

# WINTER LANDSCAPES

PREPARED BY KYLE SLIVNIK

Seasonal landscape interventions can be utilized to increase physical activity and time spent in the outdoor environment during the cold winter months.



Harbin Ice and Snow Festival  
Harbin, China

# BACKGROUND: SNOW

## FESTIVALS

Across the globe, hundreds of festivals that celebrate snow and ice can be found. From Colorado to China, these festivals use the medium of snow to create winter landscapes and ephemeral pieces of art that celebrate the regions connection to the winter season. During the festival season, thousands of citizens and tourists come together to experience snow in a very different way than most are used to.

## DUAL USE LANDSCAPES

Recreational spaces that lend themselves to multiple uses throughout the seasons of the year create a more recreationally successful place. Being able to draw people into a resort or city throughout the year creates larger economic incomes. By providing more options during these times helps make the area as a whole more of a destination location rather than a place to visit for a day.

## TERRAIN PARKS

Some cities have began incorporating winter activities such as snowboarding and cross country skiing into their parks. Riverside Park in St. Cloud transforms its summer disc golf course into a sledding hill, terrain park, and a 2 kilometer cross country ski trail during the Minnesota winter. The Forks in Winnipeg, Manitoba retrofits their summertime skate park into a wintertime terrain park for skiers and snowboarders. This helps draw visitors to the area, especially during their annual winter festival held in the area.

Winnipeg, Canada  
41st Annual Festival du Voyageur



Winnipeg population (2006): 694,668  
Median Age: 38.7  
Visitors Annually: 75,000+  
<http://www12.statcan.ca/english/census06/data/popdwel/Table.cfm?T=303&SR=1&S=3&O=D&RPP=25&CMA=602>  
<http://festivalvoyageur.mb.ca/wp/about-us/fesival-du-voyageur-inc/history/>

Breckenridge, Colorado  
20th Annual Snow Sculpture  
Championships



Breckenridge Population (2008): 2,408  
Median Age: 29.4  
<http://profiles.nationalrelocation.com/Colorado/Breckenridge/>

Harbin, China  
26th Annual Ice Festival



Harbin Population (2005): 2,735,100  
Median Age: 34.1  
<http://www.china-briefing.com/article/northeast-china-harbin-551.html>  
[http://www.boston.com/bigpicture/2010/01/harbin\\_ice\\_and\\_snow\\_sculpture.html](http://www.boston.com/bigpicture/2010/01/harbin_ice_and_snow_sculpture.html)



Hiking and running trails in the summer time are utilized for snowmobiling and cross country ski trails.



Detroit Lakes, Minnesota is a city that utilizes the surrounding lakes to attract summer time recreationalists as well as people looking for exceptional ice fishing in the winter.



Ski resorts such as Big Sky, Montana uses its landscape to attract visitors year round. The resort hosts a variety of different summer time activities from mountain biking to zip lining and disc golf. The combination of the seasonal opportunities makes this resort one of the most popular destinations in Montana.



Transformations from summer to winter isn't limited to public entities. In Marseilles, Illinois, a terrain park has grown from a privately owned All Terrain Vehicle course. The park is owned and operated by an avid snowboarder looking to provide quality terrain elements for riders in the surrounding area.

[www.540central.com](http://www.540central.com)



A few of the terrain features located at Riverside Park in St. Cloud, Minnesota

# BACKGROUND: HEALTH

# DEMOGRAPHICS

# SITE LOCATION

According to National Ski & Snowboard Retailers Association, 4% of the population skies or snowboards at least once per calendar year. This means the Fargo-Moorhead area has approximately 3,920 people who ski/snowboard. Not everyone who skies or snowboards utilize what terrain parks offer. Gregg Janecky, director of Montana's Backwoods Project, states that approximately 80% of equipment is designed for use in terrain parks. Given that, 3,136 riders have the potential to ride freestyle terrain in the Fargo-Moorhead area.

<http://www.nsaa.org/nsaa/press/industryStats.asp>  
<http://www.thebackwoodsproject.com/2010/01/ride-montana-offical-press-release.html>

The site is located between the Burlington Northern Railroad track and the Red River of the North. Vehicular traffic accesses the area via 2nd Street. Pedestrian traffic can access the area via recreational path from the west and north. The site is considered part of Wildflower Grove Park, which is owned by the City of Fargo. The 5 acre site is used exclusively as a snow dump in the winter, with a recreational trail that runs along the northern side of the property.

Size: ~5 Acres  
 Average Site Slope: 7.13%

Buildings: None  
 Lighting: Pedestrian Trail Lights

Summer Use: N/A  
 Winter Use: Snow Dump  
 Storage Capacity: 2,311CuYd

Area: 67,406ft<sup>2</sup>  
 Volume: 62,413ft<sup>3</sup>  
 ~2,730 Dump Trucks



SOUTH PANORAMA

## SEASONAL AFFECTIVE DISORDER

Seasonal Affective Disorder, SAD, is a form of depression that affects about 6% of the population. Symptoms appear at the onset of winter and subsides with the coming of spring. Hormone production is affected by the exposure to daylight. This in turn, can cause hormone levels to fluctuate, causing lethargy and change in mood.

Current treatment for symptoms of SAD include talk therapy, medication, exercise, photo therapy and light exposure. It is highly recommended to exercise outside, as two forms of treatment can take place at once.

<<http://www.webmd.com/depression/recognizing-depression-symptoms/serotonin>>

## SICK BUILDING SYNDROME

Sick building syndrome, or SBS, describes situations that appear to link time spent inside a building and health or comfort effects that cannot be identified. Symptoms normally dissipate when occupants leave the building.

Symptoms of SBS appear to increase with winter-like conditions. People tend to be less active and stay indoors more often during the winter, raising their exposure to bacteria and SBS, while decreased activity in turn will decrease the bodies ability to fight off illness

<http://www.epa.gov/iaq/pubs/sbs.html>  
[http://sportsmedicine.about.com/od/injuryprevention/a/Ex\\_Immunity.htm](http://sportsmedicine.about.com/od/injuryprevention/a/Ex_Immunity.htm)

## WINTER EXERCISE

Studies have shown that 30% of people do not exercise in the winter because cold temperatures are a deterrent. Those who exercise at a moderate level have been found to have 20-30% less colds than those who didn't exercise.

Experts suggest to dress in layers and protect your extremities to prevent hypothermia and frostbite. Drinking fluids is also important. Many people fail to realize that they can sweat just as much in the cold as when they are warm.

Windchill factors into fast moving activities such as skiing, cycling, and skating. These activities can create sub-zero wind chills even when the weather is near ten degrees.

<http://www.afpafitness.com/articles/articles-and-newletters/research-articles-index/exercise-program-design/winter-exercise-tips-to-help-you-stay-fit/>  
<http://www.mayoclinic.com/health/fitness/HQ01681>

## POPULATION BREAKDOWN

City of Fargo Population = 90,599  
 Under Age 18 - 21.1% (19,116 People)  
 Age 18 - 24 - 19.2% (17,395 People)  
 Age 25 - 44 - 31.1% (28,176 People)  
 Age 45 - 64 - 18.5% (16,761 People)  
 Age 65+ - 10.1% (9,151 People)

Median Household Income = \$35,510  
 Median Family Income = \$50,486  
 Per Capita Income = \$21,101

<http://factfinder.census.gov>

## POPULATION BREAKDOWN

City of West Fargo Population = 14,940  
 Under Age 18 - 29.2% (4,363 People)  
 Age 18 - 24 - 8.9% (1,330 People)  
 Age 25 - 44 - 34.0% (5,080 People)  
 Age 45 - 64 - 21.2% (3,167 People)  
 Age 65+ - 6.7% (1,001 People)

Median Household Income = \$44,542  
 Median Family Income = \$51,765

<http://factfinder.census.gov>

## POPULATION BREAKDOWN

City of Moorhead Population = 32,177  
 Under Age 18 - 22.7% (7,304 People)  
 Age 18 - 24 - 23.1% (7,433 People)  
 Age 25 - 44 - 24.2% (7,787 People)  
 Age 45 - 64 - 17.2% (5,534 People)  
 Age 65+ - 12.8% (4,119 People)

Median Household Income = \$34,781  
 Median Family Income = \$49,118

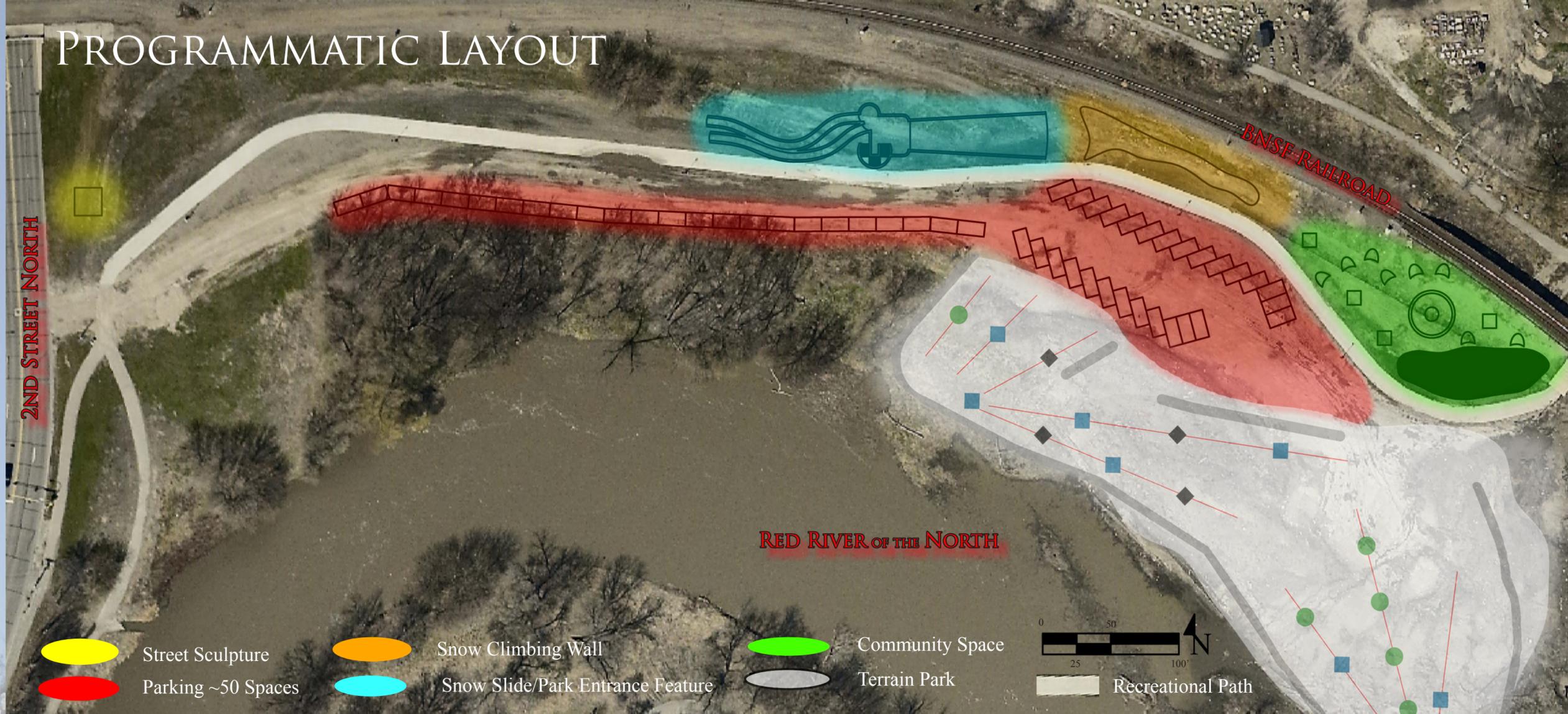
<http://factfinder.census.gov>

Under Age 18 - 30,783; Between 18-24: 26,158; Between 25-44: 41,043 = Total 97,984

Developing winter time programming beyond what is currently available has many possibilities. The development of an outdoor winter park in the Fargo-Moorhead area has the potential to affect thousands of people in many ways:

- \*Increase outdoor winter activity
  - \*Increased fitness and overall health
  - \*Provide a new activity in the area
- \*Decrease exposure to SBS conditions
  - \*Increased health
  - \*Increased productivity
- \*Increased exposure to sunlight
  - \*Replicates photo therapy and light exposure, two treatments for seasonal affective disorder
- \*Utilize more of the parks system throughout the year.

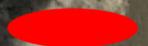
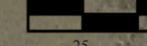
# PROGRAMMATIC LAYOUT

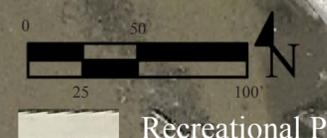


2ND STREET NORTH

BNSF RAILROAD

RED RIVER OF THE NORTH

-  Street Sculpture
-  Parking ~50 Spaces
-  Snow Climbing Wall
-  Snow Slide/Park Entrance Feature
-  Community Space
-  Terrain Park
-  Recreational Path



# CONTEXT

City parks in Fargo go largely unused in the winter. With the exception of sledding and sheets of ice, there is very little outdoor activity to choose from. By developing a winter park, the community is given a new opportunity to interact within the Fargo-Moorhead area. The terrain park creates an opportunity for activity unlike any other within 75 miles of Fargo, allowing citizens and their money to stay within the area.



# ENTRY SCULPTURE FROM THE NORTH



Located near 2nd street north and the park entrance, the entry sculpture catches the eye of commuters both northbound as well as southbound. The railroad bridge further frames the sculpture as drivers approach the underpass. The sculpture is both eye catching and representative of activity within the park.

# ENTRY SCULPTURE



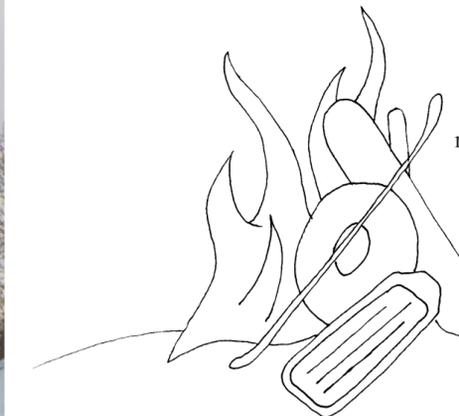
The entry sculpture reveals activity within the park. Situated in close proximity to the park entrance, the sculpture invites people to stop and explore the area.

# PARK ENTRANCE

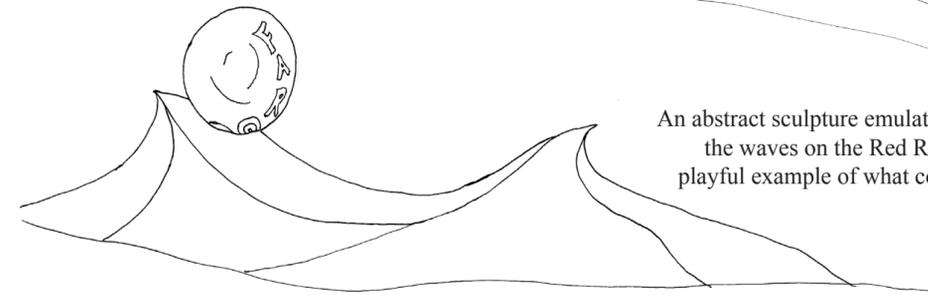


The entrance to the park will be created through the use of snow. This interactive element is meant to draw curious viewers into the park and explore what it has to offer. Both pedestrian and vehicular traffic have the ability to view the piece from a very similar viewpoint.

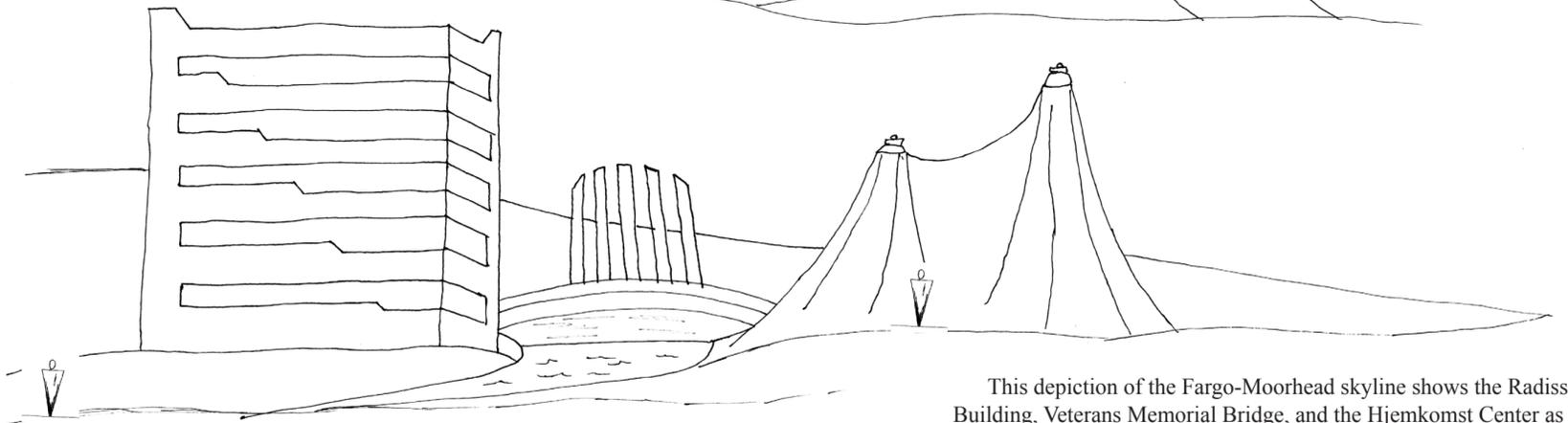
# FUTURE SNOW SCULPTURE EXAMPLES



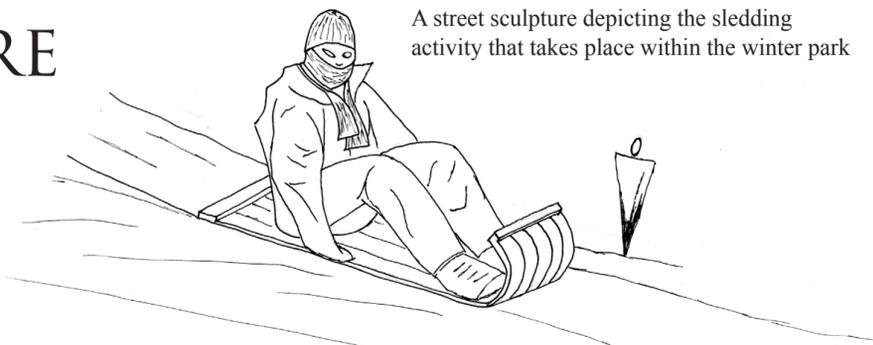
This street sculpture shows all the activities taking place within the park: sledding, tubing, skiing, and snowboarding. These activities are surrounded by the community fire, reinforcing the identity that this park creates for the community



An abstract sculpture emulating the waves on the Red River. A playful example of what could be seen near the street



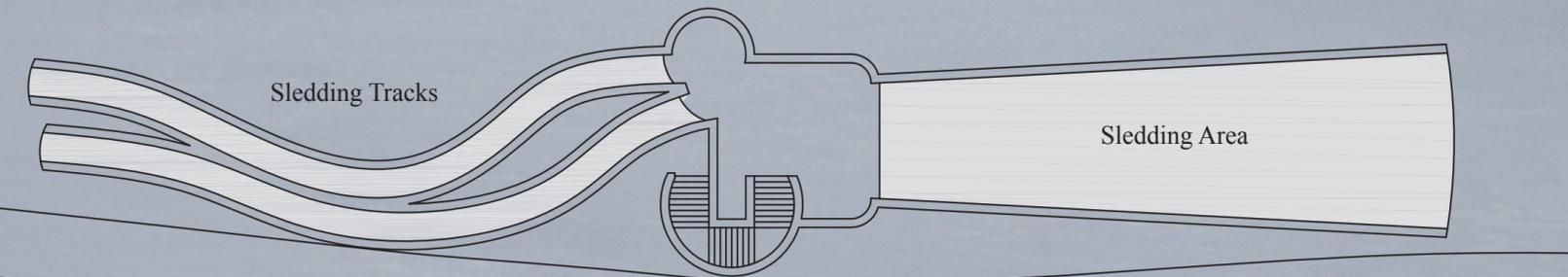
This depiction of the Fargo-Moorhead skyline shows the Radisson Building, Veterans Memorial Bridge, and the Hjemkomst Center as the fascade of the sledding hill/park entrance feature.



A street sculpture depicting the sledding activity that takes place within the winter park

# PARK ENTRANCE / SLEDDING FEATURE

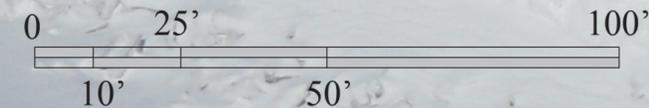
The areas in grey indicate sledding surfaces. The central structure creates a gathering area at the top of the sledding area, giving an elevated view to the rest of the site, as well as to downtown Fargo and the Hjemkomst Center in Moorhead.



Norwegian Styled Castle

Sledding Tracks

Sledding Area



The park entrance, shown as a Norwegian Castle, invites users to the park, while doubling as an interactive sledding feature with two sled tracks and a wider sledding area to offer variety to users. Throughout the years, the park entrance will change to another themed snow scene, while maintaining the interactive dual use.

# COMMUNITY SPACE



Overlooking the community space, the view from the top of the terrain park is a truly unique vantage point from within the park.

# THOSE INVOLVED

## City of Fargo - Parks & Recreation

*Fargo Parks and Recreation provides residents with recreational opportunities with the goal of improving the quality of life for the citizens of Fargo.*

Primary role: Coordination of construction, installation, maintenance, and advertising

Secondary role: Partial funding for construction and installation

## City of Fargo - Streets Department

*The Streets Department regularly does maintenance on city streets, as well as snow removal, and right-of-way maintenance.*

Primary role: Hauling snow, rough grading, deliver and remove features

## D-SK8

### THIS Skate & Snow Discontent

*Local Skate and Snow Shops*

## Paramount Sports

*Specialize in bicycles and snow gear*

## Scheels

*All-Sports Store*

Primary Role: Majority of Funding (Sponsorship)

Secondary Role: Advertising



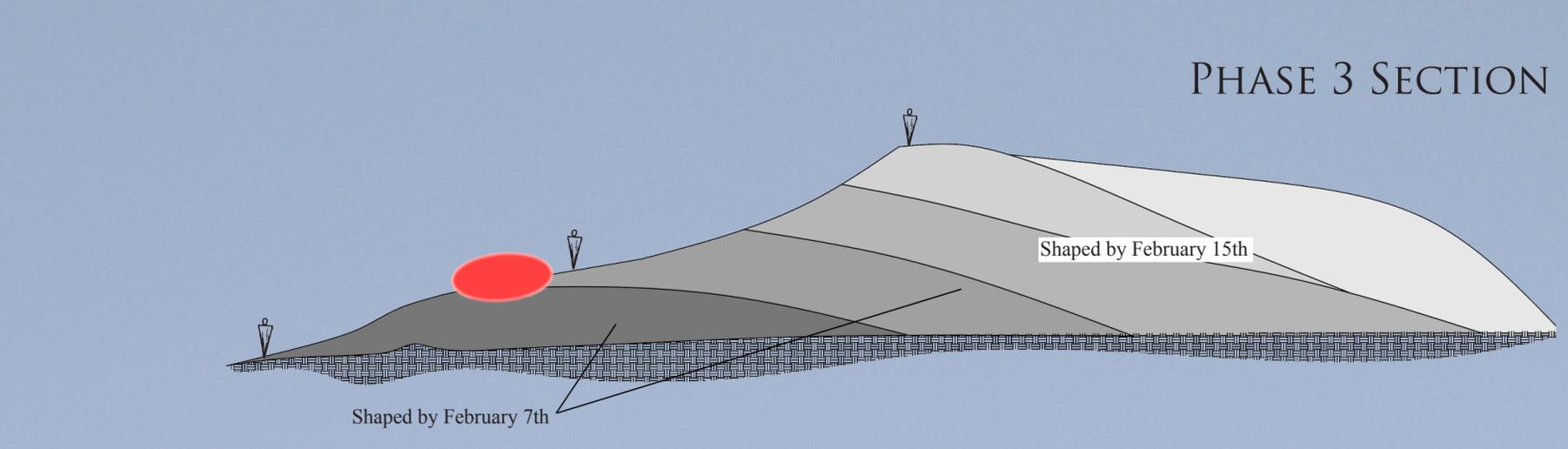
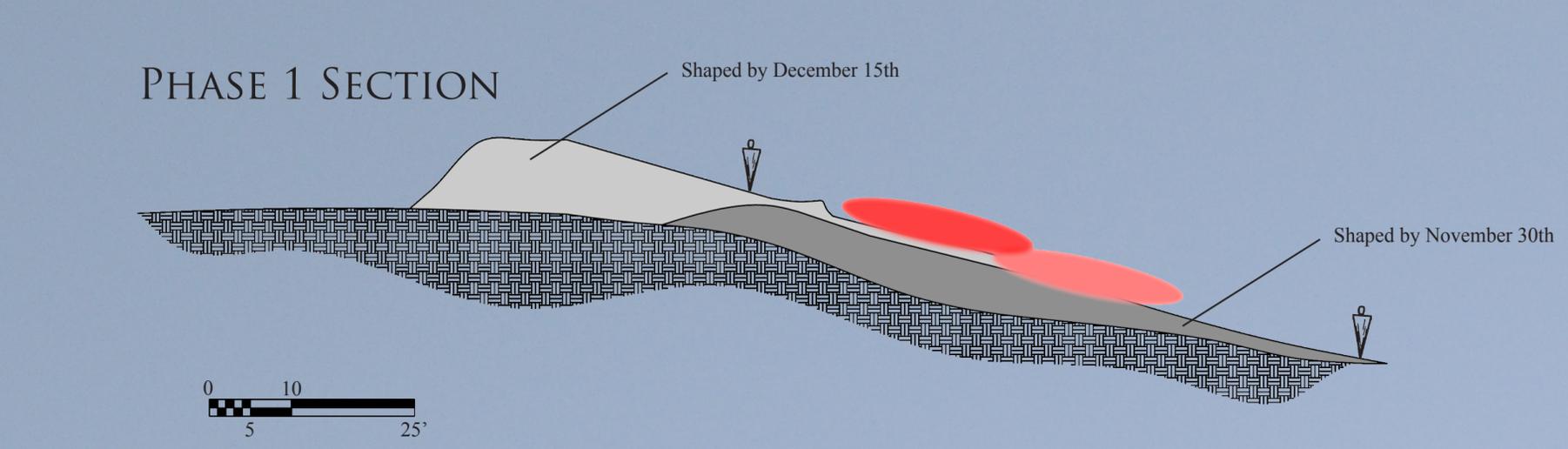


### SNOW TOTALS BY PHASE

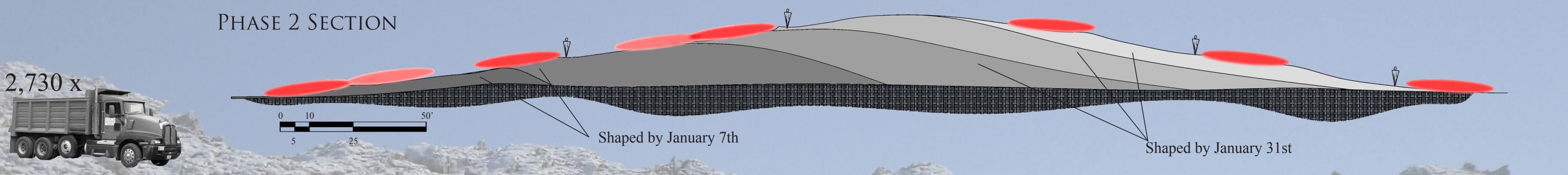
Phase 1 - 86,112 ft<sup>3</sup>  
 Phase 2 - 654,930 ft<sup>3</sup>  
 Phase 3 - 714,523 ft<sup>3</sup>  
 Phase 4 - 125,520 ft<sup>3</sup>  
 Phase 5 (Excess Snow)  
 15' Depth - 245,880 ft<sup>3</sup>  
 20' Depth - 327,840 ft<sup>3</sup>  
 25' Depth - 409,800 ft<sup>3</sup>

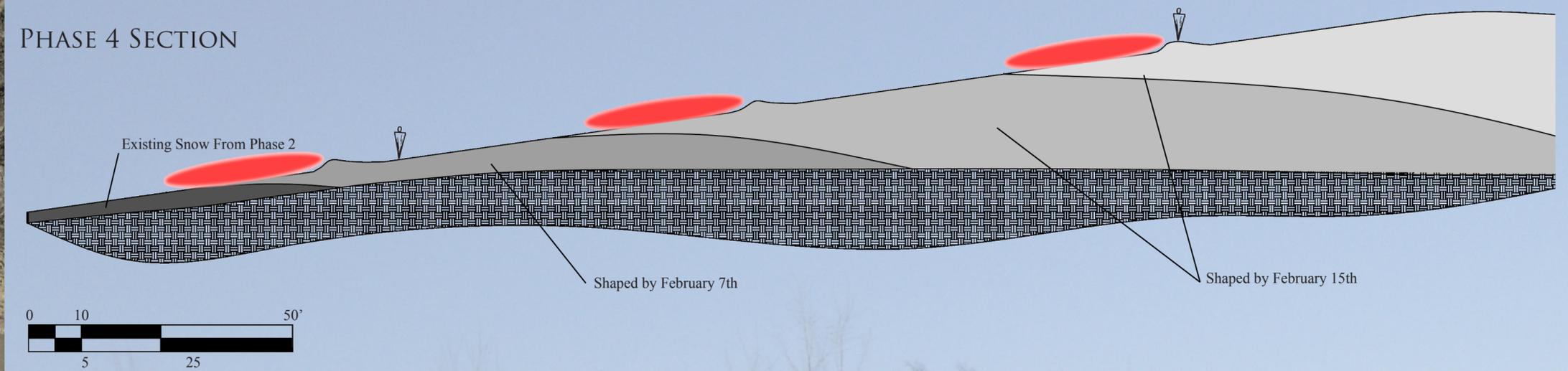
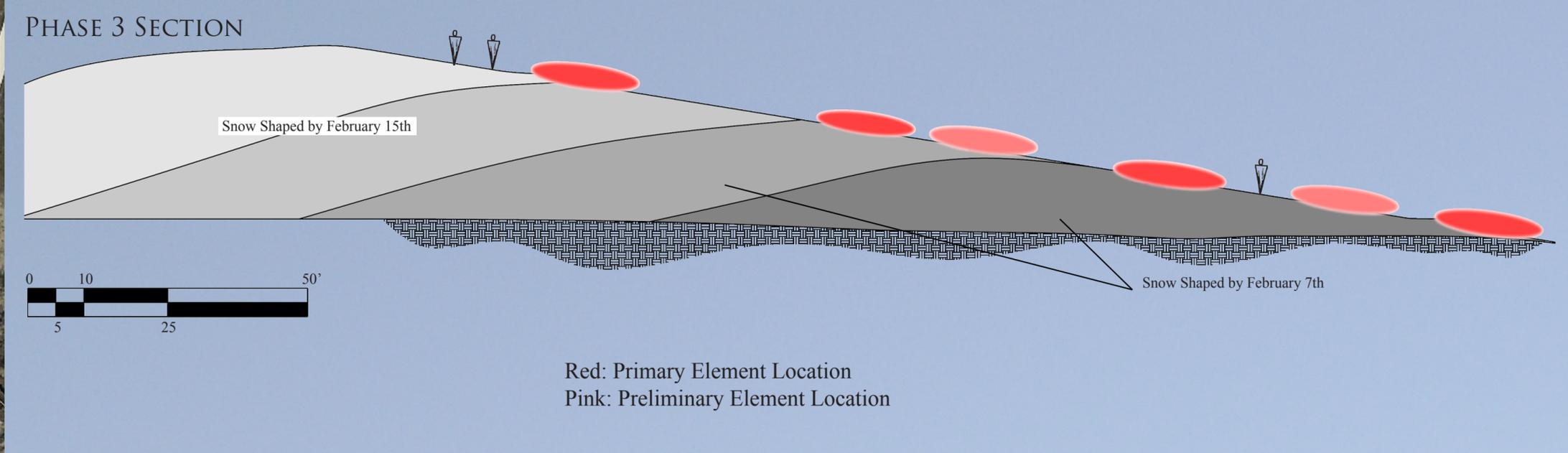
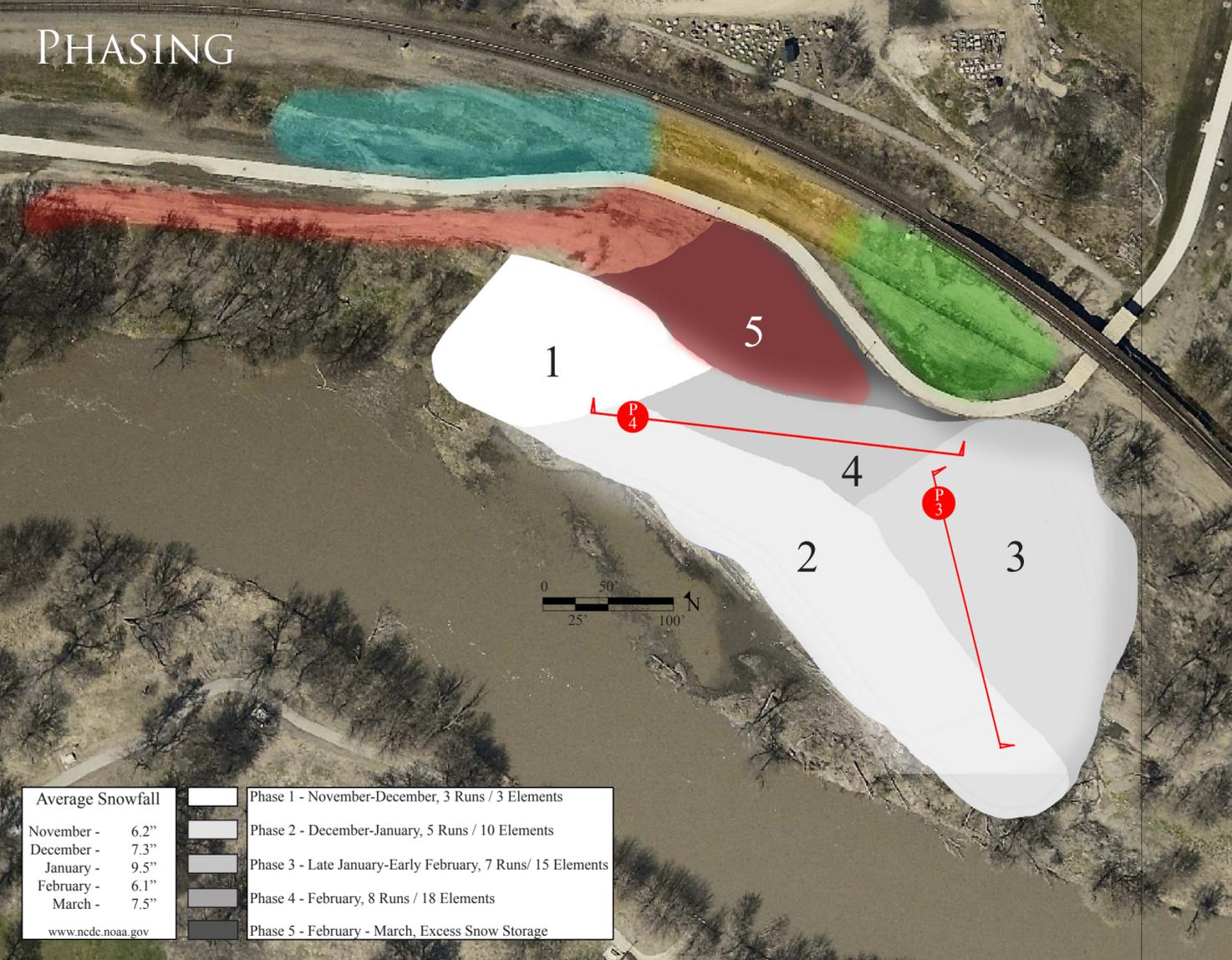
### CUMULATIVE TOTALS

Phase 1 - 86,112 ft<sup>3</sup>  
 Phase 2 - 741,042 ft<sup>3</sup>  
 Phase 3 - 1,455,565 ft<sup>3</sup>  
 Phase 4 - 1,581,085 ft<sup>3</sup>  
 Phase 5 @ 15' - 1,826,965 ft<sup>3</sup>  
 Phase 5 @ 20' - 1,908,925 ft<sup>3</sup>  
 Phase 5 @ 25' - 1,990,885 ft<sup>3</sup>



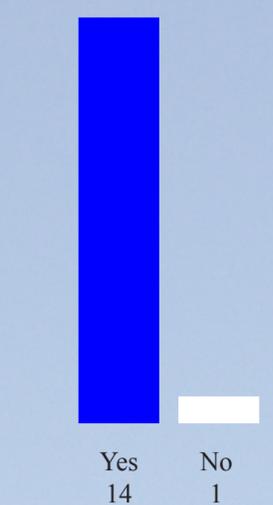
Red: Primary Element Location  
 Pink: Preliminary Element Location



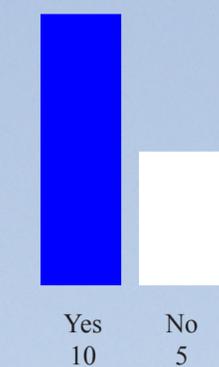


When surveying a sample of 15 riders, 11 snowboarders and 4 skiers, whether they would actively participate in an urban terrain park, they were asked a series of questions. These are the subsequent results:

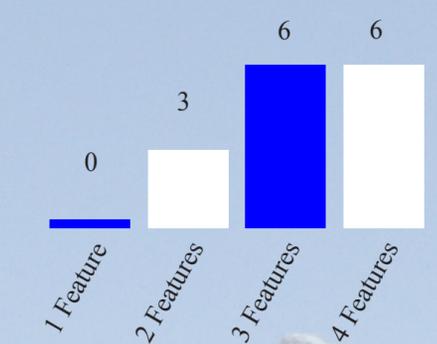
Would you participate in an urban terrain park?

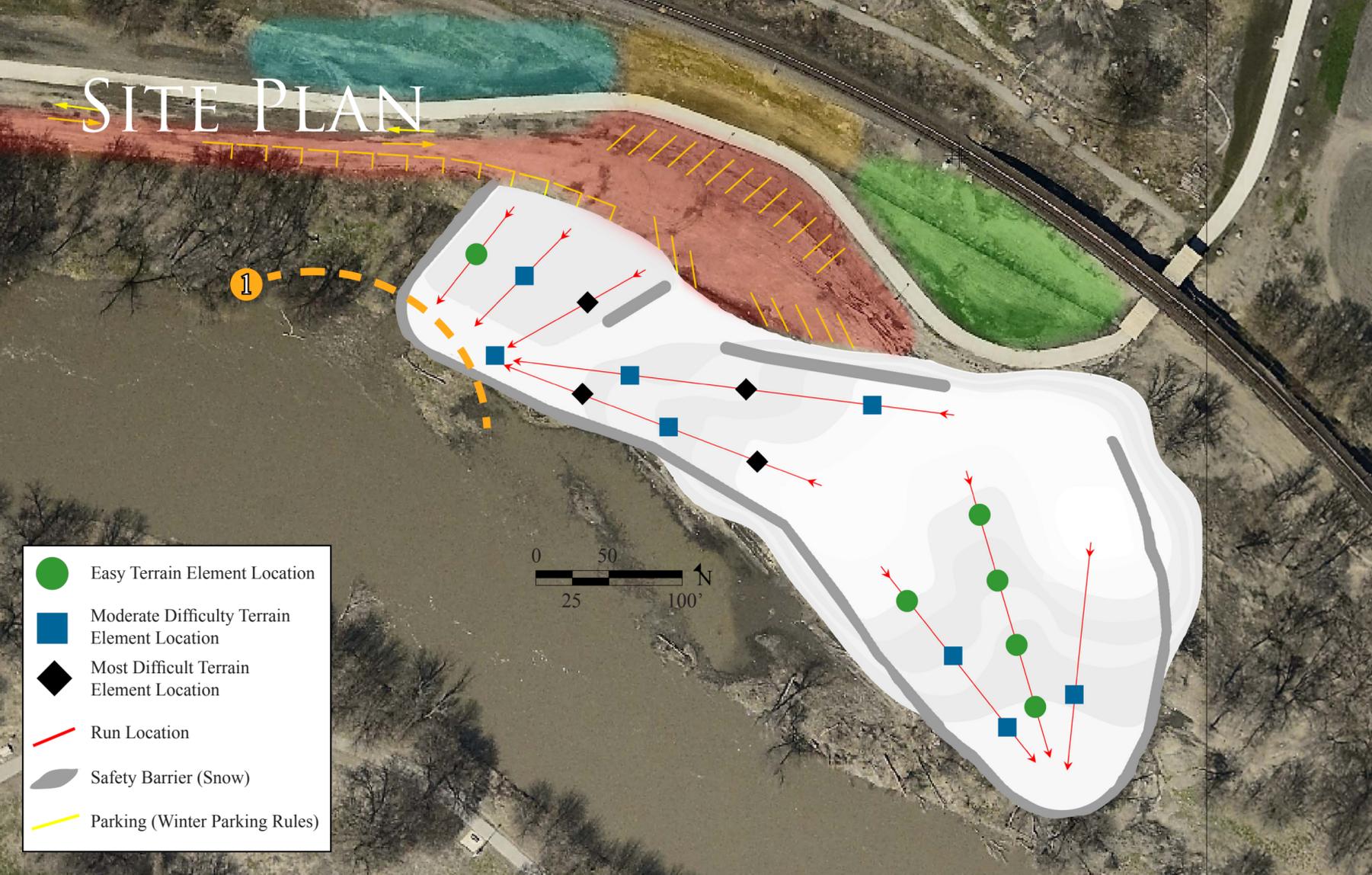


Would you pay a small fee, up to \$5, to use the park if there were no lifts?



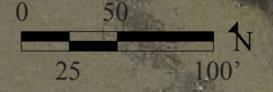
If you had to walk 300 feet, how many terrain features would you like to see per run?





# SITE PLAN

- Easy Terrain Element Location
- Moderate Difficulty Terrain Element Location
- ◆ Most Difficult Terrain Element Location
- Run Location
- Safety Barrier (Snow)
- - - Parking (Winter Parking Rules)



## EASIEST

Easy terrain features are characteristically low to the ground, wide, and with little angle. These elements have approach ramps flush with the beginning of the feature for ease of access.



A low, flat box. Minimal risk involved



A rail with the approach ramp flush to slightly above the beginning of the rail

## MORE DIFFICULT

More difficult features may contain kinks, or a change in direction. They may also be at moderate (15-25 degree) angles. These features may not have approach ramps flush with the feature.



A kinked box with a flush approach. The two boxes create a 30° feature



A straight rail without a flush approach and 30° of snow clearance make this rail a moderately difficult feature

## MOST DIFFICULT

Elements considered most difficult are those with multiple kinks and curves. Rarely will these elements have a flush approach. Rails are typically round instead of box steel.



An "S" curve box creates variable angles and pitches for a rider to compensate for



A double kinked rail without a flush approach creates a higher risk element while remaining low to the snow

# 1. VIEW LOOKING NORTHEAST

\*\*Elements on runs will be changed bimonthly or monthly, while a single feature at the bottom will remain permanently through the season with access from multiple runs



PHASE 1

PHASE 4

PHASE 2



# VIEW TO HJEMKOMST CENTER

Situated next to the Red River, the park has great views to the Hjemkomst Center as well as the river. Separated by a rough snow wall barrier, users are protected from falling off course and into the river or trees.



# VIEW TO MAIN STREET

A view looking across the Red River towards 4th avenue north and downtown Fargo. This run would likely become available during February, the later half of the season.

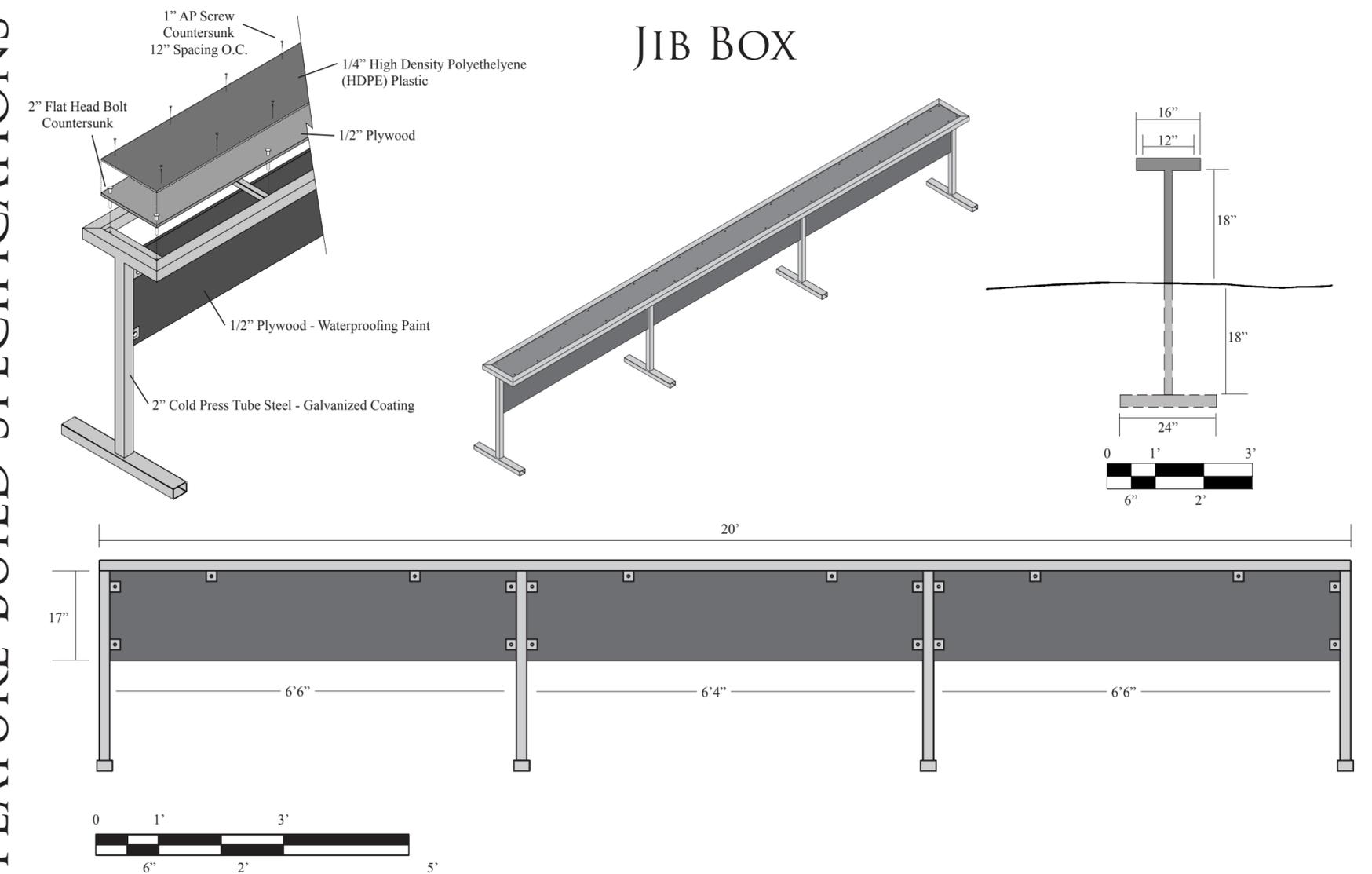


# A VIEW TO THE ENTRANCE

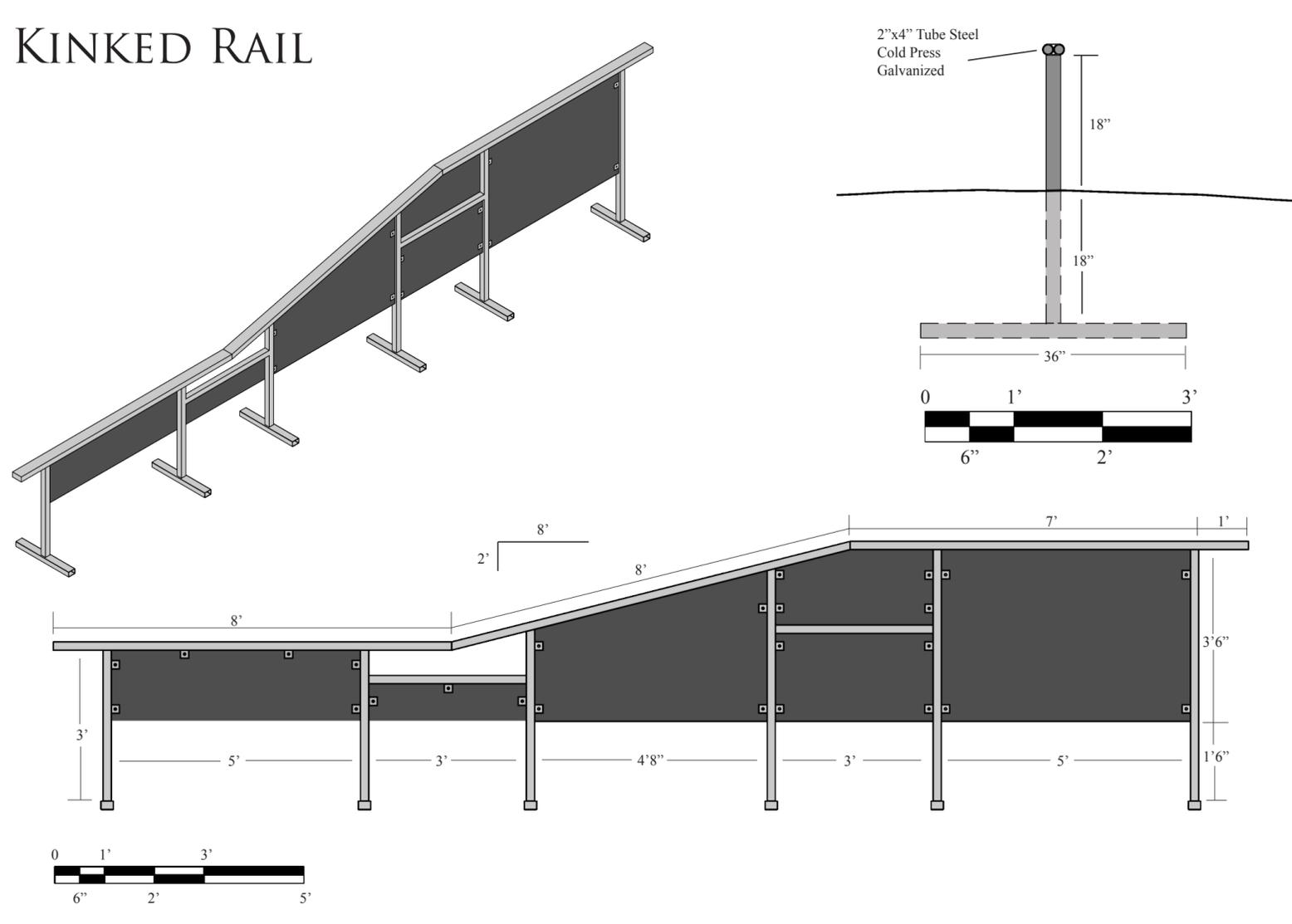
Utilizing the recreational trail, the site can use snow sculptures to draw visitors as well as create a unique entrance to the site.



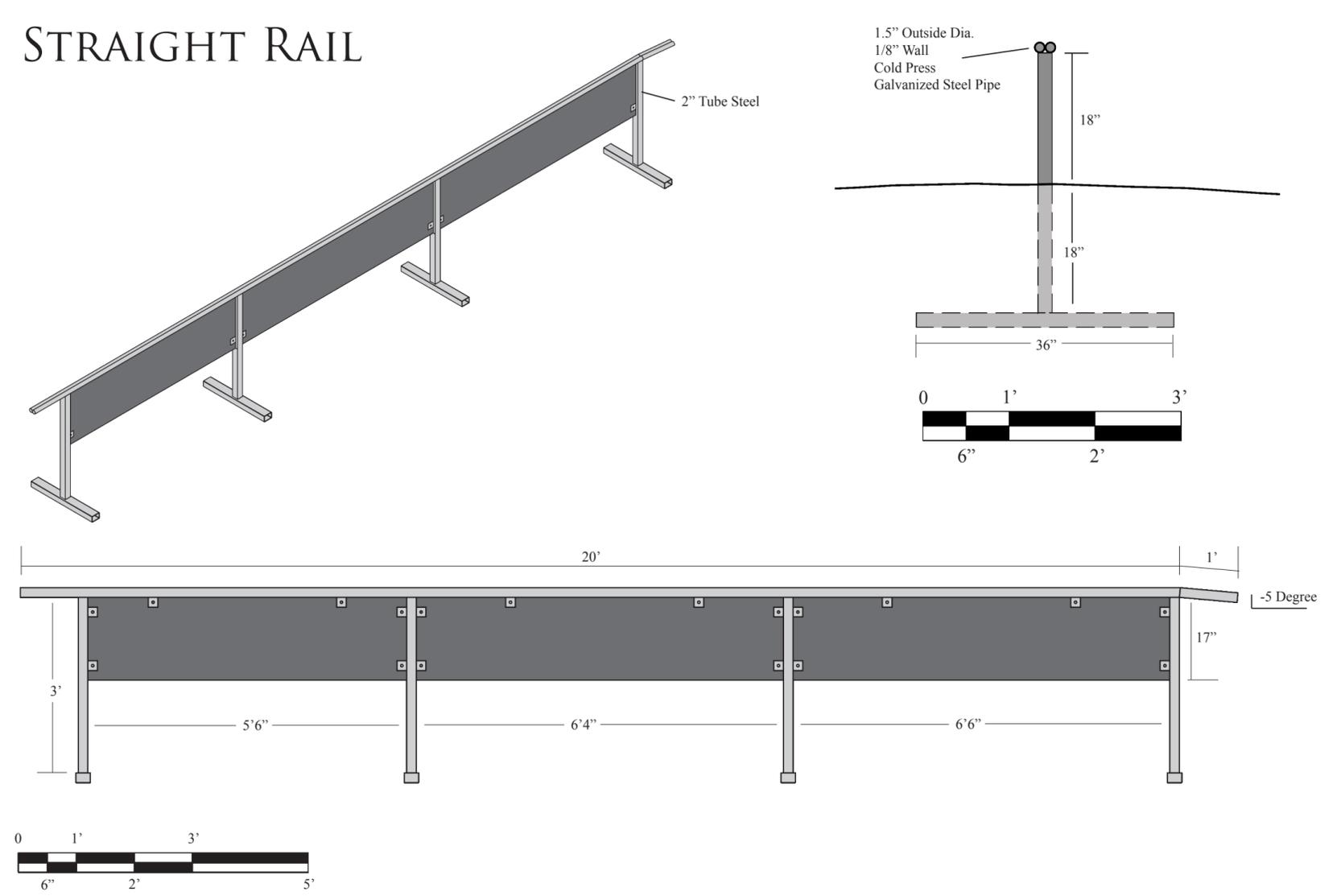
### JIB BOX



### KINKED RAIL



### STRAIGHT RAIL





The first fall of snow is not only an event, it is a magical event. You go to bed in one kind of a world and wake up in another quite different, and if this is not enchantment then where is it to be found?  
~J.B. Priestley

When I no longer thrill to the first snow of the season, I'll know I'm growing old.  
~Lady Bird Johnson

# QUESTIONS?

I played as much golf as I could in North Dakota, but summer up there is pretty short. It usually falls on Tuesday.  
~Mike Morley

The color of springtime is in the flowers, the color of winter is in the imagination.  
~Terri Guillemets

