



DRAFT QUARRY PARK | Mini Master Plan

City of Duluth | DRAFT February 11, 2016



Project Team

- **Lisa Luokkala, City of Duluth, Project Coordinator**
- **Jim Shoberg, City of Duluth, Project Coordinator**
- **Jeff Goetzman, TKDA, PE, Project Manager**
- **Jon Loye, TKDA, BA Architecture, Lead Designer**
- **Rich Gray, TKDA, LA, Design Consultant**
- **Hansi Johnson, Minnesota Land Trust**
- **Jeff Engel & Carter Stritch, Ice Climbing Consultants**

Meeting Agenda

- **Stakeholder List**
- **Project Timeline**
- **St. Louis River Corridor Initiative**
- **History of Quarry**
- **Regional & Site Context**
- **Existing Conditions**
- **Proposed Amenities**
- **Proposed Layout**
- **Recommendations**
- **Ice Climbing & Disc Golf**
- **Phasing and Cost Estimates**
- **Discussion & Open House**
- **Adjourn**

Stakeholder List

- Neighborhood residents
- Minnesota Land Trust
- UMD Outdoor Program
- Duluth Climbers Coalition
- River Corridor Coalition
- Positive Energy Outdoors
- St. Scholastica Outdoor Program
- Duluth Disc Golf Club
- Woodland Hills
- Valley Youth Center
- Vertical Endeavors
- COGGS
- Epicurean/Loll
- Visit Duluth
- West Duluth Business Group

Timeline

- City Staff kick-off meeting 12/4/2015
 - Engineering, Business Development, Parks, Maintenance & Operations, Property & Facilities Management were represented.
- Stakeholder meeting #1 12/16/2015
- Public meeting #1 1/14/2016
- Stakeholder meeting #2 1/26/2016
- Ice climbing committee 2/2/2016
- Public meeting #2 2/11/2016
- Public comment period 2/21-3/6/2016
- Parks and Recreation Committee approval 3/9/2016



Small group discussion at Stakeholder meeting #1

QUARRY PARK AMENITY SURVEY	
AMENITY/DESCRIPTION	
PICNIC TABLES -	7
GARBAGE CANS -	20
RESTROOMS W/ SCREENING	✓
PAVILION (MONEY)	30
ICE CLIMBING -	15
MOUNTAIN BIKE TRAILS	5
BIRD VIEWING AREA	4
MOUNTAIN BIKE PARK	✓
HIKING TRAILS -	11
PICNIC AREA	2
ACCESSIBLE WALKING PATHS	1
FRISBEE GOLF AREA	✓
GEOLOGY STUDY AREA	✓
VIEWING PLATFORM	✓
ADDITIONAL IDEAS	
CARTELS	2
SIGNAGE & BOUNDARIES - ONEOTA	✓
TRAILER SIGN	✓
POTABLE WATER	9
W/ SUMMER GROUND POWDERING	✓
MISC. CONCRET VEHICLE	✓

Partial list of Amenities from Public Meeting #1

St. Louis River Corridor Initiative

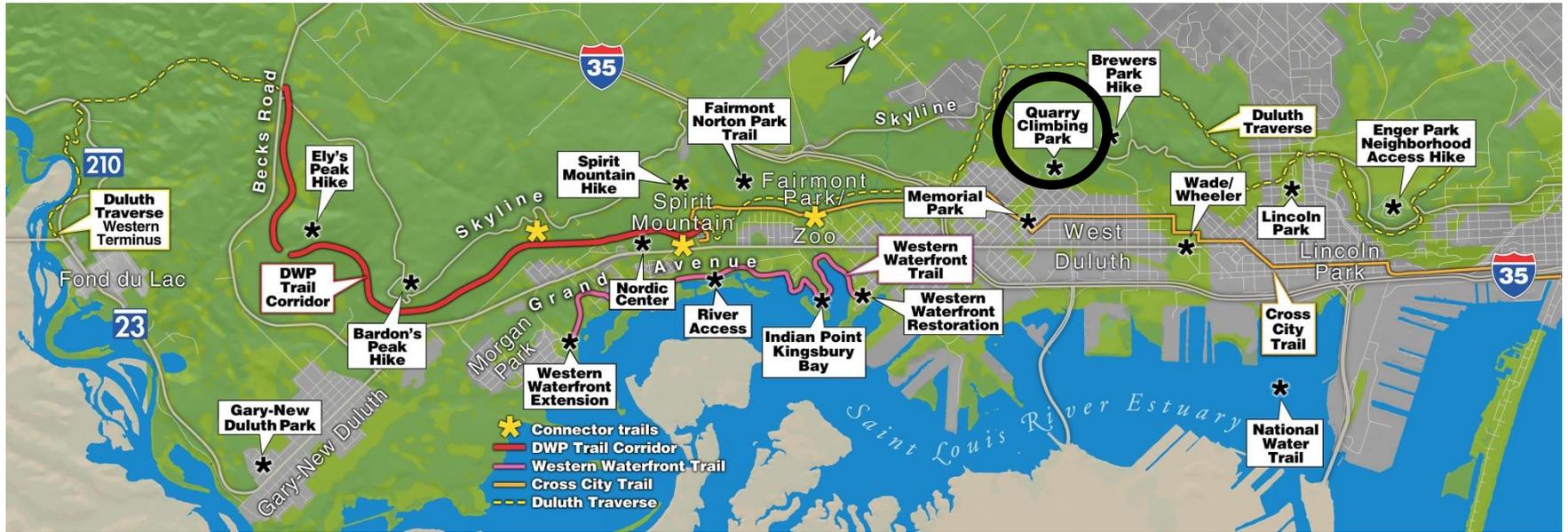
- Hansi Johnson, MN Land Trust



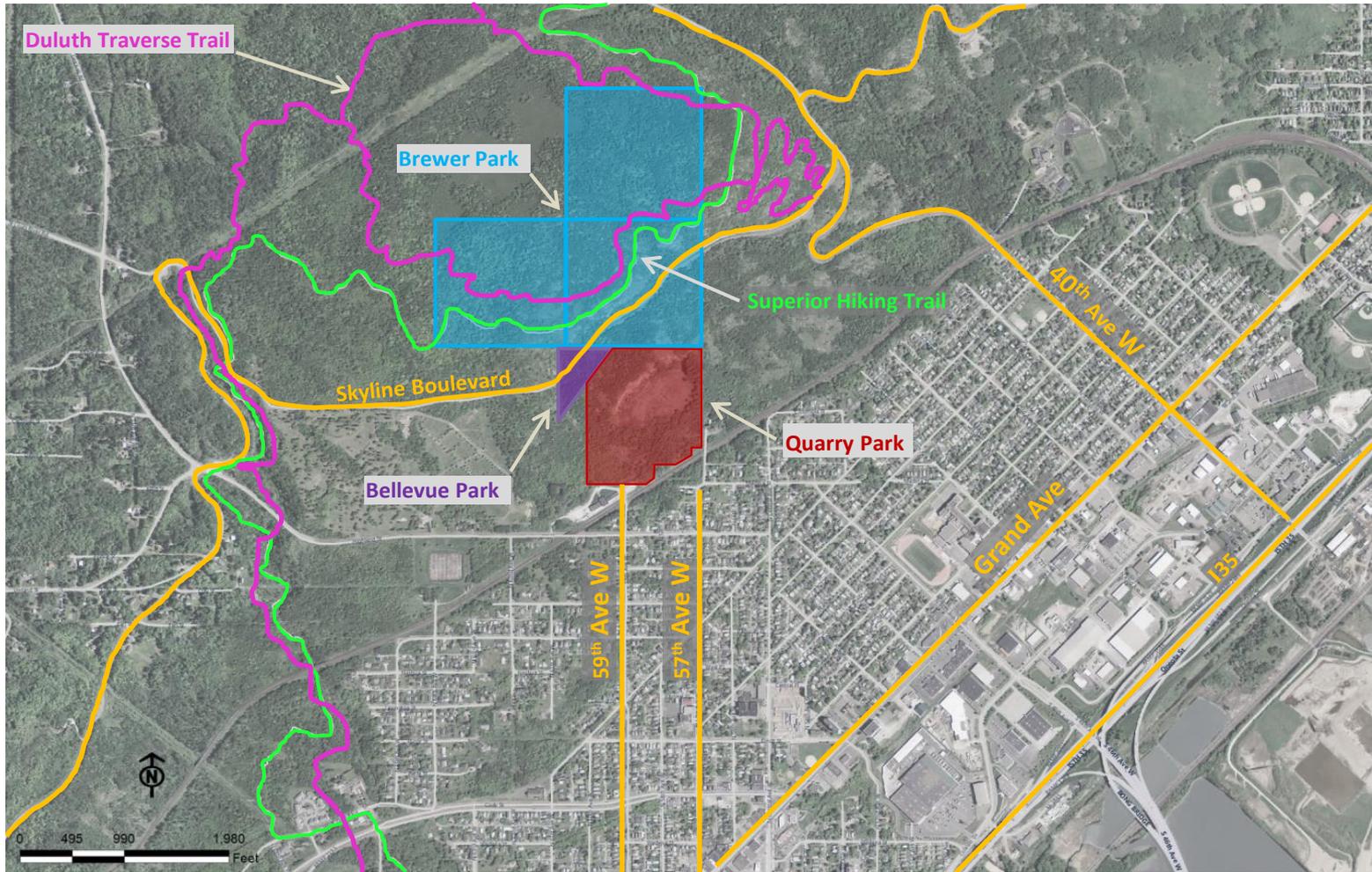
History/Background

- The Quarry started out in 1902 and was called the Duluth Crushed Stone Quarry. Production stopped in the late 1950's.
- Quarry has been a location loved by neighborhood hikers, dog walkers and folks who want to have a picnic.
- Location loved by winter climbers.
- The climbers have been active in the quarry since the 1970's developing different routes on the wall but also doing trash clean-ups and debris removal in the quarry itself.
- City began a dialog with the climbers and the idea of restoring and turning the quarry into a City Park, with a world class Ice Park.
- Acquiring the land became the first priority. Oneota Cemetery Association to the west and St. Louis County to the east.

Regional Context



Site Context



Existing Conditions/Challenges and Opportunities

Existing Conditions:

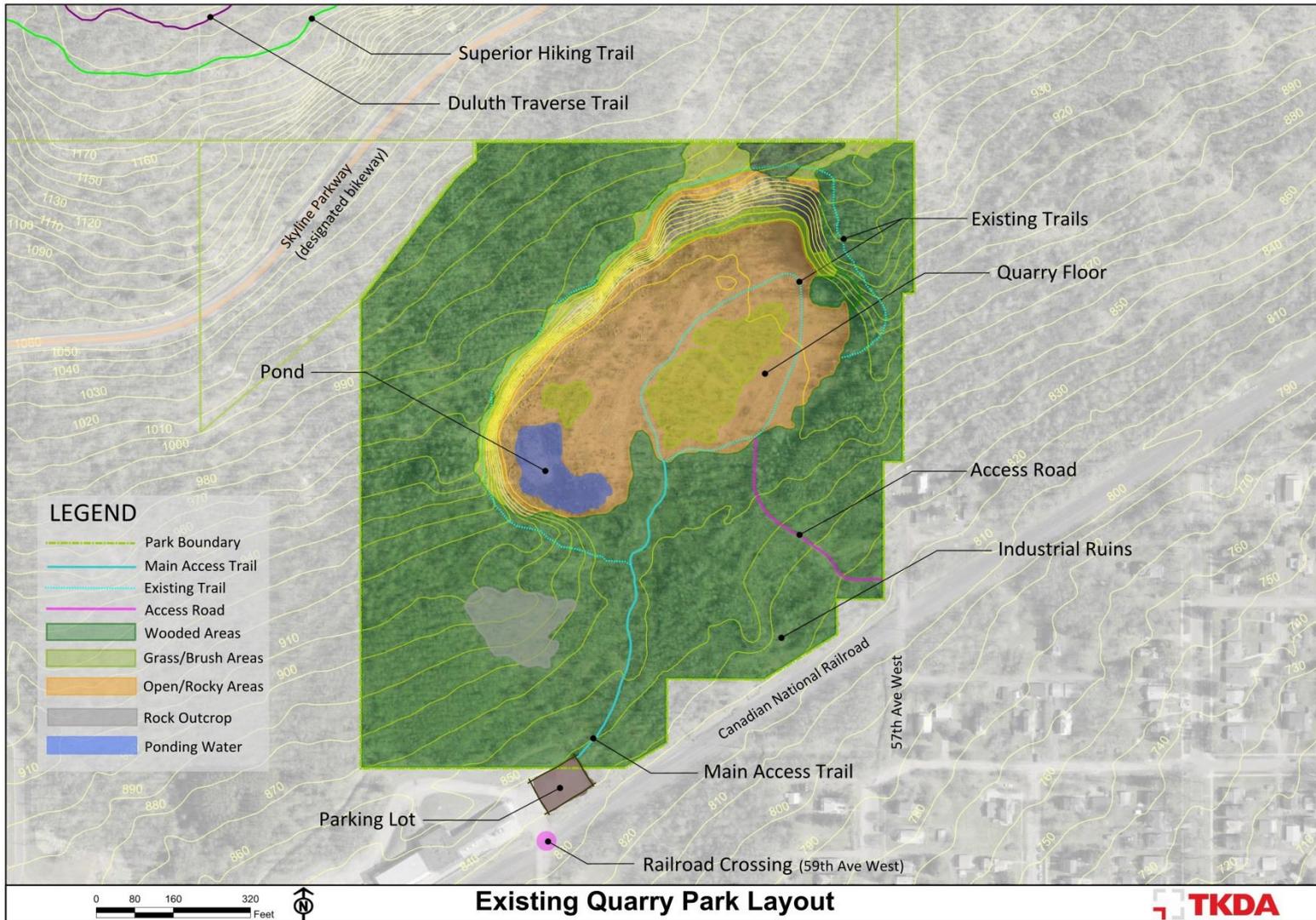
- 30 acres of a mixture of forested areas (balsam, alder, and ash), rocky outcrops, the quarry floor (approx. 6 acres), wetlands, a pond (approx. 0.5 acres) and areas of invasive species.
- Nearly 1000 linear feet of ice climbing, extending vertically over 100 feet along the most sheer sections of the wall.
- Naturally forming ice on the quarry walls in winter.
- Industrial ruins from when the site was used as a quarry.

Existing Conditions/Challenges and Opportunities

Opportunities:

- Transform a neglected industrial space into a formal city park.
- Improve the main access trail and loop trails in the Quarry floor to meet ADA accessibility requirements.
- Add a multi-use connector trail and a hiking connector trail to the Duluth Traverse Trail and the Superior Hiking Trail, both regionally significant trails, that pass through nearby Brewer Park.
- Create a sustainable ice climbing facility to enhance naturally forming ice on the wall.
- Incorporate multi-use gathering spaces in the Quarry floor.
- Re-use rock and other natural features to create amenities for the park.

Existing Conditions



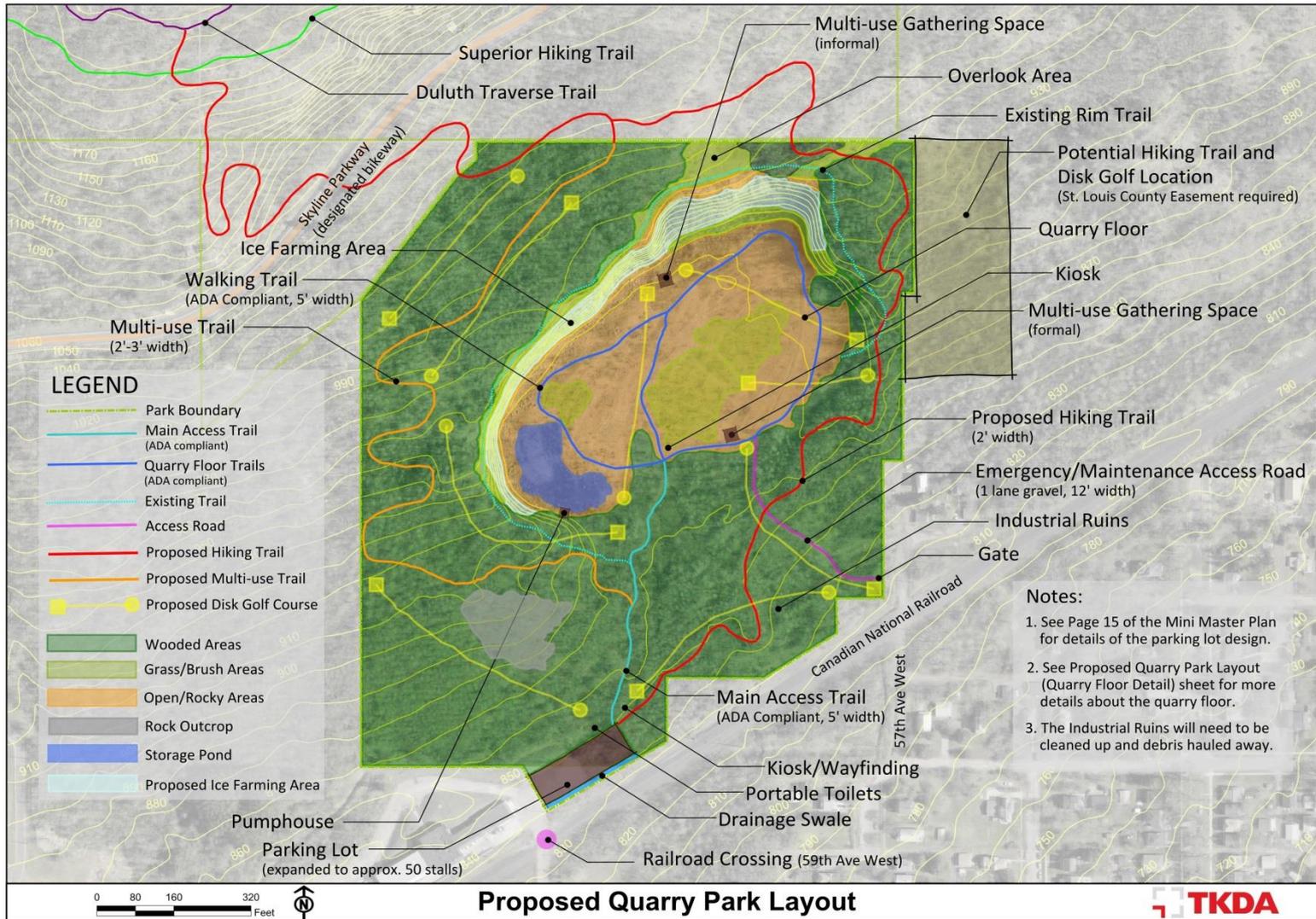
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- Accessibility
 - Liability

Park Amenities

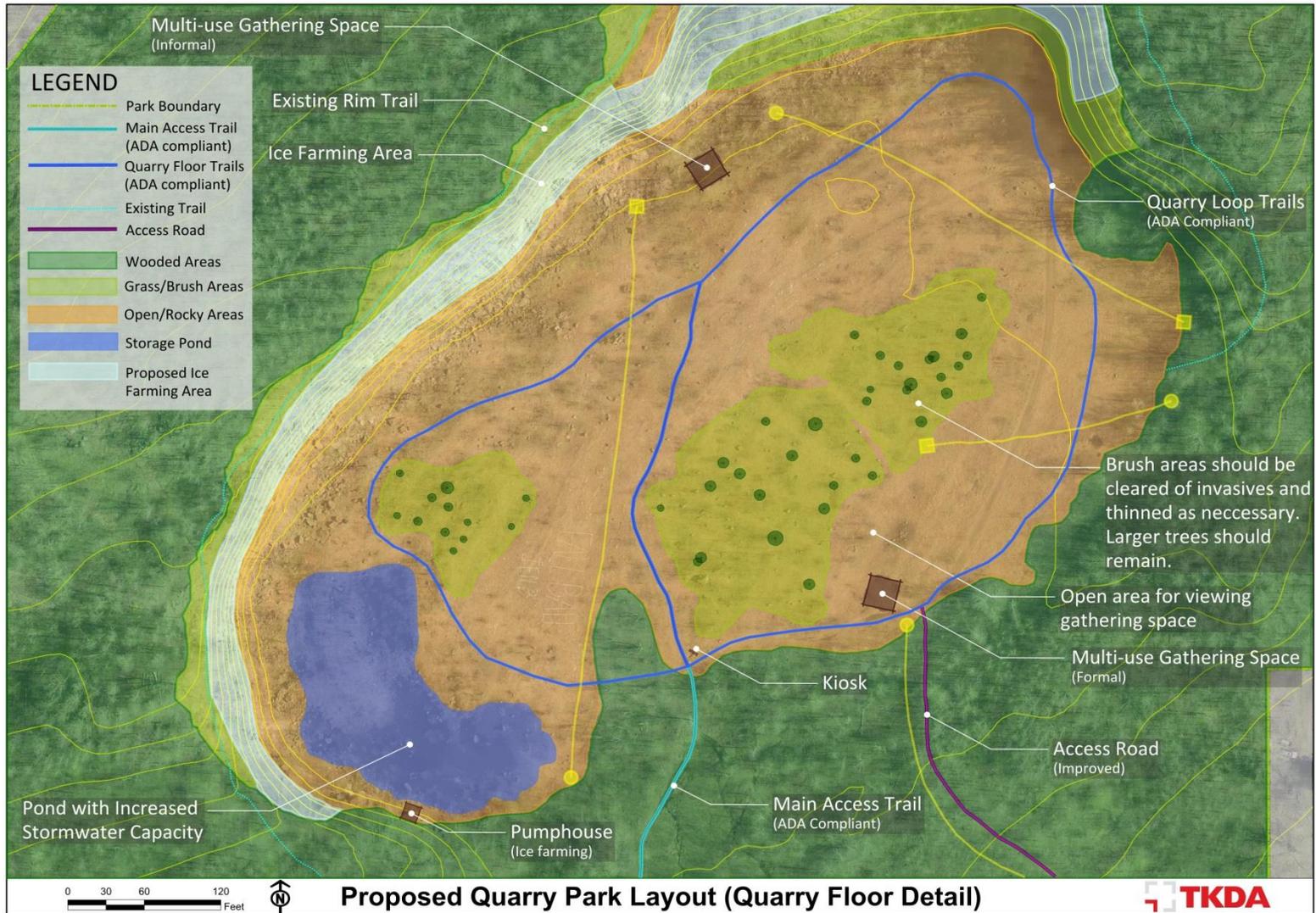
Input for amenities was gathered in several ways:

- Public meeting and survey
- Stakeholder meetings
- Phone calls, emails and comments submitted via City website

Proposed Layout



Proposed Layout (Quarry Floor Detail)



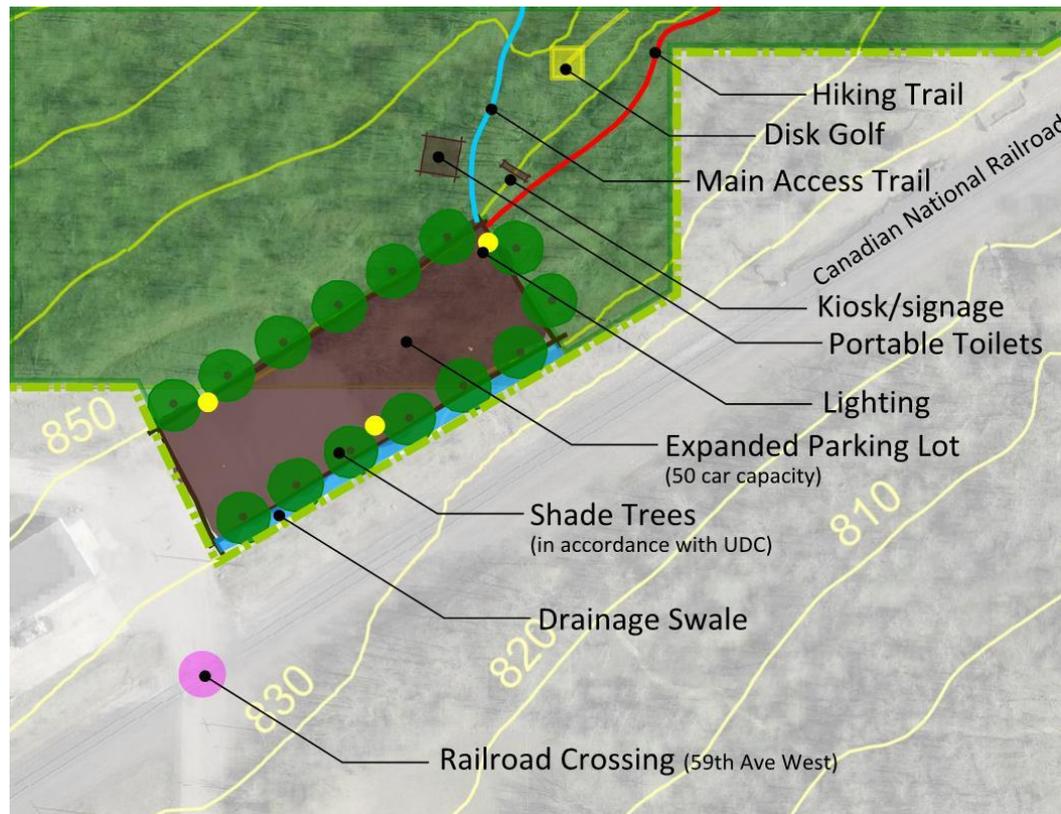
Recommendations

Parking Lot

- Parking lot at 59th Ave West
- A fifty (50) stall parking lot
- Accessible parking stalls
- Shade trees
- Lighting for security
- Portable screened toilets
- Park entrance signage and wayfinding

Recommendations

Parking Lot



Recommendations

Gated Access Road

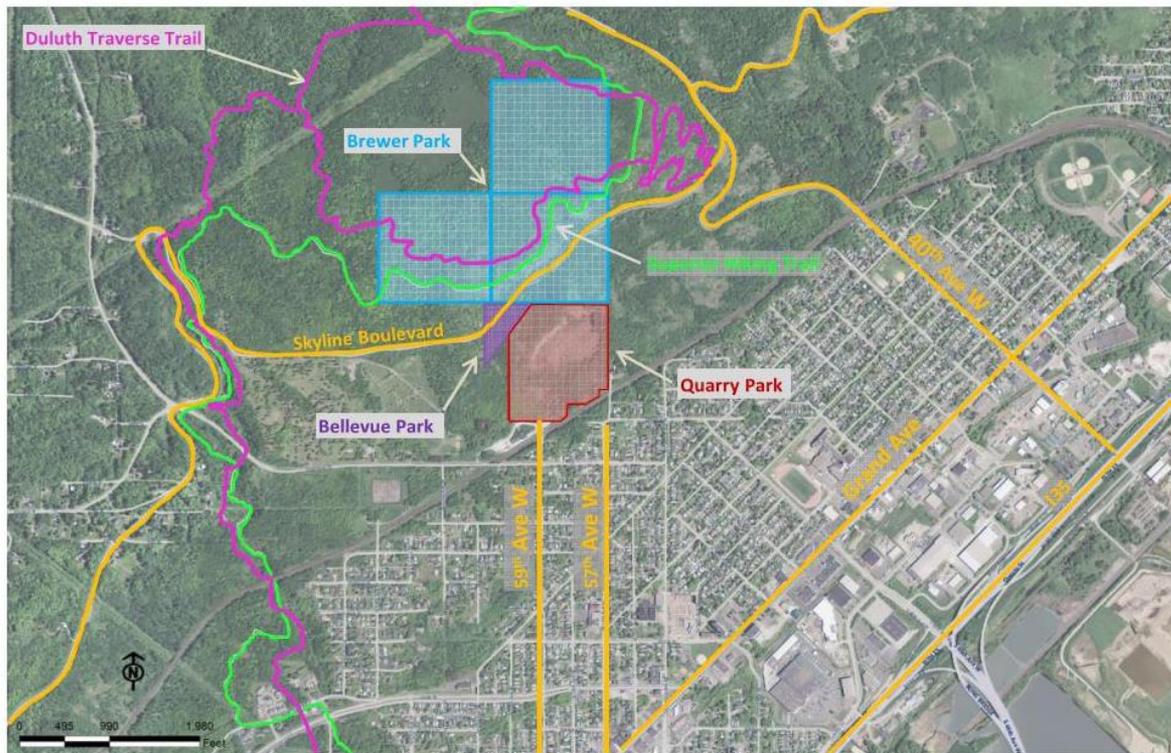
- Access for emergency and city maintenance vehicles and other vehicles for special events only.
- Gravel road 12 ft width, graded appropriately highway vehicle use.



Recommendations

Trail Connectivity

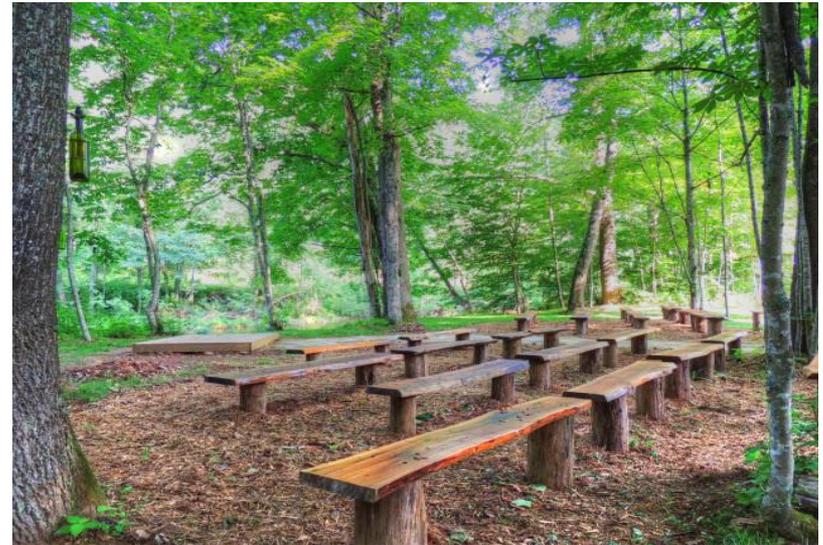
- Multi-use connector trail and a hiking connector trail to Duluth Traverse Trail and Superior Hiking Trail, both in Brewer Park, should be constructed.



Recommendations

Multi-use Gathering Spaces

- These spaces can serve many functions including a stage, a pavilion, or an outdoor classroom.
- Rocks and other natural features help maintain rustic nature of park.



Recommendations

Park Amenities

- Garbage cans, signage, and wayfinding.
- Trailhead signage at parking lot and wayfinding signage at all junctions along trails.

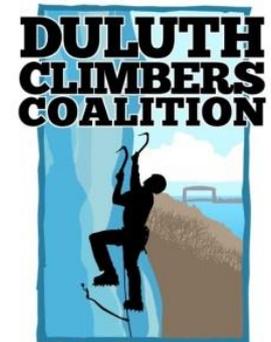


Ice Climbing

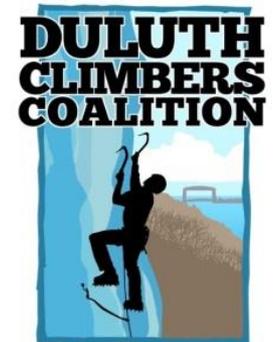
- The quarry has been used by climbers since the 1970's.
- To ensure consistent ice for climbing, an ice farming system should be installed.
- Ice farming can be defined as the process of controllably, and renewably, generating ice for the purposes of ice climbing.
- A formal partnership between the Duluth Climber's Coalition and the City will be created to outline the management and operations expectations for ice farming.

Goals:

1. Provide ice farming for consistent ice each winter climbing season.
2. Sustainable water source and easily maintained system.
3. Provide approximately 500,000 gallons of available water each season.
4. Contain/reuse melt water from quarry so no increased storm flows downhill.
5. Design piping to minimize potential for vandalism.



Ice Climbing



Disc Golf

- Quarry Park excellent location to expand disc golf in Duluth.
- Minimally intrusive activity, requiring minimal clearing or tree removal.
- Preliminary layouts are 9 holes.
- City will enter formal agreement with Duluth Disc Golf Club to maintain course.



Preliminary Phasing and Cost Estimates

- **Phase 1** amenities are constructed within 1-2 years. Generally highest priority either in terms of popularity or safety and code requirements.
- **Phase 2** amenities are constructed in 3-5 years. High popularity, but budgetary restrictions may require longer range planning to implement.
- **Phase 3**, or Long Range amenities are constructed in 6-10 years. Lower priority items currently, or items that will require significant financing to implement.

It may be possible to move certain amenities up in the planning process if grant money or volunteer work can be generated to alleviate some of the costs.

Cost Estimates

PHASE 1 IMPROVEMENTS (1-2 YEARS)	CLASSIFICATION	EST. COST (2016)
Demo/Trash Removal	Safety	\$10,000
Standard Amenities (trash receptacles, signage, wayfinding, portable restrooms)*	Safety	\$4,000
ADA-Accessible Main Trail (59th Avenue trailhead)	Access	\$20,000
Emergency Access Improvements	Access	\$20,000
Entrance Gate (57th Avenue)	Access	\$5,000
Transformer/Electrical Drop (59th Avenue area)	Utility	\$8,500
Ice Climbing/Farming**	Recreation	\$85,000
Storage Pond/Water Feature (rock exc.)	Utility	\$100,000
Stormwater Controls (channel, berms, culverts)	Stormwater	\$10,000
Multi-use Trail Connection	Recreation	\$15,000
Disc Golf Course	Recreation	\$20,000
Buckthorn/Invasives Removal, Selective Pruning	Vegetation	\$20,000
ADA-Accessible Walking Trails (Quarry loop)	Access/Recreation	\$15,000
SUB TOTAL		\$332,500
Contingency, Design, & Administration (25%)		\$83,125
PHASE 1 TOTAL		\$415,625

PHASE 2 IMPROVEMENTS (3-5 YEARS)	CLASSIFICATION	EST. COST (2016)
Hiking Trail Connection	Recreation	\$15,000
Parking Lot Expansion	Access	\$18,000
Restroom Screening	Safety	\$2,500
Lighting (parking lot)	Safety	\$10,000
Viewing Platform (top of Quarry, seating)	Recreation	\$15,000
Potable Water Source	Utility	\$30,000
Geology Study Area	Education	\$2,000
SUB TOTAL		\$92,500
Contingency, Design, & Administration (25%)		\$23,125
PHASE 2 TOTAL		\$115,625

LONG-TERM IMPROVEMENTS (6-10 YEARS)	CLASSIFICATION	EST. COST (2016)
Multi-use Gathering Space	Recreation	\$40,000
Dog Park/Off Leash Area	Recreation	\$25,000
Picnic Tables (accessible)	Recreation	\$9,500
SUB TOTAL		\$74,500
Contingency, Design, & Administration (25%)		\$18,625
LONG-TERM TOTAL		\$93,125
TOTAL FOR ALL IMPROVEMENTS		\$624,375

Discussion

- Questions or comments before moving to open house portion of meeting

Discussion

- Open House and Conclusion