (PRA) identified the addition of a biking skills area as a priority for the citizens of Frisco. A bike park catering to the needs of BMX and mountain bike riders will provide an exciting new facility for the residents and guests of the Town of Frisco and a great complement to the summer amenities at the PRA. It would also serve as a replacement for the informal BMX area that will be eliminated once the Peak One site is developed.



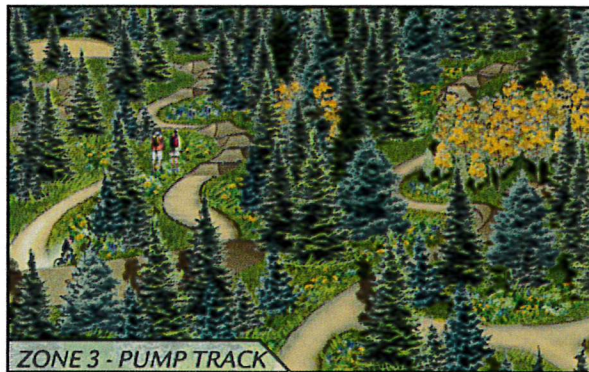
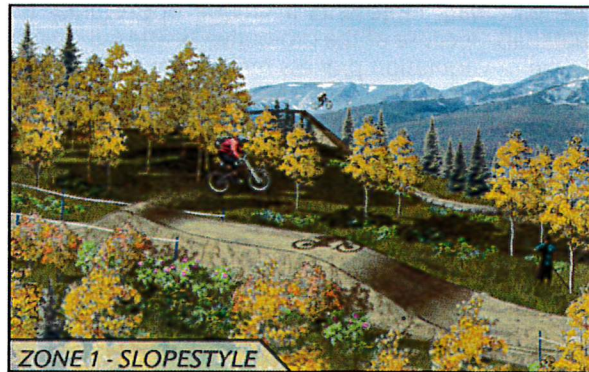
The demand for new bike jump parks is derived from an ever changing riding community finding new ways to enjoy riding a bike. Much of the success of a bike park is driven from overwhelming community support and the relatively low cost of development. This successful model combines the expertise of bike park designers with the limitless energy of community volunteers to create a park catering to everyone from novice bicyclists all the way to professional riders.



Bike parks are all unique and differ in layout, but there are certain basic topographic requirements. A slope range from 5% to 20% allows the designer the flexibility to build a bike park to accommodate the appropriate amount of speed to create a safe and user-friendly experience. The average slope of the ridge at the PRA is 10% with a total running length of 800 feet. These conditions are ideal for the elements planned for the Frisco bike park.

The design for the bike park at the PRA will be divided into several zones which provide a variety of experiences for riders of all levels. The largest zone is the Slopestyle area which consists of a series of trails, ranging in difficulty from beginner to advanced. This area allows riders to descend down the ridge on singletrack trail. Each trail features a variety of elements such as jumps, drops, ladder bridges, and berms that are tailored to the difficulty level of the run. The 4-Cross race course is the other zone located on the main slope. This is wider stretch of trail descending the slope that includes jumps and dirt rollers on which 4 riders can race each other side-by-side down the ridge. The Pump Track zone is located at the base of the slope and is a circuitous network of trails, incorporating dirt rollers and berms which allow a rider to pump their bike around the course with limited pedaling. This area is great for skills progression and bike handling practice and is a very popular feature among riders of all abilities. The Dirt Jump zone consists of a series of bike jump lines, accommodating riders from across the spectrum, and providing an opportunity for further progression in skills. This area is ideal for both BMX and mountain bike riders.

The three zones of the bike park are integrated together to allow riders to flow from one zone to the next and, as skills improve, from beginner to expert. The trails are formatted to channel riders into a central area at the base of the conveyor lift system. The conveyor lift is being designed to operate in the summer months to allow for an easy return to the top of the ridge. There will also be a climbing trail available for those who wish to ride back to the top. The bike park is also planning to integrate its operation into the regional trail network already in existence on the Peninsula and throughout Summit County.





The bike park represents a unique opportunity to practice sustainable design by reusing existing site materials. Because of the pro-active beetle-kill clearing on the PRA, the site is now essentially a blank canvas. As the re-vegetation process moves along, there is an opportunity for the different features of the bike park to be integrated seamlessly into new vegetation on the site. Not only will the bike park integrate aesthetically into the site, but many of the construction materials will be derived from the site. Excess fill generated from the tubing hill grading will be sorted and the high quality soils used for constructing the jumps, berms and trails. There is also ample opportunity to reuse the beetle kill lumber cleared from the site to construct the ladder-bridge skill features as well as other site elements like fencing and signage. In addition all rocks and boulders generated from on-site grading will also be incorporated into the construction of various bike park features.

A new bike park in the PRA would allow Frisco the opportunity to be on the forefront of the mountain bike and BMX industry, while creating an exciting new community attraction. As a supplement to the miles of singletrack in the PRA and surrounding area, the PRA bike park will help set a new precedent in adventure biking destinations.





## FINANCIAL ANALYSIS

### CONSTRUCTION COST ESTIMATE

The preliminary plan and estimate of probable costs for bike park construction are based on detailed knowledge of equivalent projects in the region. An additional 15% contingency has been added to the total estimated construction costs to account for the potential of unforeseen issues at this early stage of the design process. See the Appendix for detailed review of the probable construction costs.

Description	Total Estimated Costs
Trail Prep	\$ 95,000
Large Jump (22)	\$ 88,000
Medium Jump (36)	\$ 58,968
Small Jump (19)	\$ 12,350
Pump Park Feature (80)	\$ 9,360
Large Berm Turn (20)	\$ 32,760
Small Berm Turn (5)	\$ 3,220
Ladder Bridge (10)	\$ 50,000
Signage, Wayfinding, Fencing, Safety Padding, etc.	\$ 5,000
Total	\$ 354,658
15% Contingency	\$ 53,199
<b>Grand Total</b>	<b>\$ 407,857</b>

### YEARLY OPERATIONAL COSTS

Yearly costs associated with operation and maintenance of the mountain bike park are difficult to accurately estimate this early in the design process. Our figures represent a public park free to the public, modeled around a typical skate park. These figures will represent a high quality operation with adequate maintenance program to provide a safe and fun experience to the customer. A detailed summary of probable yearly operational costs is included in the Appendix.

Description	Total Estimated Costs
Trail Maintenance	\$ 2,500
Repair and Replacement of Park Elements	\$ 5,000
Repair and Replacement of Tools	\$ 1,000
Repair and Replacement of Signage, Wayfinding, Snow Fence, etc.	\$ 1,000
Routine Maintenance for Vehicle	\$ 1,000
Operational Cost and Maintenance for Conveyor Lift System – Summer	\$ 10,000
<b>Total</b>	<b>\$ 20,500</b>



## FINANCIAL ANALYSIS

### YEARLY EMPLOYEE ESTIMATE

The employee estimate is based on the routine maintenance that the park will require throughout the year. This estimate is based on a pre-built park with no modification. The flexibility of a bike park allows you to make improvements and changes to jump lines at a low cost. This would affect the operational and employee cost for that year. Making these improvements is a good way to keep your customers interested in the park and returning season after season. You would typically see these major improvements every two years. See the Appendix for wage estimates per the Town of Frisco.

- 2 Bike Park Support – Seasonal, full time employees - responsible for maintaining bike park, skills instructor, mechanic, jump tester, also responsible for preseason annual maintenance to prepare park for summer.
- 2 Lift Operators – Seasonal, part time employees - responsible for monitoring loading and unloading of guests on the conveyor lift system, summer operation. Lift operation will likely occur on weekends and holidays.
- 2 **Total, Seasonal, Full Time Employee Required per Shift**
- 2 **Total, Seasonal, Part Time Employees Required per Shift**

### YEARLY REVENUE PROJECTIONS

There are several different ways to operate a mountain bike park. The best fit for the PRA would be a free access park run like a typical community skate park. This would allow users to participate in the park most days at no charge. The main revenue sources would be from activities and events associated with the bike park, and charging for lift access during high use times. A bike park of this size will allow for a variety of different events including races, dirt jump competitions, skills clinics, working with existing summer activities and camps, and sponsorships. The following figures represent a fully operational mountain bike park with a pump track, 4-Cross course, dirt jumps and slopestiye lines. Detailed explanation of the estimations of revenue projection for this area is included in the Appendix.

Description	Total Estimated Revenues
<b>Direct Revenue</b>	
Lift Admissions (weekend lift admission at \$20 per day)	\$ 20,500
Bike rentals (Concessionaire Fee)	\$ 3,000
Guest Photography	\$ 2,000
<b>Revenue from Events and Programs</b>	
Sponsorship, On-Site Advertising, and Promotions	\$ 20,000
Skills clinics and camps (16 3-Day Clinic / 20 Participants / \$250 Each)	\$ 54,000
Races (10 Races / 50 Participants / \$50 Each)	\$ 25,000
Dirt Jump competitions (10 Races / 30 Participants / \$50 Each)	\$ 15,000
Summer Facility Rental	\$ 10,000
<b>Total</b>	<b>\$ 149,500</b>





TOWN OF FRISCO

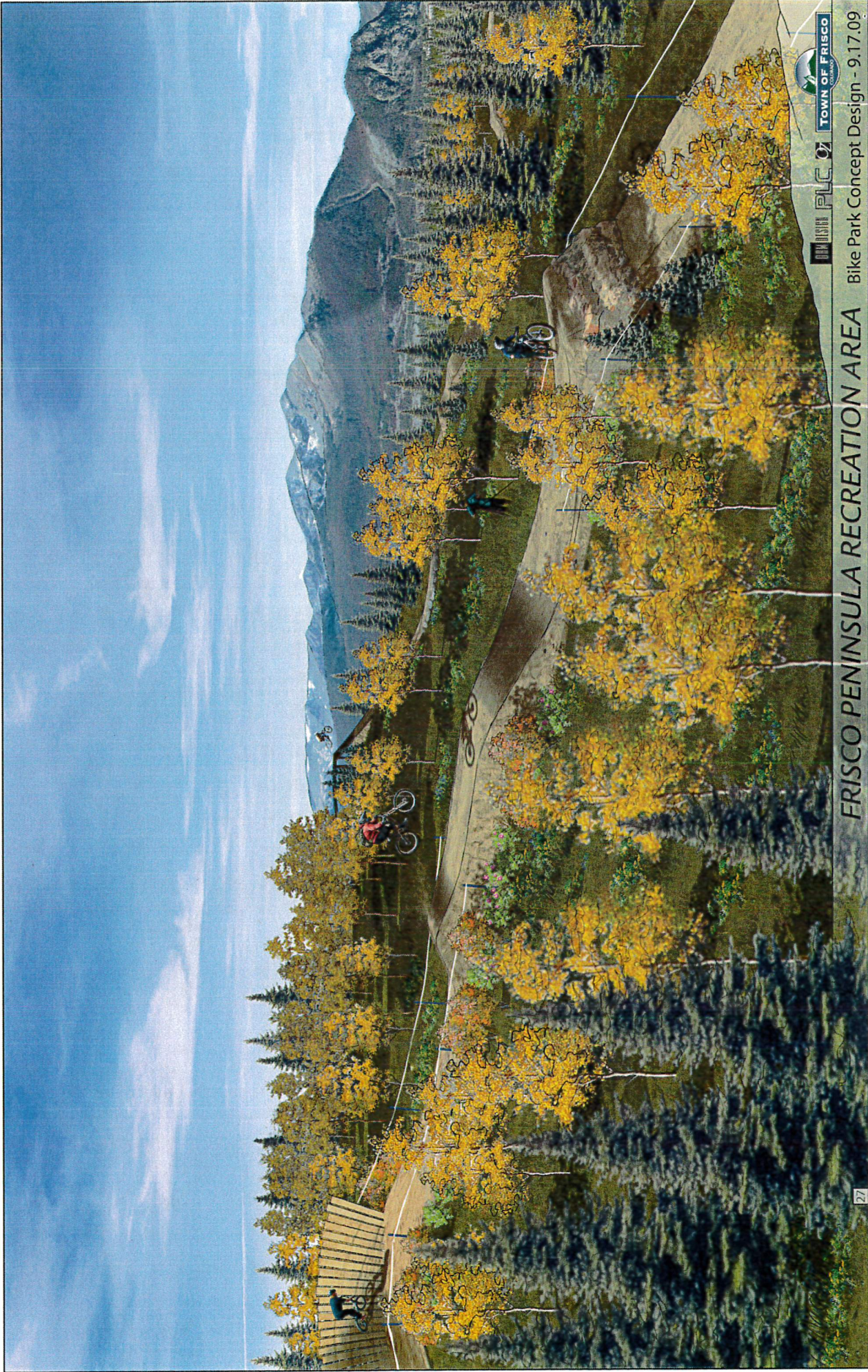
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Bike Park Concept Design - 9.17.09

# FRISCO PENINSULA RECREATION AREA





PLC OF TOWN OF FRISCO

Bike Park Concept Design - 9.17.09

FRISCO PENINSULA RECREATION AREA

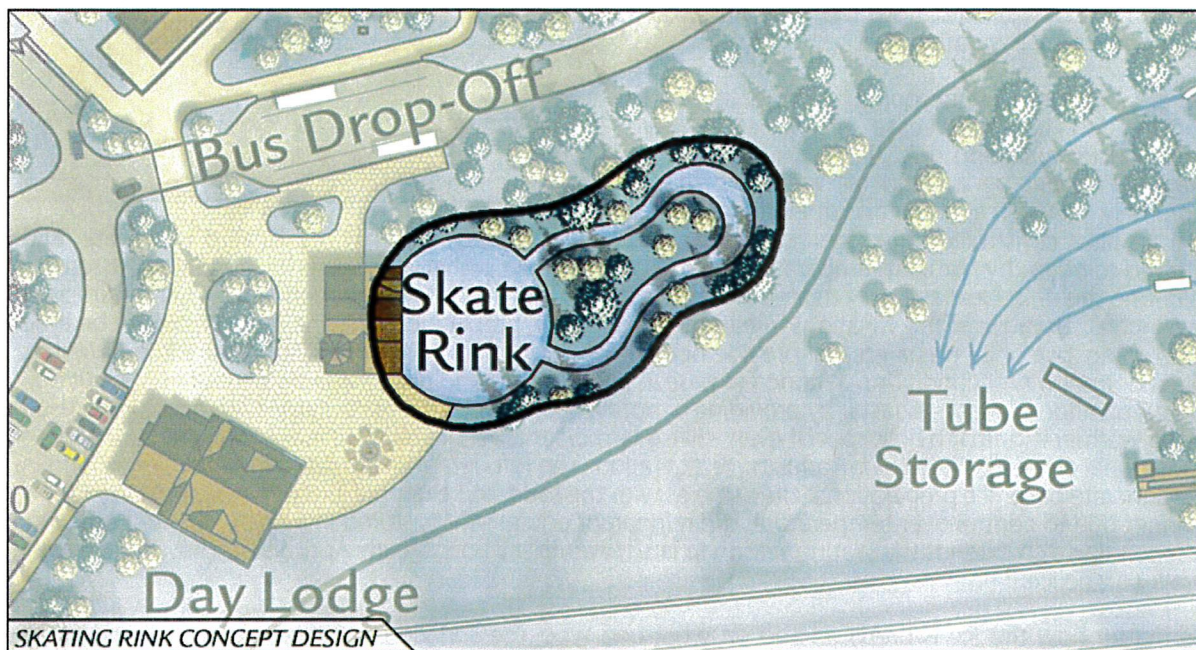


## FRISCO PENINSULA RECREATION AREA

# SKATING RINK



A small scale public skating rink to complement the other winter activities at the Peninsula Recreation Area (PRA) was identified as a priority in the 2007 Land Use Plan. The goal was to create a safe, family skating experience at the PRA. The design team was also challenged to evaluate the operational pros and cons of an open air rink versus a covered outdoor rink versus a fully enclosed facility and to make a recommendation to the Town on the best configuration.



Preliminary discussions with Town staff and stakeholders reviewed the advantages and disadvantages of ice skating facility types, from small recreational rinks to large ice arenas. The design team compared the intimacy and ease of operation of a small facility with the revenue generation and ability to host hockey of a larger arena. It was determined early in the process that the rink at the PRA would be small in scale, intimate in character, and recreational in format. It would not be for hockey, but would be an integral amenity for the winter visitors to the PRA. If, at a later date, it was determined that there was a critical need for a hockey specific arena it would be constructed in another location, probably to the east of the main entrance in the current location of the Public Works materials storage yard.



An additional element that was included during preliminary design was a scenic skating trail. The notion was to provide a unique skating experience that would leave the main rink area and wander into the landscape for a distance before returning at another location. The skate trail would be a quieter experience, allowing skaters to spread out into the trees. The point farthest from the main rink would likely have a small warming area.



SKATING TRAIL

Several different design configurations that vary in construction cost and ease of operation were reviewed for a skating rink. In its simplest form a skating rink can be a pond of water, but that is extremely limited in function and operational control.

The simplest constructed rink uses a sand base on a level graded area that is saturated with water and allowed to freeze by ambient temperature. This is then overlaid with a white vinyl liner and edge assembly to define the rink. Next specially treated water is frozen in half inch thick increments to a total thickness of two inches. Because of the variations in natural temperature, preparation of a rink of this type can be time consuming, but once prepared, will provide decent quality skating from January to the middle of March, given normal winter conditions. A concrete base in place of the sand makes a more permanent layout and the preparation of the ice is faster by providing a more reliably level base. A concrete base also can be used in the warmer months to host special events like a farmers market or wedding reception. The next step in operational efficiency involves introducing refrigeration. The refrigerant is circulated in tubing imbedded in the concrete base. Ice preparation is the same as with the sand bed example, but proceeds in a very timely manner due to control over temperature. The refrigerant equipment is stored in a nearby heated building. Refrigeration also extends the skating season to late November through early April and improves the overall quality of the ice.

No matter how the ice is prepared and on what bed type, the surface must be kept clear of snow and groomed regularly to maintain a quality skating surface. Snow on the skating surface can actually damage the ice for skating so it must be cleared immediately. This requires the use of a small-scale tractor fitted with a special blade. A Zamboni is required to regularly groom the ice. There are several different types of Zamboni that range in size and price, from a small version that mounts to the back of a hydraulically modified tractor to the full size ice arena styles. They need to be kept in a heated building that opens directly onto the ice to minimize tracking of debris onto the ice.



Another method for improving ice quality involves covering the ice with some type of structure. Although this clashes with the open-air ideal, the idea here is to minimize the thermal effects of the sun that can melt the ice even when outdoor temperatures are below freezing. This thin surface melting compromises overall ice quality and results in a slushy skating surface. Roofed covers range in style, cost and effectiveness, from a tensile fabric tent similar to the roofs at DIA to a rigid wooden or metal structure. A structure that covers the main rink area would make it the largest building on the site, enclosing an area of 8000-10,000 square feet, so the architectural style would need to be carefully considered to make it aesthetically pleasing. The engineering of such an open-air structure would also need to be carefully designed to account for the snow load and wind lift. The skate trail is not planned to be covered. A structure over the skating rink would also improve the range of use of the space for events during the warm weather months. The efficiency of the structure can be further extended by coating the underside of the roof with aluminum paint or coated panels. The aluminum coating blocks the radiant heat from the sun that travels through the roof and limits the freezing temperature of the ice. Fully enclosing the structure would further improve its efficiency by protecting the ice from the effects of the dry Colorado wind. However the design team feels that a fully enclosed structure would be cost prohibitive and deviate too far from the original design intent.

A heated structure in close proximity to the skating rink is required to house the Zamboni and refrigeration equipment. It would also be advantageous to have restrooms directly accessible from the ice to limit the distance guests are required to walk in ice skates. There is also the opportunity to charge an admission for access to the ice and provide skate rentals. Because of the requirement to have specific uses directly associated with the ice rink, the design team has recommended that a small lodge type building, separate from the main day lodge is provided with the ice rink. This ice rink building will allow controlled access to the ice and will house all necessary support functions specific to it.



## FINANCIAL ANALYSIS

### CONSTRUCTION COST ESTIMATE

The preliminary plan and estimate of probable costs for construction of the skating rink and skate trail are based on detailed knowledge of equivalent projects in the region worked on by our design sub-consultant Pace Industrial. The dollar numbers related to the required components were readily available allowing a fairly accurate concept level estimate of probable cost to be made. An additional 15% contingency has been added to the total estimated construction costs to account for the potential of unforeseen issues at this early stage of the design process. See the Appendix for detailed review of the probable construction costs.

#### Ice Rink – Concrete-Based, Artificial Refrigerant Rink with Ice Trail

Description	Total Estimated Costs
Concrete Rink Floor and Curb w/ Refrigerant Tubing	\$ 190,000
Refrigerant Plant, Skid Mounted Indoors	\$ 425,000
Handrail for Full Surround	\$ 50,000
Lighting for Evening Operation	\$ 50,000
Small Scale Ice Grooming Machine (Zamboni)	\$ 50,000
Rental Ice Skates (100 Pairs)	\$ 6,000
Skate Sharpener	\$ 1,800
Skate Storage Racks	\$ 3,500
Miscellaneous Rink Maintenance Tools and Equipment	\$ 1,000
Total	\$ 777,300
15% Contingency	\$ 116,595
Grand Total	\$ 893,895

### YEARLY OPERATIONAL COSTS

Yearly costs for the operation and maintenance of the skating rink are difficult to estimate at this early stage of the design process. However it is important to begin to evaluate these costs and incorporate them into the overall project planning as high quality operation and timely maintenance are critical to the successful, long-term viability of any business. A detailed summary of probable yearly operational costs is included in the Appendix.

#### Ice Rink – Concrete-Based, Artificial Refrigerant Rink with Ice Trail

Description	Total Estimated Costs
Beginning of Season Startup, Ice Setup in ½" Increments	\$ 2,000
Operational Cost and Maintenance for Ice Refrigeration	\$ 5,000
Operational Cost and Maintenance for Lighting	\$ 2,000
Operational Cost and Maintenance for Zamboni	\$ 5,000
Snow Removal from Ice	\$ 1,000
Repair and Replacement of Rental Ice Skates	\$ 500
End of Season Shutdown	\$ 2,000
Total	\$ 17,500



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## FINANCIAL ANALYSIS

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### YEARLY EMPLOYEE ESTIMATE

The employee estimates are based on evaluations of similar operations in the region. There can also be some floating personnel that can fill in as needed at different areas during peak times. There will need to be extensive cross training between personnel to allow switching during shifts. Also there will need to be additional training in ice grooming and basic operation of the skate refrigeration system. See the Appendix for wage estimates per the Town of Frisco.

- 1 Skate Monitor – Seasonal, full time employee, responsible for maintaining safe conditions on the ice.
- 1 Skate Rental – Seasonal, full time employee, responsible for maintaining skate rental operation.
- 1 Maintenance – Seasonal, full time employee, responsible for all ice related maintenance, snow removal, ice grooming / maintenance, and basic refrigeration maintenance

### 3 Total Seasonal, Full Time Employees Required per Shift.

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### YEARLY REVENUE PROJECTIONS

Admission and skate rental will be the primary source of revenue for this activity area. Additional revenue opportunities exist for lessons and clinics for beginner skaters as well as events were the entire facility is rented such as birthday parties. There is also the opportunity to rent the concrete pad in the summer for events such as wedding receptions, farmers markets, dances, or as a small concert venue. Detailed explanation of the estimations of revenue projection for this area is included in the Appendix.

Description	Total Estimated Revenues
<b>Direct Revenue</b>	
Admission (Adult \$5, Child \$3)	\$ 56,320
Skate Rental (Adult \$3, Child \$2)	\$ 26,782
Guest Photography	\$ 2,000
<b>Revenue from Events and Programs</b>	
Sponsorship, On Site Advertising & Promotions	\$ 10,000
Lessons/Clinics	\$ 5,000
Winter Facility Rental	\$ 10,000
Summer Facility Rental	\$ 10,000
<b>Total</b>	<b>\$ 120,102</b>





TOWN OF FRISCO

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Skating Rink Concept Design - 9.17.09

# FRISCO PENINSULA RECREATION AREA



## FRISCO PENINSULA RECREATION AREA

### CIVIL

The proposed improvements at the Frisco Peninsula Recreation Area will require considerable modification of the existing infrastructure. The road and parking layout will be completely reconfigured from the existing condition to simplify access and make circulation more intuitive. The main access for the site will be shifted to the signalized hospital intersection due to the increased traffic that is anticipated with the proposed improvements. Significant grading will be required for both the new access road and the tubing hill. The existing site utilities will need to be modified and new utilities added to facilitate the new operation. All this will require detailed coordination with managing infrastructure and utility agencies to be successful.

### CDOT ACCESS

Currently there are 2 accesses into the Frisco Peninsula Site from State Highway 9. The existing north access is a  $\frac{3}{4}$  movement allowing left turns southbound from Frisco. The south access is a signalized intersection constructed when the hospital was constructed. Currently the north access is the main access into the Frisco Peninsula Recreation area. The accel/decel lengths for both intersections currently meet CDOT standards.

#### PROPOSED ACCESS CHANGES:

It is estimated that the proposed improvements will more than double the current peak use at the PRA. Due to the increased traffic that will be generated it is proposed that the primary access point be shifted to the signalized south entrance. This will allow the current entrance at the north access to be converted to a right-in/right-out only intersection. This change will eliminate the requirement for a left turn movement southbound from Frisco, while maintaining return movement to Frisco and through access for buses and emergency vehicles. Specific details of the proposed modifications are described below. The Traffic Counts and Impact Analysis Report that was prepared to study the area is included in the Appendix.

#### South Access Modifications

Changes necessary to the south access are minimal. Per the Traffic Impact Analysis, the left turn lane would need to be restriped to accommodate the 500' decel length and 115' storage required (total 615'). It is recognized that the northbound accel does not meet CDOT requirements. It is unknown why the northbound accel lane was not constructed per CDOT requirements since it was new construction for the signal. The right turns northbound from the Peninsula (10 vph) are less than the required 50vph to necessitate an accel lane.

A majority of the turning movements from the PRA access are turning southbound toward Breckenridge. Due to the low number of turning movements northbound and through to the hospital, separate turn lanes are not required from the peninsula access.

The intersection design should take into consideration the future Highway 9 edge of pavement and allow a perpendicular intersection.

#### North Access Modifications

The changes to convert the north access to a right-in/right-out are also minimal. Restriping will be necessary to eliminate the southbound left turn and create a continuous striped median. Since the northbound accel/decel lanes meet CDOT length requirements, modifications to the striping are not necessary. Any signage modifications will be included in the upcoming access permit submittal.

The right-in/right-out will be designed to mirror the access directly across the highway at this location. A vegetated median will be included in the design with proper drainage. Turn radii will be 50'.

#### RIGHT OF WAY ISSUES:

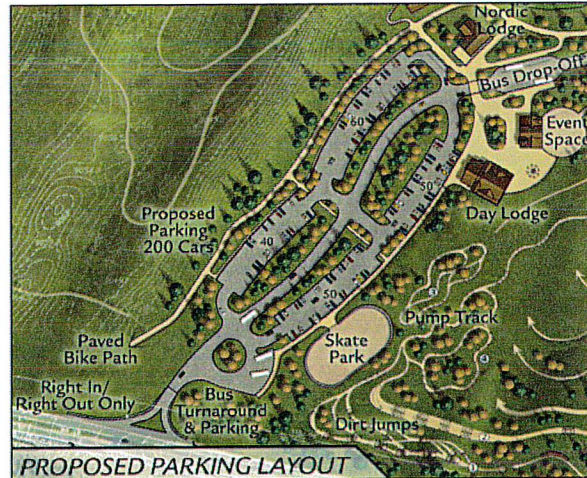
Included in our highway plans is the proposed future right-of-way needed for the widening of Highway 9. The Town of Frisco staff is meeting with CDOT officials to determine the final alignment through this area. The site plan shows that all proposed improvements outside of the current right-of-way requested by CDOT.



## ROAD AND PARKING IMPROVEMENTS

Since the main access will be changed to the signalized south access, improvements are needed to the roadway to facilitate the efficient and safe movement of traffic throughout the PRA. Currently there are sharp curves at the entrance and at the intersection to the Forest Service campground access road that do not meet Town of Frisco standards. There is also a narrow roadway width from the campground intersection to the central activity area that will not accommodate two-way traffic.

The proposed roadway realignment will include 200' diameter curves and 2-12' traffic lanes with 2' asphalt shoulders per Town standards for a collector road. This realignment will also serve to change the primary directional access to the PRA, requiring a right turn to access the Forest Service campgrounds.



A drop-off area has been provided on both sides of the road at the Nordic Center / Day Lodge area for buses and cars. In addition a bus turnaround is provided near the north access. The bus turnaround also includes a parking area for five buses to allow small scale, on site bus staging for school or tour groups. Additional bus parking will be provided off site.

Preliminary peak user estimates indicate that a minimum of 200 parking spaces are required to support the existing and proposed winter activities on the site at peak use. As a result, four parking lots with an average capacity of 50 cars each are clustered around the central activity area. The parking lot near the athletic fields would likely be closed during the winter season to facilitate cross-country ski access.

A 12ft wide paved pathway that is separated from the road is provided for pedestrians and bikes. This path will be used in the winter as a cross-country trail. The path connects the main access with the existing path from Main Street and the Marina. Additional pedestrian paths connect the parking area with the Nordic Center and Day Lodge drop-off and plaza areas.

## UTILITY ANALYSIS

In 1995-96 the Town of Frisco anticipated improvements to the PRA and installed water, sewer, phone, cable, and gas mains to a central location near the existing Nordic Center. The following is an initial assessment on serviceability of these mains for the proposed improvements. A conceptual utility plan is included below.

### ELECTRICAL:

The current electrical services for the Nordic Center and Forest Service campground are taken from the power pole near the south entrance. The new transformer currently has no services and is empty. There are also overhead electrical lines near the north entrance of the site.

We propose that both the Nordic Center and Forest Service services be transferred to the new transformer and any new services. This would allow abandonment of the power pole near the north entrance. New transformers for remote areas on the site would also be run from the newly installed transformer.



**ELECTRICAL:**

Due to aesthetics and conflicts a portion of the overhead lines at the south portion of the site are proposed to be buried. It is anticipated that a majority of the south access road lighting will be run from these overhead lines.

Once initial load calculations are complete, the design consultant team will meet with Xcel Energy to ensure we have not exceeded the load capacity of both the overhead lines and newly installed transformer, but based on preliminary planning we do not anticipate this to be the case.

**WATER:**

A water main runs through the site from the water tank south of the property tying into the newly installed waterline near the Nordic Center.

There is no concern with flow capacity or pressure for the building services. Evaluation of the snow making process will need to be completed in order to evaluate the flow capacity requirements and determine the correct line sizing.

**SEWER:**

There is existing sewer that services the Forest Service along the north side of the project. It is anticipated that this main will not be affected as a result of the improvements proposed by the Town. The newly installed sewer main runs north to the Waterdance lift station then continues to the Frisco Sanitation facility.

Based on preliminary planning, there are no concerns of pipe capacity. The lift station had been sized to accommodate some flow from the peninsula, equivalent to an additional 40 taps. Frisco Sanitation District has reviewed the planning estimates and determined the size of the lift station can accommodate the additional flow generated by the PRA development. If the lift station capacity is exceeded it may be possible to increase the pump sizes to accommodate the excess flow.

**GAS, CABLE, PHONE:**

These newly installed utilities should easily accommodate the proposed improvements.

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**GRADING AND DRAINAGE**

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There will need to be considerable grading on the site to establish the proper starting grade for the tubing hill and the south access entrance road and related bike path. Elsewhere the proposed improvements will match existing grade as much as possible. Preliminary grading has shown that ADA access can be accommodated from the parking spaces to the existing and proposed buildings.

There has been consideration for sediment control and how this can be accomplished. We feel the landscaped medians can be used as detention ponds and can be easily designed to meet Town of Frisco code. A detailed analysis of flows will be conducted to properly size the medians. Overland flow to the Lake Dillon should be carefully considered as a device for pollutant removal.

Conceptual design proposes adding approximately 10ft of fill to the top of the tubing hill to achieve the necessary slopes for operation. This grading should be carefully reviewed with regard to the future Highway 9 grading near the south access. Preliminary planning does not anticipate a significant impact. A conceptual grading plan is included below.



## FINANCIAL ANALYSIS

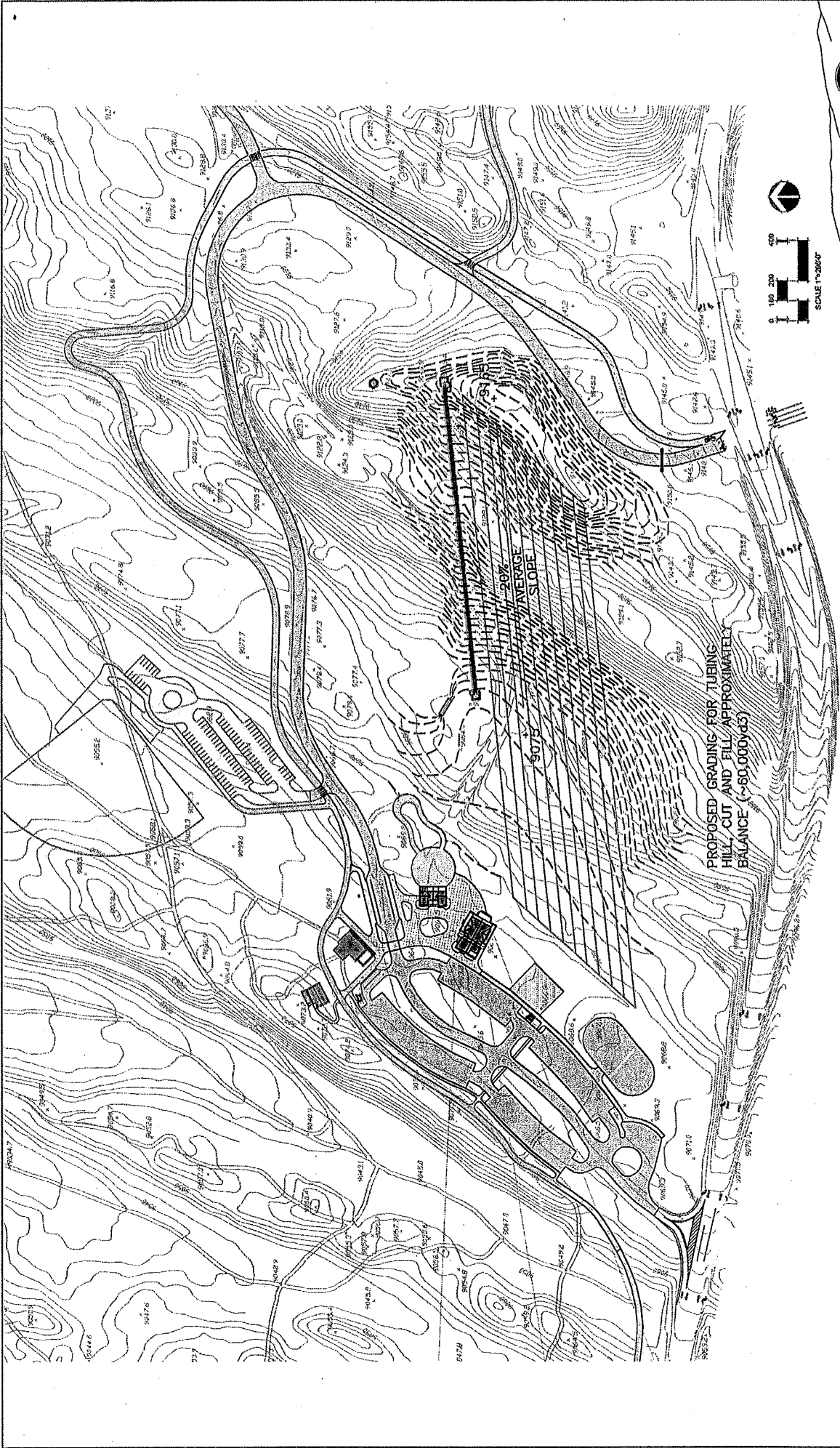
### CONSTRUCTION COST ESTIMATE:

Construction cost for the site improvements and infrastructure are based on detailed knowledge of similar projects in the area. We have not considered the cost implications due to phasing. A 15% contingency has been included to the total estimated construction costs to account for the potential of unforeseen issues at this early stage of the design process. The complete Preliminary Design – Opinion of Probable Construction Costs is included in the Appendix.

General Site Description	Total Estimated Cost
General Construction Components	\$ 314,772
Utilities	\$ 162,460
Drainage	\$ 74,900
Electric	\$ 551,500
Site Work - Parking	\$ 314,600
Site Work – Access Roads and Paths	\$ 576,295
Site Work - Plaza	\$ 125,000
Site Work – Skateboard Park Relocation	\$ 118,000
CDOT Intersection Improvements	\$ 55,000
Total	\$ 2,292,527
15% Contingency	\$ 343,879
Grand Total	\$ 2,636,406

Any operating costs or employee requirements related to installation and maintenance of the civil, roadway, parking, infrastructure, and utilities will be incorporated into the yearly Town of Frisco Public Work Department budget. There is no revenue projection related to these improvements.

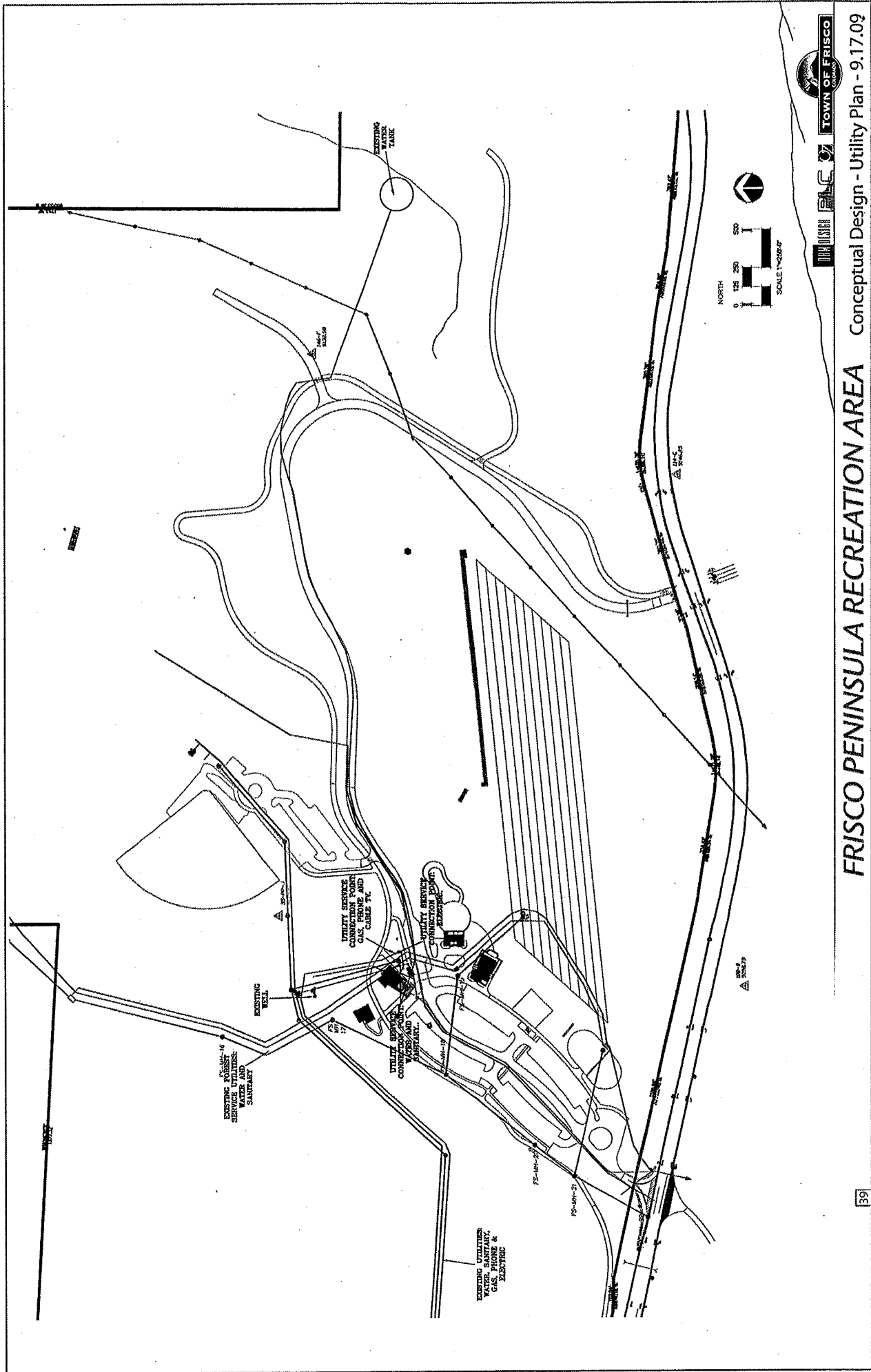




Conceptual Design - Grading Plan - 9.17.09

FRISCO PENINSULA RECREATION AREA





FRISCO PENINSULA RECREATION AREA Conceptual Design - Utility Plan - 9.17.09



## FRISCO PENINSULA RECREATION AREA

# PLANTING & REVEGETATION

It is anticipated there will be a considerable amount of disturbance associated with the construction of the proposed improvements at the Peninsula Recreation Area (PRA). This combined with the massive tree death and associated tree removal related to the Mountain Pine Beetle infestation on the site requires a significant amount of planting and revegetation following construction. In 2005 Frisco had a Forest Management Plan prepared for the PRA that included a detailed inventory, recommended treatment and implementation plans. Since then the Town has been putting the recommendations into action; removing dead and dying trees and replanting the site. It is the intent of the design team that the planting plan for the improvements proposed should come together with the revegetation recommendations from the 2005 Forest Management Plan to help return the PRA to its previous forested beauty.

There will be disturbance related to grading for the roads, parking lots and tubing hill that will require erosion control and reseeding to stabilize the soil. Various erosion control techniques will be used to minimize site damage and reduce sedimentation. These include erosion control blankets, straw crimping, and coir wattling of steep sections to stabilize the recently graded areas.



Mature balled and burlapped (B&B) trees will be planted in the main pedestrian activity areas to quickly create a greater impact. These tree groupings will be augmented with shrub massing and, in key areas, flowering forbs and grasses. These large trees will also be grouped at the main entry points to the site and in the parking areas to help screen the road and cars. In all cases, the plant species will follow the recommendations from the 2005 Forest Management Plan. The remainder of the disturbed site will be reseeded with a seed mixture from the grass and forb species recommended in the 2005 Forest Management Plan.

Supplemental irrigation will be necessary throughout the disturbed portions of the site for the first two years to help the new grass and plants establish healthy growth, but the long term recommendation is that all species planted be required to survive on natural precipitation only. Permanent irrigation may be required in planters at the pedestrian plaza area to support the more intensive planting there.



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## FINANCIAL ANALYSIS

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### CONSTRUCTION COST ESTIMATE

The preliminary estimate of probable costs for construction of the planting and revegetation of the site is based on detailed knowledge of equivalent projects in the region worked on by our design team. The dollar numbers related to the required components were readily available allowing a fairly accurate concept level estimate of probable cost to be made. An additional 15% contingency has been added to the total estimated construction costs to account for the potential of unforeseen issues at this early stage of the design process. See the Appendix for detailed review of the probable construction costs.

Description	Total Estimated Costs
Erosion Control Blanket	\$ 125,000
Dryland Seeding (including Soil Preparation)	\$ 75,000
6ft Evergreen Tree – 500	\$ 205,000
8ft Evergreen Tree – 300	\$ 165,000
10ft Evergreen Tree – 200	\$ 130,000
12ft Evergreen Tree – 200	\$ 170,000
Aspen Clump – 500	\$ 87,500
Landscape Boulders - 200	\$ 21,500
Total	\$ 979,500
15% Contingency	\$ 146,850
<b>Grand Total</b>	<b>\$1,125,850</b>

Any operating costs or employee requirements related to installation and maintenance of the planting and revegetation will be incorporated into the yearly Town of Frisco Public Work Department budget. There are no revenue projections related to these improvements.



## FRISCO PENINSULA RECREATION AREA

# PROJECT PHASING



Planning for the phasing of the proposed improvements at the Frisco Peninsula Recreation Area (PRA) is ongoing and directly related to the prevailing construction pricing and available funding opportunities. As of the preparation of this report the first phase of construction is planned to include all site demolition and grading, road and access improvements, half of the proposed parking and drainage infrastructure and all utility improvements, the day lodge and the adjacent plaza, the tubing hill, terrain park, and related infrastructure, the bike park, and all planting and revegetation related to site stabilization and erosion control. The second phase of construction is planned to include the remaining parking infrastructure improvements and the bus turn around at the north entrance, the snowcat storage building, the rink building, the skate rink with a refrigerated concrete slab and related skate trail, an open air pavilion at the top of the tubing hill, relocating the skateboard park away from the day lodge plaza and closer to the northern site access point, and the remainder of the planting and site revegetation. Phasing specifics of the major design components are reviewed in more detail below. A plan version of the phase one improvements rendered in winter and summer conditions are also included at the end of this section.



### ARCHITECTURAL BUILDING PHASING

The day lodge will be built in the first phase of construction. This is required since the existing Nordic lodge is at capacity with the current level of activity on the site and it will not be able to accommodate any of the additional use related to the new activities at the PRA. The day lodge will serve as the base facility for all of the first phase activities, including the tubing hill and bike park. Also in the first phase are the lift buildings for the conveyor lift and a temporary building for the tube storage.

The second phase of construction will include all of the remaining architecture planned for the site. This includes the snowcat storage building and the rink building. Both are related to operations which will take place in the second phase of construction. The more formal tube storage building and the overlook pavilion will also be constructed to the second phase as a cost saving measure.



#### **TUBING HILL/TERRAIN PARK CONSTRUCTION PHASING**

Because of the revenue generating capacity of the tubing hill and terrain park, it is critical that all components related to successful operation occur in the first phase of construction. It is recommended that the grading for the tubing hill be sufficient to accommodate approximately 10 lanes of tubing operation in order to allow for expansion of the tubing operation as use increases.

#### **BIKE PARK CONSTRUCTION PHASING**

Although the bike park can be constructed in phases, the design team recommends that the entire bike park be built in first phase of construction. Since the various elements will be constructed from the excess cut generated by the tubing hill grading it will be optimal to build all topographic features in conjunction with the tubing hill construction. Full construction in phase one will also help to reduce site disturbance and facilitate site stabilization and erosion control. However, maintenance and optimization will cause the bike park to evolve over time, resulting in new opportunities within the bike park on a yearly basis.

#### **ICE RINK CONSTRUCTION PHASING RECOMMENDATIONS**

Because of the high initial cost of a high quality, full use ice skating facility with related support lodge, the design team is recommending that it be built in the second phase of construction. Once the first phase operations are up and running and the viability of the area are proven, the skating rink and related support facilities can be constructed. The skating rink should be implemented with refrigeration, concrete base, roof structure, skate rink building, and skate trail. This full use facility will be designed to maximize year-round use and to generate revenue collecting admission, providing skate rental and concessions and hosting winter and summer events.

#### **CIVIL, INFRASTRUCTURE, AND UTILITY PHASING**

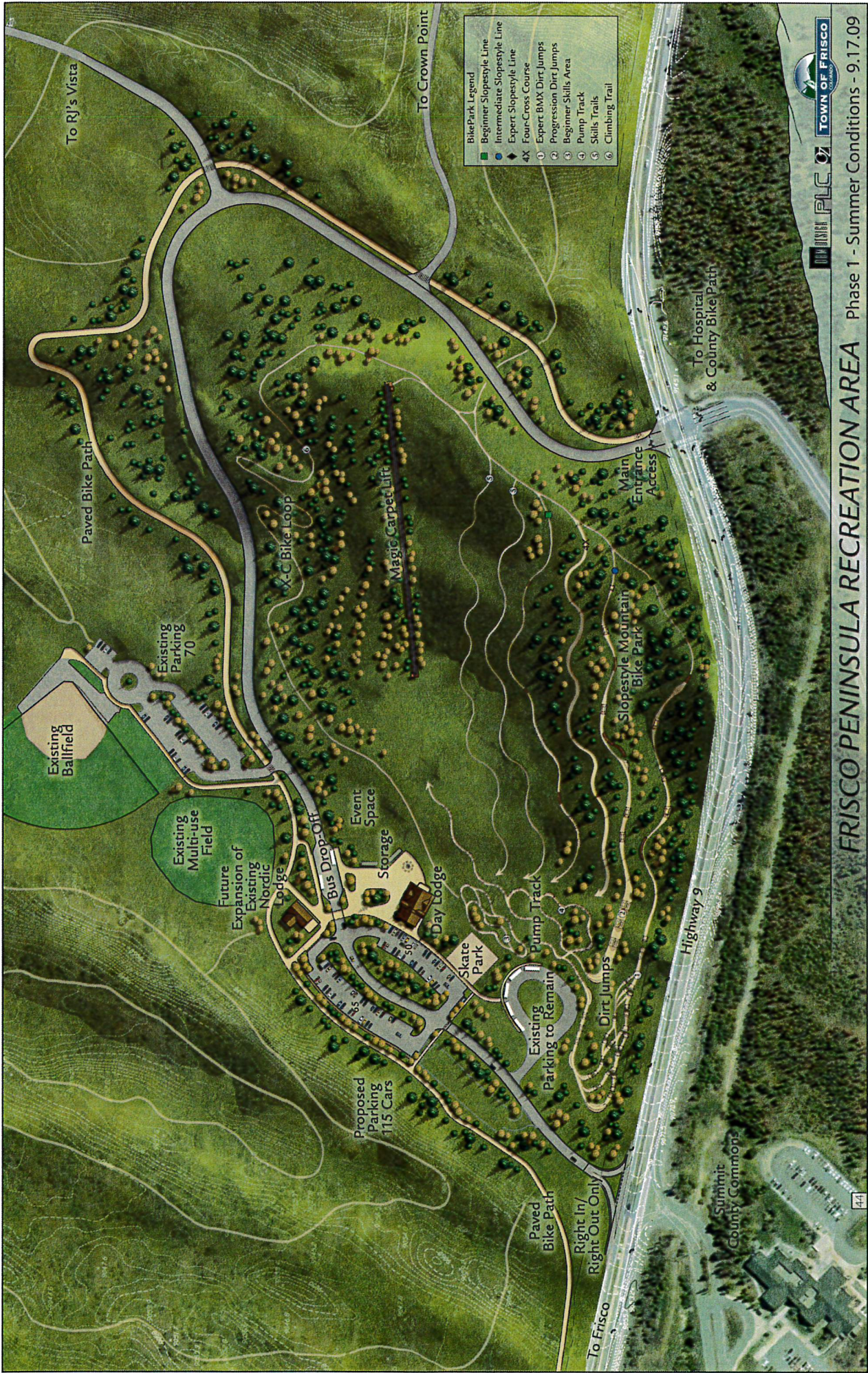
The first phase of the project will require all site demolition and grading, as well as the majority of the proposed access, road and parking improvements. Infrastructure and utility improvements will also need to be completed in the phase one since they are required for all other uses on the site.

As a potential short term phasing alternative, the design team has proposed an option where the existing north access would be maintained as the main access to the PRA. This would eliminate the change in access to the south intersection and the related reconstruction of the south access road in the first phase of construction. However, since the south access is vital to future Highway 9 improvements and the overall CDOT approval, they have agreed to consider this as a short term option only, with a requirement to complete the full changes to the signalized south access within 5 years of the completion of the first phase. An Impact Analysis Report analyzing this alternative access option is included in the Appendix.

#### **PLANTING AND REVEGETATION PHASING**

The design team recommends that a portion of the planting and revegetation be completed during first phase of construction. This would involve erosion control stabilization and reseeding of all areas disturbed in construction. Any planting will be grouped for maximum impact while not precluding the work planned in phase 2. Phase 2 will include all planting and reseeding related to the improvements planned for the second phase. All trees will be planted in the second phase of construction to minimize damage and disturbance. In addition a portion of the yearly operating budget would allow planting to be added over time, aiming for full site revegetation in twenty-five years.





- BikePark Legend**
- Beginner Slopestyle Line
  - Intermediate Slopestyle Line
  - Expert Slopestyle Line
  - ① Four-Cross Course
  - ② Expert BMX Dirt Jumps
  - ③ Progression Dirt Jumps
  - ④ Beginner Skills Area
  - ⑤ Pump Track
  - ⑥ Skills Trails
  - ⑦ Climbing Trail



**FRISCO PENINSULA RECREATION AREA**

Phase 1 - Summer Conditions - 9.17.09







## FRISCO PENINSULA RECREATION AREA

# IMPLEMENTATION



This report represents the final conceptual design for the proposed improvements at the Frisco Peninsula Recreation Area. Next steps involve refining the design into a set of documents and specifications that can be used for construction. This process occurs in stages which allows review and modification of the various components of the project as the design evolves. Following preparation of the construction document package, the project will be bid on by qualified contractors and then constructed. Due to the artistic nature of the Bike Park, that portion will be built with Town of Frisco construction forces and design consultant overview.

### **DESIGN DEVELOPMENT (DD)**

Design Development represents the first major milestone in the construction documentation process. At this stage the conceptual design is scaled and grounded using an accurate site survey. The design is further refined to integrate all the functional and aesthetic criteria of the site. The entire project, including future phases, will be taken through the design development process to ensure accurate coordination between all components of the design, even those elements that will be constructed in later phases.

### **75% CONSTRUCTION DOCUMENTS (75%CD)**

Following Design Development, only those improvements planned for first phase of construction will continue to be developed in the construction document package. The next major milestone is the 75% Construction Documents. The 75% CD package will be submitted to a selected general contractor to provide accurate construction pricing. This will allow the design team to test their conceptual cost estimation and determine the final scope of the phase one improvements. The 75% CD submittal will also be provided to the various agencies for preliminary review.

### **95% CONSTRUCTION DOCUMENTS (95%CD)**

Once the phase one project scope has been modified to meet the required cost estimates, the next major milestone is the 95% Construction Document submittal. At 95% CD, all components of the design package for the phase one improvements are submitted for final review by all required agencies.

### **100% CONSTRUCTION DOCUMENTS (100%CD)**

Once final modifications are incorporated, the next step is to assemble the Final Bid Document package. This includes finished plans for all elements of the phase one improvements, as well as details, specifications, and a final estimate of probable cost.

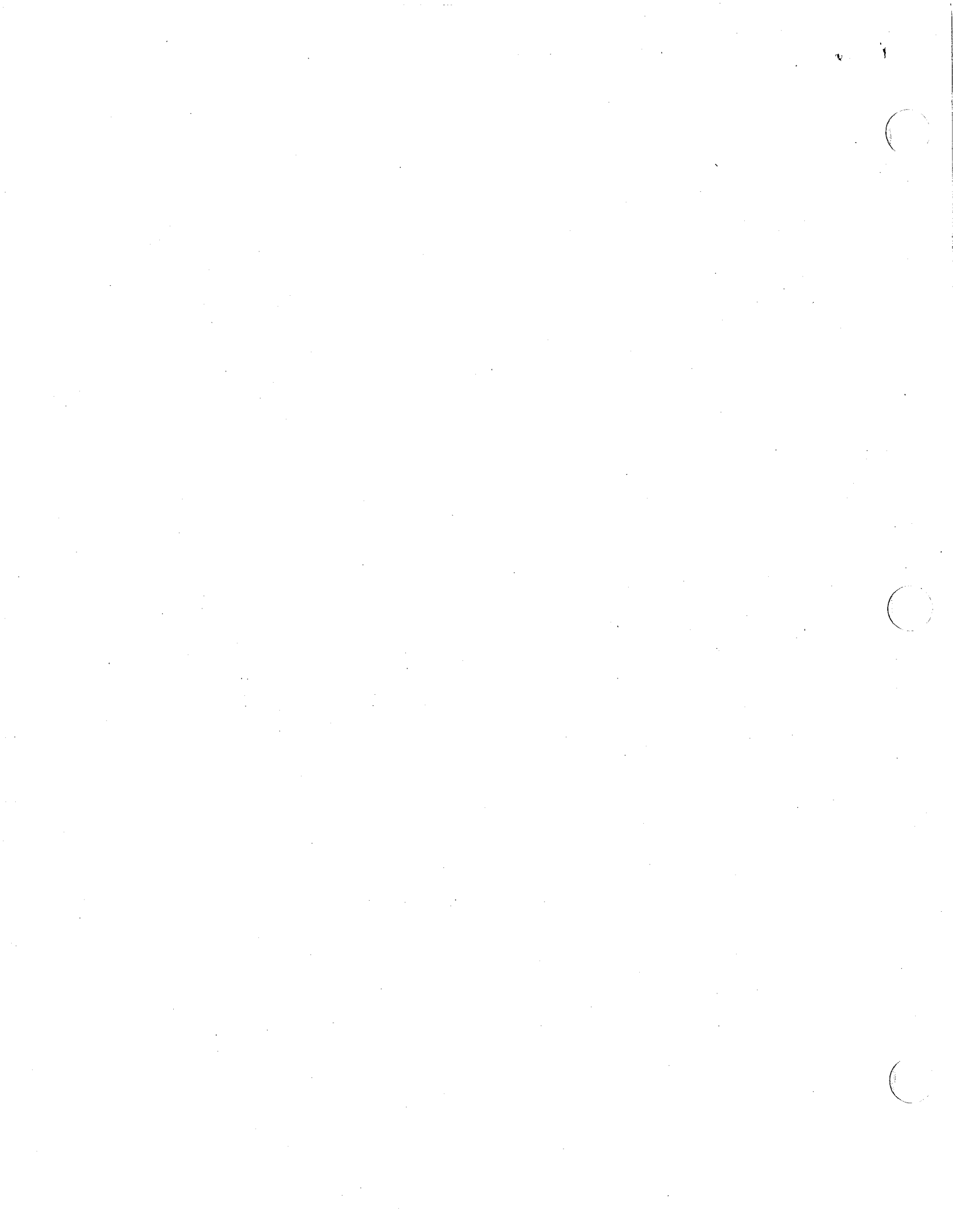
### **CONSTRUCTION BIDDING AND FINAL CONSTRUCTION DOCUMENTS**

The Final Bid Document package for phase one is made available to qualified construction contractors to assemble construction bids. The design team will assist the Town of Frisco in administering the bid process, reviewing incoming bids, and preparing a bid tab comparison. Once a construction contractor is selected, the design team will work with the Town and the contractor to prepare the Final Construction Document package that will be used in negotiating a construction contract.

### **CONSTRUCTION SERVICES**

Once construction has begun, the members of the design team will assist the Town of Frisco by providing a variety of construction services. These include providing design review and technical assistance, site inspections, review of shop drawings, submittals, and change orders and preparing any possible design changes.







Per Rick #3M 7/10/09  
8/25/09 2m 3rd Q

8/18/09  
From Rick H

**Frisco Peninsula Recreation Area**

PRELIMINARY DESIGN - OPINION OF PROBABLE CONSTRUCTION COSTS

DHM Design  
8/6/2009

No.	DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL COST	Phase	Phase 1 Cost	Phase 2 Cost
<b>GENERAL</b>								
	Site Survey	1.00	LS	\$ 20,000.00	\$ 20,000.00	1	\$20,000.00	
	Geotechnical Analysis	1.00	LS	\$ 10,000.00	\$ 10,000.00	1	\$10,000.00	
	Staging and Mobilization	1.00	LS	\$ 50,000.00	\$ 50,000.00	1+2	\$50,000.00	\$ 25,000.00
	Site Clearing and Grub	62,436.00	SY	\$ 2.00	\$ 124,872.00	1	\$124,872.00	
	Vehicle Tracking Control	3.00	EA	\$ 1,500.00	\$ 4,500.00	1+2	\$3,000.00	\$3,000.00
	Tree Removal and/or Relocation	1.00	LS	\$ 15,000.00	\$ 15,000.00	1	\$15,000.00	
	Mill Existing Site Asphalt	1.00	SF	\$ 9.40	\$ 9.40	1+2	\$37,800.00	\$12,600.00
	Unsuitable Subgrade Soil Stabilization	1.00	LS	\$ 15,000.00	\$ 15,000.00	1	\$15,000.00	
	Temporary Erosion / Sediment Control	1.00	LS	\$ 15,000.00	\$ 15,000.00	1	\$15,000.00	
	Traffic Control during Construction	1.00	LS	\$ 10,000.00	\$ 10,000.00	1+2	\$10,000.00	\$5,000.00
	<b>SUBTOTAL</b>			<b>\$ 314,772.00</b>			<b>\$300,672.00</b>	<b>\$45,600.00</b>

NO TO 100% OF WORK RELEASED

**UTILITIES**

	Water Main Extension - 8" DIP	996.00	LF	\$ 59,760.00	\$ 59,760.00	1	\$59,760.00	
	Fire Hydrant	2.00	EA	\$ 4,000.00	\$ 8,000.00	1	\$8,000.00	
	Water Valve	4.00	EA	\$ 750.00	\$ 3,000.00	1	\$3,000.00	
	8" Tee	2.00	EA	\$ 500.00	\$ 1,000.00	1	\$1,000.00	
	2" Water Service - BMX Area	800.00	LF	\$ 50.00	\$ 40,000.00	1	\$40,000.00	
	2" Hydrant and Drain	2.00	EA	\$ 400.00	\$ 800.00	1	\$800.00	
	2" Water Service Line - Lodge and Ice Rink	100.00	LF	\$ 50.00	\$ 5,000.00	1	\$5,000.00	
	Water Service for Snow Making (Luna??)	100.00	LF	\$ 5,000.00	\$ 5,000.00	1	\$5,000.00	
	Sanitary Sewer Main Extension - 8" PVC	360.00	LF	\$ 80.00	\$ 28,800.00	1	\$28,800.00	
	48" Sanitary Sewer Manhole	1.00	EA	\$ 3,600.00	\$ 3,600.00	1	\$3,600.00	
	4" Sanitary Sewer Service Line - Lodge and Ice Rink	100.00	LF	\$ 75.00	\$ 7,500.00	1	\$7,500.00	
	<b>SUBTOTAL</b>			<b>\$ 162,460.00</b>			<b>\$162,460.00</b>	<b>\$0.00</b>

NO TO 100% OF WORK RELEASED

**DRAINAGE**

	Parking Lots Area Drainage - 18" HDPE	1,000.00	LF	\$ 45.00	\$ 45,000.00	1+2	\$22,500.00	\$22,500.00
	2' x 3' Area Inlets w/ Grate	7.00	EA	\$ 2,500.00	\$ 17,500.00	1+2	\$10,000.00	\$7,500.00
	Roadway and Recreation Path Culverts - 18" HDPE	310.00	LF	\$ 40.00	\$ 12,400.00	1	\$12,400.00	
	<b>SUBTOTAL</b>			<b>\$ 74,900.00</b>			<b>\$44,900.00</b>	<b>\$30,000.00</b>

**ELECTRIC**

	Site Electric Transformer - 480V w/ Vault - Lift	1.00	EA	\$ 8,500.00	\$ 8,500.00	1	\$8,500.00	
	Site Electric Transformer - 208V w/ Vault	3.00	EA	\$ 6,500.00	\$ 19,500.00	1	\$19,500.00	
	Site Electric Transformer - 208V - Pole Mounted	2.00	EA	\$ 4,500.00	\$ 9,000.00	1	\$9,000.00	
	480V Primary Electric	400.00	LF	\$ 120.00	\$ 48,000.00	1	\$48,000.00	
	208V Primary Electric	800.00	LF	\$ 80.00	\$ 64,000.00	1	\$64,000.00	
	208V Secondary Electric	3,650.00	LF	\$ 50.00	\$ 182,500.00	1	\$182,500.00	







Parking Lot Lights - Dual Head	EA	9.00	\$	8,000.00	\$	72,000.00	1+2	\$32,000.00
Roadway Lights - Single Head	EA	8.00	\$	6,000.00	\$	48,000.00	1	\$48,000.00
Area Lighting (Plaza, Drop-off Areas, Ped Walkways, etc.)	EA	10.00	\$	4,000.00	\$	40,000.00	1	\$40,000.00
Tubing Hill Lighting	EA	10.00	\$	4,000.00	\$	40,000.00	1	\$40,000.00
Bury Power Line at Top of Ridge, incl. Related Transformers (To be Performed by Frisco Public Works)	LS	1.00	\$	20,000.00	\$	20,000.00	1	\$20,000.00
				<b>SUBTOTAL</b>		<b>\$511,500.00</b>		<b>\$32,000.00</b>

TOTAL  
 \$1,197,800.00  
 \$1,197,800.00

**SITE WORK**

<b>Parking</b>								
Grading	LS	1.00	\$	35,000.00	\$	35,000.00	1	\$35,000.00
Parking Lots and Bus Lane Paving - 4" Asphalt	Ton	2,075.00	\$	80.00	\$	166,000.00	1+2	\$83,000.00
Parking Lots and Bus Lane - Base Course - 5"	Ton	2,429.00	\$	25.00	\$	60,725.00	1+2	\$30,362.50
Parking Lot Sidewalk - 10" Concrete @ 5" Thick	SF	6,000.00	\$	6.00	\$	36,000.00	1+2	\$18,000.00
Parking Lot Sidewalk - 2" Base	Ton	75.00	\$	25.00	\$	1,875.00	1+2	\$937.50
Striping (Parking Lots by Frisco Public Works, Roadway by Others)	LS	1.00	\$	15,000.00	\$	15,000.00	1+2	\$7,500.00
				<b>SUBTOTAL</b>		<b>\$314,600.00</b>		<b>\$139,800.00</b>

**Access Road and Paths**

West Exit Road - Grading	LS	1.00	\$	10,000.00	\$	10,000.00	1	\$10,000.00
West Exit Road - Paving - 4" Asphalt	Ton	1,012.00	\$	80.00	\$	80,960.00	1	\$80,960.00
West Exit Road - Base Course - 5"	Ton	1,523.00	\$	25.00	\$	38,075.00	1	\$38,075.00
West Recreation Path - Grading - 16'	LS	1.00	\$	8,000.00	\$	8,000.00	1	\$8,000.00
West Recreation Path - Paving - 4" Asphalt	Ton	430.00	\$	80.00	\$	34,400.00	1	\$34,400.00
West Recreation Path - Base Course - 5"	Ton	671.00	\$	25.00	\$	16,775.00	1	\$16,775.00
East Entrance Road - Grading - Cut	CY	5,000.00	\$	4.00	\$	20,000.00	2	\$20,000.00
East Entrance Road - Grading - Fill	CY	2,500.00	\$	5.00	\$	12,500.00	2	\$12,500.00
East Entrance Paving - 4" Asphalt	Ton	1,450.00	\$	25.00	\$	36,250.00	2	\$36,250.00
Base Course - 5"	Ton	2,180.00	\$	25.00	\$	54,500.00	2	\$54,500.00
East Recreation Path - Grading - 16'	LF	3,360.00	\$	1.00	\$	3,360.00	2	\$3,360.00
East Recreation Path Paving - 4" Asphalt	Ton	1,040.00	\$	80.00	\$	83,200.00	2	\$83,200.00
East Rec Path Base Course - 5"	Ton	1,449.00	\$	25.00	\$	36,225.00	2	\$36,225.00
Campground Intersection - Grading	LS	1.00	\$	3,500.00	\$	3,500.00	2	\$3,500.00
Campground Intersection Paving - 4" Asphalt	Ton	325.00	\$	80.00	\$	26,000.00	2	\$26,000.00
Campground Base Course - 5"	Ton	490.00	\$	25.00	\$	12,250.00	2	\$12,250.00
East Entrance Right Turn Lane - Grading	LS	1.00	\$	2,000.00	\$	2,000.00	2	\$2,000.00
East Entrance Right Turn Lane Paving - 4" Asphalt	Ton	170.00	\$	80.00	\$	13,600.00	2	\$13,600.00
East Entrance Right Turn Lane - Base Course - 5"	Ton	198.00	\$	25.00	\$	4,950.00	2	\$4,950.00
				<b>SUBTOTAL</b>		<b>\$576,295.00</b>		<b>\$0.00</b>

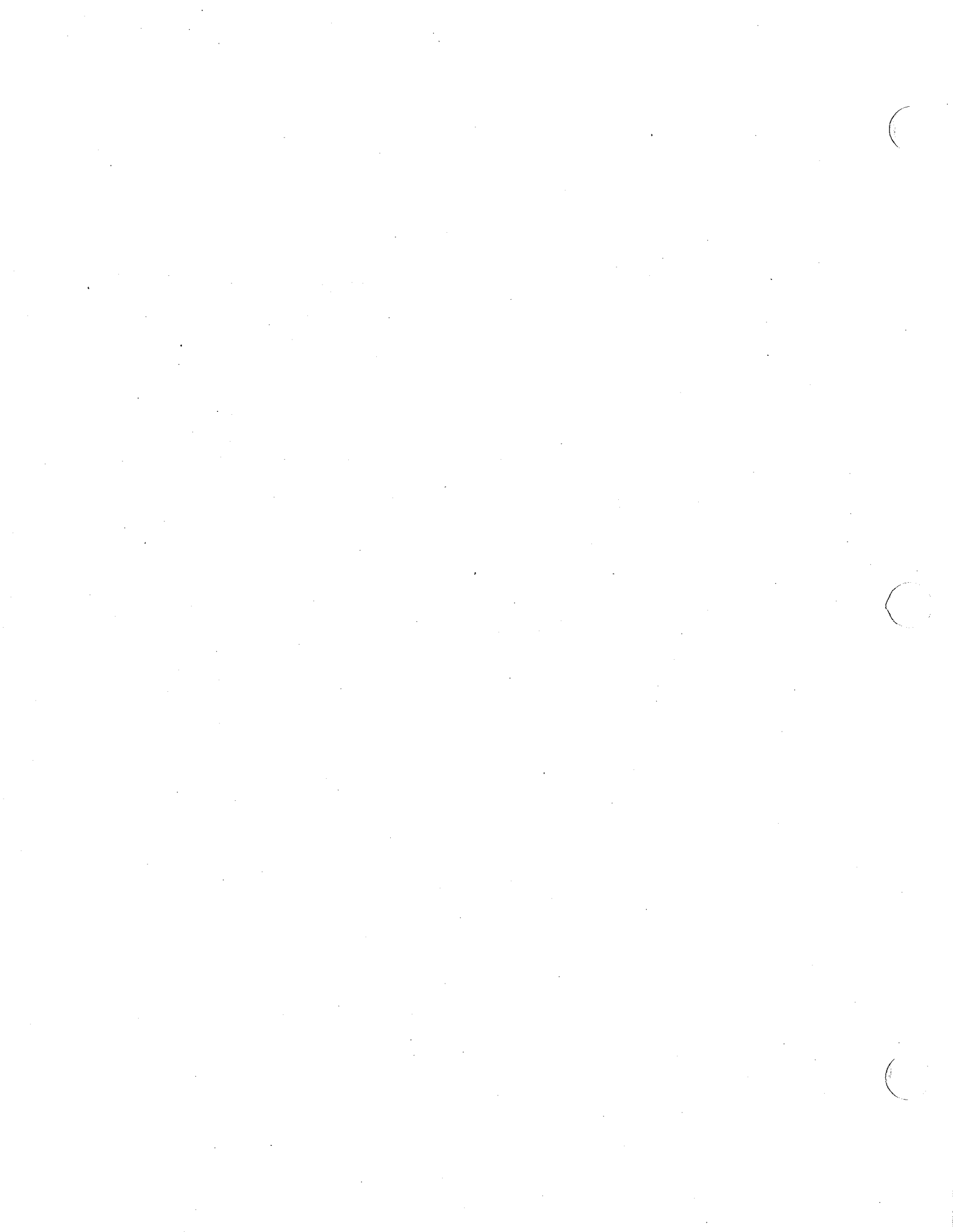
**Plaza**

Day Lodge Plaza Paving - Grading	LS	1.00	\$	5,000.00	\$	5,000.00	1	\$5,000.00
Day Lodge Plaza Paving - Colored Concrete @ 5" Thick	SF	15,000.00	\$	8.00	\$	120,000.00	1	\$120,000.00
				<b>SUBTOTAL</b>		<b>\$125,000.00</b>		<b>\$0.00</b>

**Skateboard Park Relocation**

Concrete @ 5" Thick	SF	18,000.00	\$	6.00	\$	108,000.00	2	\$108,000.00
Relocation of Existing Equipment	LS	1.00	\$	10,000.00	\$	10,000.00	2	\$10,000.00





CDOT INTERSECTION IMPROVEMENTS									
East Entrance Intersection (CDOT)									
1.00	LS	\$	15,000.00	\$	15,000.00	1		\$15,000.00	
1.00	LS	\$	40,000.00	\$	40,000.00	1		\$40,000.00	
SUBTOTAL			\$55,000.00		\$55,000.00				\$118,000.00
West Exit Intersection (CDOT)									
SUBTOTAL			\$118,000.00		\$118,000.00				\$0.00
SUBTOTAL			\$118,000.00		\$118,000.00				\$118,000.00

ARCHITECTURE									
3,652	SF	\$	\$340.00	\$	1,241,680.00	1		\$1,241,680.00	
1,632	SF	\$	\$88.00	\$	143,616.00	1		\$143,616.00	
1	LS	\$	\$30,000.00	\$	30,000.00	1		\$30,000.00	
1,632	SF	\$	\$180.00	\$	293,760.00	2		\$293,760.00	
600	SF	\$	\$87.00	\$	52,200.00	2		\$52,200.00	
1,750	SF	\$	\$150.00	\$	262,500.00	2		\$262,500.00	
1,956	SF	\$	\$90.00	\$	176,040.00	2		\$176,040.00	
100	SF	\$	\$90.00	\$	9,000.00	1		\$9,000.00	
100	SF	\$	\$90.00	\$	9,000.00	1		\$9,000.00	
150	SF	\$	\$50.00	\$	7,500.00	2		\$7,500.00	
1	LS	\$	\$100,000.00	\$	100,000.00	2		\$100,000.00	
SUBTOTAL			\$2,325,296.00		\$2,325,296.00			\$1,433,296.00	\$892,000.00

TUBING HILL									
1	LS	\$	\$150,000.00	\$	150,000.00	1		\$150,000.00	
1	LS	\$	\$300,000.00	\$	300,000.00	1		\$300,000.00	
1	LS	\$	\$350,000.00	\$	350,000.00	1		\$350,000.00	
1	LS	\$	\$75,000.00	\$	75,000.00	1		\$75,000.00	
120	EA	\$	\$100.00	\$	12,000.00	1		\$12,000.00	
1	EA	\$	\$5,000.00	\$	5,000.00	1		\$5,000.00	
1	LS	\$	\$5,000.00	\$	5,000.00	1		\$5,000.00	
SUBTOTAL			\$897,000.00		\$897,000.00			\$897,000.00	\$0.00

TERRAIN PARK									
20	EA	\$	\$1,000.00	\$	20,000.00	1		\$20,000.00	
1	LS	\$	\$5,000.00	\$	5,000.00	1		\$5,000.00	
SUBTOTAL			\$25,000.00		\$25,000.00			\$25,000.00	

SKATING RINK									
1	LS	\$	\$425,000.00	\$	425,000.00	2		\$425,000.00	
1	LS	\$	\$190,000.00	\$	190,000.00	2		\$190,000.00	
1	LS	\$	\$50,000.00	\$	50,000.00	2		\$50,000.00	
1	LS	\$	\$50,000.00	\$	50,000.00	2		\$50,000.00	
1	LS	\$	\$50,000.00	\$	50,000.00	2		\$50,000.00	
100	LS	\$	\$60.00	\$	6,000.00	2		\$6,000.00	
1	LS	\$	\$1,800.00	\$	1,800.00	2		\$1,800.00	
SUBTOTAL			\$1,800.00		\$1,800.00			\$1,800.00	\$425,000.00

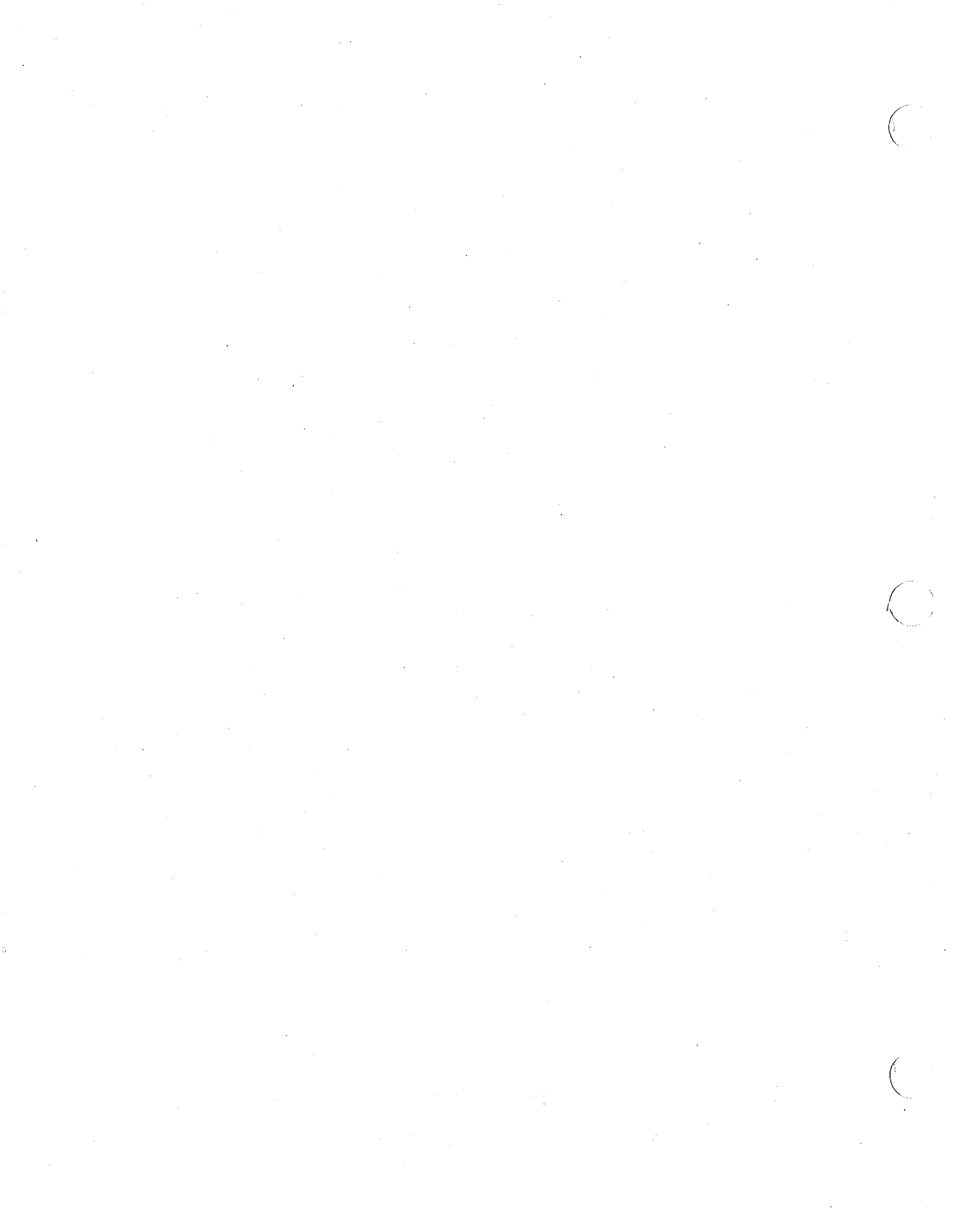
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Net of CIP

Skate Storage Racks	1	LS	\$3,500.00	\$	3,500.00	2	\$3,500.00
Miscellaneous Rink Maintenance Tools and Equipment	1	LS	\$1,000.00	\$	1,000.00	2	\$1,000.00
<b>SUBTOTAL</b>			<b>\$777,300.00</b>				<b>\$0.00</b>

**MOUNTAIN BIKE PARK**

Trail Prep	9,500	LF	\$10.00	\$	95,000.00	1	\$95,000.00
Large Jump	22	EA	\$4,000.00	\$	88,000.00	1	\$88,000.00
Medium Jump	36	EA	\$1,638.00	\$	58,968.00	1	\$58,968.00
Small Jump	9	EA	\$650.00	\$	12,350.00	1	\$12,350.00
Pump Park Feature	80	EA	\$117.00	\$	9,360.00	1	\$9,360.00
Large Berm Turn	20	EA	\$1,638.00	\$	32,760.00	1	\$32,760.00
Small Berm Turn	5	EA	\$644.00	\$	3,220.00	1	\$3,220.00
Ladder Bridge	10	EA	\$5,000.00	\$	50,000.00	1	\$50,000.00
Signage, Wayfinding, Snowfence, Safety Padding, etc.	1	LS	\$5,000.00	\$	5,000.00	1	\$5,000.00
<b>SUBTOTAL</b>			<b>\$354,658.00</b>				<b>\$0.00</b>

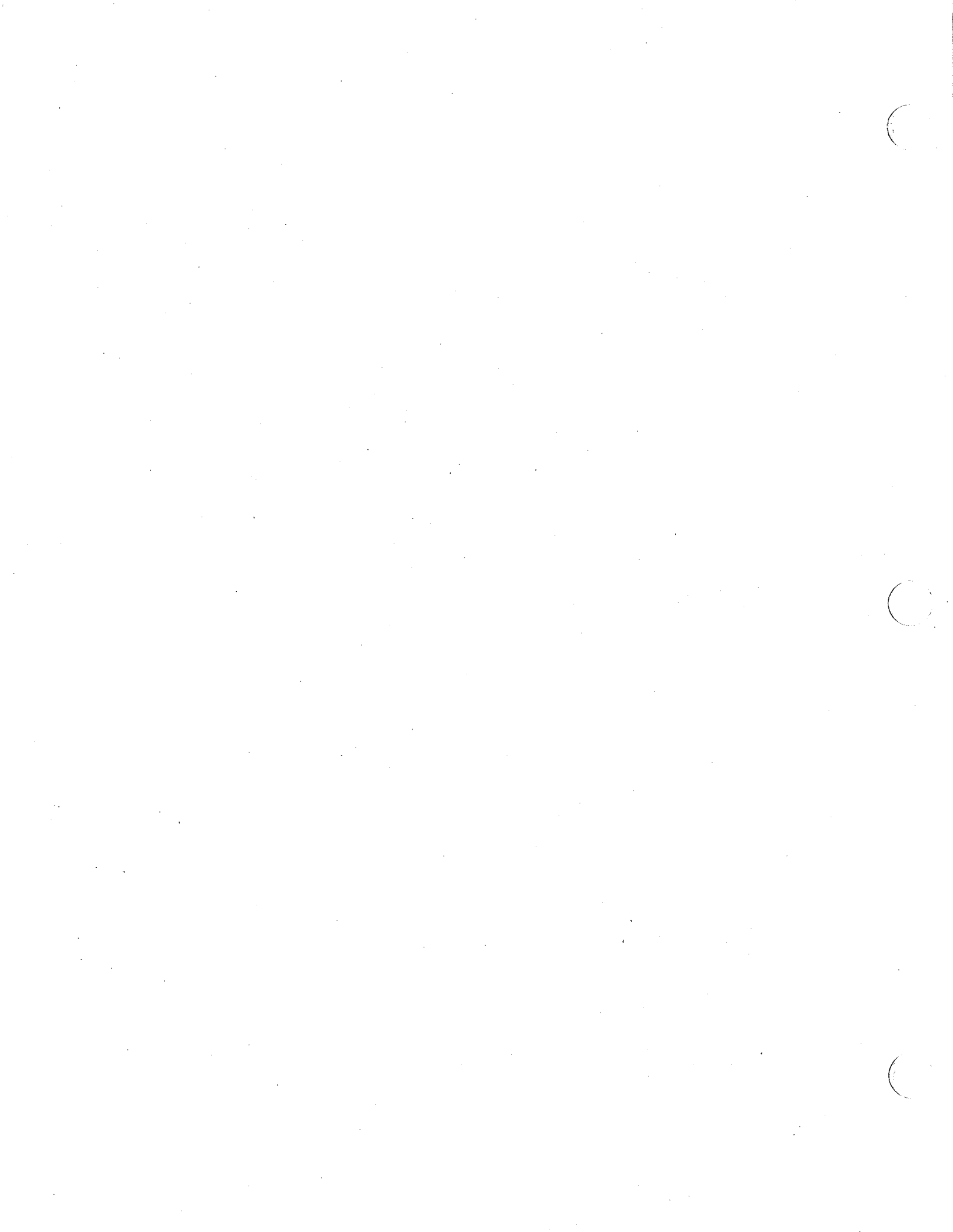
**PLANTING & REVEGETATION**

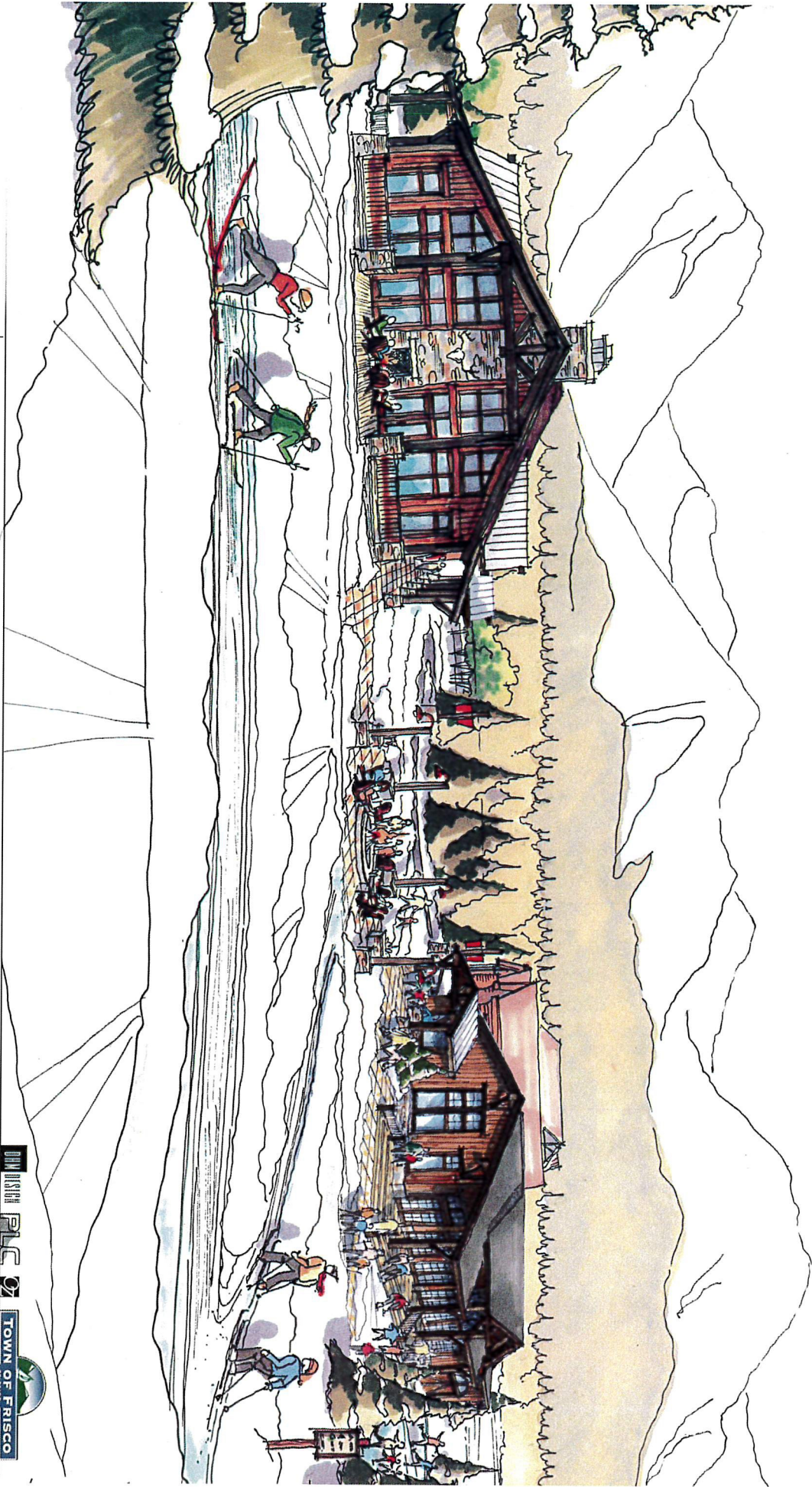
Erosion Control Blanket	250,000	SF	\$0.50	\$	125,000.00	1 & 2	\$62,500.00
Dryland Seed (including Soil Prep)	250,000	SF	\$0.30	\$	75,000.00	1 & 2	\$37,500.00
Evergreen Tree - 6'	500	EA	\$410.00	\$	205,000.00	2	\$205,000.00
Evergreen Tree - 8'	300	EA	\$550.00	\$	165,000.00	2	\$165,000.00
Evergreen Tree - 10'	200	EA	\$650.00	\$	130,000.00	2	\$130,000.00
Evergreen Tree - 12'	200	EA	\$850.00	\$	170,000.00	2	\$170,000.00
Aspen Clump	500	EA	\$175.00	\$	87,500.00	2	\$87,500.00
Landscape Boulders 4'-5'	100	EA	\$215.00	\$	21,500.00	2	\$21,500.00
<b>SUBTOTAL</b>			<b>\$879,900.00</b>				<b>\$100,000.00</b>

<b>TOTAL</b>			<b>\$7,650,781.00</b>				<b>\$4,760,581.00</b>
<b>15% Contingency</b>			<b>\$1,147,617.15</b>				<b>\$714,087.15</b>
<b>GRAND TOTAL</b>			<b>\$8,798,398.15</b>				<b>\$5,474,668.15</b>

GRAND TOTAL in PHASES \$8,825,423.15  
extra for phasing \$27,025.00







FRISCO PENINSULA RECREATION AREA

SKETCH PLAN SUBMITTAL

11.19.09

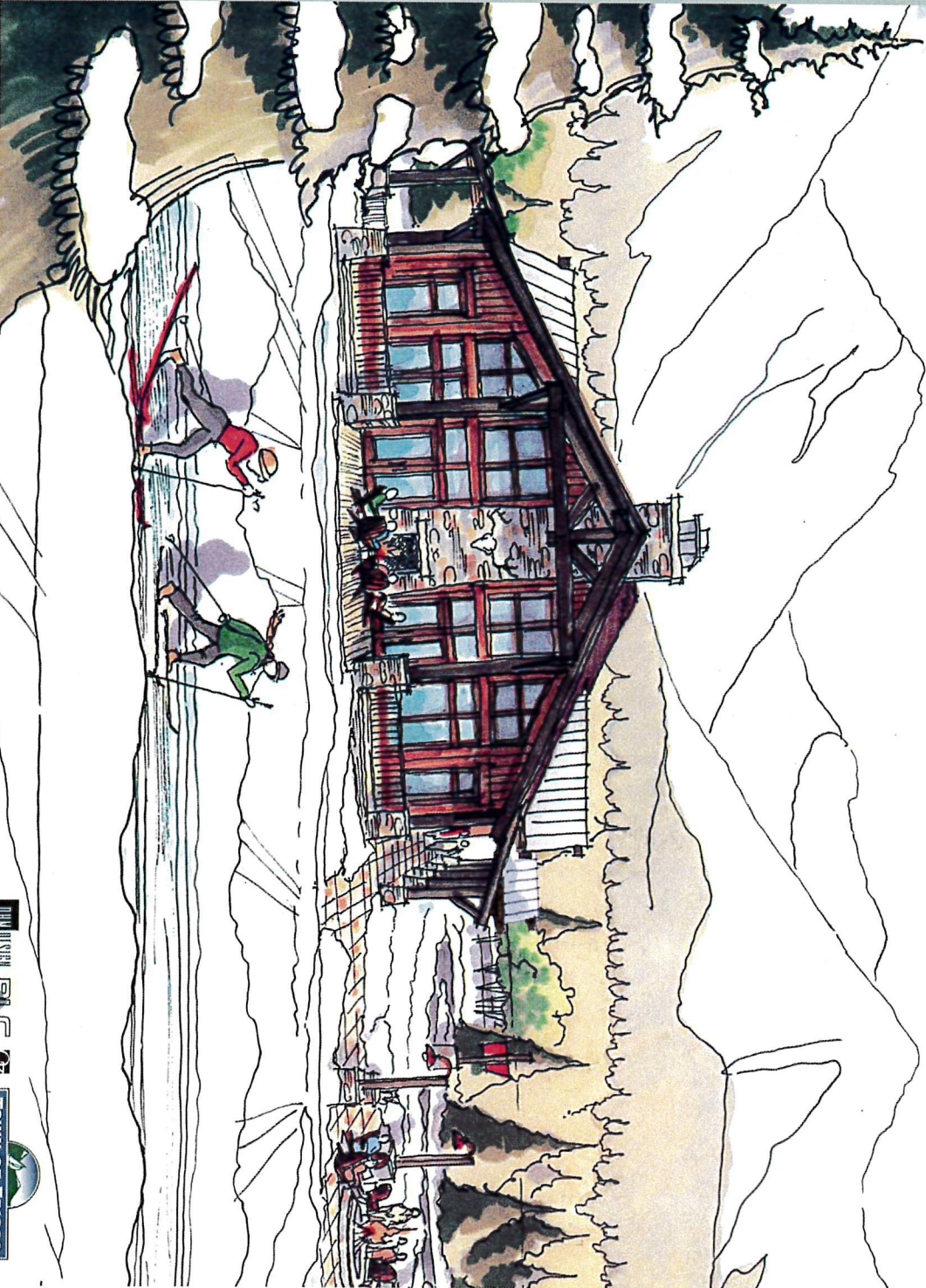
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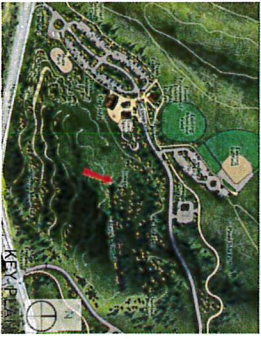


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7	DAY LODGE & RINK BUILDING ROOF PLANS
8	PARK OUT-BUILDINGS FLOOR PLANS
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19	SNOWCAT BUILDING RENDERINGS
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22	MAINTENANCE BUILDINGS RENDERINGS
23	MAINTENANCE BUILDINGS ELEVATIONS
24	MAINTENANCE BUILDINGS MATERIALS







PARK OUT-BUILDINGS RENDERINGS

# FRISCO PENINSULA RECREATION AREA

SKETCH PLAN SUBMITTAL

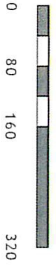
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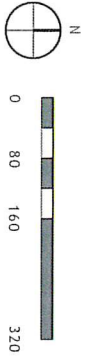
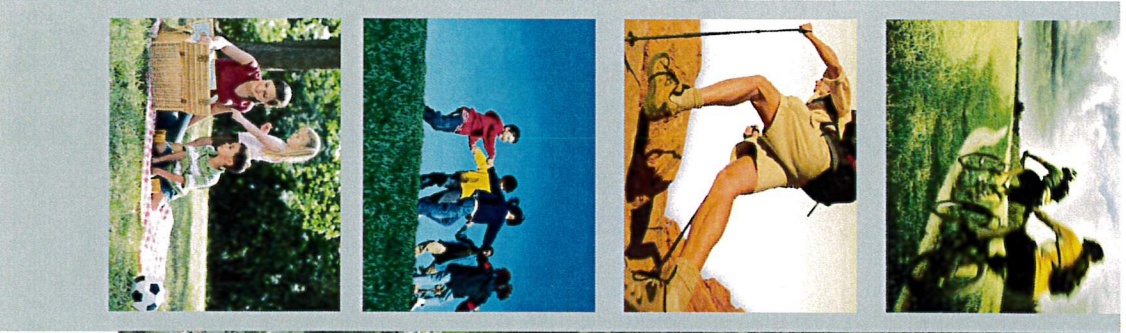




# FRISCO PENINSULA RECREATION AREA







SITE PLAN - SUMMER USE

# FRISCO PENINSULA RECREATION AREA

SKETCH PLAN SUBMITTAL





**PROJECT TEAM**

**DEVELOPER**  
**TOWN OF FRISCO**

Public Works Department  
PO Box 4100  
1 Main Street  
Frisco, CO 80443  
T 970.668.0836 ext. 1315  
Contact - Rick Higgins

**TOWN OF FRISCO**

Building Department  
PO Box 4100  
1 Main Street  
Frisco, CO 80443  
T 970.668.5276 ext. 3052  
Contact - Janine Snyder

**ARCHITECT**

**OZ ARCHITECTURE**

3012 Huron Street  
Suite 100  
Denver, CO 80202  
T 303.861.5704  
Contact - Becky Stone

**LANDSCAPE ARCHITECT**

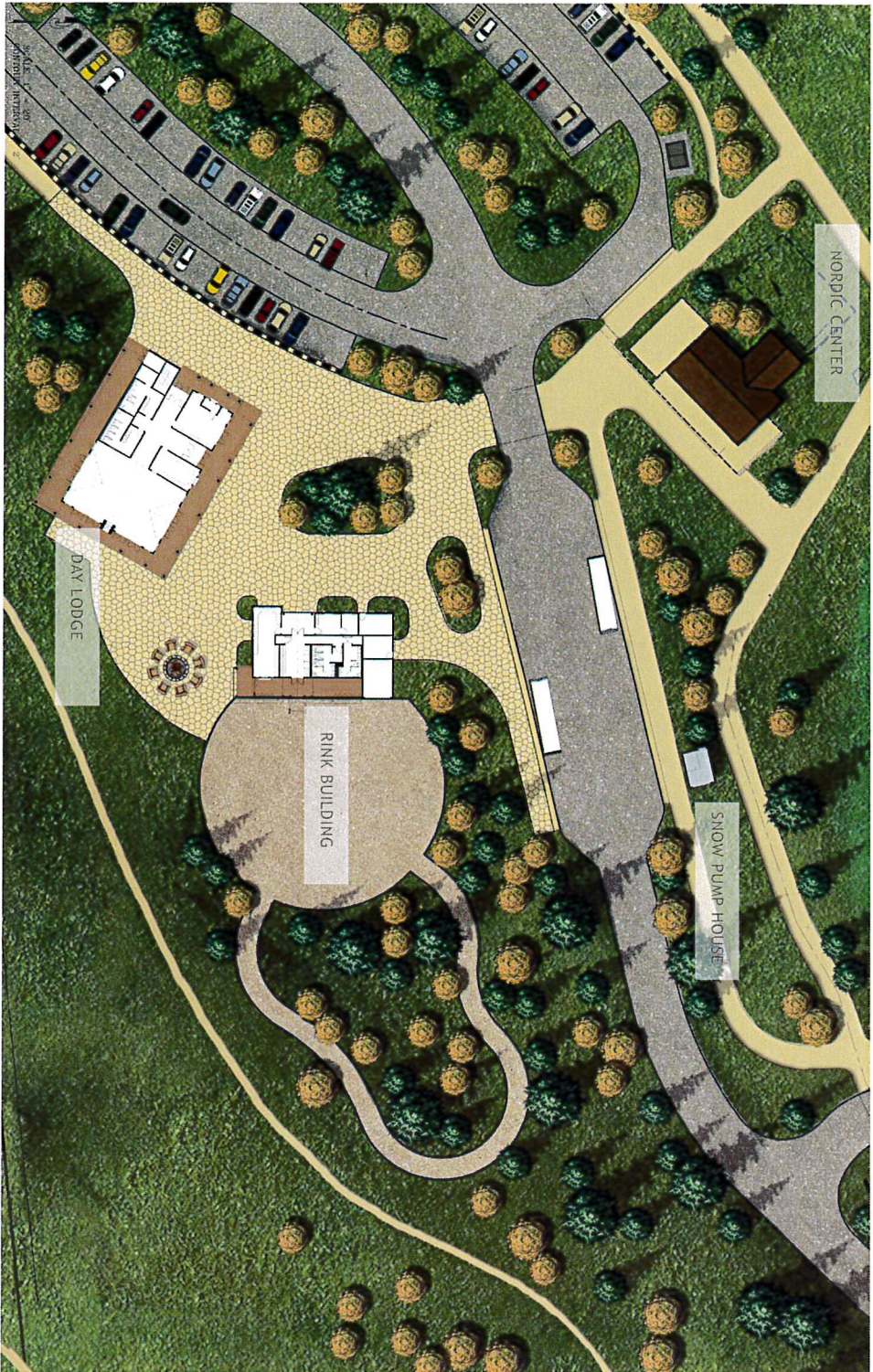
**DHM DESIGN**

1390 Lawrence St., Ste. 100  
Denver, CO 80204  
T 303.892.5566  
Contact - Gregg Brown

**ENGINEER**

**PEAK ENGINEERING**

1000 Lion's Ridge Loop  
Vail, CO 81657  
T 970.476.8644  
Contact - Mark Luna



ENLARGED SITE PLAN

**FRISCO PENINSULA RECREATION AREA**

SKETCH PLAN SUBMITTAL

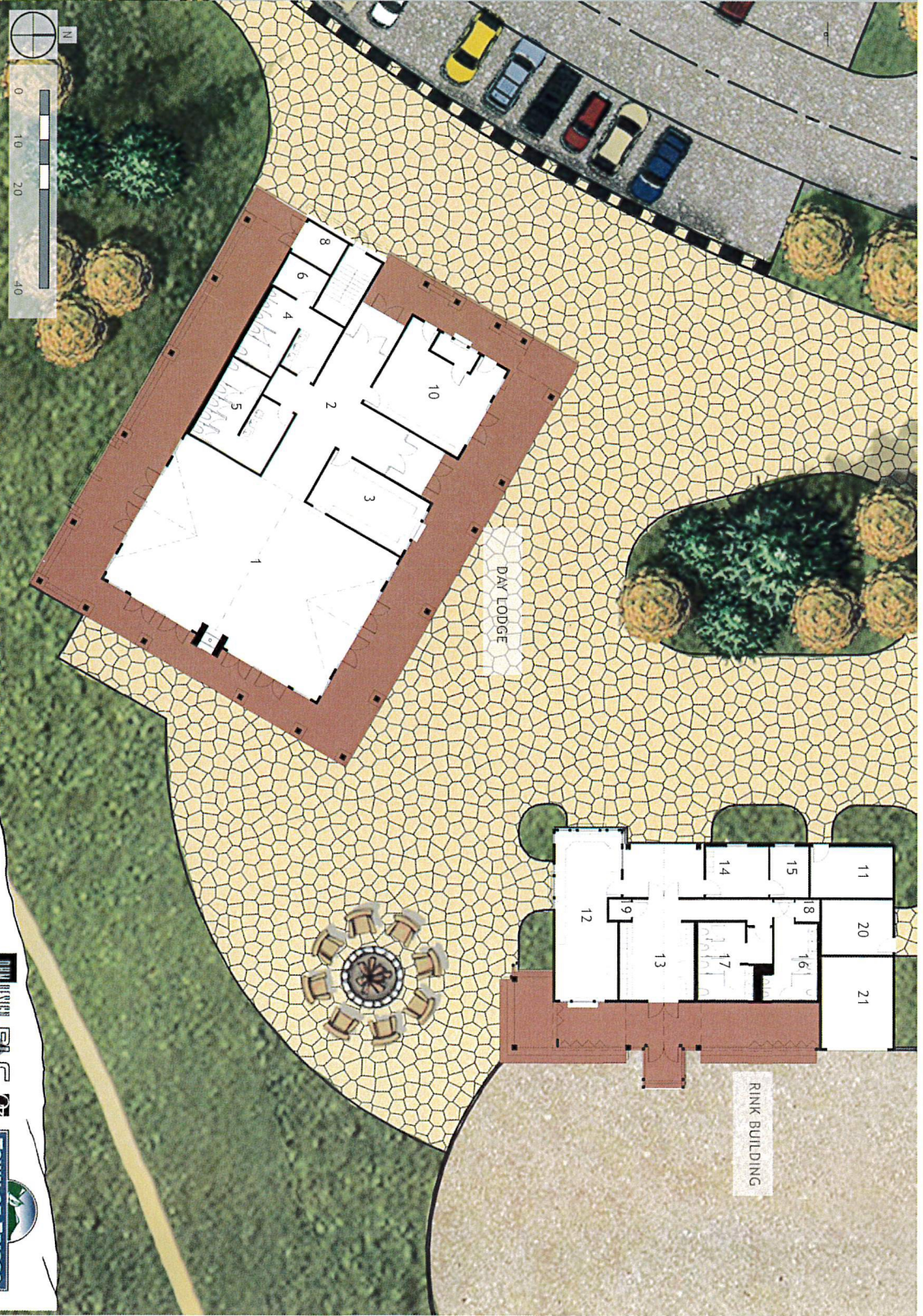


11.19.09

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PROGRAM	
DAY LODGE = 4,041 SF + 1807 SF BASEMENT	
1. LIVING ROOM	1760 SF
2. GALLERY	658 SF
3. CATERING KITCHEN	292 SF
4. MEN'S RESTROOMS	274 SF
5. WOMEN'S RESTROOMS	298 SF
6. JANITOR CLOSET	78 SF
7. MECHANICAL	642 SF
8. RECYCLING AND TRASH	80 SF
9. BASEMENT STORAGE	971 SF
10. ORIENTATION ROOM	482 SF
RINK BUILDING = 2,340 SF	
11. MEDIC ROOM	179 SF
12. TICKETS	457 SF
SKATE RENTAL	
CONCESSIONS	
13. LOCKERS / VENDING	246 SF
14. EMPLOYEE BREAK RM.	138 SF
15. PRIVATE OFFICE	89 SF
16. MEN'S RESTROOMS	192 SF
17. WOMEN'S RESTROOMS	222 SF
18. JANITOR CLOSET	24 SF
19. STORAGE CLOSET	22 SF
20. MECHANICAL	166 SF
21. ZAMBONI GARAGE	277 SF

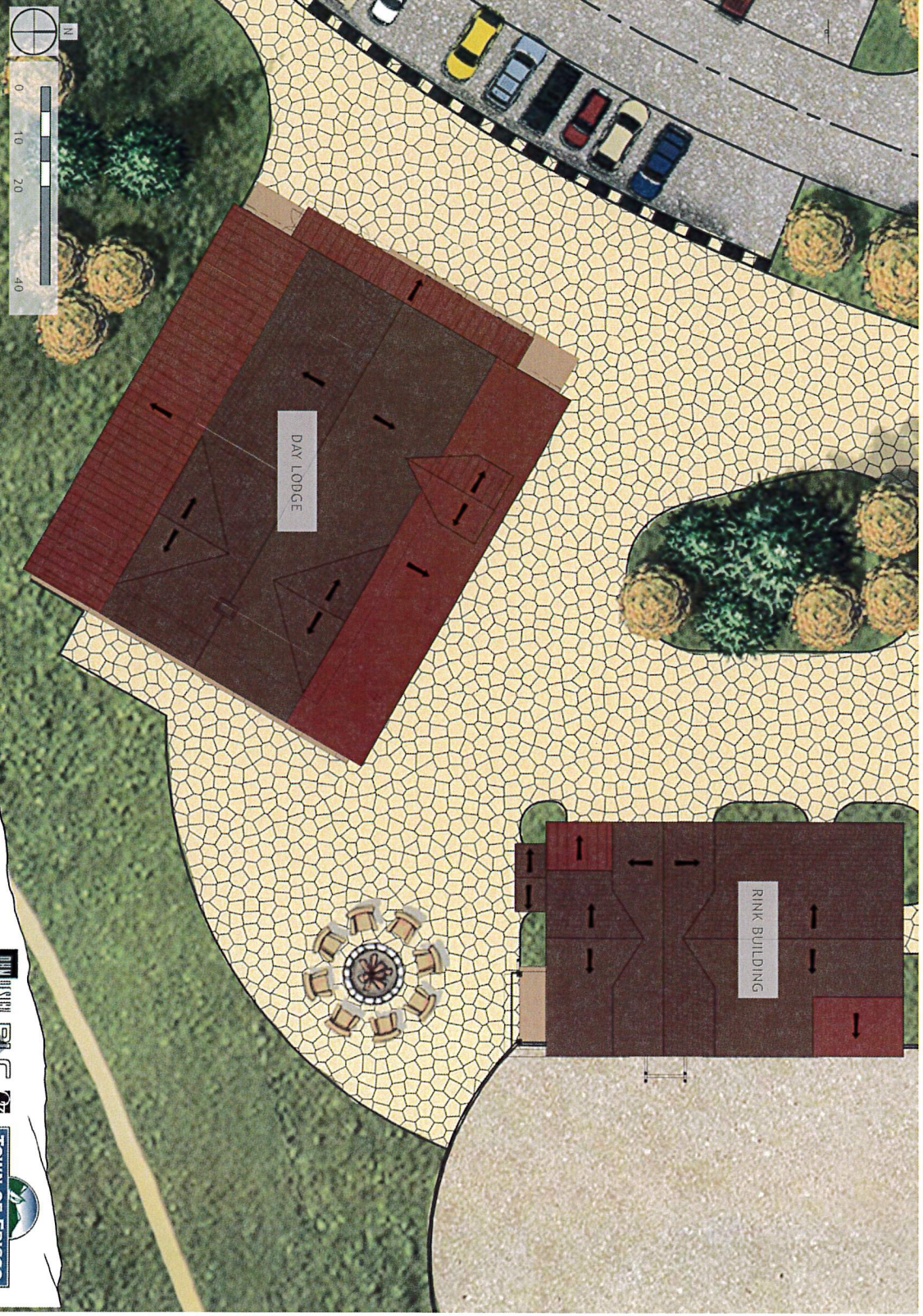


DAY LODGE & RINK BLDG. FLOOR PLANS

# FRISCO PENINSULA RECREATION AREA

SKETCH PLAN SUBMITTAL





DAY LODGE & RINK BLDG. ROOF PLANS

**FRISCO PENINSULA RECREATION AREA**

SKETCH PLAN SUBMITTAL

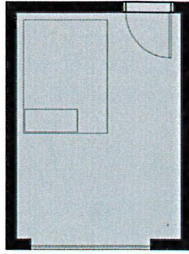


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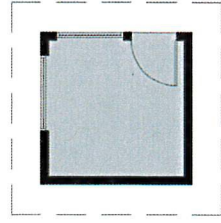
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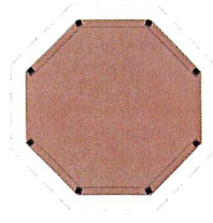
PROGRAM	
PARK OUT-BUILDINGS	
SNOWCAT BUILDING	1,835 SF
1. SNOWCAT STORAGE	1,134 SF
2. SNOWGUN STORAGE	407 SF
3. SNOWMOBILE PARKING	214 SF
4. PRIVATE OFFICE	116 SF
5. RESTROOM	96 SF
TUBE STORAGE	600 SF
LIFT SHACKS	100 SF
OVERLOOK SHELTER	150 SF
PUMPHOUSE	200 SF



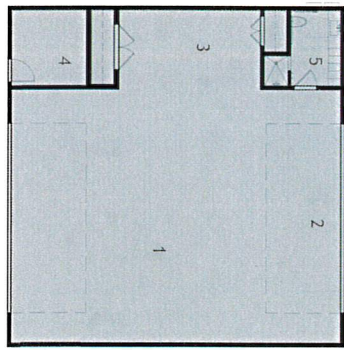
PUMP HOUSE  
GROUND FLOOR  
SCALE: 1/8"



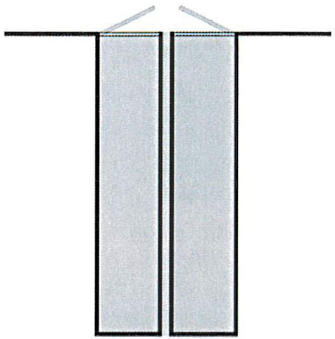
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SCALE: 1/8"



OUTLOOK SHELTER  
GROUND FLOOR  
SCALE: 1/16"



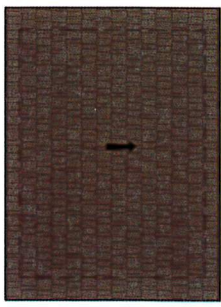
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GROUND FLOOR  
SCALE: 1/16"



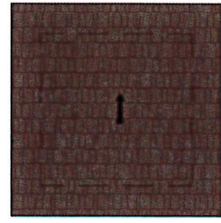
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GROUND FLOOR  
SCALE: 1/16"



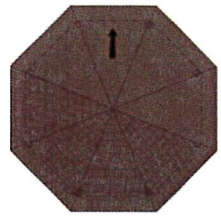




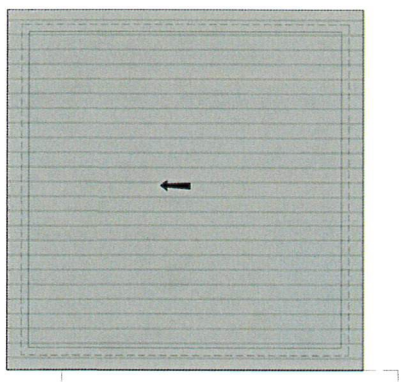
PUMP HOUSE  
ROOF PLAN  
SCALE: 1/8"



LIFT SHACK  
ROOF PLAN  
SCALE: 1/8"



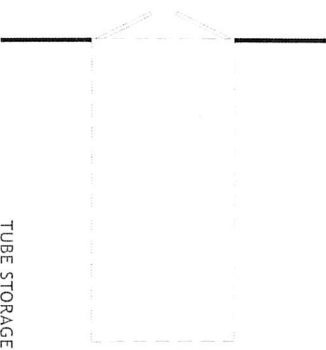
OUTLOOK SHELTER  
ROOF PLAN  
SCALE: 1/16"



SNOW CAT STORAGE  
ROOF PLAN  
SCALE: 1/16"



FUTURE EXPANSION



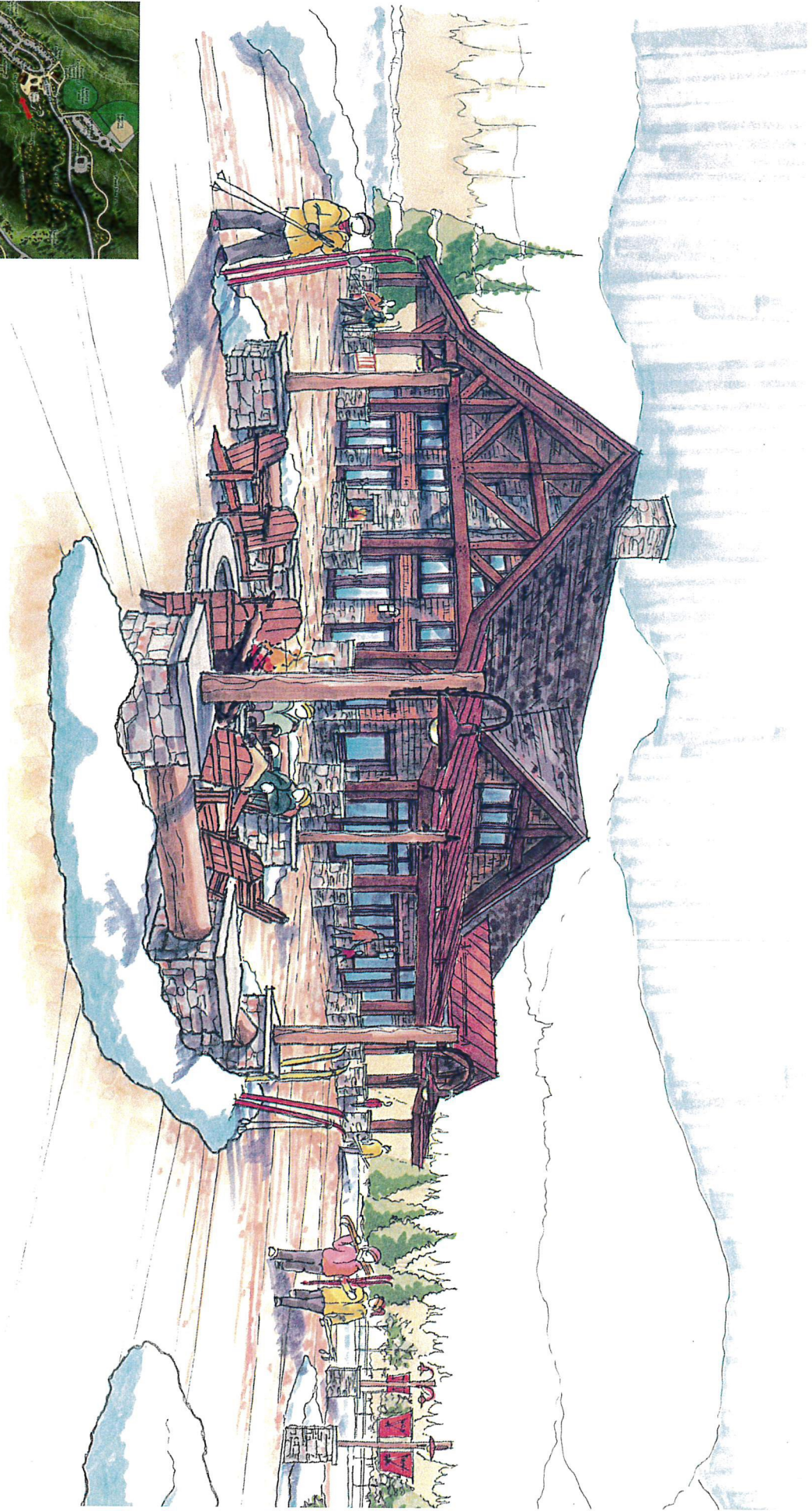
TUBE STORAGE  
ROOF PLAN  
SCALE: 1/16"



FRISCO PENINSULA RECREATION AREA







DAY LODGE RENDERING

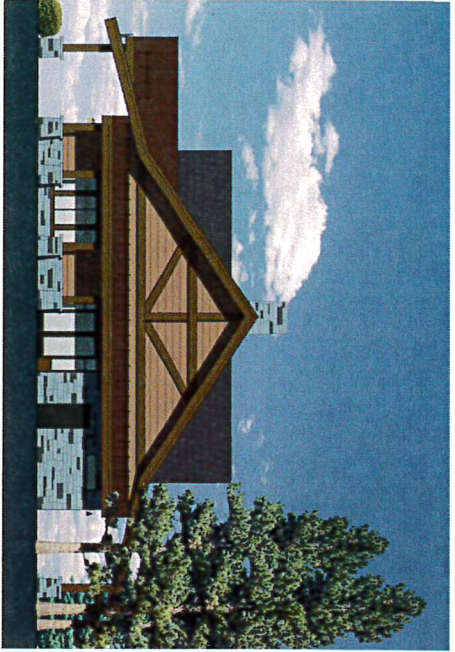
# FRISCO PENINSULA RECREATION AREA

SKETCH PLAN SUBMITTAL

11.19.09

**DMW DESIGN** **PLC** **TOWN OF FRISCO**  
COMMUNITY DEVELOPMENT





1. NORTH ELEVATION



3. EAST ELEVATION



2. SOUTH ELEVATION



4. WEST ELEVATION

SCALE : 1/16"

DAY LODGE ELEVATIONS

**FRISCO PENINSULA RECREATION AREA**

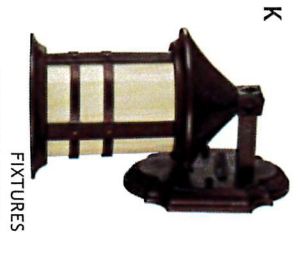
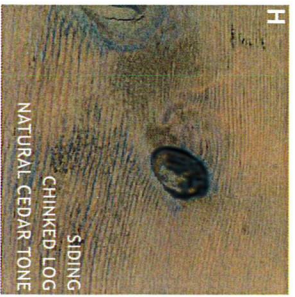
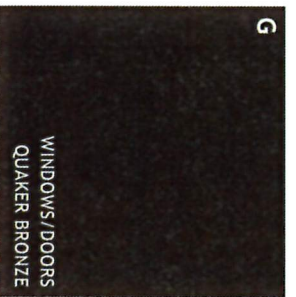
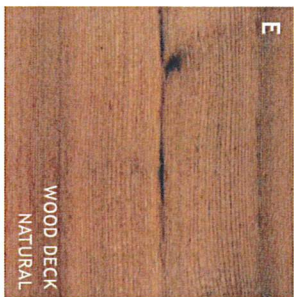
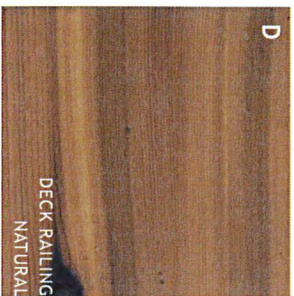
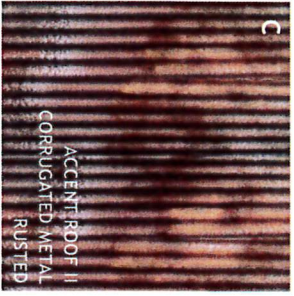
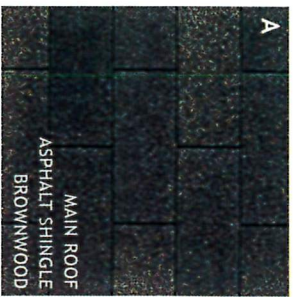
SKETCH PLAN SUBMITTAL

11.19.09

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DAY LODGE MATERIALS

FRISCO PENINSULA RECREATION AREA

SKETCH PLAN SUBMITTAL

11.19.09

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RINK BUILDING RENDERING

# FRISCO PENINSULA RECREATION AREA



SKETCH PLAN SUBMITTAL

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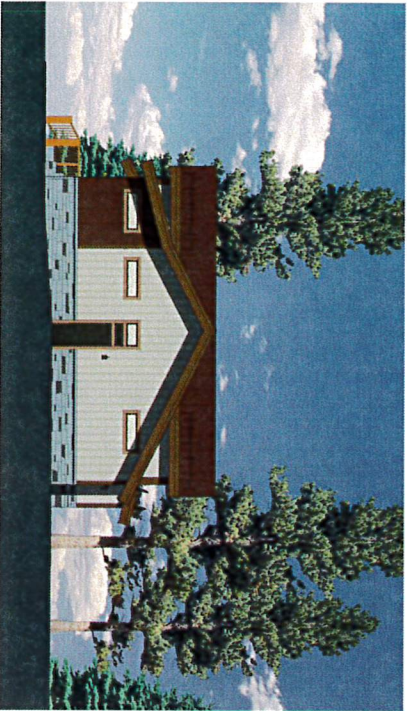




1. EAST ELEVATION



3. WEST ELEVATION



2. NORTH ELEVATION



4. SOUTH ELEVATION

SCALE : 1/16"

RINK BUILDING ELEVATIONS

**FRISCO PENINSULA RECREATION AREA**

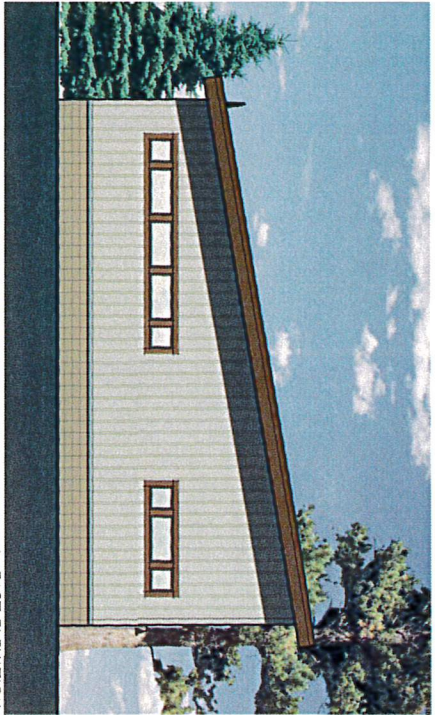
SKETCH PLAN SUBMITTAL

11.19.09

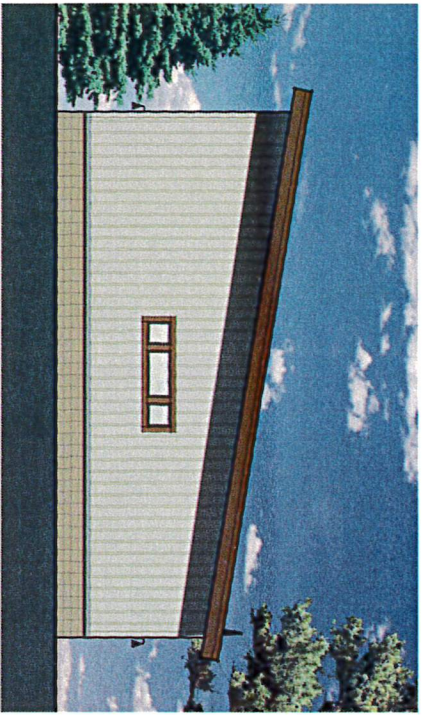
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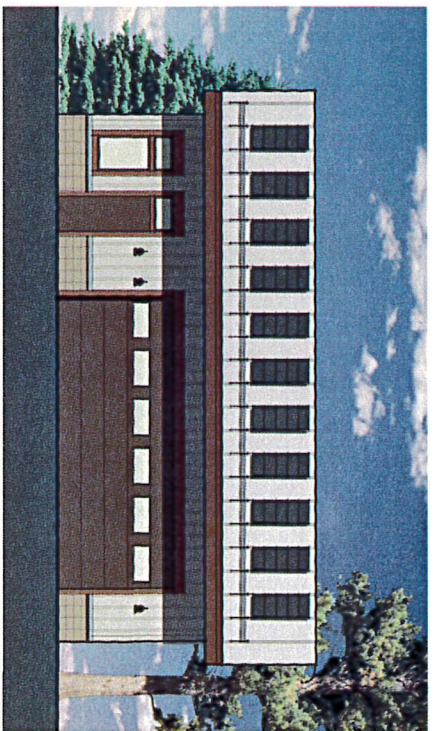




1. EAST ELEVATION



2. WEST ELEVATION



3. SOUTH ELEVATION



4. NORTH ELEVATION

SCALE : 1/16"

SNOWCAT BUILDING ELEVATIONS

**FRISCO PENINSULA RECREATION AREA**

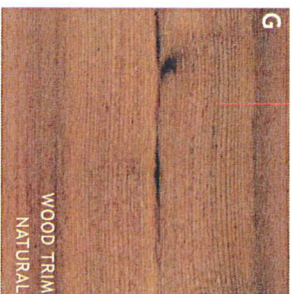
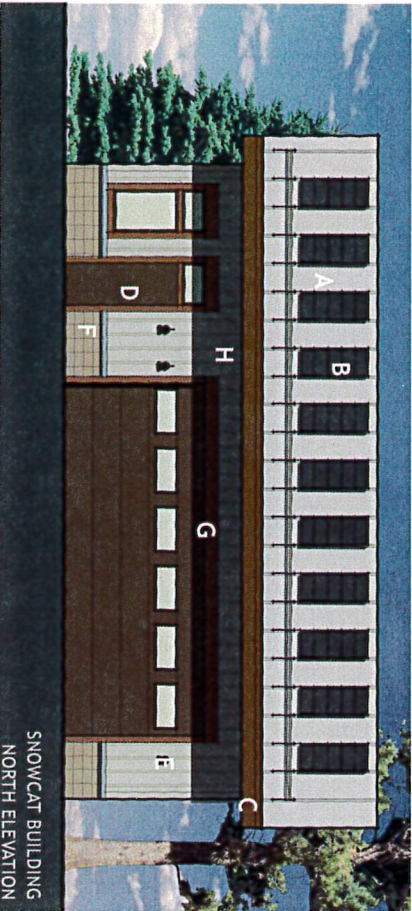
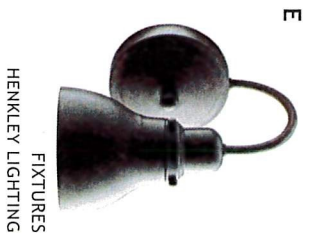
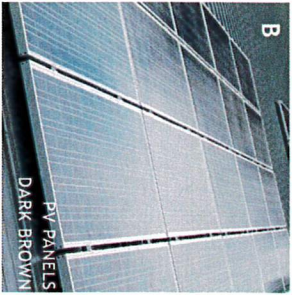
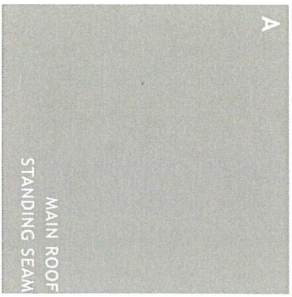
SKETCH PLAN SUBMITTAL



11.19.09

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SNOWCAT BUILDING MATERIALS

FRISCO PENINSULA RECREATION AREA

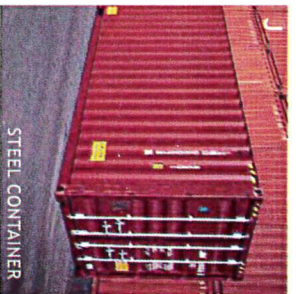
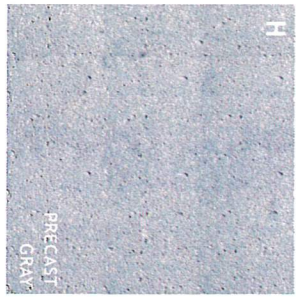
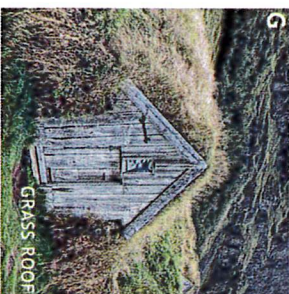
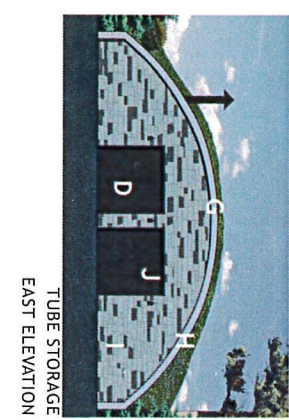
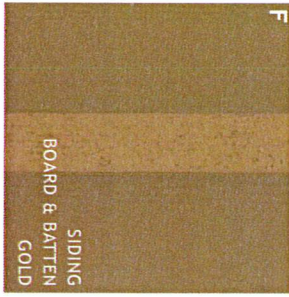
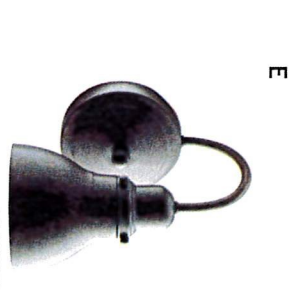
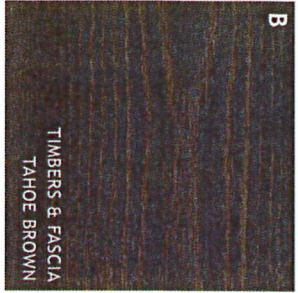
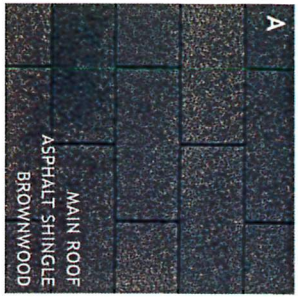
SKETCH PLAN SUBMITTAL

11.19.09

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PARK OUT-BUILDINGS MATERIALS

FRISCO PENINSULA RECREATION AREA

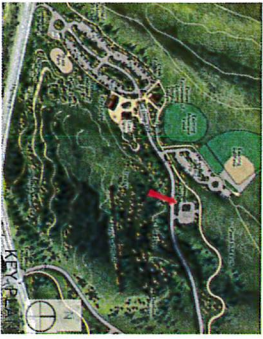
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11-19-09

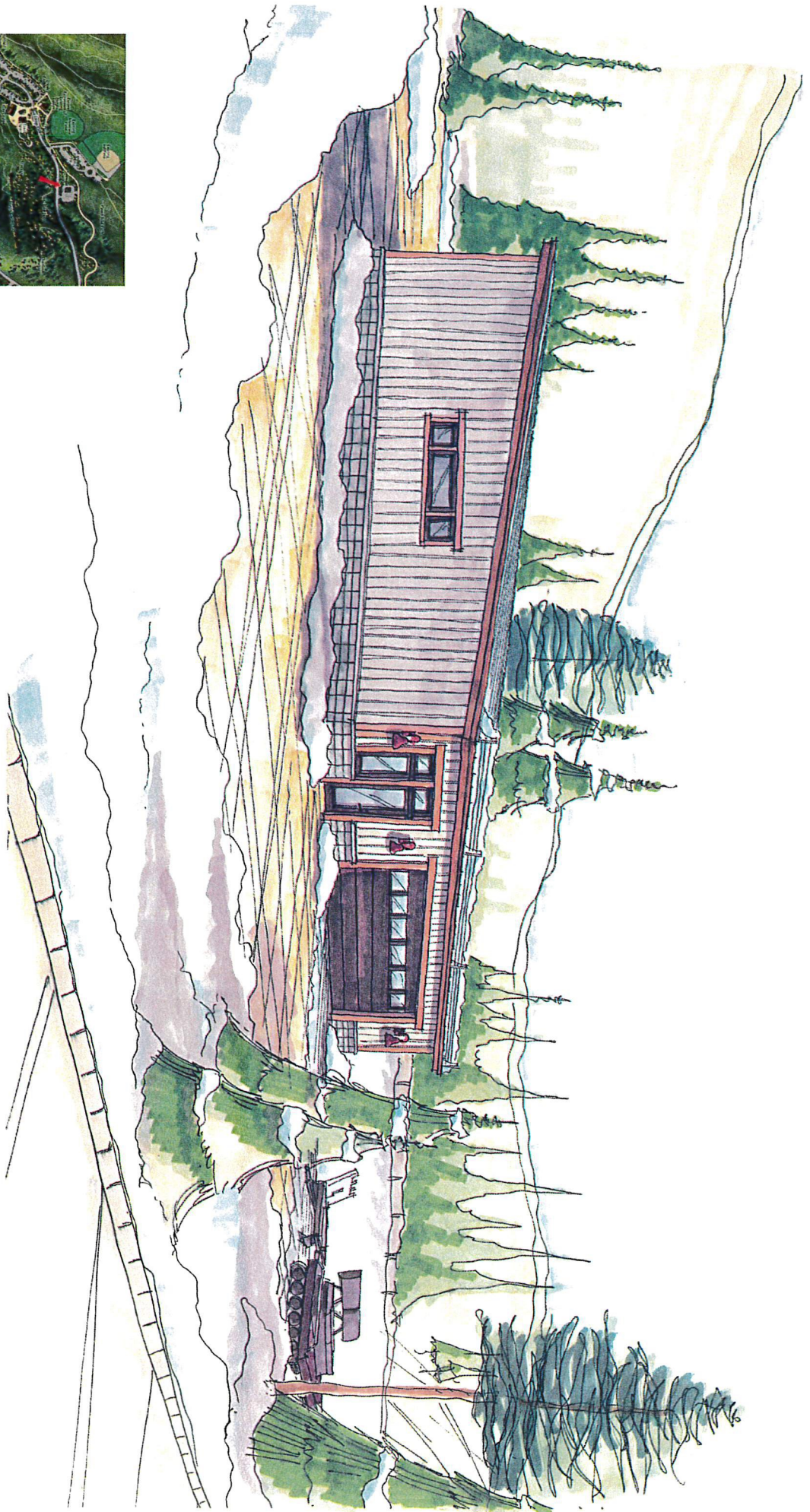
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SNOWCAT BUILDING RENDERING



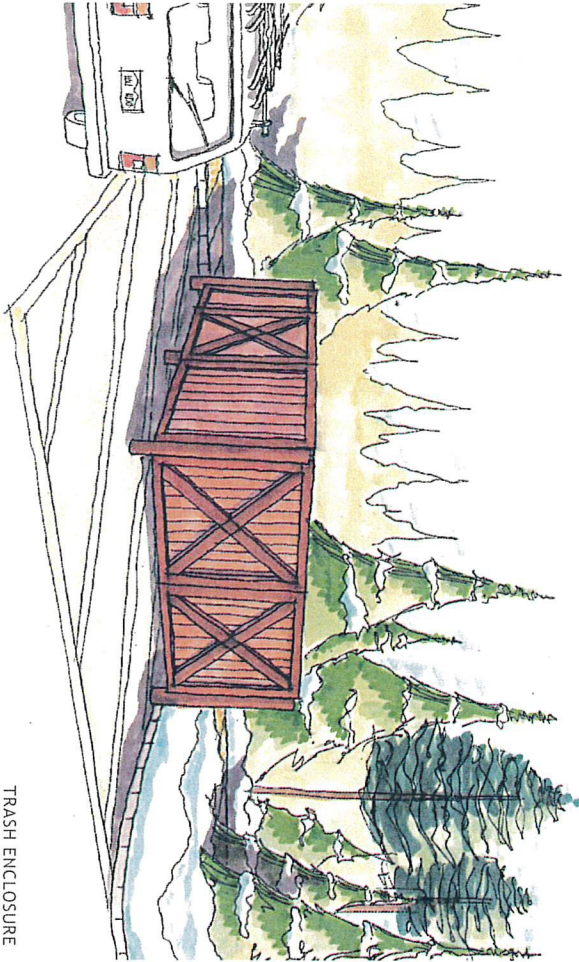
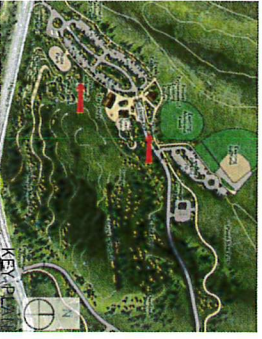
FRISCO PENINSULA RECREATION AREA

SKETCH PLAN SUBMITTAL

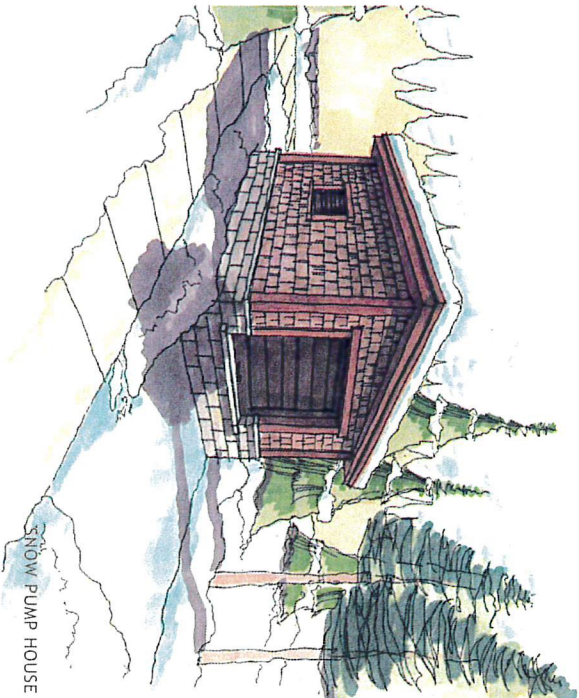


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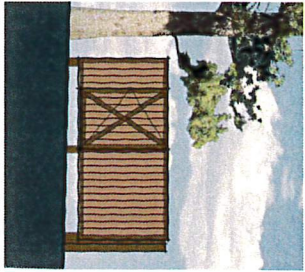
TRASH ENCLOSURE



SNOW PUMP HOUSE



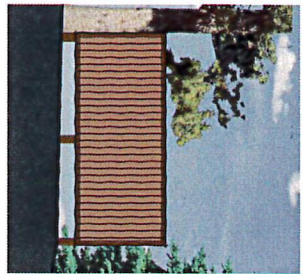




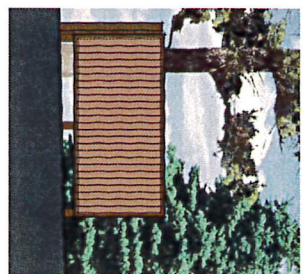
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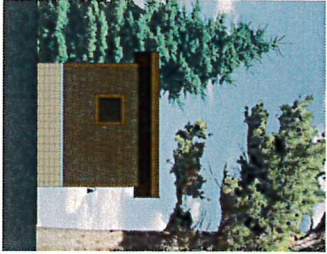
2. SOUTH ELEVATION



2. NORTH ELEVATION



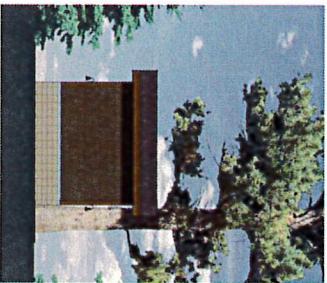
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SITE TRASH ENCLOSURE  
SCALE : 1/8"



2. NORTH ELEVATION



2. EAST ELEVATION

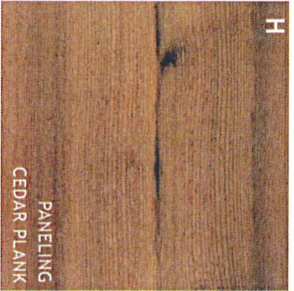
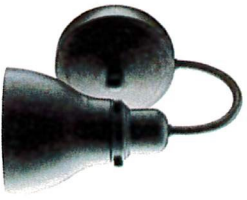
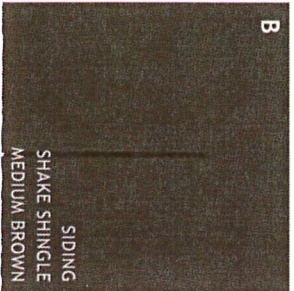
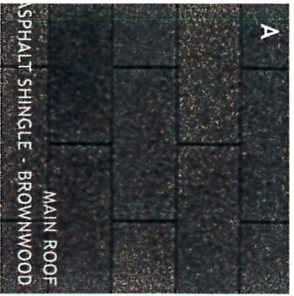


2. SOUTH ELEVATION



2. WEST ELEVATION  
PUMP HOUSE  
SCALE : 1/16"





FIXTURES  
HENKLEY LIGHTING

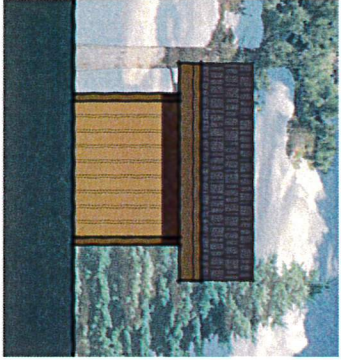
MAINTENANCE BUILDING MATERIALS

**FRISCO PENINSULA RECREATION AREA**

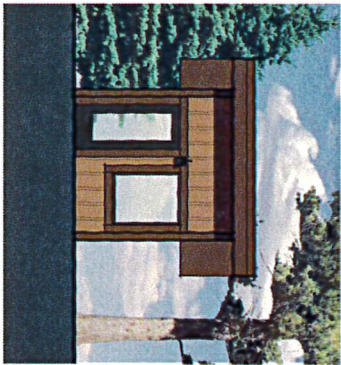
SKETCH PLAN SUBMITTAL



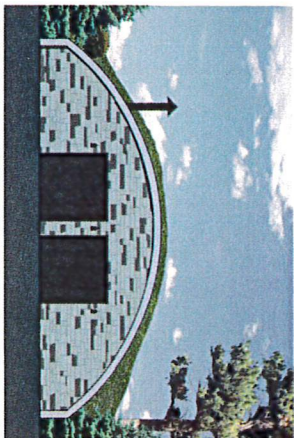




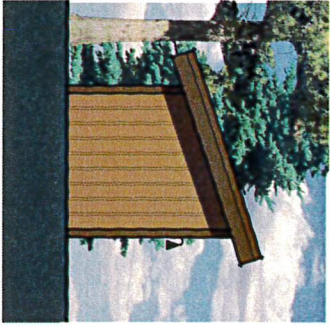
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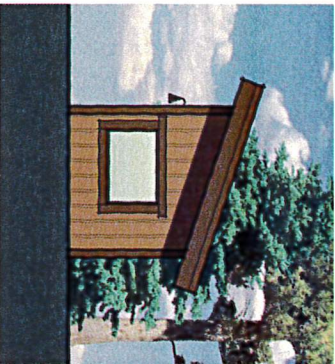
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SCALE : 1/8"



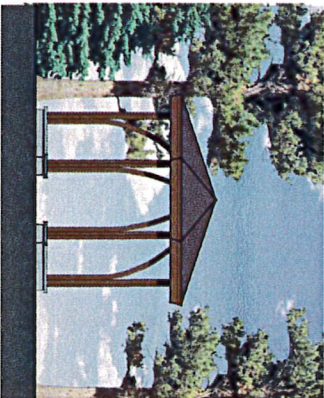
1. EAST ELEVATION  
TUBE STORAGE  
SCALE : 1/16"



2. EAST ELEVATION  
SCALE : 1/8"



2. WEST ELEVATION  
LIFT SHACK  
SCALE : 1/8"



1. EAST ELEVATION  
OVERLOOK SHELTER  
SCALE : 1/16"