Gebhard Site Management Plan

A Summary of the Process and Management Guidance, as refined and recommended by the Open Space Board of Trustees

City of Boulder Open Space and Mountain Parks
January 9, 2020

Executive Summary

Figure 1: Community members walking along the Bobolink path on the east side of South Boulder Creek adjacent the project area

Open Space and Mountain Parks (OSMP) is developing an Integrated Site Project (ISP) for OSMP's Gebhard property as a next step in a larger ongoing restoration effort for South Boulder Creek. See Figure 2 on next page for map of project area and Figure 4 for on-going restoration along South Boulder Creek.

In partnership with community members and nearby residents, staff developed a project goal and related objectives that led to the development of several land management alternatives that achieve the site objectives to varying degrees. At the last community meeting, staff took three of the management alternatives to the community to seek their feedback. Based on community feedback and additional staff review, a refined preferred alternative that best meets the objectives was presented to the Open Space Board of Trustees (OSBT) for consideration on January 8, 2020. After requesting final refinements to the preferred alternative, the board unanimously supported staff's proposal.

This project summary describes the planning and engagement process, with a focus on finalized management guidance and supporting implementation projects, as refined and recommended by OSBT.

Changes to this document made as a result of OSBT guidance have been highlighted in grey.

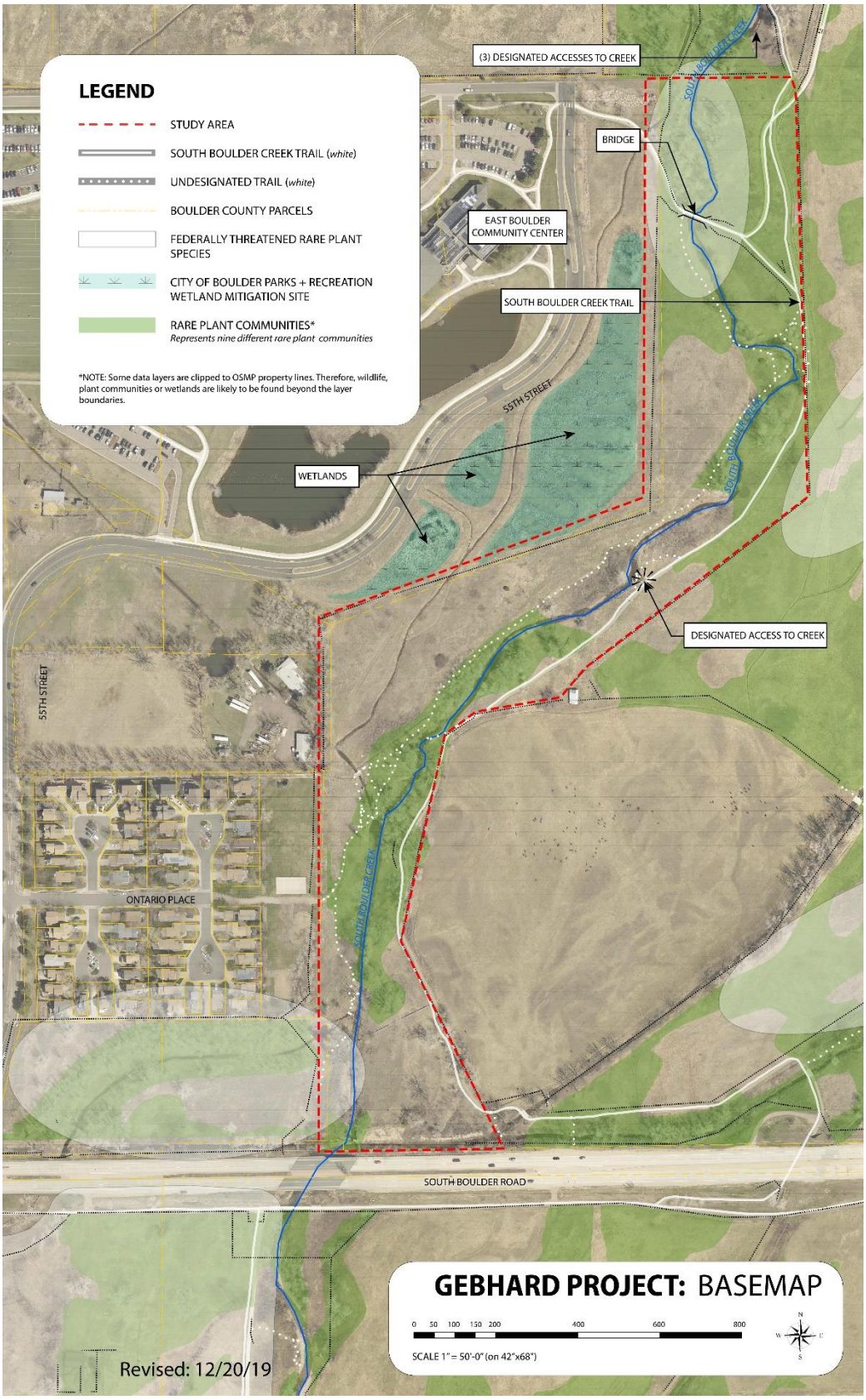


Figure 2: General project area shown in red dashed line.

Project Background

Figure 3: Ute-ladies'-tresses orchid.

OSMP's Gebhard property alongside South Boulder Creek is within the South Boulder Creek State Natural Area which was designated by the State of Colorado in recognition of the state-wide significance of this exceptional riparian and floodplain ecosystem – including habitat for two federally threatened species: the Preble's Meadow Jumping Mouse (PMJM) and the Ute Ladies'- Tresses Orchid (ULTO), see Figure 3. This State Natural Area is also recognized for supporting tallgrass prairie, wetlands, habitat for declining grassland and riparian bird species, habitat for declining amphibians such as the Northern Leopard Frog, habitat for declining native fish, and an important movement corridor for other species. This Natural Area designation emphasizes the state-wide ecological importance of conservation and restoration in this high-value habitat. See Appendix A: Resource Mapping for additional mapping of rare plant communities, wetland habitat, Preble's meadow jumping mouse habitat, and Northern leopard frog habitat.

However, within this matrix of exceptional habitat, work remains to increase overall continuity of riparian area restoration efforts. As such, the South Boulder Creek corridor, including much of the floodplain, was designated as a best opportunity area for restoration in the Grassland Ecosystem Management Plan (Grassland Plan). OSMP has made substantial investments in continued restoration efforts over the past few decades to restore this corridor. For example, past work has included reshaping the creek to provide better habitat, modifying diversion dams to allow fish passage, planting native shrubs and seeding native species, creating wetland habitat with seasonal hydrology to support Northern Leopard Frog breeding, and removing invasive species. Figure 4 on the next page shows just a few of the current restoration efforts within and near the project area. The stretch of creek frontage that is the focus of the Gebhard Integrated Site Project is a key component in this larger State Natural Area restoration effort.

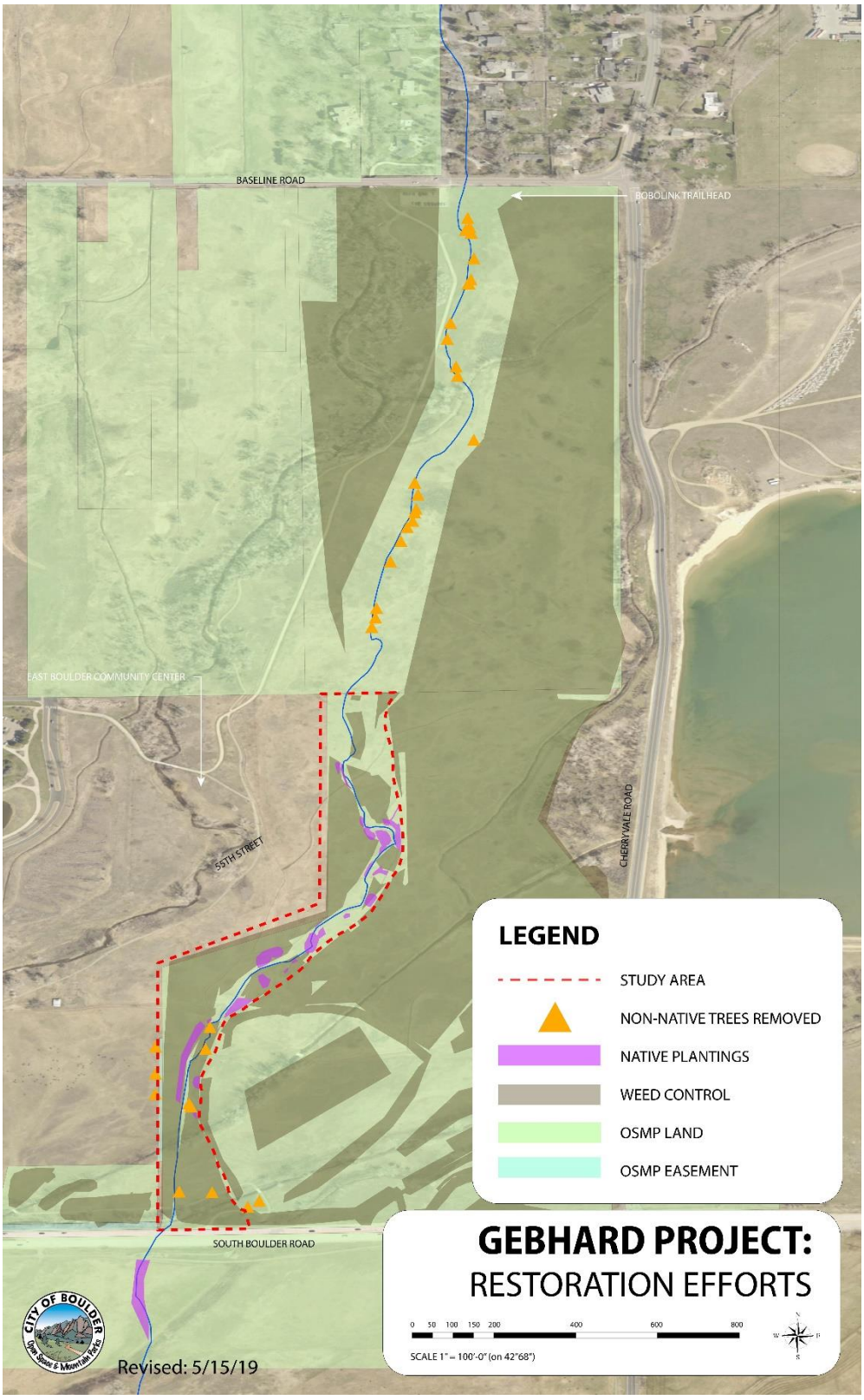


Figure 4: On-going restoration projects along South Boulder Creek.

For many years, neighboring community members have enjoyed using this space on the Gebhard property to walk along and access South Boulder Creek, oftentimes with their dogs. In a recent survey of OSMP visitors in this area, these activities – specifically, "physical fitness" and "being with my dog(s)" – show up as the top primary motivations for visiting open space (2016-2017 Visitor Survey Report). Through community engagement for this project, members of the public have also expressed enjoying this area because of its proximity to their homes, the shade and views it provides, and the peaceful opportunities it affords for quiet time, time with friends and neighbors, and access to the natural, wild beauty of the creek (see Appendix B: Community Engagement Summary).

Neighborhood access to this part of the OSMP system is through a gate onto open space (see Figure 5) requested by the city as part of the development review in the early 1980s during annexation and subdivision. In 1998, the OSBT approved the South Boulder Creek Area Management Plan which called for the construction of a designated trail with a bridge connection from this Greenbelt Meadows access point to the South Boulder Creek Trail. However, the trail was not constructed, and over the past 20 years, the development and use of undesignated trails have expanded.

Figure 5: Vehicular and pedestrian gates at Greenbelt Meadows community.

Existing Conditions

Figure 6: Preble's meadow jumping Mouse.

The undesignated trails that have developed along the west side of South Boulder Creek impact habitat for the Preble's meadow jumping mouse, a federally listed species, (see Figure 6). Another federally listed species – the Ute ladies'-tresses orchid is adjacent this area. In addition, a globally rare mesic tallgrass community is impacted by patterns of use, as is a population of the Northern leopard frog, a Colorado Tier 1 Species of Greatest Conservation Need. See Appendix A: Resource Mapping for diagrams of geographic bounds of sensitive resources.

In addition, the creek corridor has barriers to fish passage that remain a concern. For example, the Howard Ditch diverts water from South Boulder Creek via a diversion dam that fragments aquatic habitat in the creek by preventing upstream movement of fish and other aquatic organisms above the dam.

To understand use levels and patterns on the nearby undesignated trails, OSMP staff installed a trail counter from June 2nd to July 11th 2018 along the undesignated trail on the west side of South Boulder Creek between South Boulder Road and the East Boulder Community Center (see Appendix C: Visitation Estimates Statistical Abstract). Site observations on four separate dates also helped staff understand and validate these counts. Together, these analyses revealed that this section of undesignated trail sustains roughly 10,000 visits a year. Use levels generally remain consistent across all days of the week, and they tend to peak mid-morning and early afternoon shown in Figure 7 below for reference.

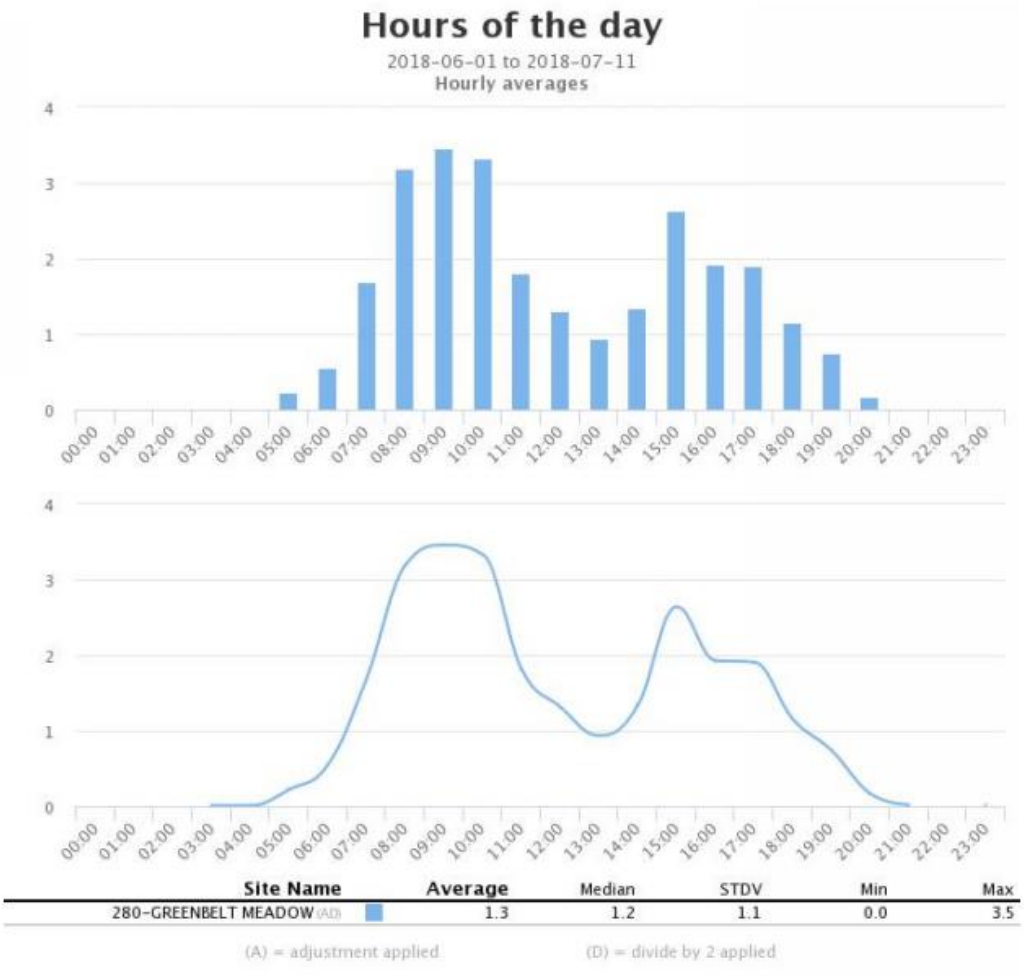


Figure 7: Hourly average visitation, averaged across all days of the sample period.

Throughout this project, community members have also expressed concerns about losing access to the west side of the creek. Some concerns have centered on wanting a pedestrian-only experience that is, separated from high-speed bikes, and still provides adjacency to the creek for adults and children.

Policy Guidance

Over the decades, staff has managed access to the creek and habitat improvements in alignment with OSMP's charter purposes, the Grassland Plan, Visitor Use Master Plan and the 1998 South Boulder Creek Area Management Plan. For example, the Grassland Plan located the project area within a best opportunity area for restoration and directed staff to have made significant progress towards the following initiatives by 2019:

- Evaluate and restore riparian hydrology;
- Evaluate and restore wetland, riparian and aquatic habitat; and
- Reduce the undesignated trail density in northern leopard frog habitat.

In addition, the South Boulder Creek Area Management Plan set the objective of minimizing the trails on both sides of the same creek sections to preserve habitat values. To update and confirm a sustainable management approach for the future, staff initiated this integrated site project in 2018.

OSMP has also incorporated guidance from the recently adopted Master Plan. Specifically, this project advances two Tier 1 strategies:

- Preserve and restore important habitat blocks and corridors [Ecosystem Health and Resilience (EHR) 1]; and
- Update and continue implementing system plans guiding ecosystem management [EHR.2].

The project also takes direction from a Tier 2 strategy to reduce undesignated trails, especially in sensitive habitat areas.

Project Goal and Objectives

At the first public engagement, OSMP staff presented a draft goal and supporting objectives to get input from the community. Based on what we heard, we then modified the goal and objectives to capture the community's values. The final statements are shown below.

Gerhard ISP Goal:

STEWARD AND ENJOY THE LAND

In partnership with this community, protect rare and federally threatened wildlife and plant species and their habitat while providing access to trails along the South Boulder Creek corridor.

Objectives

- Preserve and restore habitat by eliminating undesignated trails in riparian and tallgrass prairie habitats
- Enjoy, monitor and protect federally protected species' habitats
- Define measures of success
- Build community stewardship to ensure project success
- Consider volunteering events
- Provide access to the South Boulder Creek
- Provide a safe, peaceful place to walk and enjoy the sounds of the creek and wildlife with family and friends

Developing Alternatives and Community Engagement

Figure 8: Conceptual base drawing of existing site features to support design charette with community.

To generate ideas for how staff would restore and manage the Gebhard area in the future, staff led an interactive charrette with members of the public during engagement window 2. Through this collaborative idea generation, seven initial concepts emerged, including ways staff could route trails to improve connectivity for wildlife between the creek and existing wetlands on City of Boulder Parks and Recreation property (see Figure 8 to the left). Community members also shared interest in future volunteer opportunities to help care for the site.

The following three options for improving recreational facilities to achieve all objectives were advanced for further consideration:

- **Northern Bridge Alternative:** Connect the neighborhood access point with the designated trail system east of South Boulder Creek by creating a new bridge across the creek north of the Greenbelt Meadows neighborhood;
- **Stepping-Stone Alternative:** Connect the neighborhood access point with the designated trail system east of South Boulder Creek by placing stepping-stones across South Boulder Creek north of the Greenbelt Meadows neighborhood; or
- **Southern Bridge Alternative:** Connect the neighborhood access point with the designated trail system east of South Boulder Creek by creating a new bridge across the creek east of the Greenbelt Meadows neighborhood.

These alternatives were presented to the community during the third engagement window, with a focus on the alternative that best met shared objectives for this site (the northern bridge option). Community preferences for that option were confirmed at that time. Community members were also invited to review and improve this preferred alternative, prior to OSBT consideration. In response to community feedback, staff then refined a Preferred Alternative for consideration by OSBT on January 8, 2020.

Final Management Guidance

The preferred management approach for this part of the South Boulder Creek corridor reaffirms staff's and OSBT's commitment to relevant guidance in the 1998 South Boulder Creek Area Management Plan and the Grassland Plan. For example, under the preferred management alternative (see Figure 9 on next page), staff will:

- Continue removing invasive species and replacing with native plant species;
- Restore wetlands and riparian areas in the project area, including closing off a section of undesignated trails and informal creek access points on the west side of the creek;
- Continue removing barriers to fish passage and improving habitat in South Boulder Creek;
- Design and construct a new pedestrian bridge across South Boulder Creek;

- Designate and improve a trail to connect the Greenbelt Meadows neighborhood with the new bridge and the designated trail system on the east side of the creek;
- Monitor ecological health over time to track progress towards project objectives.
- Collaborate with the community to consider volunteer opportunities to work staff on implementing stewardship projects;
- Update on-site educational programs and facilities to build understanding of protected species and site restoration, connect youth with nature, and inspire collective stewardship with community members.

With community feedback on the preferred alternative, staff also updated the site management approach to include the following:

- Separating a pedestrian-only path from the multi-use path within the existing trail corridor on the east side of the creek (between the new bridge and the existing bridge);
- Enhancing creek access at designated points, including stepping-stones and improved access points along the east side of the creek;
- Expanding restoration efforts to include stewardship projects on the east side of the creek, including invasive weed management and fencing; and
- Exploring the possibility of a future trail connection to 55th street in coordination with other city departments, ditch companies and other stakeholders.

In addition, the following refinements resulted from OSBT guidance on January 8, 2020. The final management approach now also includes:

- Addressing safety concerns along the South Boulder Creek trail, east of the creek, as related to higher speed bike travel;
- Assessing the feasibility of wider buffers between the separated pedestrian and multi-use paths on the east side, which may include adjusting the current fence line along the eastern project boundary, if and where feasible;
- Enhancing western views of the mountains and aligning the separated pedestrian path west of the multi-use path to support peaceful walks along the creek;
- Committing to construct and open the bridge and separated paths on the east side, before restoration work begins, before additional fencing is installed, and before closing restoration areas to public access;
- Exploring low-profile design options for the new bridge that respect neighborhood character and minimize impacts to the floodplain;
- Clarifying that bikes will not be allowed on or west of the new bridge; and
- Developing ways to limit and manage vehicular access in the future restoration area west of the creek.

By designating and enhancing a separate portion of the current path on the east side of the creek for pedestrians and their dogs, staff could better provide community members the experiences they have asked for. These separated paths on the east side of the creek will also provide a link to the desirable, separated pedestrian-only path north of the existing bridge approaching the Bobolink trailhead, which is also a good precedent for the proposed new path.

Natural resource objectives will also drive further design for this site. For example, as staff further explores the details of how to separate a pedestrian-only path from a multi-use path within the existing trail corridor east of the creek, we will strive not to further impact Preble's meadow jumping mouse habitat. To that end, staff will seek ways to limit the area of disturbance to the existing trail corridor to the extent possible. Where lower-value habitat exists, the buffer between the two parallel paths will widen to provide further separation and better visitor experiences. While the pedestrian path may meander closer to the creek at designated creek access points, with fencing to protect adjacent habitat, staff also propose that any necessary widening of the overall trail corridor should generally extend east, away from the creek, avoiding patches of woody vegetation that serve as suitable habitat for the Preble's meadow jumping mouse while retaining the current alignment with access points that provides for an adjacent creek experience. This approach aims to advance all City Charter purposes for open space, including protecting and improving the health of riparian areas and wetlands as well as facilitating responsible recreation, stewardship and enjoyment in ways that respond to community interests.

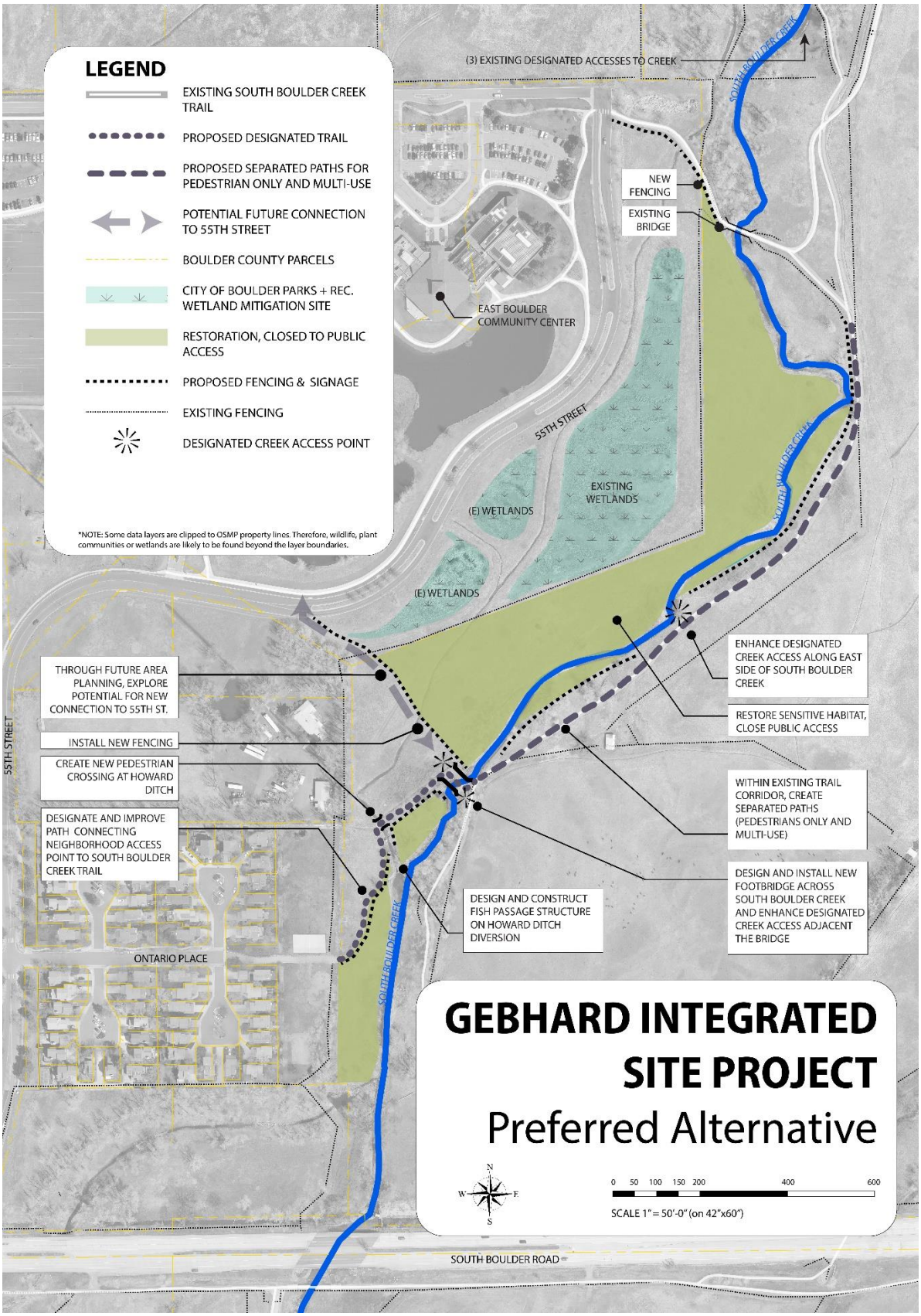


Figure 9: Preferred Alternative, conceptual site plan.

Phasing and Implementation Projects

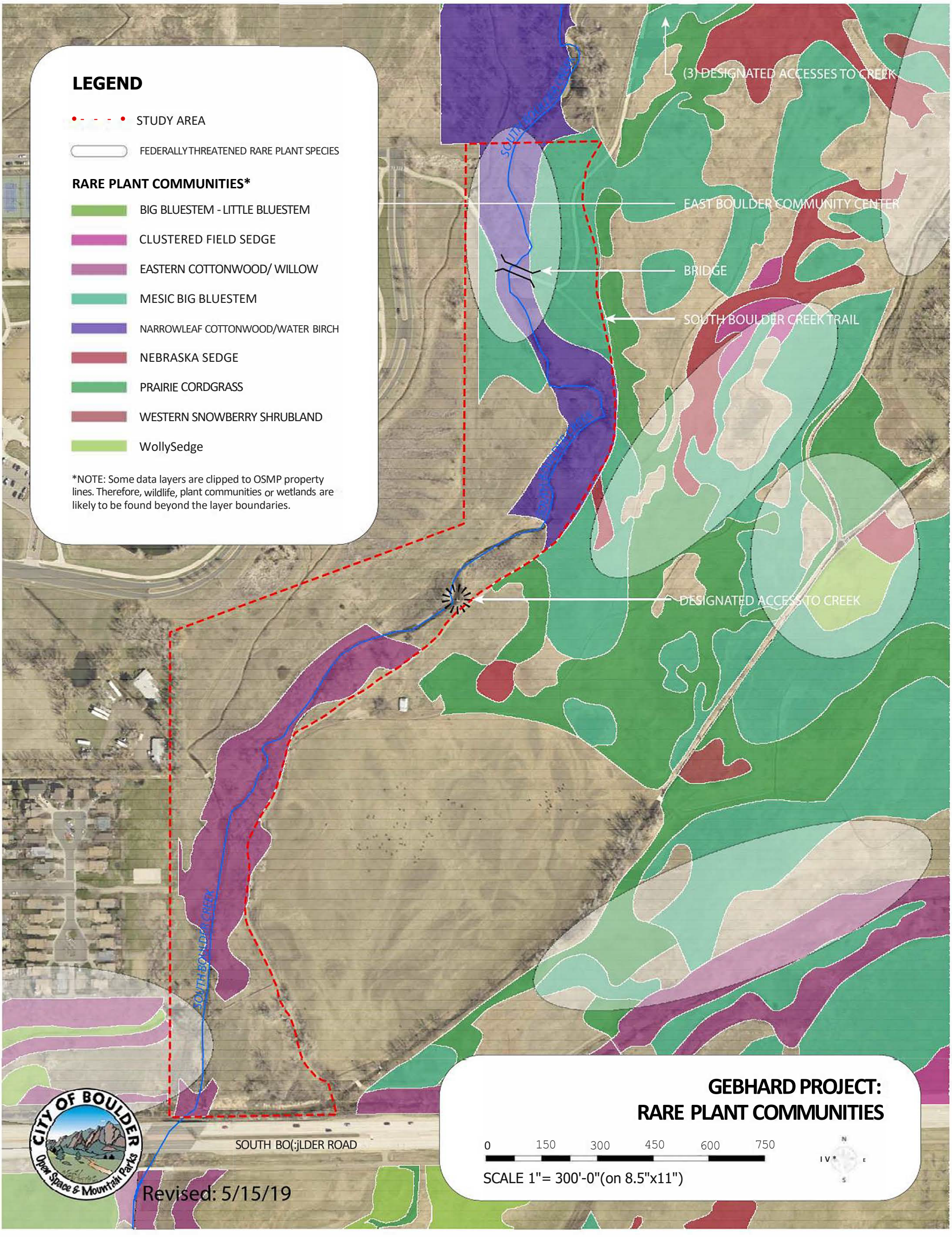
The Gebhard ISP process has been designed to support coordinated work-planning and phased implementation of projects that will be managed by various staff workgroups in the short- and long-term, depending on funding and staff capacity. To support this collaboration, the following table summarizes the type of implementation projects needed to move this management approach forward, as well as the general phasing that would guide project timelines. With OSBT's recommendation to proceed, staff will further develop implementation details and cost estimates.

Implementation Projects	**Phase 1 (3-5 years)**	**Phase 2 (6-10 years)**
Ecological Health and Resilience		
Remove and manage invasive weeds	X	X
Seed and plant native vegetation	X	X
Close restoration areas to public access, including the undesignated trail and creek access points on the west side of South Boulder creek (only after new bridge and phase 1 trail improvements are complete)	X	X
Replace or extend fencing to manage public access	X	X
Explore ways to limit/manage vehicular access within restoration area	X	
Improve fish passage and sediment transport		X
Ongoing monitoring to assess ecological health	X	X
Responsible Recreation, Stewardship and Enjoyment		
Design, permit and construct new pedestrian bridge	X	
Design, permit and construct trail connecting neighborhood access point with new bridge	X	
Design, permit and construct separated pedestrian path on east side of creek	X	
Enhance designated creek access on east side of creek	X	
Explore potential for future accessible trail connection to 55th Street		X
Community Connections, Education and Inclusion		
Update and conduct on-site educational programming	X	X
Design and install limited number of interpretive and wayfinding signs	X	X
Continue or enhance on-site volunteer opportunities for shared stewardship	X	X

Next Steps

With the board's recommendation to proceed, staff has concluded public engagement for this phase of the project. We will now advance the project into more detailed design, annual work planning, permitting and execution of the project using a phased approach. Bridge construction and improvements to the trails and creek access on the east side will begin once permits are obtained and funding secured. Once the separated paths are open, staff will begin restoration efforts, including restoring and closing the undesignated trail and creek access points on west of South Boulder Creek.

Date	**Description**
December 2019	Written update to OSBT
January 2020	Consideration of preferred alternative and motion to proceed by OSBT, including public hearing.
Late Fall 2020	Staff will refine the preferred alternative through detailed implementation planning to determine coordinated work plans over time. Staff will also determine specific field-located trail and bridge alignments, dimensions, and materiality that can be used to develop construction documents and submitted for permitting. At this stage, staff will be able to phase and develop cost estimates at a level of detail appropriate to that phase of project.
Spring 2021	Submit project for permitting
Summer 2021	Update to OSBT
2021-2023	Phase I implementation projects, if funding secured, including trail improvements, bridge construction, and improved creek access east of the creek, followed by restoration and closure of sensitive habitat areas
2023-beyond	Phase II implementation projects, if funding secured, including exploration of a potential trail connection to 55th Street working in collaboration with other City departments and partners, and continue monitoring and restoration.


LEGEND
STUDY AREA
FEDERALLY THREATENED RARE PLANT SPECIES
RARE PLANT COMMUNITIES*
BIG BLUESTEM - LITTLE BLUESTEM
CLUSTERED FIELD SEDGE
EASTERN COTTONWOOD/ WILLOW
MESIC BIG BLUESTEM
NARROWLEAF COTTONWOOD/WATER BIRCH
NEBRASKA SEDGE
PRAIRIE CORDGRASS
WESTERN SNOWBERRY SHRUBLAND
WollySedge
*NOTE: Some data layers are clipped to OSMP property lines. Therefore, wildlife, plant communities or wetlands are likely to be found beyond the layer boundaries.
(3) DESIGNATED ACCESSES TO CREEK
EAST BOULDER COMMUNITY CENTER
BRIDGE
SOUTH BOULDER CREEK TRAIL
DESIGNATED ACCESS TO CREEK
SOUTH BOULDER CREEK
SOUTH BO(:jLDER ROAD
CITY OF BOULDER
Open Space & Mountain Parks
Revised: 5/15/19
GEBHARD PROJECT:
RARE PLANT COMMUNITIES
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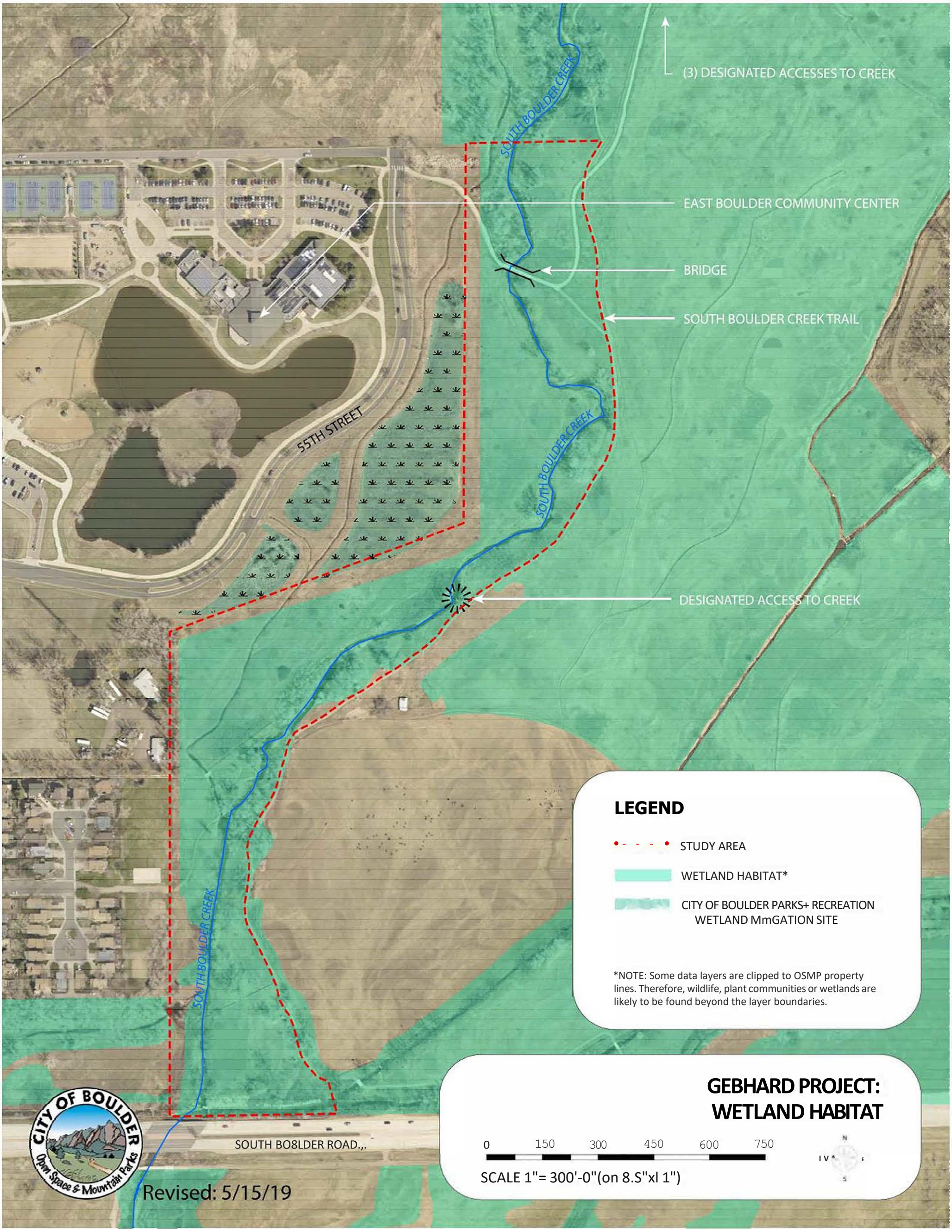
(3) DESIGNATED ACCESSES TO CREEK
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EAST BOULDER COMMUNITY CENTER
BRIDGE
SOUTH BOULDER CREEK TRAIL
55TH STREET
SOUTH BOULDER CREEK
DESIGNATED ACCESS TO CREEK
SOUTH BOULDER CREEK
SOUTH BO8LDER ROAD.,.
CITY OF BOULDER
Open Space & Mountain Parks
Revised: 5/15/19
LEGEND
STUDY AREA
WETLAND HABITAT*
CITY OF BOULDER PARKS+ RECREATION WETLAND MmGATION SITE
*NOTE: Some data layers are clipped to OSMP property lines. Therefore, wildlife, plant communities or wetlands are likely to be found beyond the layer boundaries.
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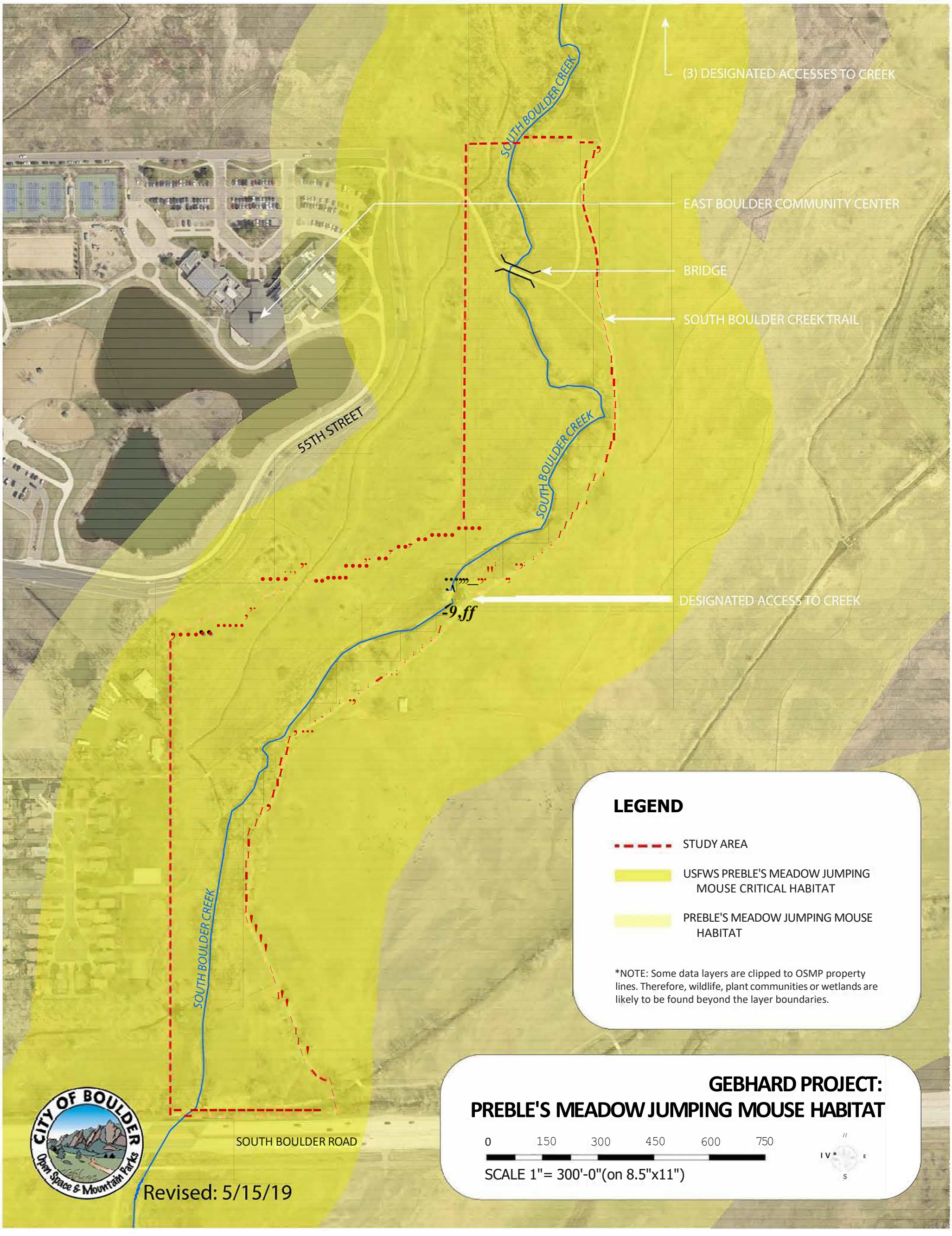
(3) DESIGNATED ACCESSES TO CREEK
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EAST BOULDER COMMUNITY CENTER
BRIDGE
SOUTH BOULDER CREEK TRAIL
55TH STREET
SOUTH BOULDER CREEK
DESIGNATED ACCESS TO CREEK
SOUTH BOULDER CREEK
SOUTH BOULDER ROAD
LEGEND
STUDY AREA
USFWS PREBLE'S MEADOW JUMPING MOUSE CRITICAL HABITAT
PREBLE'S MEADOW JUMPING MOUSE HABITAT
*NOTE: Some data layers are clipped to OSMP property lines. Therefore, wildlife, plant communities or wetlands are likely to be found beyond the layer boundaries.
CITY OF BOULDER
Open Space & Mountain Parks
Revised: 5/15/19
GEBHARD PROJECT:
PREBLE'S MEADOW JUMPING MOUSE HABITAT
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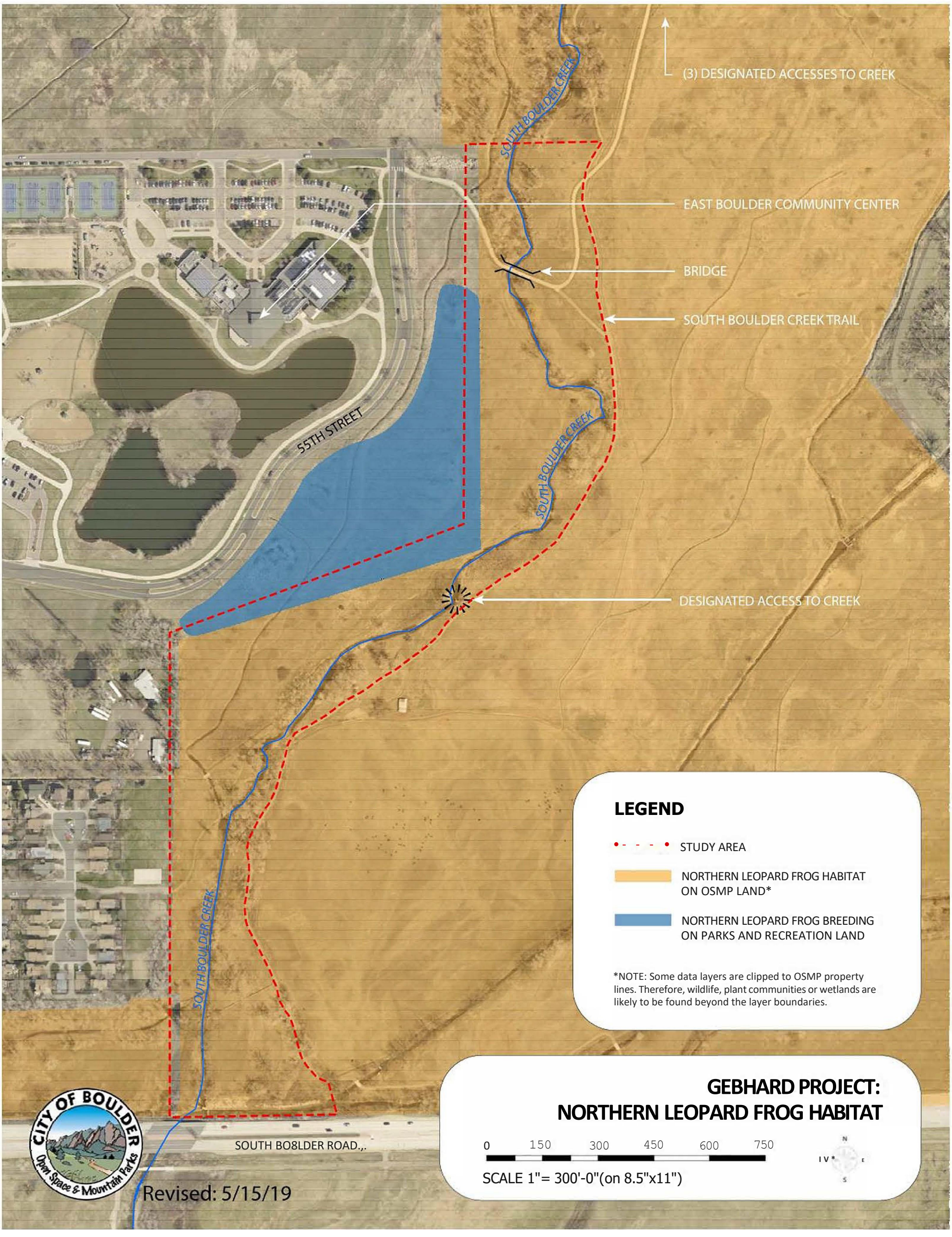
SCALE 1"= 300'-0"(on 8.5"x11")


(3) DESIGNATED ACCESSES TO CREEK
SOUTH BOULDER CREEK
EAST BOULDER COMMUNITY CENTER
BRIDGE
SOUTH BOULDER CREEK TRAIL
55TH STREET
DESIGNATED ACCESS TO CREEK
LEGEND
STUDY AREA
NORTHERN LEOPARD FROG HABITAT ON OSMP LAND*
NORTHERN LEOPARD FROG BREEDING ON PARKS AND RECREATION LAND
*NOTE: Some data layers are clipped to OSMP property lines. Therefore, wildlife, plant communities or wetlands are likely to be found beyond the layer boundaries.
GEBHARD PROJECT:
NORTHERN LEOPARD FROG HABITAT
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SCALE 1"= 300'-0"(on 8.5"x11")
CITY OF BOULDER
Open Space & Mountain Parks
SOUTH BO8LDER ROAD.,.
Revised: 5/15/19

APPENDIX B: Community Engagement Summary

Guided by the citywide Engagement Strategic Framework, the approach to engagement has included three public engagement windows further described below for reference. The project website also has materials from past events.

Public Engagement 1: Establishing the Goal and Objectives (Involve)

Prior to the first engagement, OSMP reached out to the Greenbelt Meadows HOA board and held a listening session on August 17, 2018 to gage interest and support for the project.

The first public engagement was held at East Boulder Community Center on Thursday, November 15, 2018 from 5:00 p.m. to 7:30 p.m. OSMP shared an analysis of the site and preliminary project goal and objectives with the community twice over the course of the evening. The purpose was to get feedback from the public on the preliminary goal and objectives of the project. This meeting was followed by a two-week online questionnaire to provide a way for community members who could not make the meeting to provide their input.

We heard that the community wanted to continue to have a "peaceful" and "less busy" experience walking on a non-formalized path near the creek, enjoying the sounds of the water and birds, safely separated from speeding bikes along the trail east of the creek. The goal was affirmed, and we revised the objectives to reflect these values.

Public Engagement 2: Design Charette – Collaborative Ideas Generation (Involve)

Prior to the second engagement, OSMP reached out to the Greenbelt Meadows HOA board and held a practice design charette on April 2, 2019 to understand if this activity would be a valuable way to collaborate with the community. In addition, on May 2 we met with each of the OSBT members in pairs of two on site to introduce them to the project.

The second public engagement was a workshop held at the OSMP Hub in the Community Room on Monday, May 20, 2019 from 5:00 p.m. to 7:30 p.m. At this workshop, the reasons for the project as well as the adjusted timeline were conveyed, the goal and revised objectives were affirmed, and participants broke out into three smaller groups to come up with ideas and design solutions together to achieve the project goal and objectives. At the end of the meeting, each work tables' representative reported out on the main ideas heard. This workshop was also followed by a two-week online questionnaire to provide a way for community members who could not make the meeting to share their input.

Out of this second engagement window, staff identified seven distinct ideas: 1) Creation of a northern pedestrian bridge, 2) Creation of a northern stepping-stone crossing, 3) Southern location for a pedestrian bridge, 4) Building two southern bridges, one that crosses Vielle Channel and one that crosses the creek, 5) No bridge(s) and adding fencing to close restoration areas along the west side of the creek, 6) Closing all access on the west side of the creek, and 7) No action.

Following this engagement window, staff created an evaluation matrix that compared alignment with the goal and objectives, feasibility, and cost. Alternatives one, two and three were advanced, as the

others did not achieve the alignment with the objectives and goals, were rated lower for feasibility or had a much higher cost.

Public Engagement 3: Review of the Alternatives (Involve)

At the third public engagement held at the OSMP Hub in the Community Room on Tuesday, October 15, 2019 staff presented the background, timeline, a review of the goal and objectives, the seven alternatives and the justification for advancing the three highest rated options. Alternatives 1a, 1b, and 2a were further outlined prior to small group discussions. The purpose of the meeting was to get feedback on how to improve the options and see if one was preferred. This meeting was followed by a two-week online questionnaire to provide community members who could not make the meeting a way to provide their input.

At this event, community members voiced three particular requests to staff as the preferred alternative is refined:

1) Provide a separated pedestrian path on the east side of the creek from the proposed northern bridge location north to the existing bridge location where an existing separated path exists,
2) Assess the feasibility of creating a crossing at 55th that would accessibly connect the parking lot on Parks and Recreation property to the proposed northern bridge location, and
3) Look for opportunities to add stepping-stones to the design to help armor the creek and provide a playful way to interact with the creek.

Several members of the public still felt as though the department should be considering the 'No Action' alternative.

Greenbelt Meadows Visitation Estimates

June/July 2018

Statistical Abstract

Prepared by:
Colin Leslie, Human Dimensions Coordinator

City of Boulder
Open Space and Mountain Parks Department
Boulder, Colorado

July 2018

1 OVERVIEW

To assess visitation levels at Greenbelt Meadows, a TRAFx G3 trail counter was installed on the undesignated trail on the west side of South Boulder Creek, between South Boulder Road and the East Boulder Community Recreation Center (Figure 1). The trail counter was installed from June 2nd, 2018 to July 11th, 2018.

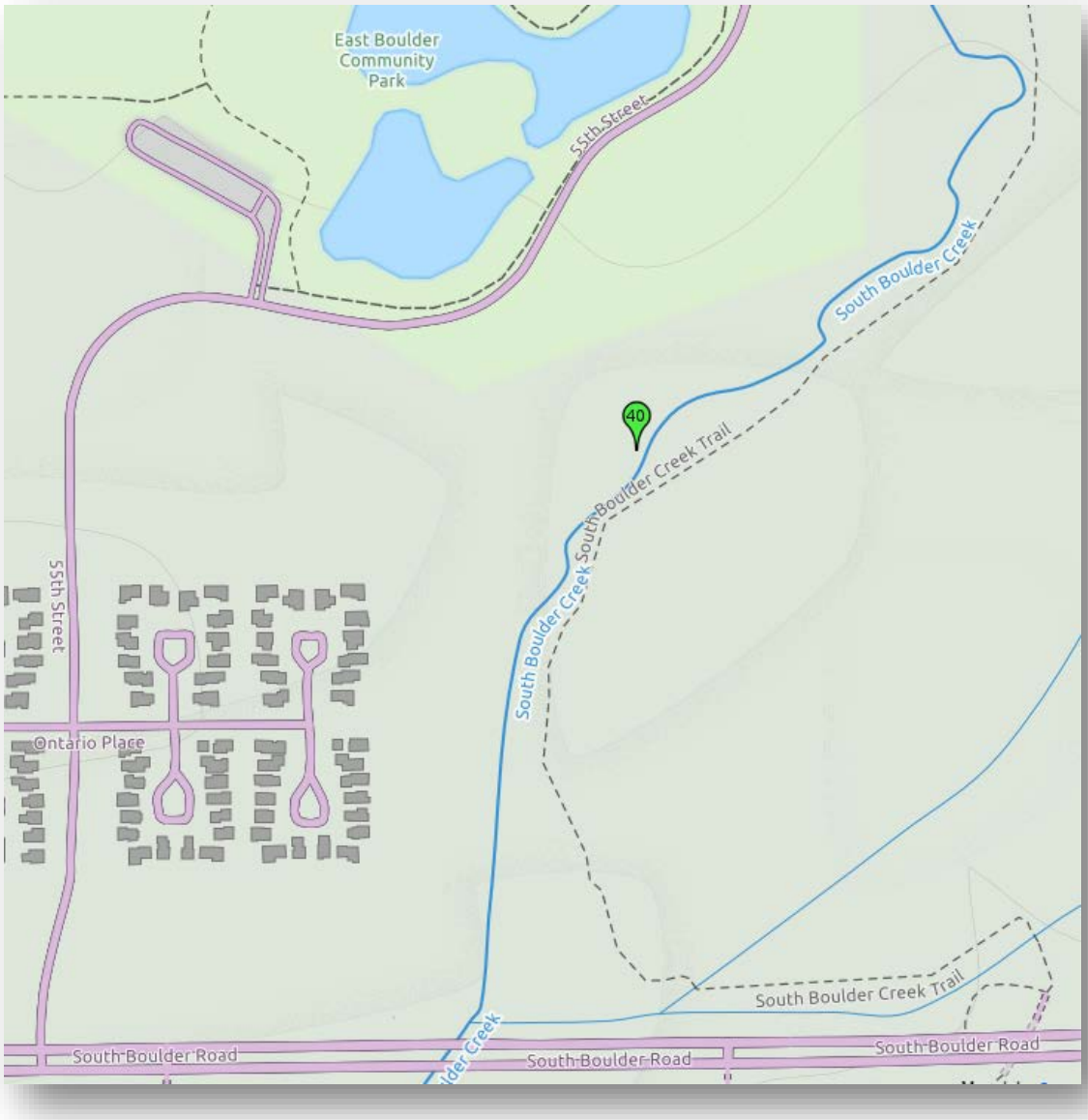

Figure 1. Map showing the location of the trail counter on the west side of South Boulder Creek, between South Boulder Road and the East Boulder Recreation Center.

Four calibration sessions were conducted by an Open Space and Mountain Parks (OSMP) volunteer for a total of twelve hours. Two calibration sessions were conducted on weekdays and two on weekends.

During each calibration session, the volunteer recorded the number, direction and type of activity for each person passing the counter. The number of dogs passing the counter was also recorded during calibration sessions. Recording the number of dogs is important for not only understanding the type of use on the trail, but also for assessing the accuracy of TRAFx G3 counters. TRAFx G3 counters use passive infrared sensors to detect when a warm object, such as a person, passes in front of the sensor. Thus, other animals, such as dogs, can also result in counts. The calibration data showed that a significant number of the counter detections were a result of dogs passing by the counter along with their guardians. When analyzing the calibration data, staff removed dog observations when calculating the correction factor for the trail counter. Thus, the visitation estimates presented below represent the patterns and numbers of *person* visits.

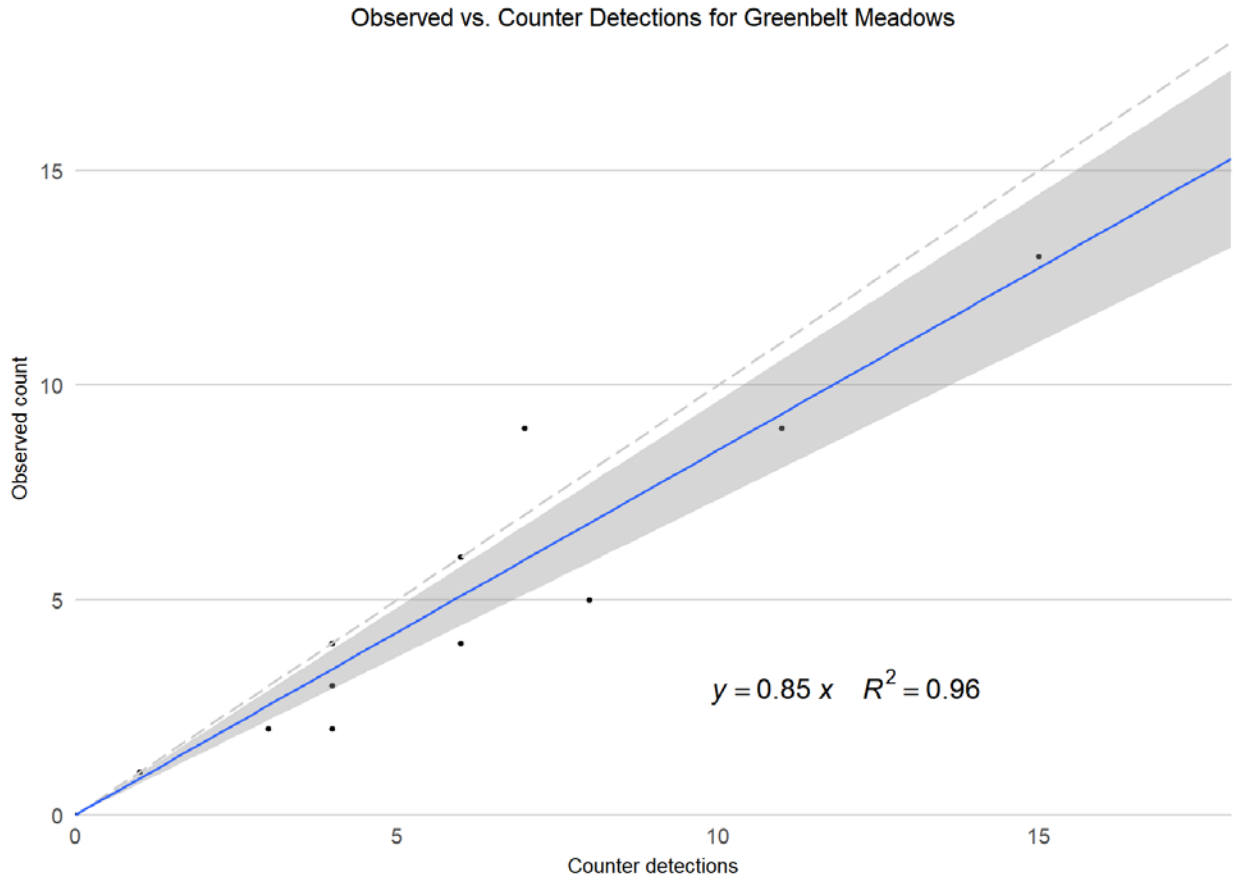

Figure 2. Calibration results for the Greenbelt Meadows counter, showing the relationship of counter detections to observed counts of person passes. While correction factors for TRAFx G3 counters are typically >= 1, the larger number of dogs accompanying people at this location resulted in a correction factor of 0.85.

2 RESULTS

The following results show the number and patterns of person visits based on data collected between June 2nd and July 11th, 2018. In addition to applying the correction factor (calculated from the calibration data) the number of counter detections was also divided by two. Dividing by two accounts for the fact

that the same person is likely passing the counter twice during their visit/outing, once at the beginning of their trip and again at the end of their trip. It should be noted that the sample window for data collection was just over a month in duration and while results are likely indicative of spring/summer visitation patterns, we cannot say definitively what patterns are like during other times of the year. System-wide visitation patterns indicate that visitation drops significantly across the system December through February. However, given the neighborhood proximity for this area, seasonal patterns may or may not differ from system-wide dynamics.

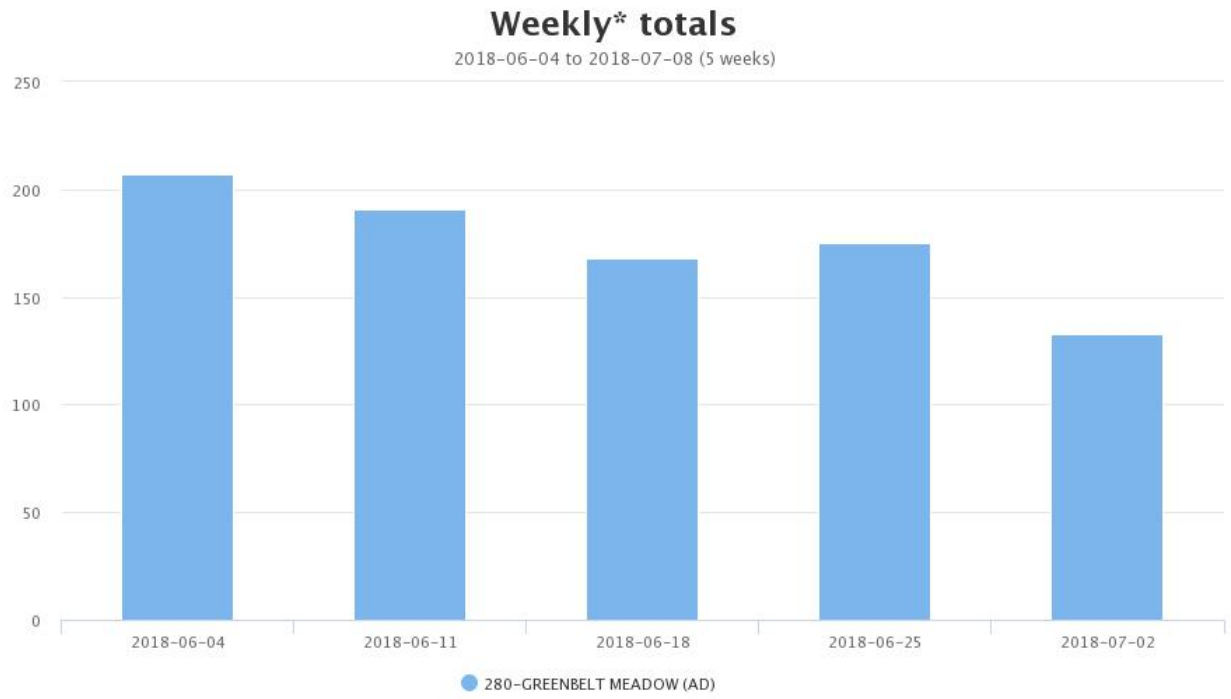

Figure 3. Weekly total visitation (Monday – Sunday) for full weeks during the sample period.

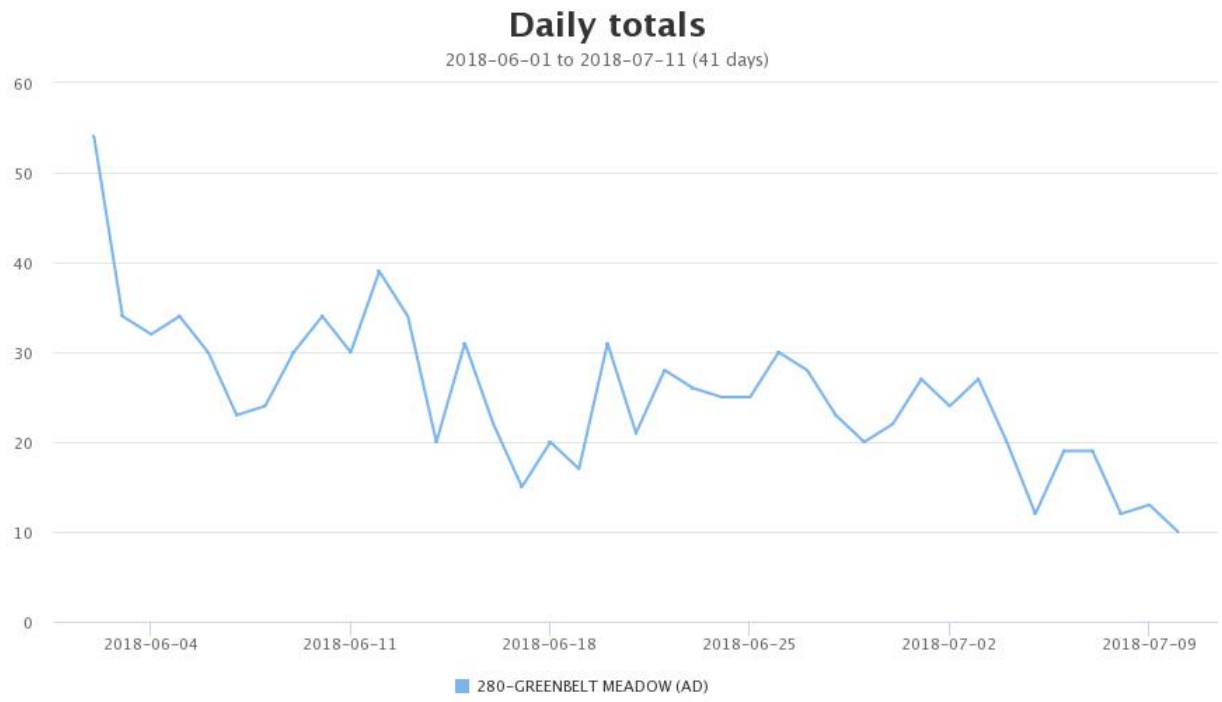

Figure 4. Daily total visitation for individual days during the sample period.

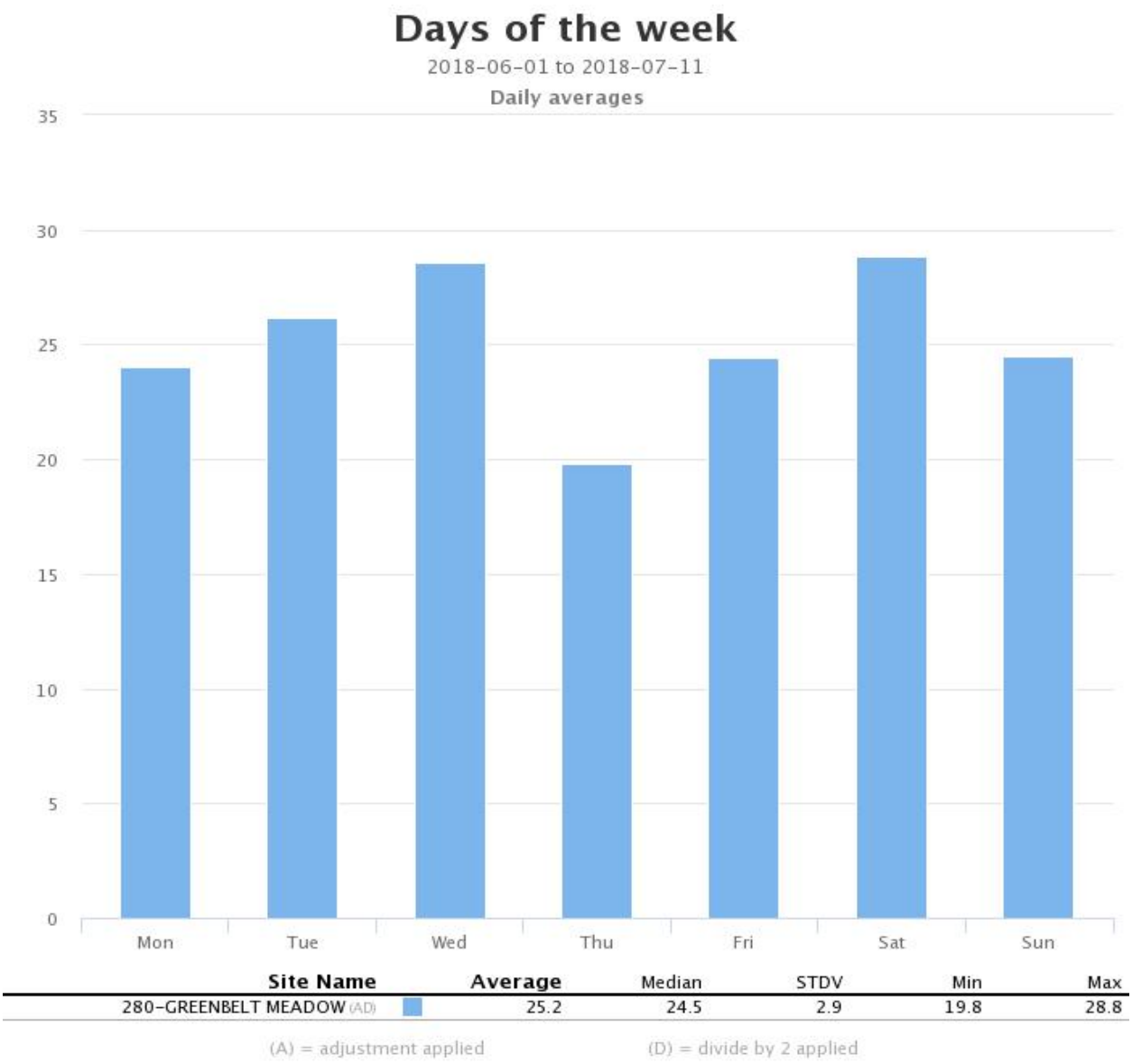

Figure 5. Daily average visitation for each day of the week, averaged across all days of the sample period.

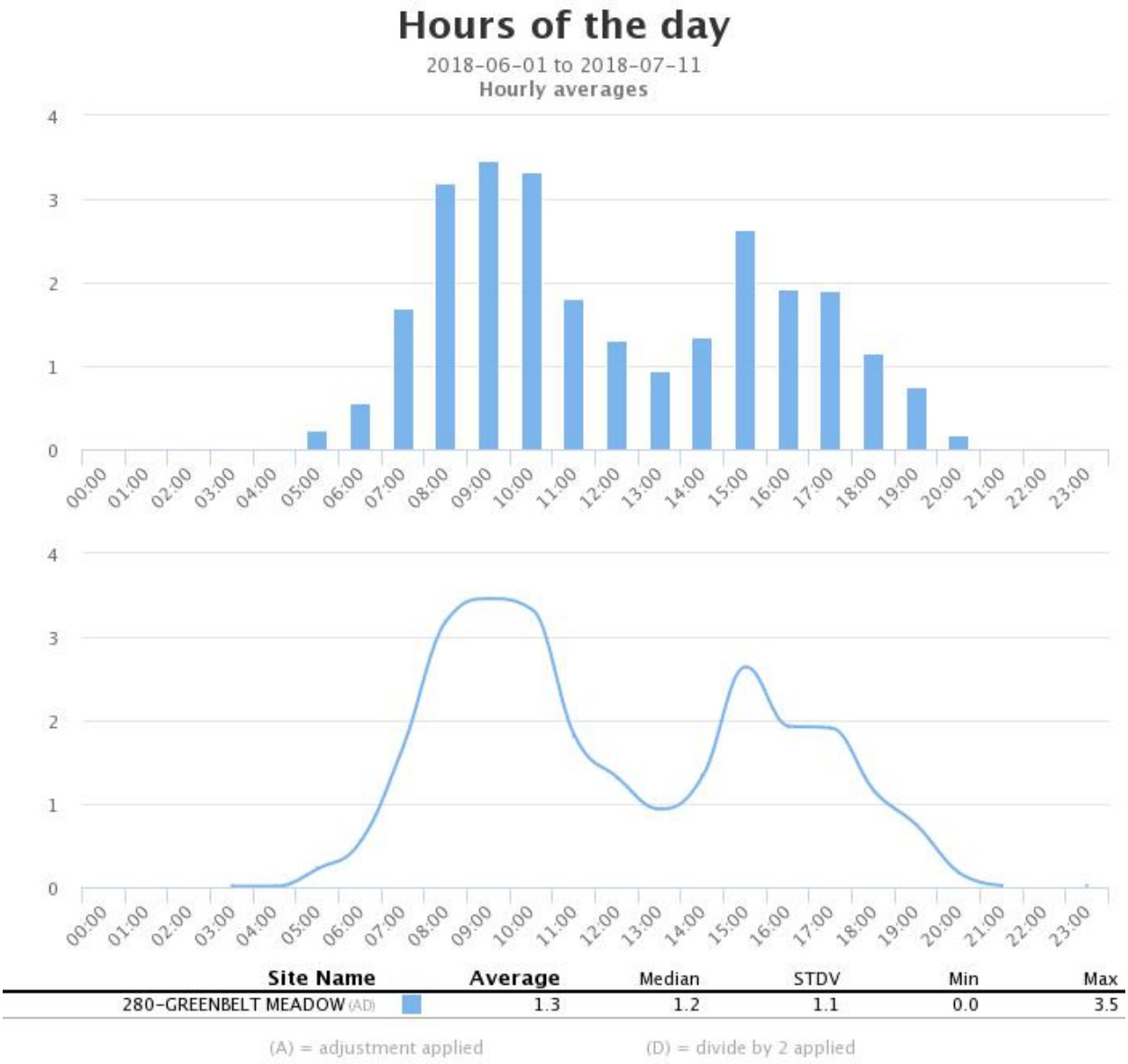

Figure 6. Hourly average visitation, averaged across all days of the sample period.